The Interests of Landowners on the Metropolitan Fringe

by

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ABSTRACT

Numerous authors have noted that the patchy, sprawling pattern of development characterizing the metropolitan fringe results in part from the decisions of individual landowners regarding the use, subdivision, development, sale, or transfer of land. These decisions are related to owners' *interests* in their land: the set of benefits, derived from ownership, that enhance owners' physical, financial, or emotional well-being. In this dissertation, I develop a framework for exploring landowners' interests in their fringe properties. The framework proposes a set of interests owners might hold in land, explains how they are influenced by personal and external circumstances, and discusses how interests shift over time.

In developing this framework, I draw from research on landowners' roles in land conversion and Marxist scholarship on "exchange" and "use" values in urban land. The framework also emerged from research conducted in the Austin, Texas fringe, involving a telephone survey of over 500 landowners, interviews with owners and experts on the region's growth, and a field visit. The study reveals that Austin-area owners are a diverse group whose land interests relate to monetary gain, the use of land for residence or business, and emotional satisfaction from the enjoyment of resources or activities on their property; and that individual and family owners typically hold *multiple* interests in their land at any given time. However, the study also identifies general "orientations" toward agriculture, enjoyment, and investment, which, with other key variables (including residency, parcel size, tenure, and location), may be associated with specific behaviors including use, sales, purchases, and transfers to children.

The research also reveals that, over time, personal and external factors (such as intensifying development pressures) may serve some interests but be deleterious to others, complicating owners' decision-making, but explaining why some elect not to sell land despite potential profits, and why, over the course of ownership, individual landowners may play multiple roles in land conversion, contributing to the uneven nature of fringe growth. For planners and policymakers, the dominance of individual and family owners, their interests, and the stories of their histories with their land can inform efforts to encourage alternative forms of development.

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Chapter 1

Introduction and Overview

This dissertation is about the owners of open, undeveloped land on the metropolitan fringe, the complex and dynamic area extending from the suburban edge to the outermost point where development is likely to occur within the next fifteen years. These landowners' properties are currently under significant development pressure or are likely to be under that pressure within the next decade. As such, these owners control the sites of future metropolitan development, and their decisions about their properties, particularly those related to its use, subdivision, development, sale, or transfer, are even now influencing future patterns of urbanization.

Our knowledge of the owners of fringe land is limited. Although fringe landowners were the focus of a modest body of empirical work, mostly in the 1980s, scant recent research has examined owners' current identities and behaviors, or the roles they are playing in today's processes of regional development. Conventional wisdom has it that landowners in rapidly developing areas of the metropolitan fringe are motivated primarily by the opportunity to profit from the sale of their land, and will sell their properties to the highest bidders. Though many researchers have also focused on owners as rational economic actors, many have speculated about the non-financial motivations that underlie landowners' possession of land and their decisions about their properties; however, little empirical research has examined these in depth. As a result, non-financial interests in land represent

something of a black box within landowner research, viewed as potentially important, but understudied.

Yet, if this box were to be opened, our understanding of landowners' behaviors regarding their land – and our ability to predict future behaviors – would be considerably deepened, improving our knowledge about how and why current patterns of land conversion occur (particularly the low-density, patchy patterns known as sprawl). The research described here takes a first step in this broad agenda, asking simply: *What interests do owners of fringe land hold in their land?* If we are to understand who owns land on the metropolitan fringe, the decisions they make about their land, and ultimately, the link between owners' individual decisions and emerging patterns of development, we need to know more about the range of owners' interests in their land: the reasons they own land, and the benefits or advantages derived from continued ownership that enhance their physical, financial, and emotional well-being.

To that end, I examine the range and nature of interests in fringe land, the factors that shape and influence them, and how they change over time, using a case study of landowners on the Austin, Texas fringe. The study involved a survey of 521 owners, 11 in-depth interviews with owners, over 60 conversations with area experts on Austin's growth and development, and a field visit to the Austin fringe. I specifically focus on the interests of individuals and families who dominate ownership of land in the Austin region and who currently utilize their land for agriculture, residence, recreation, or a site for business, owning at least five acres, with some or all of their parcels in non-urban or open use (whom I refer to in this dissertation as "pre-development owners" or "owners").[1] Drawing from the data gathered in the case study, I develop a systematic way to identify and describe owners'

[1] These are the "legal" owners of land. Although there are some rights to land held by others besides owners (e.g. the public's right to access private property, in some cases), this dissertation considers only those who hold legal title to the property.

interests in their fringe land, drawing from previous research on fringe land conversion and neo-Marxist scholarship on "exchange" and "use" values in urban land. The data collected from the Austin-area research reveal that landowners hold a range of interests in their property relating to the financial benefits of ownership; the functional use of land as a site for conducting various activities; and emotional ties, enjoyment, and satisfaction. Furthermore, each landowner is likely to hold multiple interests in the same parcel of land at any given point in time. These interests may at times conflict, particularly as changing personal and external factors, such as increasing growth pressures on the fringe, serve some interests and are deleterious to others, complicating landowners' decisions about their property (and explaining why some choose to hold land when they have the opportunity to sell it for profit).

As I show, interests also provide insight into the types of owners who possess land on the metropolitan fringe, and into the development of the fringe itself. In Austin, interests group together into three categories or orientations, toward agriculture and profit from farming or ranching, enjoyment of property, and investment. Owners described by the orientations exhibit some significant differences in their demographic characteristics, participation in land markets as buyers and sellers of land, and future plans regarding their property (including plans to develop, buy, sell, transfer, or hold land indefinitely). However, because nearly all owners hold multiple interests in their land, and because interests shift over time in response to internal family and personal events and external circumstances, landowners are likely to play several different roles in land conversion during the course of their tenures.

Below I discuss in greater detail the rationale for focusing on interests as a way to provide new insights into landowners' identities, behaviors, and roles in land conversion.

I. Interests as a Lens for Studying Landowners

The concept of using interests as an organizing theme for this study emerged from the research itself. A survey pretest of 360 owners in the Austin fringe, conducted in 2001, revealed that individuals and families by far dominated ownership of land in the Austin fringe, with few speculators and developers discernible among the survey respondents, despite previous literature that predicted their presence (e.g. Baerwald, 1981; Brown et al., 1981; Clawson, 1971; Coughlin, 1985, Lindeman, 1976; Pond & Yeates, 1994a; Sargent, 1976). Moreover, the individuals and families identified in the Austin pretest were quite diverse in their demographics, land uses, past behaviors, and intentions for their property, more so than was evident in reports from previous research in other fringe areas. The differences between the types of owners identified in previous empirical research, much of it conducted twenty years ago, and the Austin survey pretest may be the result of: (1) new trends in fringe development, described in Chapter 2, (2) differences in sampling methodologies between past and current research, (3) circumstances unique to Austin, which was not among the fringe areas examined by previous research, or (4) some combination of all of these. While a larger study is needed to understand fully how and why fringe ownership patterns may have changed,[2] my goal for this dissertation became to understand the diversity *within* the group of individual and family owners in terms of their characteristics, behaviors, and the reasons they own land. From this early data, it appeared that individual and family owners held a range of interests in their land, deriving multiple financial, functional, and emotional benefits from land ownership; some of these interests, such as the use of land for recreation, were fulfilled in the current time, but others, such as financial gain from the sale or development of property, may potentially be realized in the future. Because they might have multiple interests in their land, and these might be fulfilled

[2] A more comprehensive landowner study is currently underway at the Lincoln Institute of Land Policy, as described in Chapter 3.

at different times, I surmised that individual owners might also be playing multiple roles in the development process, including roles previously attributed to speculators or developers, such as holding land for investment purposes or participating directly in building and sales of residential development. To further develop and assess these hypotheses, the survey instrument was reworked to probe owners' underlying interests in their properties more deeply. The subsequent survey of 500-plus owners, using the redesigned questionnaire, with follow-up interviews, a field visit, and conversations with numerous Austin-area experts on growth and development, provide the data for this dissertation.

The use of interests as an organizing framework provides a number of benefits one would not gain by looking solely at owners' demographic characteristics, past behaviors regarding their land, or their reported future plans. First and most simply, interests add rich dimension to our description of owners. Together with data on demographics and behavior, owners' rankings of their own interests help us understand, for example, the relative and subjective importance to a farmer-owner of earning income through cultivation of land, holding land for investment purposes, the potential for giving land to heirs, and the value of land as a place for residence and recreation. From this information we see clearly that farmers are not all alike in their reasons for owning, or, ultimately, in the factors they consider in their decisions regarding their land. With data on owners' interests, we can begin to develop more detailed profiles of landowners who, according to their interests, demographic profile, land characteristics, and past behaviors, might participate more readily in land conversion activities like selling or developing their land, or who might be more apt to hold land out of the development process.

Second, a focus on interests underscores the fact that most individuals and families are guided in their land decisions by *both* non-financial and financial concerns, a fact suggested in previous research but seldom discussed empirically. As summarized in Chapter

2, previous literature on landowners as actors in the development process has tended to focus on a *primary* reason that owners possess their property, because that fit the purposes of categorizing owners by their primary roles in the development process. We understand from Brown et al. (1981), for example, that farmers' main purpose in owning is to use their land for agricultural production, while speculators' main interest is in capital gain from appreciating land values. However, beneath these typologies are important subtleties (some noted in previous research but not pursued in depth). Rural users like farmers may also be interested in capital gain; indeed, this is why many will sell to investors in the first place; at the same time, speculators may use their land for income-producing agriculture during the period that they wait for land values to appreciate. As for fringe homeowners, Baerwald (1981) has noted that while the "functional utility" of housing is a prime concern to owners, so too is its investment value (p. 342). As suggested by this previous work, though some landowners may be singly interested in profit-making from investment in or development of their land, a majority have *multiple* interests in their land, perhaps simultaneously considering property to be some combination of an investment, an input to agricultural production, a residence, a legacy for children, a source of emotional fulfillment and enjoyment, and, possibly, a public good that it is their responsibility to manage and protect. I posit that, depending on their prioritization and immediacy, some or all of an owner's set of interests will play a role in the owner's decisions about the use and potential sale of their property. Through the lens of interests, we see more of the complexity of landowners' decisions than we would by examining only owners' primary reason for owning or their financial motivations.

Interests also provide new insight into concepts of fringe land in general. Using only an economic, transaction-oriented lens, land is seen primarily as a commodity, while through the lens of interests, we can identify a kaleidoscope of meanings that land and landownership can have for its owners, all of which might influence owners' decisions in different ways. In

different contexts, authors have examined Americans' views of land (e.g. Altshuler (1999) and Bryant et al. (1982) and discuss the role of competing views of land in land use and policy conflicts); however, examining landowners' interests shows how the *same* person might attach different meanings to land, perhaps seeing it both as a tradable commodity and as a resource to be enjoyed, perhaps with a larger public, or perhaps privately).

A fourth reason for focusing on interests is that we see that the benefits derived from ownership, and owners' views of and attachments to their property, may not be stable over time. Rather, they may shift as personal and family circumstances change; as the external political, geographic, social, and economic context evolves; and as localized development pressures intensity. Other authors have noted that owners' motives and their roles in the development process might change over time as their lives evolve (e.g. Baerwald, 1981); this study offers a more detailed framework that might be employed in future research to examine owners' shifting interests over time, allowing us to look dynamically at owners and their decisions, rather than at a snapshot of owners at a particular point.

In short, interests add richness to the description of owners of fringe land and dimension to our understanding of landowners' decisions, describing in greater depth than existing literature why owners possess fringe land, their non-financial motivations for their decisions, and how and why their motivations regarding their land are likely to evolve over time. This study makes contributions to both theory and practice. For theories of land conversion on the metropolitan fringe, it lends new insight into the patchy, sprawling nature of fringe development, drawing attention to the range of actions owners are taking (including the many that hold land out of development). We know that land conversion is not smooth, in either time or space, but the uneven nature of development is more understandable with the knowledge that owners may play multiple roles in the development process as a result of their multiple interests in their land. For planners and policymakers, at a basic level, the study

highlights the importance of including individual and family owners of fringe land in planning processes in rapidly growing areas, and to attending to the diversity of owners' interests (including diversity *among* types of owners, and *within* an individual owner's unique portfolio of interests), their perceptions of growth, and their stories about their land. Beyond their roles in the development process, these owners are also central to our evolving understanding of the communities that are growing beyond the suburban edge of America's urbanized areas, providing a window into the nature of the current and future fringe.

II. Dissertation Overview

Part I of the dissertation (chapters 2 through 4) provides relevant background to the research, including the practical and scholarly rationale for the study; the description of the methodologies employed; and an overview of the Austin fringe area, the context for the research. Specifically, in Chapter 2, I present the theoretical and policy rationale for the research. I first discuss the metropolitan fringe as an area of study and discuss recent development trends that render it particularly worthy of examination. I then introduce the owners of land on the metropolitan fringe, summarizing findings from previous literature about their identities, behaviors, and roles in the the process of urbanization, and focusing particularly on what we know of owners' interests in their properties. I conclude by summarizing the rationale for current research. In Chapter 3, I present the research methodolgy used to study landowners and their interests in the Austin fringe. Chapter 4 provides an overview of the Austin fringe, supplying the geographical and institutional context in which Austin-area landowners are best understood.

In Part II (chapters 5 through 7), I present a theoretical framework for understanding landowners' interests in their properties and findings from the empirical research conducted

in the Austin fringe. In Chapter 5, I draw from previous work on interests in land and the findings of the Austin case study to present a framework for conceptualizing and researching landowners' interests in their land. The framework includes a definition and exploration of the nature of interests, a discussion of the set of interests that fringe owners might potentially hold in their land, and an examination of the influences upon an individual owner's unique set of interests. In the next chapter, Chapter 6, I use empirical data gathered in the Austin landowner survey to provide an overview of landowners' characteristics, behaviors regarding their land, and interests; and to discuss three groups of interests that appear to motivate the majority of owners in the Austin fringe (interests in agricultural income, enjoyment of amenities and recreation, and equity). Finally, in Chapter 7, I present a hypothesis about how interests might change over time and factor into owners' actual decisions about their properties.

Part III of the dissertation (Chapter 8) covers implications of the research for both theories of land conversion and for practitioners engaged in planning for the future of the fringe. It also provides a guide to future research.

Part I: Research Context and Approach

Chapter 2

Research Context: The Metropolitan Fringe and Its Owners

In this chapter, I provide the practical and research context for the study of landowners' interests. In Section I of the chapter, I introduce the metropolitan fringe, the geographic context for the dissertation. The fringe has received scholarly attention in the past forty years by those seeking to understand metropolitan development patterns and processes, for it is fringe land that is converted from rural to urban uses, and into the fringe that metro regions expand. Yet the fringe has seldom been well defined; therefore, I first present a working definition for the purposes of this study. I then discuss reasons for studying the fringe, including a recent trend toward lower residential density growth deeper into the fringe, which some argue represents an evolving urban form toward low density exurban living, and that has implications both for theories of metropolitan growth and for public policies that aim to manage development and protect natural resources. In Section II, I introduce the landowners of the fringe, first summarizing what previous literature tells us about their identities and roles in the the process of urbanization. I then discuss how a deeper understanding of owners' identities, behaviors, and interests can inform both theoretical models of metropolitan growth as well as the policymaking process.

I. The Significance of the Metropolitan Fringe

This dissertation is about *people,* the owners of undeveloped land on the metropolitan fringe. However, it is motivated by a concern for the quality of a place, its resources, and its communities: for the rural and semi-rural place that the fringe is at present; for the natural resources inevitably effected by the fringe's transition from rural to urban; and for the social, aesthetic, and environmental nature of the communities that are developing there now and that will continue to expand across the landscape as metropolitan regions grow. The fringe is, in essence, the future suburb and urbanized area, and the future of those places is being plotted now, through and on top of ranchland and pasture. It is also a place where problems associated with growth are increasingly evident, such as traffic, loss of wildlife habitat and scenery, and increased pollution (Daniels, 1999); and where political conflict over land uses and public services, often between longtime residents and newcomers, is occurring (Dubbink, 1984; Lapping & Furuseth 1999; Spain, 1993).

The fringe is understudied. This is partly a result of divisions within the academic community: as Audirac (1999) notes, drawing from Hart, "[The fringe] is too urban to attract traditional rural researchers and too rural to incite urban scholarly inquiry (Hart 1991)" (p. 7). In other words, the rural/urban divide is not descriptive enough to explain the development occurring in the wide middle where the two meet. The same divide may exist within the realm of planning: Evans and Mabbitt (1997) argue that "there is a tendency towards a conceptual separation of town and countryside," and that "[s] tudies of the nature of the urban fringe have tended to view the urban area it surrounds in the abstract – as an economic and social model with no physical characteristics of its own" (p. 57). Audirac also suggests that the fringe has received less than its share of attention as a result of "simplistic notions of sprawl that reify and obscure, rather than illuminate, the complexity of economic and

sociospatial forces shaping the edge" (p. 7). Indeed, "sprawl," the consequences of which drive much of the practical and academic interest in the fringe, is itself an underdeveloped and ill-defined concept (Galster et al., 2001) that fails to capture the dynamics at work on the fringe, dynamics that are often not visible until physical land conversion actually begins (Brown et al., 1981). Yet as the interface of rural and urban land uses, and as the site of current and future growth, the fringe is where we can perhaps best understand the processes of land conversion and development, as well as conflicts over land uses and scarce resources (such as water or open space) (Bryant et al., 1982). Unlike developed suburbs, the fringe also provides one of the greatest opportunities to influence patterns of growth before they become etched into the landscape.

New development trends also lend support for rigorous study of the fringe. Increasingly, Americans are electing to construct rural estates farther from urbanized areas, beyond the new residential subdivisions rapidly transforming the fringe's edge. Existing literature on metropolitan expansion does not explain these new patterns of growth well, particularly failing to explain how the development occurring far from the suburban edge does or does not transition into the more traditional suburbs we expect on the periphery of our cities. Nor does prior research fully explain the ways in which the fringe develops at the micro level, on a parcel-by-parcel basis, information that might give insight into low-density "sprawling" development patterns characterizing much current growth in the fringe.

While this dissertation does not address all of these issues directly, it does offer a new lens for understanding one of the central actors in the transformation of the fringe: the landowners, and specifically, their interests in owning, using, and disposing of their land. Before turning to the owners, however, I first look in greater detail at the features and trends of the fringe that motivate this work, and that provide the context in which the owners must be understood.

A. Characterizing the Fringe

In general, most authors use "fringe" to refer to the area between built-up suburb and open countryside where metropolitan growth is occurring or is expected to occur in the near future, or to the *interface* of rural and urban uses, where land conversion is occurring (Gottdiener, 1977); indeed, "the existence of 'fringe' at all is depending upon pressures for growth" (Bryant et al., 1982). While some describe the fringe as lying "within 40 to 50 miles" of urban areas (Lapping & Furuseth, 1999), its proximity to an urban area is more accurately predicted by the size of the city with which it is associated; according to Daniels (1999), the fringe lies 10 to 50 miles from a major urban center of 500,000 or more people, or five to 30 from a smaller city of at least 50,000 people. The fringe is characterized by an "intermingled" mix (Pryor, 1968) of rural and urban land uses, but is gradually transitioning to a predominantly urban character. Depending on one's location within the fringe, uses might be of an agricultural nature, including farms, greenhouses and nurseries, ranches, and forestry enterprises. Uses might also include rural industries such as mineral extraction operations; rural commercial uses that support agriculture; energy, transportation, and communications infrastructure (e.g. radio towers); recreation such as camps and golf courses; institutions such as hospitals or schools; newer pockets of urban retail and office development (e.g. "big box" stores like Home Depot) that serve fringe residences; low-density residences; and new subdivisions (Pond & Yeates, 1993). Scattered villages, towns, and even small cities (e.g. the county seat of a county lying in the metropolitan fringe) dot the fringe.

Not surprisingly, as an area in gradual transition from rural to urban, the fringe has lower population densities than one finds in urbanized areas and higher than those characterizing the deeper countryside (with one author defining fringe densities as less than 500 people per square mile (Daniels, 1999, p. 14)). In terms of population, the fringe is likely

to be populated by a heterogeneous group including longtime residents and newcomers, farmers and ranchers, hobby farmers, exurban dwellers recently moved out from the city, recreational users and second-home owners, natural resource users like quarries and timber companies, industrial users requiring large spaces not available within cities, investors and speculators of various levels of sophistication, and developers and builders (Brown et al., 1981; Bryant et al., 1982; Daniels 1999; Pond & Yeates, 1994a; Pryor, 1968). Given the different values and resources held by each of these populations, conflicts arise among these groups, particularly between longtime residents and newcomers, over a host of issues including land uses; the extent to which the local government should actively attempt to manage new growth; spending on schools and the composition of school boards; funding for and the extent of government involvement in environmental protection; and, more subtly, visions of rural culture, including the value of rural scenery such as farms and their buildings, which newcomers might appreciate for their scenic value and longtime farmers view in a more utilitarian manner (Daniels, 1999; Dubbink, 1984; Lapping & Furuseth, 1999; Spain, 1993).

A significant feature of many authors' conceptions of the fringe is its dynamic quality, as urban influences and land uses push out from the metropolitan core through the fringe in what has been described as a wave-like pattern (Blumenfeld, 1954; Hart, 1991), and the fringe itself pushes deeper into the countryside. Some see the transformation from predominately agriculture to predominately urban use as taking twenty to thirty years to complete (Audirac, 1999; Brown et al., 1981). Examining a "cross-section" of the fringe at a single point in time, one can identify areas at different stages of urbanization: as one moves from the suburban-urban edge to the countryside, development pressures generally weaken and sporadic urban land uses give way to rural until the fringe meets open countryside, with urban influences gradually decreasing with distance from the center (Lapping & Furuseth, 1999). Different uses and users are likely in each band (e.g. developers and investors are

more active closer to the metropolitan core, and farmers and other rural users are present deeper into the fringe (Brown et al., 1981)). Some have specified specific stages of urbanization: Pond and Yeates (1993), for example, find five distinct stages of land conversion on the fringe, beginning with agricultural use, followed by early urban influences, small town growth and exurbanization, suburbanization, finally culminating in predominantly urban land uses; Hart (1991) identified bands of farming that are less land-intensive with distance from the city (with enterprises like greenhouses and nurseries closer to the urban core, because these are more compatible with urban uses; and dairy, vegetable, and other types of land-intensive or less urban-compatible agriculture farther out); Pryor (1968) distinguished an inner ("urban") fringe and outer ("rural") fringe; and Bryant et al. (1982) described an "inner" and "outer" fringe, an "urban shadow," and a "rural hinterland." In theory, these bands are represented as rings around an urban core, but it is important to note that in practice, growth may not occur evenly in all directions, and may also press in from edge cities (Garreau, 1991) or other metro regions, complicating the classic model of a monocentric metropolis (Audirac, 1999), and of fringe development itself.

Thomas notes that the rural-urban fringe has existed for centuries, "plainly evident in the plans of towns of medieval origin and since," but has only become the subject of scholarly inquiry in the 1930s, first as "fringe belts" in Herbert Louis's 1936 study of Berlin (Thomas, 1990, p. 132) and as the "urban fringe, "defined as "the built-up area just outside the corporate limits of the city" in the work of T.L. Smith (Smith quoted in Pryor, 1968, p. 202[3]). Yet, as Audirac (1999) has noted, the fringe remains understudied, despite attention from geographers, planners, and regional and agricultural economists; it has seldom been defined in detail, and rarely with quantifiable criteria that one might utilize to identify the fringe in an actual metropolitan area. Indeed, perhaps because there is no single detailed

[3] Thomas also references Smith's definition (Thomas, 1990, p. 133).

definition available to researchers, some authors have developed their own nomenclature to refer to their particular version of "fringe." Firey used the term "rurban fringe" to refer to the area caught between conflicting tendencies toward agriculture and residential uses, in which neither was clearly prevailing (Firey, 1946). Pryor preferred "rural-urban fringe" (a term more recently employed by Furuseth and Lapping (1999)), where, as noted above, he then discerned between the "urban fringe," describing the area from the city's edge outward, and the "rural fringe," referring to the area from the countryside's edge extending inward (Pryor, 1968). In some contexts and to some authors, the term "exurbia" might refer to the fringe, "the middle area between the urban/suburban and the rural landscapes" (Davis et al., 1994, drawing from Marx, 1964); or, in more cases, to a subset of the fringe, such as the counties that are outside of an official statistical metropolitan area but have significant commuting to an urban center (Davis et al., 1994; Morrill, 1992), the scattered but stable developments within the fringe owned and used by exurbanites (who maintain daily employment ties to an urban area), as opposed to other fringe land more actively in transition to urban use (Pond & Yeates, 1993, 1994a), or the scattered pockets of urban-type development in rural areas (Patel, 1980) (see also Audirac (1999) for a review of definitions of "exurbia"). As a result of this multitude of terms, Thomas noted that the "confusion in terminology" resulting from the various studies "is considerable, and is compounded by the span in time over which the studies were undertaken, the great range in size of the urban centers under investigation, the variations in the degree of control exercised over the fringe area, and the differing aims and contexts of the several pieces of research" (Thomas, 1990, p. 134).

Much of this confusion appears to stem from authors' different conceptions of the *size* of the fringe: is it a narrow band in which residential and agricultural uses are competing now, or the more expansive larger area over which the metro area is moving in the next generation or decade? As early as 1946, Amos Hawley pinpointed this debate, arguing for a wider geographic area and a need for information about the whole of the metropolitan

periphery, "conceived not only as the narrow rurban fringe but also as the whole area over which metropolitan organization is diffusing" (Hawley, 1946, in a response to Firey, 1946, p. 421).

Like others attempting to specify a more detailed definition of fringe, I have chosen my own term, the "metropolitan fringe," and, as Hawley recommended, it is physically expansive, defined as including land beginning at the current suburban edge, where pressure to convert land is intense, and extending to the outermost point where suburban/urban and rural uses are expected to compete within fifteen years. The definition I use draws from previous literature's description of land uses and users of the fringe, and is also based on *perceptions* of the intensity of development pressure and likely rates of growth. In Chapter 3, Methodology, I describe how I operationalized this definition to identify the fringe in the dissertation case study of the Austin, Texas fringe.

B. Why Study the Metropolitan Fringe?

For decades, scholars in a number of fields have examined the fringe, from those seeking to understand change in rural, agricultural communities, to those attempting to explain the processes and patterns of metropolitan expansion (Audirac, 1999) at both a regional scale and at the local level. The local level literature is of particular relevance for this study, because it has focused particularly on the role of fringe actors, including landowners, in shaping why some parcels of land convert from rural to urban uses earlier than others, creating the patchy, leapfrogging nature of development characterizing the metropolitan fringe. Policy-oriented research has turned more attention to the specific problems arising from this scattered form of development and from the resource conflicts it

often creates, and to identifying planning and policy mechanisms to address those problems (Thomas, 1990[4]).

Over the years of this research, the fringe itself has changed, with new residential development reaching farther into the fringe at lower densities, a form of growth not well predicted by traditional models of land conversion. As early as 1965, Friedmann and Miller noted: "Looking ahead to the next generation, we foresee a new scale of urban living that will extend far beyond existing metropolitan cores and penetrate deeply into the periphery" (Friedmann & Miller, 1965, p. 313). They called this new structure the "urban field" and defined it as extending "far beyond the boundaries of existing metropolitan areas—defined primarily in terms of commuting to a central city of 'metropolitan' size—into the open landscape of the periphery." As Friedmann and Miller predicted, growth into the fringe, between built-up suburbs and open countryside, is now occurring on unprecedented scale, with implications and effects that have captured the attention of scholars, citizens, policymakers, special interest groups, and, of course, the planning and design professions. The processes and repercussions of growth in the fringe are fundamental to understanding the low-density metropolitan growth many refer to as sprawl, including whether it is now taking on a new form: whether "the rural-urban fringe will mutate into suburbia as we know it," with suburbs absorbing exurbs and replacing rural landscape, or whether current trends of development in the fringe indicate a new metropolitan form (Audirac, 1999). Below I briefly review these trends, the issues and problems they raise, and the need for greater understanding of patterns and processes of growth, including the actors whose behaviors shape those patterns and processes.

[4] Thomas identifies three subsequent areas of fringe research: studies of the fringe's morphology or movement outward; research into the particular problems associated with low-density development on the fringe; and work to develop solutions to these problems (Thomas, 1990).

1. Trends in Fringe Development

Increasing numbers of Americans are making their homes at the periphery of metropolitan areas or beyond; the fringe is now growing more rapidly than either urban or suburban areas (Daniels, 1999; Nelson, 1992[5]). Indeed, Heimlich and Anderson (2001) report that the edges of metropolitan areas, those counties adjacent to metropolitan areas, are growing at the highest rates, higher than the core metropolitan area itself.[6] As a recent study has discussed, even in metropolitan regions that are losing population overall, low-density growth is increasingly occurring in the fringe, although development densities differ by region (Fulton et al., 2001).

Residential growth in the metropolitan fringe is generally of two types: low-density residential and commercial growth along the suburban edge, sometimes rapidly pushing into rural landscape and accompanied by new roads and other infrastructure; and exurban scattered large-lot residential and commercial development spread farther out in the countryside. Both types can be described as land-intensive development occurring on formerly open or agricultural land, characterized by separations in residential, commercial,

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[5] Nelson uses the term "exurbia" and is particularly concerned with counties contiguous to, but not within, metropolitan areas.

[6] Measuring this growth precisely is difficult. The area over which it is occurring is ill-defined, and the growth itself is difficult to measure to measure in practice and is dependent upon the specific definitions of "development" employed. On a national scale, different branches of the federal government have used different measures. The US Census designates "urbanized areas," within and adjacent to cities and having populations of 50,000 or more, and "urbanized places," outside of urbanized areas and having populations of 2,500 or more. From 1960 to 2000, these areas together increased from 25 million acres to about 65 million acres (Heimlich & Anderson, 2001). The US Department of Agriculture utilizes another measurement of developed areas in its National Resources Inventory (NRI), capturing both the Census Bureau's statistics on urbanized areas and places, as well as other developed places outside urban areas; for example, the NRI captures some large-lot developments, and also includes transportation developments. According to the NRI's measures, developed areas in the US likely reached 107 million acres in the year 2000.

and other land uses that force inhabitants to be auto-dependent – development often referred to as "sprawl" (Daniels, 1999; Heimlich & Anderson, 2001[7])[8]. This growth is the result of demand for new suburban and exurban residences, a ready supply of land on which to construct them, and public policies that have facilitated low-density styles of growth.

Demand for suburban and exurban residences has been attributed to cultural, population, and economic trends. As the US population has increased, the average household size has fallen, with the same number of people utilizing up to 30% more housing in 2001 than in 1950 (Heimlich & Anderson, 2001). This housing is now being built on increasingly large lots, on average: while the average lot size has actually decreased for single family homes, due to increases in condominium, townhouse, and large house-small lot construction; the *median* lot size has increased because of rapid growth in five-acre-plus developments. Indeed, according to analysis of the American Housing Survey conducted by the Economic Research Service of the USDA, 90% of new housing since 1994 has occurred on lots over one acre, and 55% on lots of 10 to 22 acres, with about 80% of acreage used for new housing lying outside urban areas or in non-metro areas (Heimlich & Anderson, 2001). Most of this new residential development is occurring on land that "is not urban, as defined by the Census, but occurs beyond the urban fringe in largely rural areas" (Heimlich & Anderson,

[7] Heimlich and Anderson (2001) consider the fringe to be "that part of metropolitan counties that is not settled densely enough to be called 'urban'" (p. 2). Compared to other authors, this is a relatively narrow definition; the area that Heimlich and Anderson call "beyond the urban fringe" might be considered "fringe" or "periphery" by others, and is considered so here.

[8] This growth is often labeled by the pejorative description "sprawl." Yet, like "fringe," sprawl lacks a widely accepted and specific definition, though all tend to agree on the basic features described above. Partly for this reason, sprawl has become a catchall phrase for any development that is unwanted or perceived to have undesirable impacts (Galster et al., 2001). Because the term has political connotations and is so ill-defined, I (like Heimlich and Anderson (2001)) generally avoid the term and use "growth," "development," "land conversion," or "urbanization" to refer to changes occurring in the fringe. However, the political implications of sprawl should not be overlooked, as it is the perceived problems with it that have spurred policies designed to control the rate, location, and type of new development.

2001, p. 17). In his review of literature on why people seek exurban residences, Nelson (1992) also notes that exurbanites prioritize their quality of life and seek to avoid the pollution, noise, and crime they associate with suburbs and cities; Nelson calls this a latent desire for rural living, a Jeffersonian ideal, which is now within reach, thanks to modern conveniences, flexible work schedules, and improved infrastructure like electricity, water, sewage treatment, communications, and access to retail. Diamond and Noonan (1996) echo this point, noting that some of the demand for fringe residences may in part result from increased affluence, which has allowed an aging population to seek amenities such as scenery, climate, cost of living, a more rural lifestyle (perceived as more slowly paced than urban living), and has allowed individuals and families to pursue outdoor recreational opportunities outside of cities. Certainly, as businesses, particularly technology firms, are increasingly locating in suburbs or edge cities, and as telecommuting becomes a realistic option for many, workers are able to locate farther from downtown business districts (Diamond & Noonan, 1996; Heimlich & Anderson, 2001; Nelson, 1992). Heimlich and Anderson (2001) also note that pressures on the fringe come from both its urban and rural sides, as 45% of urban residents report a preference to live in a rural or small town 30 or more miles from the city, while 35% of rural residents report wanting to live *closer* to the city, both of which place increased development pressure on the fringe.[9]

As demand rises for residences in the fringe, there is, in general, a corresponding supply response. Land has been released from agricultural production because of gains in agricultural productivity (LaGro & DeGloria, 1992). Decisions to release specific parcels from agricultural production and into development belong to individual landowners, who may also decide to give land to children, hold it in its current use, protect it in a formal land

[9] Interestingly, Bryant et al. (1982) predicted that the growth in "country urbanites," as they termed exurbanites, might level off because of more restrictive planning, commuting costs, and the reaching of a natural limit of people who seek to live in a country setting but remain connected to an urban area. However, as the more recent research cited above shows, this leveling off has not occurred.

conservation program, or prepare it for development through subdivision or by making other improvements. Landowners are therefore key to understanding why and when land conversion occurs, particularly why it occurs in patchy, irregular patterns rather than in a smooth wave as the metropolitan edge expands. I return to landowners below in Section II of this chapter.

As many have noted in greater detail elsewhere, low-density development is not simply a result of increased demand and a ready supply of land; public policies have, in some cases, encouraged sprawling patterns of growth. Two federal policies in particular are widely thought to have contributed to sprawl in particular: highway programs that have provided access to the fringe, and mortgage finance programs and mortgage interest deductions that have allowed families to acquire larger homes than they otherwise might (Gottdiener, 1977; Jackson, 1985; Nelson, 1992). State and local policies have also contributed to low-density development, including and state and local transportation, infrastructure, tax, land use,[10] and housing policies.[11]

[10] Sprawl is often condemned as "unplanned" growth, yet that proposition is debatable: it may be undesirable or unintended, but local land use policies do permit it. Furthermore, according to some in the development community, these local land use policies are so inflexible that they discourage innovative alternatives and make sprawl easier to build than more environmentally sound altenratives.

[11] There is incomplete agreement on how the interaction of federal, state, and local transportation, housing, tax, infrastructure, and land use policies may unwittingly lead to sprawl; the federal government's General Accounting Office even published a report entitled *Extent of Federal Influence on "Urban Sprawl" is Unclear* (General Accounting Office, 1999).

2. *Problems Associated with Fringe Growth*

The problems associated with low-density growth occurring within the fringe provide a practical rationale for studying the area. Even before recent trends in fringe development, authors raised concerns about low-density development pushing into the countryside: in 1962, Marion Clawson argued that sprawl is less efficient and more costly than denser development; is unattractive; wastes land; involves land speculation, which provides few public gains; and is inequitable to new landowners, given the price they must pay for land (Clawson, 1962). Today, many remain concerned about those same issues: sprawl's detractors object to it on environmental, social, aesthetic, and efficiency grounds.[12] Environmentally, sprawl opponents decry its destruction of prime farmland, open space, and natural areas, as well as the air and water pollution it causes. Socially, low-density development raises concerns about quality of life, including the perceived lack of community and civic engagement in new suburban developments; declines in public health linked to reliance on autos rather than walking in communities where residences are separated from shops, offices, and public services; and the frustrations of time lost in congested traffic and long commutes. Some focus on the inequities between cities and suburbs in tax bases and residents' access to public services, and housing and job opportunities that result from sprawl. Sprawl is condemned on aesthetic grounds, as poor, boring, "cookie cutter" design, and for its inefficiencies, including losses in productivity from traffic congestion, the monetary costs of pollution, and the high costs of infrastructure needed to serve low-density developments.[13] Finally, some express fears that low-density, auto-dependent growth,

[12] My discussion of sprawl critiques draws from Greenstein and Weiwel (2000) and Galster et al. (2001).

[13] Indeed, attempts to quantify these costs abound: see for example the American Planning Association's summary of various reports on the cost of sprawl at www.planning.org/viewpoints/sprawl.htm and the Transit Cooperative Research Program's *Costs of Sprawl--2000* (Transportation Research Board, 2002).

through the inequities and inefficiencies it causes, weakens regional economic competitiveness in a global economy. People are also troubled that more recent patterns and rates of fringe growth are not yet well understood, particularly their potentially negative impacts on agricultural production, the environment, and rural communities, particularly since communities often do not put policies in place to manage it until it is visible on the landscape (Brown et al., 1981;[14] Heimlich & Anderson, 2001). A host of specific effects of recent fringe growth have been noted, many similar to those listed by Clawson four decades ago (though there is not complete consensus on the extent to which all of these are problems, or whether they result directly result from low-density growth):

- Increased burdens on taxpayers to cover rising school budgets and new infrastructure needed to serve dispersed dwellings;
- Ecological and environmental disruption, including loss of open space and habitats, and increased air, water, and noise pollution;
- Loss of sense of community and history, including connections with rural lifestyles;
- Loss of amenities, including open space, scenic vistas, and dark night skies;
- Increases in traffic and commuting times;
- Conflicts between agriculture and residential use; and
- Loss of or threat to productive agricultural land.

Many of these issues represent land use and resource conflicts between different actors, all of whom hold different values and interests in fringe land and its future. For example, conflicts may include those between the use of land for development and its use for agriculture, extraction industries and residential uses, and agricultural uses and landscape

[14] Brown et al. (1981) recognized that policy attempts to manage growth were often too late to be effective, even though the phenomenon of growth in and beyond the urban fringe has only increased since the article's publication.

amenity, although most conflicts, according to Bryant et al. (1982), are the result of urban sprawl along transportation routes and scattered in the countryside, and represent conflicts between individuals and society, between present and future uses, and between economic versus non-economic values. These conflicts have social dimensions, with differing priorities for tax spending or growth controls evident between longtime fringe residents, who may be more agriculture-oriented, and more urban-oriented newcomers (Dubbink 1984, Spain 1993).

While development at the suburban edge follows traditional urban theory about metropolitan regions developing in concentric rings, large-lot residential development deeper into the fringe is not as well understood, a second rationale for examining the patterns and processes of fringe development today. Pyle (1985) has suggested that the scattered development deep in the fringe might prepare the way for latter subdivisions along major transportation routes and the suburban edge, as the scattered development will "often blaze the paths that subdividers follow" (p. 34); others question whether "the rural-urban fringe will mutate into suburbia as we know it" (Audirac 1999, p. 24) and whether we lack models to describe what is essentially a new urban form. Nelson (1992), for example, has suggested that:

> While the standard bid-rent model of urban development is monocentric and elegant, it may not be relevant today given dispersed employment, the rise of multinucleated metropolitan areas, and increasing numbers of dual-wage earner households. A more critical definition of exurban development requires an overhaul of the standard economic model of urban form. (p. 364)

An "overhaul" of traditional economic models of urbanization requires not only a deeper understanding of trends driving demand for fringe and exurban residences, it also depends upon greater understanding of the supply of land to the development process, and this requires a closer examination of landowners.

II. Fringe Landowners

This study is concerned with landowners, a subset of the many populations utilizing or interested in land on the fringe (including tenants, tourists, policymakers, etc). Previous research has revealed that urban/rural fringe landowners are a heterogeneous group that includes long-time farmers and ranchers, hobby farmers, exurban dwellers recently moved out from the city, recreational users, natural resource users like quarries and timber companies, investors and speculators of various levels of sophistication, and developers and builders (Brown et al. 1981, Bryant et al. 1982, Pond and Yeates 1994a, and Daniels 1999). (Indeed, for many geographers who have sought to isolate the unique characteristics of the urban/rural fringe, the diversity of owners is partly what defines the fringe.)

According to this study's definition of the fringe, fringe landowners possess land that either is currently experiencing significant development pressure, or that is likely to experience that pressure within the next ten to fifteen years. As such, these landowners are currently in control of the sites of future development. Through their land uses and decisions, they have a good deal of influence over the conversion of land on the fringe to urban uses: they may supply land to the development process when they sell their property; ready land for development by making site improvements, obtaining needed permits, and subdividing; develop land themselves; or deliberately hold land *out* of development as the surrounding area urbanizes, perhaps placing conservation easements on the land that are enforceable after the owner's tenure is over. (Owners may also pass land to children through gift or inheritance, so that these options become available to a new generation of owners.) Owners are particularly influential in determining the timing at which specific land parcels are sold into the development process, directly influencing the uncoordinated, patchy, piecemeal shape of development that characterizes growth in the metropolitan fringe (e.g. Clawson 1962; Sargent 1976; Lee 1979; Brown et al. 1981; Pyle 1985, 1986, 1989): it is well

documented that development in the metropolitan fringe occurs in a piecemeal fashion, with some land parcels converting early from rural to urban uses, and others remaining in rural uses even when completely surrounded by subdivisions or commercial development. As Strong noted in 1969: "Urban growth patterns are, in part, a by-product of the sales decisions of owners of urban fringe land" (Strong, 1969, p. 1), and as Baerwald stated: "Given the many individuals making decisions in their own ways about many parcels at various stages of development in the metropolis, it is understandable how the metropolis grows through seemingly random eruptions rather than by contiguous accretion at its margins" (Baerwald 1981, p. 344).

Below I review in greater detail what we know from previous research about landowners' identities and their roles in the development process, and the rationale provided in this literature for studying landowners. The first body of literature I examine aims to understand and predict the mechanisms and patterns of metropolitan expansion, considering landowners to be *actors* in the development process who participate directly in the urbanization process through their purchase and sale of land. This area of research has focused on landowners as a way of explicating how and when fringe land is converted to urban use; although it does not focus directly on owners' interests, it does offer insights that inform this study about why owners possess their property and what motivates their decisions.

A distinct but related area of literature has emphasized the practical importance to planners and policymakers of information on ownership patterns and stemmed from a concern with foreign and corporate ownership. This work is relevant to this dissertation because it shows how landowner information can inform the policy and planning process. I summarize this work in Section B below. Finally, I assess the state of current landownership research.

A. Landowners as Actors in the Development Process

Literature regarding landowners as actors in the land conversion process (sometimes referred to as "behavioral" research, which looks at a range of decision agents in the development process (Healey, 1990; Leung, 1987)), has primarily explored their participation in land markets as buyers and sellers of land. As part of this work, a limited body of empirical research has also examined owners' main purposes in owning land (e.g. to farm, to invest, to develop), when they will participate in land transactions, and, to a more limited extent, why they elect to do so.

Typically, researchers have grouped fringe landowners intro categories according to the authors' perceptions about each group's main interest in owning land and role in urbanization. In general, three groups emerge in the literature: those who use rural land for rural purposes, such as farmers and residents whose primary motivation for owning is the immediate use the land; speculators or investors, whose land is also undeveloped and may be in rural use, but whose main goal is economic gain from appreciating land values; and developers, who actually convert the land from rural to urban use and profit from its sale (Brown et al. 1981, Clawson 1971, Sargent 1976, Pond and Yeates 1994a).[15] These groups of owners interact in land markets. In the story told by Brown et al. (1981), land changes hands over time, often twenty years or so, from the rural user to the speculator, and from the speculator to the developer, who finally converts the land to urban use. Spatially, one expects to find the developer generally operating in closest proximity to the urbanized area, at the urban-rural edge, with the speculator in the next ring, and the farmer or other rural users in

[15] In much of the literature on the development of the fringe, "landowner" primarily refers to those owners who use their undeveloped land for rural purposes, with subsequent owners identified separately as "speculators" or investors, developers, and homebuyers, although some authors (e.g. Brown et al., 1981) use landowner more broadly to refer to all types. Additionally, the purchasers of new homes constructed on the fringe are a fourth owner group, but one that comes after land has been developed, and so they too are often separated from pre-development owners.

the least developed, farthest reaches of the fringe or beyond, although in reality this order in space and time is not as neat (Brown et al., 1981). Other authors develop similar categories of owners. With a similar expectation about land passing between types of owners until it is developed, Baerwald distinguished between "rural producers," owners interested in land's productive capacity; speculators concerned with appreciating land values; and subdividers and builders, who physically alter the land for their own profit; however, he placed more emphasis on the role of households, the buyers of newly constructed residential development on the fringe at the "end" of the ownership chain who are concerned with the use of their purchase as a place to live and in their financial investment (Baerwald, 1981). Bryant et al. (1982) divide owners into "predevelopment owners," including farmers and non-farm residents; "intermediate actors" such as builders, developers, and others; and "final consumers."

Other authors present slightly different categorizations of fringe landowners, which provide additional insight into why fringe owners possess their property. Coughlin's three categories are "rural owner-users," investors and developers, and "urban owner-users." Rural owner-users include those who use land for traditional rural economic activities, such as full- or part-time farming or other rural enterprises like forestry or mining, and estate owner-users, who live in a home (or have a second vacation home) or have a place of business on a tract of five or more acres, while urban owner-users have less than five acres of land that is in suburban or urban use (Coughlin, 1985). Lindeman, who distinguishes between "users" and "holders," offers a slightly different take on landowner types. In his typology, users, such as farmers, developers, and builders, put land to current economic use; he also includes those who derive psychological value or personal use value from their land, such as hunters, those wanting the satisfaction of owning land, or those wanting a buffer between their property and that belonging to their neighbors. On the other hand, holders, such as speculators, have no important immediate economic use: they hold for anticipated *future* use (Lindeman, 1976).

Pond and Yeates' variation is also unique: they focused on investors, speculators, developers, and builders as the holders of vacant or agricultural land that is not yet developed but beginning its transition to urban uses, distinguishing these owners from the holders of already-urbanized land and exurban residents (Pond & Yeates, 1994a).[16]

Several authors have explored what motivates owners' decisions regarding their land, and this body of work comes closest to a theory about why owners do what they do. One aspect of this research has explored landowners' economic attachments to land and their calculations about the optimal time to sell their land into land markets: authors have hypothesized that owners' decisions are shaped by their expectations about future income and land prices, expenses, and capital appreciation in land; current need for capital and income, the profitability of current land uses; and the present market value of land (Brown et al., 1981; Healey & Short, 1981; Kaiser & Weiss, 1970; Lee, 1979; Pyle, 1985; Sargent, 1972). Some of this research into land markets and development on the fringe often assumes that landowners' objectives are *solely* "to maximize the total revenue from development" of land (Batabyal, 2000) – this is particularly an assumption of those scholars who have used microeconomic models to predict owners' land decisions (e.g. Rodriquez-Bachiller, 1986), most often the decision of the developer about the time and density at which to develop land (see Leung (1987) for a review of early work on developer behavior, as well as Arnott and Lewis (1979) and Batabyal (2000)). Public policies affect owners as well, but according to previous research, primarily through their influence of owners' financial calculations, by

[16] Marxist scholars have also created owner classifications that speak to landowners' roles in "the overall structure of social formation and their contribution to the process of production" (Adams & May, 1991, p. 69). For example, in their study of landownership in Great Britain, Massey and Catalano (1978) distinguish between former land property (owners, such as the church, crown, and landed gentry, who own for investment and as fulfillment of a social role), industrial land ownership (owners who possess land for production), and financial land ownership (owners who possess land for investment). Though Adams and May (1991) argue that these classifications differ inherently from those in the behavioral tradition, which they believe focus on owners' empirical characteristics, I argue that both systems of classification speak to the primary reason owners possess land, and their primary role in the development process.

altering both owners' future income and expenses and the market value of their land. The effect of taxes on future expenses has been noted to be particularly important in shaping owners' decisions to sell land (Kaiser & Weiss, 1970).

Research has also noted the importance to owners' land decisions of non-financial motives for land use decisions (including the decision to hold land out of development (Pyle 1986)), such as owners' "relative satisfaction from such qualitative aspects as farming as a way of life, the land as a residence, love of the land, or privacy and status" (Kaiser and Weiss 1970), personal emotional attachments to land, enjoyment of local amenities, and other personal and lifecyle factors such as retirement, divorce, death or the desire to give land to children (Brown & Roberts, 1978; Brown et al., 1981; Goodchild & Munton, 1985; Healey & Short, 1981; Pyle, 1985).[17] However, relatively little empirical work has explored owners' non-financial decision motivations comprehensively or rigorously. The work of Lizbeth Pyle is one exception: in a series of three articles examining which owners sell, why, and when, Pyle examined some of the non-financial factors influencing owners. In her 1985 article, in which Pyle categorized owners by their propensity to sell land, she found that farmers mostly sold land to other farmers for reasons related to retirement, age, and health; "crisis managers" sold due to financial strain; "individualists" sold for personal reasons unrelated to finances or retirement, such as to pass land to a child or divorce; while speculators sold for financial gain. In a later study, Pyle (1989) found that those inclined *not* to sell, whom she terms "persistent landowners," are older, hold larger tracts for agriculture or other income generating uses, are long-term owners, and have some family ties to land (but do expect to sell eventually for financial reasons).

[17] Several authors concerned with theories of the land market have argued that mainstream economics must explore the role of individual landowners' utility and preferences in models of land supply for development (Evans, 1983; Evans, 1986; Neutze, 1987; Wiltshaw, 1985; Wiltshaw, 1988; this debate is also reviewed in Adams and May, 1991).

More often, authors in the behavioral tradition have tried to predict land sales by developing sets of empirical indicators that distinguish owners (Adams & May, 1991) and that are related to owners' motivations for owning land, but that do not necessarily explain or explore these motives. For example, these authors have concluded that acreage, date of acquisition, age, family ties to land, owners' occupations, motivations for purchasing land, legal form of ownership, whether the owner resides on the land or is absentee, and owners' perceptions of area development pressures are all important to owners' decisions (Bancroft et al., 1977; Brown et al., 1981; Goodchild and Munton, 1985; Pyle, 1986, 1989). Kaiser et al. (1968) found that those likely to sell land had either held land for a short or very long time, were retired, were not resident on the property, or held land in joint ownership.[18]

In contrast to the focus on existing landowners' participation in land markets, information about the *buyers* of developed land is often more focused on buyers' motivations for moving to the fringe and less on any ensuing decisions regarding their property. This is evident in Pryor's words: "The rural-urban fringe is populated by *individuals* who have made personal decisions to migrate, and who subsequently make their own evaluations of their new residential location...these individual decisions and motivations are the *raison d'etre* of the fringe as a landscape phenomenon" (Pryor, 1968, p. 208; emphases original). Unlike land sellers, land buyers, according to Pyle, are a homogeneous group, tending to seek large

[18] A related strand of research not explored in depth here (conducted primarily by geographers) has considered landownership patterns as a useful lens for tracking and understanding land use changes. For example, Pond and Yeates (1994a) used ownership information found in public appraisal records to identify lands in transition in two Canadian counties, on the assumption that owners' intentions for their land differed by their form of legal ownership, whether or not the owner resided on the property, and other criteria (see also Pond and Yeates (1994b) for a related analysis of indicators or land use change). Similarly, Bryant et al. noted that *changes* in landownership between different groups of owners, including farmers, intermediate actors, developers, and consumers of new development, predicted land conversion, noting "...there is little doubt that a basic phenomenon underlying land use change in the regional city is to be found in changes in the land ownership structure and the real-estate market. Indeed changes in land ownership usually precede land use changes" (Bryant et al., 1982, p. 15).

private lots close in to city and to maintain strong economic ties to city, and are young, educated, professional types (Pyle, 1985). Drawing in part from Healey and Short 1981, Nelson argues that, increasingly since the late 1960s, rural households buy land to consume, not for agricultural production, differing from their suburban and urban counterparts in their pursuit of self-sufficiency, self-expression, and cultural status; their desire for more housing and land; and the value they place on distance from city's externalities (Nelson, 1992). Davis et al. (1994) add: "Basically, exurban households want a rural lifestyle but with all the advantages of urban opportunities" (p. 46); they may earn most income in an urban-oriented job, but may consider themselves farmers, value outdoor recreational opportunities and the environment, appreciate smaller government, yet not wish to be too far from urban services. According to the authors, "Overall, exurban households may be more like rural households in sociocultural aspects, but more like urban households in economic and environmental respects" (Davis et al., 1994, p. 46).

In short, the behavioral tradition tells us that landowners on the metropolitan fringe are influential in shaping patterns of growth, that they are heterogeneous and likely to have different purposes in owning and different time horizons for selling land, and that their decisions are based on economic calculations as well as personal and family circumstances and attachments. This literature has added considerably to our understanding of processes and patterns of metropolitan development, particularly providing insight into why land conversion occurs in a patchy manner rather than the theoretical smooth wave. However, there are some gaps in this literature that, if filled, would shed more light on owners' behaviors regarding their land. First, although previous work notes that owners have many economic and personal reasons for doing what they do (and, indeed, that there is a great deal of variation in landowner behavior to begin with (e.g. Adams & May, 1991)), the non-financial reasons are little explored, most likely because of the difficulty of conducting empirical research into the qualitative factors involved in land decisions (in comparison,

modeling owners' economic decisions, with many assumptions about owners' rational decision-making, requires less field work). Second, owners' decisions might be better understood by examining their underlying reasons for possessing their land; however, existing literature often simplifies owners' complex reasons for owning land and their reasons for entering into land transactions, focusing on a *primary* motive for owning and role in the development process, rather than on the numerous stakes in ownership, what I call interests in land, that may further complicate any decisions owners make about their land. For example, the farmer in previous literature owns land in order to cultivate it, and his or her role is at the beginning of the land conversion process as a seller of land to intermediate holders. However, what of the farmer who is simultaneously interested in cultivation and in increasing land values, who has an eye toward this year's crop, and an eye toward potentially selling if the right offer were made? The idea that owners have multiple interests in land has been raised, but little explored. Healey and Short (1981) noted that "owners expect their parcels to provide them with certain resources or benefits" (p. 85), and Baerwald (1981) states that each actor on the fringe, including landowners, has a unique set of "interests, expectations, abilities, and resources" (pp. 343-44), so that two individuals will often make different land decisions, even if they are both rural producers or both developers. I suggest that with *multiple* interests in land, and with a host of factors influencing land decisions, owners may, at different points, play multiple roles in the development process, acting as buyers, sellers, developers, conservers, or holders of land. Baerwald has acknowledged that owners may play multiple roles during the course of their land tenure as their lives change, giving the example of the farmer whose "primary concern may be with agricultural production on his land for many years, but, as retirement approaches...is likely to become more interested in its sale value, thereby leading him to assume the attributes of a speculator" (Baerwald, 1981, p. 343). However, I propose that this is still too static a snapshot of landowners, and argue an owner may be *simultaneously* concerned with multiple interests in

land at any given time, and that these may allow an owner to play multiple roles in land development *throughout* their tenures.

In this study, I aim to explore owners interests, including *multiple* interests, in greater detail than has been investigated previously. I focus exclusively on all of the private individual and family owners of at least five acres with some or all in undeveloped uses. In the terminology of previous authors, these owners include "users" and "households," but may also include investors or investment-minded individuals also investors and other owners who, besides having an interest in their land's appreciating value, derive other benefits from owning their property, such as the use of their property for a residence, business, or recreation; the opportunity to pass land onto children or to enjoy a rural lifestyle and area amenities; or psychological rewards, such as pleasure in owning and working their land.

B. Landowners, Public Policy, and Planning

Many of the authors concerned with theories land conversion, described above, have argued that public policy regarding growth and development could be improved with a better understanding of why and when landowners chose to sell land (Brown et al., 1981; Strong, 1969). Indeed, a body of landowner writings and research specifically focused on political and policy-oriented purposes does exist.

A first body of policy-oriented writings, published in the 1970s and 1980s, called for research on landowners that would help planners and others monitor growth and track trends in land development, and indeed, at least two large-scale empirical studies of ownership were conducted, of U.S. farmland (Lewis, 1980) and of the Appalachian region (The Appalachian Land Ownership Task Force, 1983). Authors, notably Frank Popper, argued that research on

owners' motivations, changes in ownership patterns, the increasing diversity of interests within rural populations, the role of large owners and concentrated ownership, absentee and foreign ownership, and the extent of urban owners' influence in rural areas could inform planners' work (Popper, 1976, 1978, 1981; see also Barrett & Healey, 1985; Brown et al., 1981; Bunce, 1985; Goodchild & Munton, 1985; Healey & Short, 1979; Ilbery, 1985; Jacobs & Moyer, 1986). For example, Finkler and Popper (1981) noted that ownership information could: "reveal what a community's real estate market and growth patterns are actually doing, as opposed to what they are supposed to do," "suggest which land-use regulations and policies are likely to work," form "the basis for financial, taxation, public service, and development decisions," and "stimulate interest in and support for planning itself" (p. 19). As in the behavioral research, the economic motivations of owners (particularly corporate, absentee, and foreign owners) are central; Popper and others are motivated by a concern that owners dominated by profit motives will gain too much control of urban/rural fringe lands. In recent years, the calls for landownership data have abated somewhat, perhaps in part related to the return of a more conservative political climate in the US in the 1980s, as "'[o]wnership structure issues tend to be value-laden, often ideological, frequently controversial" (Healey & Short, 1981, p. *xv*).[19]

Some of the theoretical and empirical research conducted on land conversion, described in the previous section, underscored points made by Finkler and Popper. For example, Brown et al. (1981) found that the characteristics of landowners, their land, and the

[19] Indeed, Charles Geisler, writing the introduction to the Appalachian Land Ownership Task Force report, noted that the study and others of its kind were a "byproduct of an American land reform movement and neo-populist spirit rekindled since the early 1970s" (Appalachian Land Ownership Task Force, 1983, p. xiii), and Frank Popper, in an email exchange, speculated that the dearth of landowner research after the 1980s resulted from a shifting political climate. However, we now have technology, in the form of geographic information software, that is making possible some of the ownership databases and information systems argued for in the 1980s (see Jacobs & Moyer, 1986) to track and assess ownership.

factors influencing their property decisions sometimes differed from policymakers' expectations, resulting in policies that unintentionally provided incentives to the "wrong" owners. The authors found that urban/rural fringe land often changes ownership at least twice over a period of 15 or so years before physical land conversion occurs, as farmers sell to speculators and investors, and as these parties sell to developers. Though the land itself may have changed little, underlying ownership had, and policies intended to provide farmers with preferential tax treatment as an incentive to preserve rural character and protect prime farmland were actually benefiting speculators, who had already purchased land from farmers. As a result, Brown and his colleagues, as well as other authors, have called for earlier intervention: although the citizenry may not be concerned about development until the moment physical changes become apparent on the landscape, policies and planning efforts to slow growth or encourage alternatives to development must occur earlier in the land conversion process if they are to be effective (Brown et al., 1981; Coughlin, 1985; Healey and Short, 1983). Brown and his colleagues also found that some public policies were ineffective or had unintended results because they were crafted without a clear understanding of how landowners would respond to them, as when subdivision controls were preventing owners strapped for cash from selling off small pieces of their land, and instead forcing owners to sell large parcels or their entire properties, perhaps hastening the transfer of land to owners interested specifically in development – and land conversion itself – in some areas of the fringe (Brown & Roberts, 1978; Brown et al., 1980, 1981).

A final area of landowner literature includes material aimed at the citizen and professional planner, which tends to emphasize owners' economic motivations. In their brief discussion of landowners in the classic *Land Use Planning (Fourth Edition),* Kaiser, Godschalk, and Chapin group owners together with developers, builders, and bankers as "market-oriented actors," in contrast to the "special interests" involved in land development, like farmers and enviromental groups (Kaiser et al.,1995) – despite the fact that farmers and

environmental groups may themselves be significant owners of land.[20] The same equation of "landowners" with "profit seeking" or "market-oriented" occurs repeatedly in news coverage of development conflicts, where landowners wishing to develop their land are often contrasted with opposing "residents" or "citizens," even though these groups may also own land. The seemingly one-dimensional image of landowners held by planners and Smart Growth advocates may partly result from the recent expansion of owner groups advocating private property rights. As Diamond and Noonan note, "a lot of angry private landowners and land users have become visible...They are a growing political force throughout the nation" (Diamond & Noonan, 1996, p. 110). Some advocacy groups, such as the American Farmland Trust, have commissioned significant studies to debunk this image, showing a majority of owners believe that some regulations on their land are appropriate (Thompson, 1998). Yet the image of owners as motivated by economic motives and opposed to regulations that lower land's market value is still reflected in planning handbooks for the lay public, like *When City and Country Collide: Managing Growth in the Metropolitan Fringe,* where Tom Daniels notes that owners' "expectations of capital gains have a away of being translated into political pressure against tighter land-use controls" (Daniels, 1999, p. 213).

While there is surely some truth to Daniels' statement, the image of landowners as anti-regulation or as driven solely by the expectation of capital gains may not fit all landowners, and certainly tells an incomplete story, neglecting possible non-economic motivations for owners' actions regarding their land. The image of landowners as economic actors does not tell us, for example, under what circumstances an owner will hold land out of development even if there is a profit to be had by selling their property. It does not explain

[20] For example, Kaiser, Godschalk, and Chapin note that: "Landowners, builders, and developers scrutinize land policies, regulations, and plans for their impacts on the monetary values of land. Landowners often include those whose land is presently in nonurban use, such as farms and forests, but who wish to preserve the option of conversion to urban use that would bring an increase in market value" (Kaiser et al., 1995, pp.8-9).

why some owners choose a lower economic return in order to conserve their land. It does not provide insight into whether owners who do sell their land do so because they feel powerless to influence the development of their area and so decide they might as well reap some return, though they would have preferred to maintain their land and community in a more rural state.

There is, therefore, much that can yet be accomplished by examining landowners' identities, behaviors, and most importantly, their interests in their land, particularly since there is an ever-increasing number of policies, now often labeled under the umbrella term of "smart growth," that regulate or attempt to influence the decisions that private owners make about their land. Some of these policies control land uses, lot sizes, and the dimensions of structures permitted on land (e.g. zoning), define minimum lot sizes (e.g. subdivision controls), and restrict owners' activities if they impinge on natural resources or environmental health (e.g. Federal Endangered Species Act, local wetlands protection laws, some provisions of zoning). Still other policies provide incentives for non-sprawl development, typically targeting those owners who intend to develop their land, including growth management policies like impact fees, charges for public infrastructure that will serve new developments, and cluster and performance zoning that provide developers flexibility in return for preservation of open space. Another set of policies, which has grown increasingly sophisticated in recent years, provides owners with incentives to preserve their land in open space or agriculture, and many landowners can now take advantage of programs that provide them some compensation or tax benefit for land conservation or maintenance of open or agricultural uses (e.g. programs that purchase or transfer development rights, conservation easements); that protect their right or ability to farm (e.g. through "right to farm laws," agricultural zoning districts, and agricultural district programs[21]); and that give owners

[21] "Right to farm laws" protect farmers from nuisance lawsuits brought by new suburban neighbors who object to the noise or odors inherent to farming; agricultural districts provide incentives and protections to farmers who voluntarily restrict land use to agriculture.

protections from increasing property taxes in rapidly developing areas (e.g. differential assessment programs that assess land at its agricultural, rather than market, value) (Hansen & Schwartz, 1975). (Knowledge of some policies and programs is relevant: for example, an owner must be aware that preferential property taxation programs might be an option (Hansen and Schwartz, 1975)). The number of policies aimed at influencing landowners' behavior is a testament to policymakers' perceptions of the importance of owners in the urbanization process. However, research could add substantially to policymaking by providing a comprehensive picture of the people they seek to influence and regulate.

III. Conclusion

As I have argued above, the metropolitan fringe and the owners of its land are worthy of study for two primary reasons: to provide insight into the patterns and processes of metropolitan development, particularly at the local level; and to inform policymaking and planning concerned with managing growth and its effects. Although there is a small but rich body of work on these subjects, it is incomplete without more attention to owners' non-financial interests in property; furthermore, the institutional context in which landowners operate has evolved since much previous research was conducted, with new policies (such as conservation programs not available twenty years ago), a more informed citizenry, and a host of changing social and economic conditions that are shaping both the supply of and demand for fringe land. In particular, a deeper look at owners' interests can ultimately yield new understanding about why owners possess their land, their likely behaviors (and not just their decisions to sell land, but also to hold land out of development) and roles in development, and their motives for these behaviors; interests can also yield insights into the resource and value conflicts that often characterize policymaking and planning on the fringe. Finally, because owners are important constituents for growth policy, and often the target of it, it is

important that policymakers and planners understand their interests and perspectives as they seek workable and politically acceptable land use and growth policies.

Chapter 3

Methodology

In this study of landowners' interests, I utilized data gathered by the Lincoln Institute of Land Policy in a study of Austin fringe landowners.[22] Data from 521 telephone surveys of owners provided a detailed picture of Austin area landowners' identities: their demographics, their histories with their properties, including past purchases and sales and current land uses; their decision-making processes and future plans for their property; and the values they hold about their property. Nine follow-up interviews with survey respondents and two interviews with other Austin landowners allowed for a deeper and more open-ended exploration of owners' attachments to their land and how these have changed over time. Background research on the case, including interviews with over 60 Austin-area professionals and officials concerned with growth and development in the area, and a site visit to the study area, also offered further insights into fringe landowners' interests in their property. In Part I of this chapter, I discuss the selection of Austin as a case study, and in Part II, describe the survey sampling methods and survey implementation.

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[22] I am a research assistant at the Lincoln Institute and was responsible for the survey's development and implementation. H. James Brown, President and CEO of the Lincoln Institute and author of previous comprehensive landowner research cited in this document, directed the project, and generously offered me the use of the Austin landowner data for my dissertation. The survey of Austin was one of four regions studied by the Lincoln Institute and its partner, The Joint Center for Housing Studies of Harvard University; other regions included Portland, OR; Charlotte, NC; and Sacramento, CA. A pilot survey was also conducted in the Austin region in 2001.

My approach to analyzing the survey data was to focus not only on owners' behaviors and demographic characteristics, as previous research has done, but to examine explicitly owners' stakes or interests in their land. I argue that this focus on interests provides a greater understanding of owners' characteristics; their reasons for possessing land and continuing to own it, even as the fringe develops; and their behaviors. I discuss the methods used to analyze the survey data at the conclusion of this chapter; I also discuss the challenges of studying interests empirically in Chapter 5.

I. Selection of the Case

The Austin region was selected for the Lincoln Institute study for several reasons: its rapid population growth rate; the variation that exists within the region in topography, economy, and culture; its distinguishability from other regions; and the availability of reliable landowner data with which to identify the sample population. For these reasons, and because ownership in the Austin area is dominated by private, non-corporate landowners – owners whom I hypothesize are likely to have a range of both financial and non-financial interests in their property – I also selected the case for my dissertation.

According to the U.S. Census Department, the Austin-Round Rock[23] metropolitan statistical area (MSA) is one of the fastest growing in the country: between 1990 and 2000, the population grew at a rate of 48%, ranking nineteenth in percent population change among all US MSAs, and second among those with populations of 1,000,000 or more in the year 2000.[24] This growth is continuing, occurring within the city of Austin, in its suburbs, and into its countryside. As a result of the rapid urbanization of the fringe, at least some of the

[23] Round Rock is located fifteen miles north of Austin.

[24] Data from http://www.census.gov/population/cen2000/phc-t29/tab05a.pdf.

landowners surrounding Austin are experiencing significant urbanization in their areas, with rising property values, new populations and development in their communities, and new opportunities and choices for their land. At the same time, because the Austin metro area is extensive, without significant overlap with other regions, there is a good deal of rural land that is not yet under intense development pressure or undergoing significant physical transformation and, with it, landowners who are likely not experiencing the effects of major urbanization pressures in their communities. This variation in development pressures and, as an extension, landowners' experiences, provides the opportunity to compare owners' behaviors and attitudes in higher demand areas with those in areas with still-rural character and land values.

Additionally, the Austin-Round Rock MSA is substantially varied in topography and economy. As is described in the case study in Chapter 4, land to the east of Austin is flatter, greener, and more traditionally farmed; while the west of the city, it is hillier and more suited to ranching. This variation allows for internal comparisons of landowner characteristics and experiences. Finally, *private individual* and *family* owners, who are the focus of my research interests, dominate ownership of the Austin fringe. These owners may view their land as an investment and/or an input to income production, but are also likely to enjoy its amenities or to reside or recreate on it: in other words, they are likely to hold multiple interests in their land.

From a practical perspective, that the Austin region is physically distinguishable from other regions simplifies sampling, ensuring that the land and the landowners captured in the survey are associated with Austin and not any other overlapping region. Although San Antonio is only 80 miles to the southwest and the fringes of the two regions do merge somewhere between the two cities, there is sufficient fringe in the counties immediately surrounding Austin that, for the purposes of this project, we need not worry where one fringe

becomes another; the same is true of the line between Austin and Houston, about 160 miles to the east.[25] A second practical criterion in Austin's favor is the availability of landownership data, of great consequence in making the research feasible: in order to survey and interview the owners of fringe land, it was, of course, necessary to first identify them, and the most reliable way of doing so is through public property tax rolls, the official record of title-holding property owners, which include their addresses (important because many do not reside at the parcel itself), and property information relevant to the study such as acreage. To be workable, however, we needed tax rolls that would easily link property information to electronic maps. Not all tax-levying jurisdiction (in Texas, counties), particularly rural entities, keep their assessment files in electronic form; still fewer make it possible to link ownership data with electronic maps that make easy mapping of the study area possible. In the Austin region, electronic maps and assessment data were available in three of the five counties that comprise the Austin-Round Rock MSA:[26] Bastrop County to the east, Caldwell County to the south/southeast, and Hays County to the west/southwest. Areas of these three counties were selected as study areas; the methods of selection are described below.

[25] Most East Coast regions were inappropriate for this reason; many of the metropolitan areas from Washington, DC to Boston, MA have significant overlap. The discernibility of the Austin region may in part be due to its size as a mid-sized region; many of the nation's larger regions (e.g. Los Angeles, Chicago, New York) encompass sub-regions that make the fringe of any one urban area difficult to identify.

[26] Interestingly, Austin's home county, Travis County, does not link appraisal data to electronic maps. Since this county is not entirely developed, there is some close-in fringe in Travis County not captured in the study, but there were sufficient high-intensity growth areas in the three outer counties that we were certain to capture areas of intense development pressure.

II. Survey Sampling and Implementation

The sampling methods described here are based partly on the methods Brown et al. (1981) employed in earlier research, updated to fit the current research questions and context, and refined following a pilot survey conducted in Austin in the spring of 2001.[27] Given the Lincoln Institute's interest in owners' identities and behavior, and my own interest in their underlying motivations, a survey (following Brown et al., 1981) was considered most effective, and a telephone survey was selected as the most efficient means to gather information from 500-plus geographically dispersed landowners.

In general, the sampling methods involved identifying the general contours of the fringe surround Austin; identifying three specific corridors within that fringe that would be the subject of the research; stratifying each of those three corridors into areas facing intense, moderate, and weak development pressures to ensure that we captured landowner experiences in areas at different states of urbanization; identifying the property owners within each area; drawing a stratified random sample; and matching the owners selected with telephone numbers. These methods are described below, along with the survey instrument and implementation.

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[27] The current study draws from the sampling methodology used by Jim Brown and his co-authors Robyn Swaim Philips and Neal A. Roberts in a survey of more than 700 landowners in the fringes of four U.S. and two Canadian cities, published in 1981 (Brown et al., 1981; see also Brown and Roberts, 1978; Brown et al., 1980; Phillips et al., 1980), with some important differences. We have made use of electronic mapping tools not available twenty years ago to draw our sample, and have elected to sample without replacement and not to weight our sample by acreage. The current survey instrument is more focused on gathering information on landowners' motivations for their behavior regarding their property and their attitudes toward development, and includes questions on owners' use of and response to newer policies and programs, such as conservation programs.

A. *Identifying the Sample Population*

Using the definition of metropolitan fringe set forth in Chapter 2, and following a well-established body of literature on the fringe, we identified the rough contours of the Austin fringe, from its beginning at the current suburban edge, where pressure to convert land is intense, and extending to the outermost point where suburban/urban and rural uses are expected to compete within ten to fifteen years. Given that the fringe is, by definition, a dynamic place, this exercise was clearly subjective – indeed, Hart has noted that, methodologically, "the fringe is difficult to identify and map precisely, and the task demands intensive fieldwork" – particularly on the outer edge, where the fringe currently has a rural character (Hart, 1991, p. 36).

To develop the rough boundaries of the fringe, we reviewed government and nonprofit reports and plans for metro area growth; press coverage on growth issues; government data on population change, building permits, land uses, development densities, and land engaged in agriculture; and maps and aerial images to understand current land uses. We also conducted numerous interviews with regional planning organizations including the region's MPO (metropolitan planning organization); state officials in departments associated with agriculture, water resources, and wildlife; academics in area universities whose work concerns Austin area geography, planning, and real estate; farming advocates; national and regional conservation organizations active in the area; private and county appraisers and county assessors; developers; realtors; and homebuilders associations.[28] The general fringe area that we identified included parts of all of the five counties comprised in the Austin

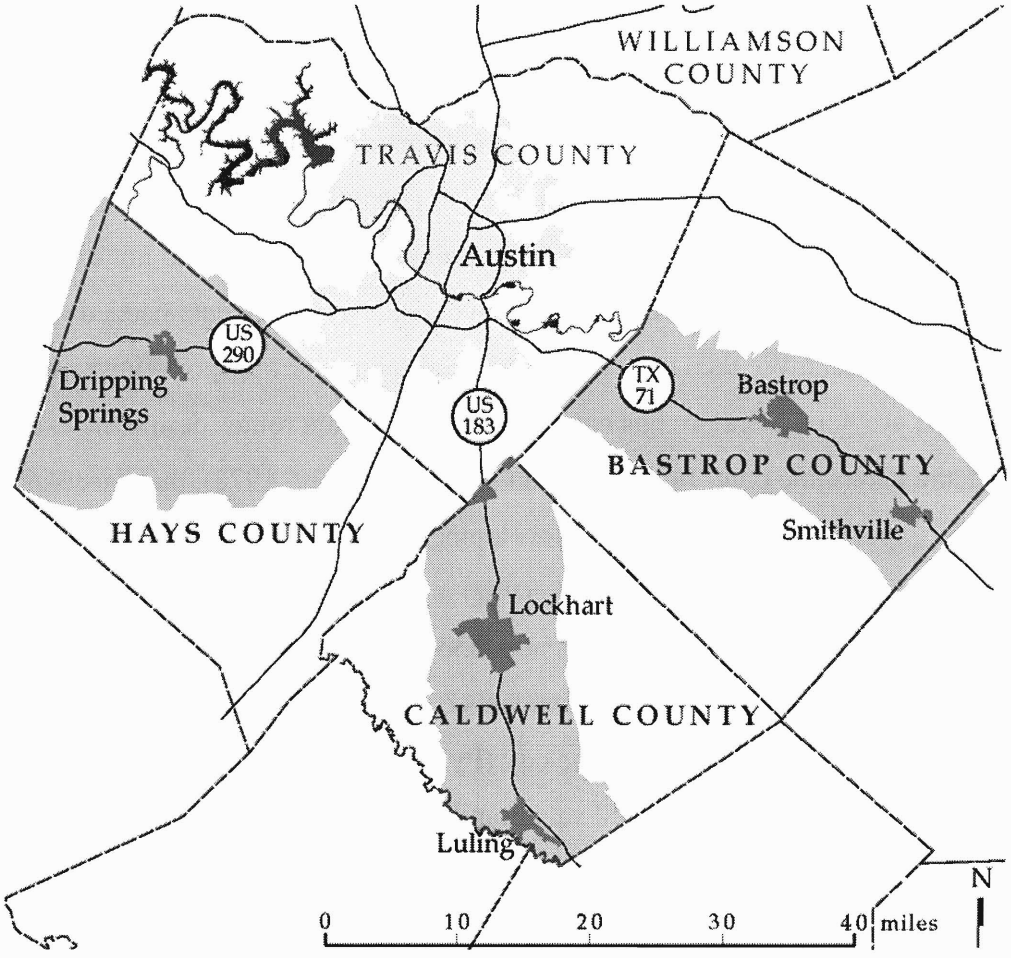
[28] Data on population densities, land use cover, and building permits was of limited help, as they describe a current or past state, and not the path, pattern, or timing of future growth. Additionally, much available data describes the county and MSA level, and is too broad, since our challenge was to identify the fringe within MSAs and the counties that comprise them. For the Lincoln Institute study, we did utilize some Census and local data, but other data available from the U.S. Geological Service, U.S. Department of Agriculture, and even NASA were not suitable for demarcating the fringe.

MSA, as well as land in the counties immediately adjacent. In each of the counties, state and US highways, as well as some well-traveled county roads, formed the spines of the development corridors.

The next step was to identify specific sample areas within this larger fringe. We focused within the five counties of the MSA, which, given their size,[29] include a large amount of land undergoing intense development pressures *as well as* land not expected to be urbanized for 10 or more years and, as noted above, made available data needed for identifying landowners. We then selected corridors along major transportation routes through these counties; previous literature has noted that transportation routes define the extent of a metro area and determine outer limits of urban growth (Sargent, 1972), that "accessibility is of overriding importance in the timing of development" (Whitehand, 1987, p. 101), that proximity to highways (LaGro & DeGloria, 1992) or major interstate access roads (Bryant et al., 1982; Lee, 1979) influence land conversion, and that new development tends to cluster near transportation networks so that new residents can take advantage of both "amenities and accessibility," without cutting ties with the city (Pyle, 1985, pp. 33-34). In general, the resulting corridors comprised about 200 square miles each. The corridor in Hays County is a bit shorter and wider given the shape of the county, and also because development pressures in this county are so intense that one must stray farther from the main highway to find areas of low development pressures. The Bastrop and Caldwell corridors are longer and narrower, and, in addition to intense pressure areas close to Austin, there are pockets of development pressures in the middle of the counties at the county seats, the cities of Bastrop and Lockhart respectively, with land deeper in the county that has yet to experience significant development pressures (see Figure 3.1.)

[29] All of the five counties of the MSA are over 500 square miles; the largest, Williamson County, is 1,123 square miles, larger than the state of Rhode Island (1,045 square miles).

Figure 3.1: The Austin Fringe Study Area



Dark shaded areas represent areas captured in the landowner survey.

Previous authors have divided their study areas into sub-zones that capture varying states of development (Brown et al., 1981; Pyle, 1985), based on the notion that demand for land is closely related to proximity and access to urban centers (Hepner, 1985). We therefore formally subdivided the corridors into areas facing areas under intense development pressure, where significant development is occurring now or is expected within five years; areas facing

moderate development pressure, where significant urbanization is expected in the next five to 10 years; and those facing weak development pressure, where significant urbanization is not expected for 10 or more years.[30] We utilized data, maps, and interviews, this time at a more local level, to define specific areas of high, moderate, and weak development pressures along the three counties' major transportation routes. Again, data and maps were useful in establishing the location of *current* development; however, interviews were much more valuable in predicting and characterizing likely future development into the fringe. County and city planners, engineers, administrators and managers, economic development staff, and county health officials; elected officials; staff of local extension services and nonprofit conservation groups; developers and realtors; chambers of commerce; and members of regional water cooperatives and water planning groups provided their opinions about where the pace and pattern of growth in the counties.[31] In general, intense areas are closer to

[30] Brown et al. 1981 used the designations "intense," "moderate," and "weak" development pressures, as do we; however, they identified "intense" as likely to see significant development pressures within 10 years, rather than five. We found in preliminary interviews with local experts on development and planning that 10 or more years was very difficult for people to describe; interviewees were much more confident in their designations as "intense," less so for "moderate," and least for the "weak" pressures. We found that focusing on zero to five, five to 10, and 10-plus years to be most useful for the professionals.

[31] We use professional judgment to identify the fringe for several reasons. There is no data that would permit us to analyze and identify the fringe at a fine enough geographic scale using more objective indicators: county level and MSA data is too broad, since our challenge is to identify the fringe within MSAs and the counties that comprise them. Another difficulty is that our study area includes areas currently beyond the interface of urban and rural areas – those places that are not yet urbanizing, but expected to begin doing so within the next decade – yet available data only reflects current conditions. For the Lincoln Institute study, we considered data from the US Geological Service, US Department of Agriculture, and even NASA, but found none suitable. The US Census data on urbanizing areas was perhaps the most promising dataset for our purposes, but currently the only available data is from the 1990 Census (data from the 2000 Census is not due out until later this year), and this data uses only population criteria for identifying urbanizing areas, while we believe density and land uses are also critical. Another problem is that many of the areas we want to look at are not yet urbanizing, but are expected to begin in the next decade or so, and there would be no way to identify these areas with urbanizing areas data. It is perhaps not surprising that a paucity of data is one reason Bryant at al (1982) gave for the lack of studies of growth and development in the rural-urban fringe (p. 14).

metropolitan areas, moderate are just beyond the intense, and weak areas are beyond the moderate, furthest from the metro areas; however, the Austin contacts helped us to identify pockets of more intense development deeper into the corridors around existing towns and along major transportation routes, since development pressures and actual growth are in practice uneven (Bryant et al., 1982).[32] (It is important to recognize that this study is not concerned with making actual development *predictions* but rather with identifying areas where development is *expected* and gathering data about landowners' plans and behaviors in light of perceived development pressures.)

Once the sample areas were identified and stratified, we used county assessors' data to construct a sample of the landowners within our three corridors. Using GIS maps provided by the counties, we were able to select landowners within the boundaries of our study area. The assessors' data provided owners' names and addresses. Not all owners were included in the sample. Public landowners at all levels of government were omitted, as were owners of parcels under five acres, as larger parcels have greater impact on urbanization patterns (Massie, 1968; Strong, 1969), and we would otherwise have expended significant effort to reach the owners of many already-developed parcels. (During the surveys themselves, we also terminated interviews with owners who reported at the beginning of the survey that all of their land was in developed, urban uses, as our intent was to capture only the owners of undeveloped land.) As a result of these "rules," much of the land within the towns and small cities of the fringe was automatically omitted, because it was either public, under five acres,

32 According to Pond and Yeates (1993), fringe areas pass through stages of development as they urbanize. An area may first be described as agricultural, then experiencing early urban influence, as having small town growth and exurbanization, as a suburb, and finally as urban (pp. 344-5). In the study described in this dissertation, the areas selected for the case are mostly between stages II and IV: all areas in the study are at least under some early urban influence, with much already in stage III (small town growth, exurbanization), and some in the "suburb" stage, with "considerable areas of exurbanization and speculation" (Pond & Yeates, 1993, p. 345).

or already developed; we also did not capture undeveloped land that was subdivided into plots under five acres.

The University of Connecticut's Center for Survey Research and Analysis, retained by the Lincoln Institute to implement the survey, was then able to match about two-thirds of the sample to telephone numbers. In the resulting pool of 6,027 cases, a large number of duplicate cases, where an owner possessed multiple parcels of land, remained. These were de-duplicated according to a set of priorities designed to fill out the nine strata of the sample. After this process, three-quarters of the cases remained, 4,557, which formed the survey sample.

B. The Survey Instrument

The survey questionnaire covered owners' identities, behaviors, plans, values, and attitudes (the full survey instrument is included in the Appendix). Identity questions included those that gathered information about the owner, including demographic data, place of residence, whether or not the owner had children, and the legal form of the entity owning the property (e.g. individual, family corporation, partnership, etc.). Where possible, we utilized standardized demographic questions (Sudman & Bradburn, 1982) recommended by survey experts at the University of Connecticut Center for Survey Research and Analysis.

Behavior questions included those relating to how owners currently use their property; [33] how and when they acquired their land; when and why they have previously sold

[33] It is important to note that the questionnaire focused solely on the parcel of land drawn in the survey sample; if the owner possessed other land in the Austin metro area or elsewhere, this property was *not* the topic of the survey unless questions specifically asked for information on other land owned.

portions of their property; the amount of other property owned in the metro area and their reasons for owning; the respondents' assessment of how often they generally buy and sell land; and questions about how owners make land decisions. In developing behavior questions, we were guided by Sudman and Bradburn (1982) on asking nonthreatening questions about behavior, ensuring that all reasonable alternatives were included in closed-ended questions (and including open-ended "other" categories where appropriate); making questions as specific as possible, particularly when they relate to past behaviors; making our terms as explicit as possible and using common terms; and adding "memory cues" where possible.

The survey instrument covered several types of value and attitudinal questions: for those who bought their property, the importance of various criteria in selecting their particular parcel; for all owners, attitudes toward growth in their areas, owners' rankings of the importance of various factors in why they own their land (e.g. amenities, possibility of building equity in land, recreation, etc.); owners' rankings of the influence of various policies and other factors on land decisions; and owners' likely future plans. Value and attitude questions required more care in development, ensuring that that the object of the question was clear to the respondent (Sudman & Bradburn, 1982, pp. 121-122) and that the indicators of the concepts we wished to test were as clear as possible (de Vaus, 1995). Care was taken to avoid double-barreled questions, and the order of specific series of value questions was randomized in implementation to ensure that the order in which questions were asked did not distort the data gathered. Most questions were closed-ended, though not all, and many closed-ended questions allowed the owner an opportunity to provide additional responses in their own words if the categories provided were not applicable. More discussion of the challenges of empirically researching interests is provided in Chapter 5.

Combined, the identity, behavior, and attitudinal/value questions provided multiple points of entry into owners' relationships to and interests in their land. For example, in assessing owners' motivations for possessing land on the fringe, identity questions, such as whether or not the owner's main profession is in agriculture; behavior questions, including current land uses; and attitudinal questions, including reasons for acquiring the land, rankings of factors important to why they own today, and intentions for the future (such as to develop the land) all contribute to our understanding of the reasons owners possess their land.

The Lincoln Institute tested the questionnaire in a pretest of Austin owners, conducted in 2001. It was revised and pretested again in Portland, Oregon in 2002, before it was implemented in Portland and then Austin at the end of 2002 and in early 2003.

C. *Survey Implementation*

To implement the survey in Austin, the University of Connecticut's Center for Survey Research and Analysis (CSRA) sent a letter to those 4,557 landowners drawn in our sample explaining the project; giving contact information for the Center, Lincoln Institute, the Joint Center for Housing Studies of Harvard University (a partner on the study); and asking for the owners' participation. Trained interviewers using Computer Assisted Telephone Interviewing technology contacted owners via telephone to conduct the survey. From the sample of 4,557 cases, 521 interviews were completed. The response rate was 26.35% and interviews averaged 25 minutes in length.

D. Potential Bias

Rigorous attempts were made to minimize bias in the survey; however, there are a number of potential areas of bias worth noting:

Telephone match. It is impossible to know if those landowners for whom a telephone number could be identified varied significantly from those with unlisted numbers. It is possible that the latter guard their privacy more carefully, but it is not clear that this in turn suggests they differ in their characteristics, interests, or decisions regarding their land.

Legal ownership. The survey captured few non-family corporations: only two for-profit corporations and one non-profit corporation. This very low number raises the question of whether the survey represents the actual level of corporate ownership in the sample area, or whether businesses were less willing to participate in the survey. While this is unclear, those entities in our sample with business names were given particular attention to avoid potential bias: they were flagged and received calls from the University of Connecticut Center for Survey Research and Analysis during business hours by interviewers specially trained to conduct business surveys.

Multiple owners and relatives. More than one individual often owns a single parcel of land: a couple, parents and children, a family, or a series of partners (in the partnership form of ownership), among other possibilities, may own together, with either joint ownership or with each owner having a specified percent interest in the land. It is of course not clear that all individuals in a family or partners in a partnership would answer the survey questions exactly the same; certainly the responses to demographic questions would vary, and possibly attitudinal questions as well. Yet there is no reason to believe that there was any bias in the actual response, either in the type of person who answered the phone (e.g. a younger or older

co-owner, or a male or female co-owner) or in who agreed to complete the survey. An additional concern is that, of the respondents to our survey, 97.5% (510) described themselves as the actual owners of the properties identified in the appraisal records, and 2.25% (11) described themselves as related to or otherwise authorized to speak for the legal owner(s); these individuals were likely relations of legal owners (e.g. spouses or children). It is possible that these owners' responses to historical questions were less accurate than those of other respondents.

Reliability of retrospective questions. One section of the survey inquired about owners' intentions for their land at the time they acquired it. While historical behavioral questions require special consideration (Sudman & Bradburn, 1982), we provided memory cues to aid the respondent, and the majority of questions about land acquisition required only straightforward yes/no responses.

E. Follow-Up Interviews

At the conclusion of each telephone survey, researchers inquired whether respondents would be willing to participate in a follow-up discussion with a researcher from the Lincoln Institute of Land Policy. Seventy percent indicated they would be willing, and several landowners were contacted in the spring and summer of 2004 for more in-depth discussions about their reasons for acquiring their land; their considerations about holding, selling, developing, or giving it to children through the years; and their future plans. The interviews provided more detail than was possible in the survey, and clarified how owners' interests and motives may have changed over time and also current land uses: how owners currently combine recreation and agriculture, for example.

III. Survey Analysis

Survey data were analyzed in Stata 7.0, which offers a family of commands specifically for the analysis of survey data that are particularly helpful when the data involves stratification and weighting, as was the case in the Austin-area study. The sample was stratified by the nine sample areas of the fringe: the intensely, moderately, and weakly developing areas of three corridors. Because it was impossible to conduct equivalent numbers of interviews in each strata, a small weight was used to ensure that responses from all strata counted equal. Statistics methods used included cross-tabulations, means tests, and factor analysis. I discuss analytic techniques further in Chapter 6, when the survey findings are presented.

IV. Conclusion

The next chapter describes the Austin study area in greater detail, before turning to a detailed discussion of owners' interests, the data collected in the Austin study, and a discussion of the findings.

Chapter 4

The Austin Fringe

As described in the previous chapter, the pre-development landowners of the Austin, Texas fringe provide the case study used for the research into landowners' interests. Below I describe the Austin area and its fringe in detail below, including current land uses; the topography, infrastructure, economic forces, and public policies shaping its development; and the three specific study corridors selected for study, which differ significantly from one another in topography, land uses, population, growth pressures, and the character of new development. As noted in the previous chapter, sources for the case study included reports and data related to area growth; press coverage; and over 60 interviews with officials and staff of Austin area planning agencies, development companies, environmental organizations, farming services, academics, and others; information was also located on various governmental, nonprofit, and newspaper websites (listed in the Sources section at the conclusion of the dissertation).

I. The Austin Region

The city of Austin, capital of Texas, lies in the center of the state, approximately 80 miles northeast of San Antonio and 160 miles to the west of Houston. As noted previously, the US Census Bureau lists the metropolitan statistical area (MSA) of Austin-San Marcos, Texas as one of the fastest growing in the nation, with a population growth rate of 48% between the censuses of 1990 and 2000, and a 2000 population of 1.25 million (about half of whom reside in the city of Austin itself: Austin's 2000 population was 656,562). The MSA's population is predicted to grow by another 19 to 24% by 2010.[34]

The MSA is comprised of five counties, three of which – Bastrop, Caldwell, and Hays counties – are included in the dissertation study area. All are growing in population, but at quite different rates, as shown in Table 4.1.

Table 4.1: Rate of Growth, Austin-San Marcos MSA*

	MSA Population 1990	MSA Population 2000	Percent Change
Entire MSA	846,227	1,249,763	48%
Bastrop County	38,263	57,733	51%
Caldwell County	26,392	32,194	22%
Hays County	65,614	97,589	49%
Travis County	576,407	812,280	41%
Williamson County	139,551	249,957	79%

**Data from the US Bureau of the Census, http:/ www.census.gov./*

Interstate 35 bisects the region, running north to south through the area, and linking Austin to San Antonio to the south and Waco to the north (I-35 ultimately runs from the

[34] Estimates are those of the Texas Water Development Board and Texas State Data Center (Scenario 5) respectively, available at the website of the Real Estate Center of Texas A&M University, www.recenter.tamu.edu.

border with Mexico nearly to Canada). State Highway 130, a proposed toll road that would run parallel to I-35, is intended to relieve traffic on the interstate generated by the North American Free Trade Agreement and regional commuter traffic, and, as planned, will eventually extend through Caldwell County, though the construction date for Caldwell County has not yet been determined. US Highways 290 and 183 and Texas Highway 71 also cross through the region; to the east, 290 and 71 connect Austin to Houston. Austin-Bergstrom International Airport, opened in 1999 on a former air force base, is located five miles to the southeast of Austin and is close to neighboring Bastrop and Caldwell Counties.

The Austin area economy is currently dominated by state government; academia, with the University of Texas at Austin; and a growing high tech industry that includes Dell Computer, Motorola, IBM, AMD, and Samsung Semiconductor. Many high tech firms are locating in downtown Austin (and residential development is growing downtown as well), although some corporations are selecting sites on the edge of the city and in the rapidly developing areas surrounding Austin: Dell Computer, for example, is located north of Austin in Round Rock, part of booming Williamson County. Migration into the region, in part driven by the high tech industry's expansion, has been a major cause of population growth for the past decade (Breyer, 2003). The region is also experiencing growth in its immigrant population, as foreign-born workers are attracted to high-tech, service, and construction jobs (Castillo, 2004); and the area is also increasingly attractive to retirees and others seeking quality of life in a city known for its educational resources and outdoor recreation opportunities (The Real Estate Center at Texas A&M University, at http://www.recenter.tamu.edu/). The Austin area economy and population growth rate flattened between 2001 and 2003 (Breyer, 2003),[35] although more recently, the region has added new jobs, 5000 between March of 2003 and May 2004 (Novack, 2004), and housing

[35] Note that the landowner survey discussed in the previous and ensuing chapters was conducted in late 2002/early 2003.

starts have again reached 2001 levels (The Real Estate Center at Texas A&M University, at http://www.recenter.tamu.edu/).

A. The Austin Fringe

As discussed in previous chapter, identifying the edge where the metropolitan fringe begins or ends is a subjective exercise. In the case of Austin, areas outside the city limits within Travis County can be considered fringe, although, to the north, southern Williamson County is already sufficiently developed that it is more appropriately considered suburban. Below, I discuss the region in general, but I focus most specifically on Hays, Bastrop, and Caldwell counties, where the landowner research was conducted.

The City of Austin lies where the Colorado River flows across the Balcones Fault, a geologic fault running from southwest to central Texas. The fault (and Interstate 35, which parallels it) divides the geographic zones of Blackland Prairie to the east and south, and the higher elevation Edwards Plateau, in which lies the Texas Hill Country, to the north and west. The Blackland Prairie features modest hills and rich cropland, with deep soils. In contrast, the Texas Hill Country is characterized by rolling limestone hills; caves, springs and creeks; and shallow soils, and lies over two aquifers, the Edwards and the Trinity, with the Edwards alone providing groundwater to almost two million people (Eckhardt, 2004). The limestone hills and canyons to the west of the city have traditionally been home to ranching and have a more western culture and feel, while the plains to the east have traditionally been dominated by farming, primarily of cotton, and are characterized by more of a southern culture, though ranching has become common here as well.

According to interviewees with expertise in Austin area development and planning, the Balcones Fault has also divided the population: white, upper-middle class residents to the west (including the Hill Country) and a more moderate-income population, with a higher percentage of black and Hispanic persons, to the east. This characterization is born out by demographic data collected in the 2000 Census for the three counties, as shown in Table 4.2.

Table 4.2: County Comparison*

Population	Bastrop County	Caldwell County	Hays County	Texas
Female	49%	51%	50%	50%
White	80%	70%	79%	71%
Black/African American	9%	9%	4%	12%
Asian	1%	0%	1%	3%
American Indian/Alaska Native	1%	1%	1%	.6%
Some other race	8%	18%	13%	12%
Hispanic or Latino origin	24%	40%	30%	32%
Persons 65 years of age or older	10%	13%	8%	10%
Persons with Bachelors degree or higher	17%	13%	31%	23%
Median household income (1999)	$43,580	$36,580	$45,000	$39,930
Mean commute time (minutes)	37	31	28	25
Median value of owner-occupied homes	$93,400	$68,000	$129,400	$82,500
Square miles (in county/state)	888	546	678	261,797
Persons per square mile	65	59	144	80

** Data from the US Census Bureau. All figures are for the year 2000 unless otherwise indicated. Note that Hispanics may be of any race, so also are included in applicable race categories, and that respondents were able to report two or more races.*

Today, agriculture is still a major use of land in the fringe: in Hays County to the west of Austin, agriculture is focused on livestock (beef cattle, sheep, and goats); while to the east and southeast, in Bastrop and Caldwell Counties, beef cattle and farming prevail. However, in the MSA counties of the study area, farms and ranches are not large by Texas standards, falling below the mean and median size for the state (see Table 4.3). Nor do the majority appear to be very lucrative: in the three counties of the study area, average net cash income per farm (defined as sales and government payments minus farm expenses) was either

negative or barely positive (National Agricultural Statistical Service, 2002). In many cases, the low or negative income likely result from the fact that many farms or ranches are part-time operations whose owners receive income from other sources.[36]

Table 4.3: Mean and Median Farm Size*

	Mean Farm Size (acres)	Median Farm Size (acres)
Texas	137	567
Bastrop County	90	193
Caldwell County	109	217
Hays County	90	252

**Source: 2002 Census of Agriculture, National Agricultural Statistical Service. (Note that a "ranch" is considered a farm in the Census of Agriculture.)*

The recent economic slowdown aside, the Austin fringe has been a desirable location for new residential subdivisions and lower density "ranchettes" and hobby farms, commercial development, and recreation, occurring alongside traditional farming and ranching. According to area interviewees, development in the Austin fringe is a mix of residential growth close to the city and low-density suburbia further out, driven by the area's amenity, and often owned by those who are able to telecommute and retirees (similar to general growth patterns described by Heimlich and Anderson (2001)). Indeed, a recent report by The Real Estate Center at Texas A&M University noted that throughout Texas, rural land prices are being driven by demand for recreation land and homesites (Gilliland et al., 2004), and another study conducted by Texas A&M University in 2000 noted that, while farmers and ranchers dominated land purchases through 1994, consumers have dominated the market in years after (Wilkins et al., 2000).

[36] The National Agricultural Statistical Service (NASS) of the US Department of Agriculture Agricultural Census, from which figures on net cash by farm were drawn, attempts to survey establishments expected to sell over $1,000 in agricultural products annually, so it is likely that the Census reaches many part-time and even hobby operations.

Development and development pressures are occurring in all areas of the metropolitan region, but are not uniform in all directions from Austin, particularly given the different landscapes to the east and west. Commercial uses are intensifying along Interstate 35 (with Professor Jim Kimmel of Southwest Texas University predicting a 13-mile wide swath of development through the corridor by 2040 (Clark-Madison, 1998), while the most rapidly growing county of the MSA, and the most developed aside from Travis County, is Williamson (and 12th fastest in the nation in 2003, according to the US Census Bureau) to the north of Austin. To the west of Austin, in Travis and Hays counties, population growth is fueled by workers in the high-tech industry and the area's reputation for livability and amenity, although the west has some natural constraints to growth, including high slopes, environmentally sensitive water recharge areas, and a number of endangered species (10, including birds, insects, and several species of salamander, are protected in the county, seven alone in the Edwards Aquifer). Nonetheless, as shown in Table 4.2, population densities in Hays County are more than twice those in Bastrop and Caldwell counties, at 144 persons per square mile, compared to 65 persons per square mile in Bastrop County and 59 in Caldwell County. Growth pressures are, however, now intensifying on agricultural land to the east in Bastrop County; though the county is not known as well for its scenic amenities as Hays County, it offers recreational opportunities and its new homes are more affordable than those in the Hill Country. Pressures are weakest to the southeast in Caldwell County; the development that is occurring here is more modest in scope. Hays, Bastrop, and Caldwell county growth are described in more detail in the next section.

Land conversion trends are also related to the supply of land, and a major factor impacting the availability of land for development is the economic viability of ranching. All over Texas, small-scale ranchers, many hit by a drought that began in the mid-1990s, have had to sell land or supplement their income by leasing land to urbanites for hunting and fishing, trail riding, or bird watching, or have diversified into goats or more exotic forms of

livestock (Axtman, 2003). According to Ernie Davis, an economist in the department of agriculture at Texas A&M University in College Station quoted in the *Christian Science Monitor* in an article about Texas ranching, "'For those people with less than 500 head of cattle, they have to find additional enterprises to supplement their income. Ranching is no longer their primary business'" (Axtman, 2003). While agricultural income has fallen, interest in land for it amenity and recreational opportunities has helped to counteract the effects of the drought on land values (Chenault, 1996).

Most agricultural land in the fringe around Austin, farms and ranches alike, is in family ownership; there are few non-family agricultural corporations in the area. According to some regional experts, many landowners would like to maintain family lands, but, given rising land values, many find the opportunity cost to not selling is high. Conservation and farming experts in the Austin area note that farmers and ranchers worry about rising property taxes and the loss of other agricultural establishments in their area, and about estate taxes, which some fear will force the sale of family lands or herds. Finally, some note that parents' desire to split land evenly between children is resulting in smaller parcels, and ultimately, this land is fragmented to the point where it cannot support agricultural operations.[37]

B. Planning in the Fringe

Growth policies and land use controls in the Austin fringe are limited. Much of the area's developable land lies outside incorporated cities, falling under county jurisdiction, yet the counties of the Austin fringe have relatively little control over development. With limited

[37] The research described in this dissertation focuses on the owners of undeveloped land, but it is important to note that much of the land owned by the subjects of the study has already been divided into smaller parcels in past decades, for many of the reasons stated above.

exceptions, Texas counties are not authorized by the state to enact zoning legislation. County governments do review subdivision regulations and oversee sewage facility permitting and floodplain regulations on unincorporated land within their borders. Some area experts noted, however, that loopholes in subdivision ordinances have resulted in new developments with poor infrastructure; in some places, developers have even avoided laying roads and providing wastewater treatment on subdivisions with one-acre plots. However, in some cases, developers are taking advantage of municipal Utility Districts, or MUDs, which, if approved by the state legislature, permit the issuance of bonds to build utilities to serve new developments (Butler & Myers, 1984), particularly those that are water-related (Kaspar, 2003).

Within incorporated cities on the fringe, local governments have greater powers, including the authority to zone and issue building permits; they also exert limited authority within the extra territorial jurisdictions (ETJs) that by Texas law surround cities and provide land for possible future annexation. The extent of ETJs' coverage depends on the size of the city they surround, ranging from ½ mile around cities with populations of 5,000 persons or less, to 5 miles around cities with populations over 100,000. However, landowners contiguous to the boundary of an ETJ may request to join it; in the Austin fringe, for example, the City of Bastrop's ETJ extends west all the way to the county line because so many landowners have voluntarily joined the ETJ rather than be annexed in the future by the city of Austin to the east (annexations can cross county lines).

Despite the relative lack of formal land use controls, the presence of environmentally sensitive resources in the fringe means that there are some additional points of leverage into land uses. The US Fish and Wildlife Service has a direct influence in land development in Hays and Bastrop counties through the Endangered Species Act, as there are a combined 11 species in these counties under federal protection. The Act requires landowners who wish to

conduct activities, such as construction, that might harm a threatened or endangered species to prepare a Habitat Conservation Plan in order to receive a permit from the Service. The Service also works with local governments, as it is doing in Bastrop County, where a citizen group appointed by the county is developing a habitat conservation plan for the endangered Houston toad; the plan will promote voluntary conservation and low-density development across the large area designated as the toad's habitat (Carmody, 2004). In Hays County, the Lower Colorado River Authority, which influences the release of water for development and agricultural uses (Butler & Myers, 1984), also plays an important role in development, particularly in recent contentious decisions to extend a water line into the north portion of the county. Much of the watershed is privately owned, and growth capacity will depend on how it is managed: there is a danger that a combination of greater demand; greater chance of contamination from increased use of septic tanks; and the loss of area ranchers, whose practices helped to protect the water supply, will result in insufficient water supply.

There are also a number of state programs available to landowners to maintain their land in agriculture or wilderness use that, by offering incentives to landowners to hold their land out of development, are effectively functioning as land use policies. For example, the state offers open space and agricultural tax valuations on land that meets certain criteria relating to the principal use of land for farming or ranching, reducing landowners' property taxes from what they would pay on the market value of their land. The state of Texas Parks and Wildlife Department offers programs to provide wildlife tax valuations in return for wildlife management practices, as well as information and technical expertise on conservation easements, land trusts, nature tourism, and wildlife management. Conservation organizations and the city of Austin itself are also active in purchasing land and development rights to the west of the city. According to one conservationist, it is just now becoming clear to many landowners that options besides development might exist, such as conservation easements, estate planning, and wildlife management.

Though limited, there are also some efforts at regional growth management in the Austin MSA. CAPCO, the Capital Area Planning Council, is a voluntary regional planning council organized under Texas law that serves a 10 county region around Austin. CAPCO focuses on a number of areas (e.g. emergency services, elderly assistance, etc.) in addition to infrastructure development and housing and economic development, and provides technical planning assistance and data to communities. CAPCO also works with its San Antonio counterparts in the regional Austin-San Antonio Corridor Council to consider the social, economic, and ecological implications of the intensifying growth along I-35 (Clark-Madison, 1998). New citizen-led and nonprofit regional planning efforts have also formed in response to concerns over environmentally sensitive resources, unwanted effects of rapid growth, and in opposition to specific developments. The most far-reaching is "Envision Central Texas" (ECT), a nonprofit organization begun in 2002 and comprised of representatives of businesses, civic groups, developers, local governments, environmental organizations, transportation groups, and neighborhoods. ECT, funded in part by local governments, and with the assistance of Fregonese Calthorpe Associates, has gathered public input through a series of focus groups, a telephone survey, and planning workshops to produce a 40-year vision for the region that features denser, more compact development, protection of open space and ecologically sensitive areas, and efficient transportation networks. ECT is now working with regional planners and policymakers on implementation strategies.

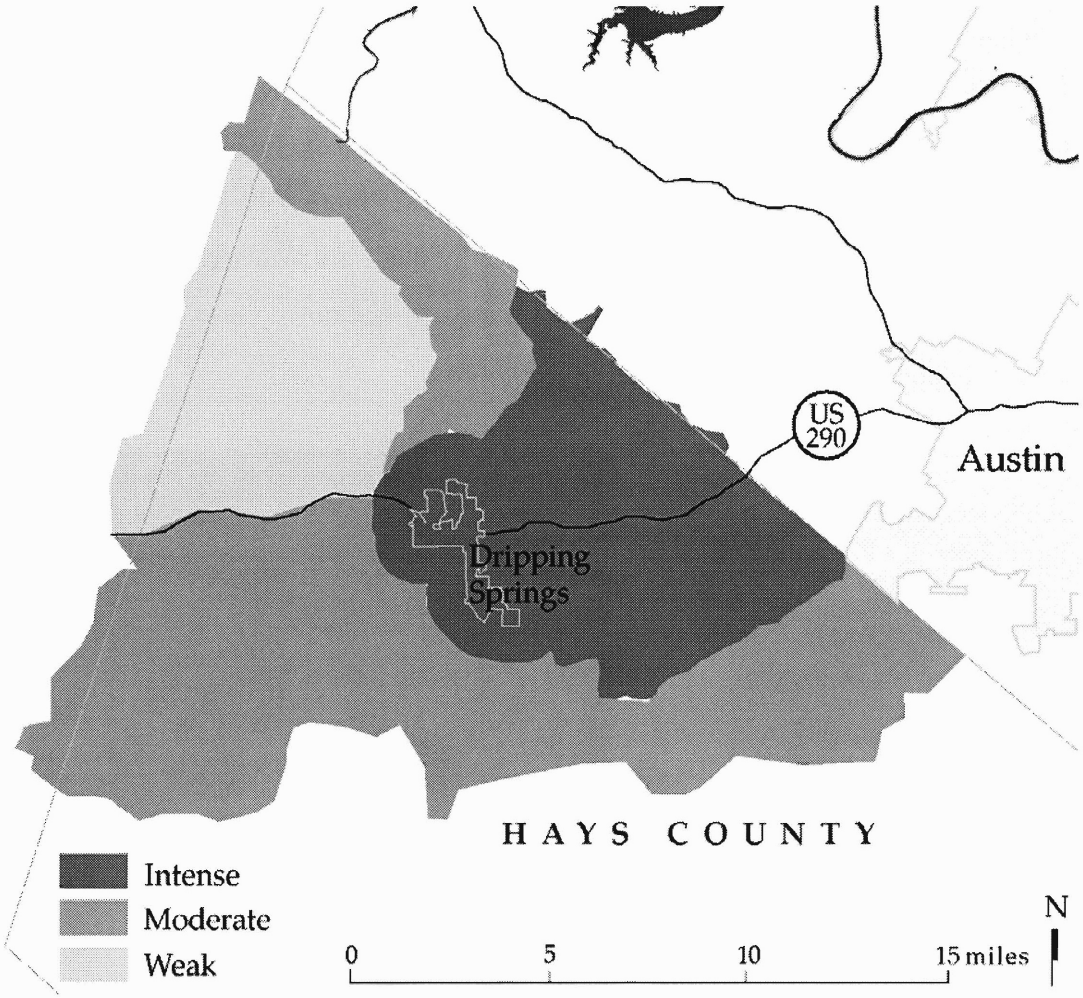
II. Study Corridors

In the Austin area, the strikingly varied geography in surrounding counties of the MSA contributes to significant differences in the character of the three study corridors, as well as the nature of growth and development in the study areas. The three corridors are described in depth below.

A. Hays County: US 290

Along with areas of Williamson County to the north and Travis County, home to the city of Austin, northern Hays County is one of the most rapidly developing areas surrounding Austin. At the eastern edge of the Texas Hill Country, the area offers rolling hills and scenic vistas and rangeland. The Hays County study corridor extends across the top half of the county, roughly following US 290, as shown in Figure 4.1. About half way through the corridor along US 290 is the city of Dripping Springs, incorporated only in 1981 (partly to resist future incorporation by the city of Austin), with a 2000 population of 1,550; it is 26 miles from downtown Austin. In general, development pressures are higher to the east portion of the study corridor, closest to Austin, and fall off after Dripping Springs, particularly, according to area experts, to the north of US 290, as shown in Figure 4.1.

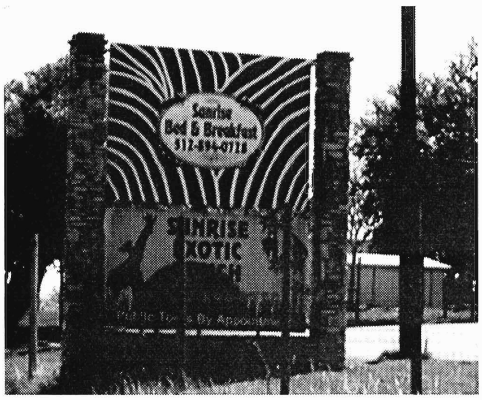
Figure 4.1: The Hays County Study Corridor



Shading represents development pressures in the corridor.

Of the three study corridors, northern Hays County has experienced the most growth, and subdivisions tend to be higher end, with larger, more expensive homes than those under construction in Bastrop or Caldwell Counties. According to Austin-area experts on Hays County development, homebuyers in the area of the Hill Country nearest to Austin tend to be employed in high-tech jobs in or around Austin. Many of these workers have come from out

of state (particularly California), and are willing to make a 30-mile one-way commute. Residents of the Hays corridor who do not regularly commute to Austin include telecommuters, self-employed artisans or artists, or those involved in some way in agriculture, mainly ranching (farming is difficult due to the area's shallow soils). Hays ranchers raise cattle, goats, and sheep, but many have diversified to exotic animals like llama, ostrich, and buffalo, and to tourist ventures (see Figure 4.2 and Figure 4.3). Land is also devoted to second homes and recreation; high income individuals are also acquiring larger parcels of land outside of subdivisions, and a Hays County official noted these buyers had ready cash and no intentions of subdividing or developing.



Figures 4.2 and 4.3: A ranch that has diversified by raising exotic animals and catering to tourists.

Figure 4.4: A view in northern Hays County from Route 12 north of Dripping Springs; note the development just visible in the hills.

1. The Study Corridor

A 2001 report by the Dripping Springs Independent School District (which largely overlaps the study corridor) reported 20 new subdivisions and over 4000 new homes under construction or planned for the near future in northern Hays County (Dripping Springs Independent School District 2001). Most of these are located closer to Austin, to the north and south of US 290 and off some of the smaller roads through the region. Indeed, area experts call the development pressures from the county line to the city of Dripping Springs intense and, driving west on US 290, new subdivisions are apparent from the road. Area

experts expect additional subdivisions along US 290, with commercial development fronting the highway; one interviewee noted that land values are too high for ranchers, and that even hobby ranching is becoming cost prohibitive.

Developments between Austin and Dripping Springs tend, as noted above, to be more costly for homebuyers than those in the other areas studied, offering recreational amenities, scenic views, and proximity to Austin. Still, their character varies, as shown in Figures 4.5 through 4.8 below.

Figure 4.5: A model home in the Belterra development. Belterra is a 1600-acre development featuring parks and hiking trails, a mix of housing types, and higher densities than the nearby Polo Club (below).

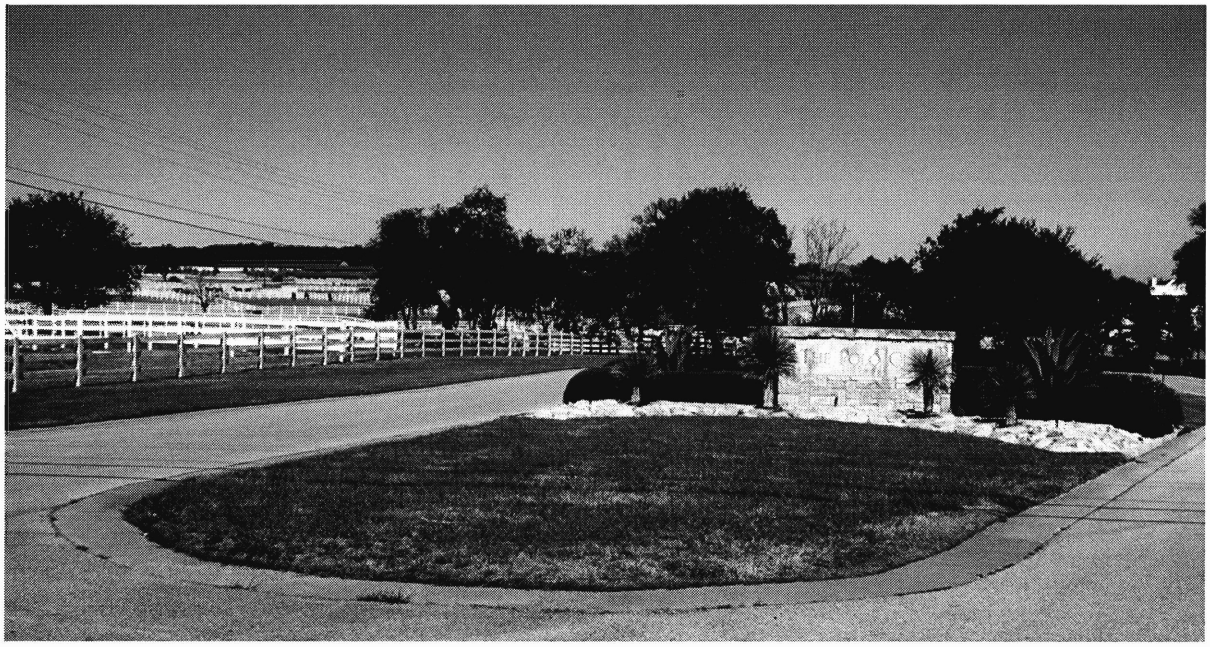


Figure 4.6: The entrance to the Polo Club, a residential development along US 290, features large estate homes and equestrian recreational resources.

Figure 4.7: The Sawyer Ranch development is a 280-acre subdivision that was once part of a 2,000-acre ranch; it features homes on one to two acre lots.

Figure 4.8: Open land across from the entrance to the Sawyer Ranch development shown above.

Dripping Springs itself is a small city covering just over three miles, but has an extensive ETJ. The city has added over 100,000 square feet of commercial space since 1981, when the city incorporated, and in just 2003 alone, the city approved 542 lots for development within its ETJ (Price, 2004a). Local interviewees predict development will boom close in to Dripping Springs in the near future.

At Dripping Springs, Route 12 runs north to Travis County and south through Hays County. Route 12 to the north has seen some subdivisions in recent years (there are also some old subdivisions, built 15 years ago or so). South on Route 12, there are active ranches, including one that has an easement through the Nature Conservancy, although Route 12 also features numerous signs advertising land for sale (see Figure 4.9 and Figure 4.10).

Figures 4.9 and 4.10: Signage along Route 12 south of Dripping Springs.

Beyond Dripping Springs, local experts' opinions on growth are mixed. Development pressures are high in all of Hays County, and this area is no exception; larger ranches have already been broken into smaller ranchettes, and a handful of smaller new developments area planned for this area (Dripping Springs Independent School District, 2001). However, water constraints are an issue in the western part of the study corridor and may constrain development. Most expect this area to develop more slowly than the Austin to Dripping Springs portion of the US 290 corridor.

2. Planning and Growth Issues

Hays County has no planning department, but its Environmental Health Department has the most direct control over land uses and growth, administering permits for on-site sewage facilities, floodplain regulations, and subdivision planning. Minimum lot sizes for new development depend on the location within the county, but range from one-half acre to four and a-half acres within the Edwards Aquifer Recharge Zone. The City of Dripping Springs has greater ability to regulate development within its borders and ETJ.

Development in northern Hays County has raised concerns about quality of life and protection of the environment. Recently, in March 2004, the Dripping Springs City Council approved a moratorium on development for 120 days while the city reviewed its land use ordinances and wastewater treatment capacity. Interestingly, however, city officials "went to great pains to explain that the moratorium did not represent a new anti-growth stance for the community. Unlike other Hays County towns…where anti-sprawl sentiment has picked up steam, Dripping Springs is still proud to be developer-friendly, as evidenced by the sheer number of subdivisions sprawling across the city's vast extraterritorial jurisdiction" (Smith, 2004).

Most of the concerns about growth in northern Hays County center around the quality and quantity of the area's water supply. According to the city of Austin, over 45,000 people in rapidly growing northern Hays County and parts of abutting Travis County rely on the Barton Springs portion of the Edwards Aquifer for drinking water. Rapid growth has caused some to fear that for the safety and sustainability of the water supply. The loss of traditional ranching activities in the county is also related to worries about the quantity of water, since ranchers have traditionally helped to manage the water supply by controlling brush, particularly the invasive ash juniper, that saps groundwater. In late 2002, a regional planning effort was begun to develop water quality ordinances and non-regulatory approaches to protecting water quality in the aquifer. The Lower Colorado River Authority has also approved an extension of a 15-mile water transmission line from Travis County to the north into the environmentally sensitive Barton Springs watershed (serving areas to the east of Dripping Springs along US 290 and north), a move that has sparked opposition by those who fear that the water line will harm the watershed and the habitat of endangered species, drain the aquifer and cause existing wells to go dry, and attract additional growth to the county (Curran, 2001); some interviewees noted that the line will at least allow *denser* development, if it does not spark increased growth.

Other non-governmental groups are engaged in planning for the area. One example is the Hill Country Roundtable, a program of the Texas Center for Policy Studies that covers the entire Hill Country, part of which is in Hays County. Begun in 1996 in response to concerns over rapid growth in the area, particularly its impact on water quality and supply, the Roundtable convenes annual citizen forums and engages the community in planning for the future of the Hill Country. Land trusts are also active in the area; for example, the Hill Country Conservancy is a nonprofit conservation organization dedicated to protecting open spaces, scenic vistas, recreation, and water quality and quantity in the Barton Springs Edwards Aquifer region that works with conservation easements and provides assistance to landowners regarding tax and estate planning and wildlife management. The Save Our Springs Alliance, a citizen organization dedicated to protecting the Barton Springs Edwards Aquifer and its resources, is also a central player in many growth debates, and in fact has lawsuits pending against the city of Dripping Springs over prior development agreements.

B. Bastrop County: Texas 71

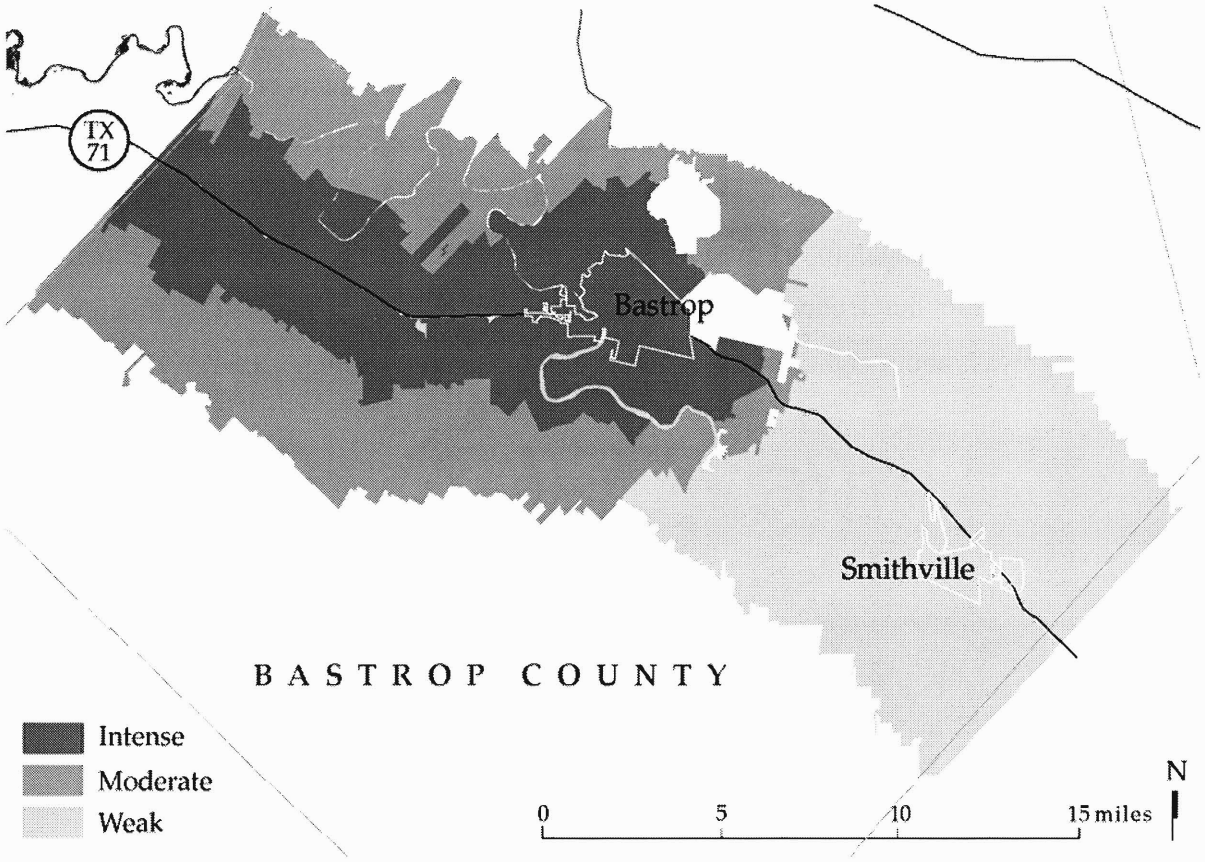
Bastrop County is located to the east of Austin in the Blackland Prairie. The Texas 71 study corridor runs from Austin, past Bergstrom International Airport, to the city of Bastrop midway through the county, and then on to the county border (see Figure 4.11 below). Development pressures are most intense from Austin to the city of Bastrop, particularly along the highway; they drop off as one passes Bastrop city. The county's soil and topography is more viable for farming than Hays County, but the area also offers recreation in its state parks and on Lake Bastrop. Bastrop County is also a growing bedroom community for Austin, particularly since the opening of Bergstrom Airport, and nearly two-thirds of the workforce is employed outside the county (Capital Area Housing Finance Corporation, http://www.cahfc.org/). New homes in Bastrop County tend to be more affordable than those

that have been constructed to the west of the city. Because of its proximity to the new State Highway 130, local experts expect industrial and residential development in Bastrop County, and some report that speculation in land near the path of the future highway is rampant. According to Bill Walters, a developer planning a 750-acre development in the corridor, quoted in the Austin Business Journal,

> 'Bastrop offers fantastic natural beauty, a small-town environment with a good attitude, and is in close proximity to the airport as well as good roadway infrastructure...Many people didn't believe that the airport and its location would drive growth to the east of the new airport, but it has definitely become a reality, and there are good opportunities in the Bastrop ETJ and into the city limits over the next 10 years' (Kaspar, 2003).

Despite the quote above, however, there appear to be different perceptions of the natural beauty of the study area, with some area experts interviewed praising the scenic nature of the wooded area around the city of Bastrop, while others called the county flat and unattractive. Clearly, however, the development pressures in the county are a step below those in Hays County, but are, by all accounts, increasing.

Figure 4.11: The Bastrop County Study Corridor*



** The gaps in the study corridor, shown in white near the city of Bastrop, represent public recreational land owned by the State of Texas and the Lower Colorado Water Authority that was omitted from the study.*

1. The Study Corridor

Traveling from Austin along Texas 71, Bastrop County's landscape is open and rural in appearance, but with numerous signs advertising new residential development and occasional completed subdivisions (Figure 4.12 and Figure 4.13). As one approaches the city of Bastrop, there is a burgeoning commercial strip along the highway that includes a recently

opened Home Depot (Figure 4.14) and Chili's restaurant, and a variety of other stores and establishments, and there are plans for over 450 homes and 700 apartments just beyond the commercial development. There are also several sizeable developments proposed for this area: the developer of the Home Depot area is also planning the Colony, north of Texas 71, which will result in 4,000 homes over 15 years, ranging in cost from $250,000 to $750,000. South of 71, there are plans for a 750-acre project of more modestly priced homes. Finally, a resort with 500-room hotel, equestrian trails, and two golf courses, is planned for an area along the highway, about eight miles before the city of Bastrop (Embry, 2004).

Figure 4.12: Signage along Texas 71 between Austin and the city of Bastrop.

Figure 4.13: A new subdivision along Texas 71, just before the city of Bastrop.

Figure 4.14: Roughly across from the subdivision in Figure 4.13, a new Home Depot has been constructed; landscaping is still incomplete.

Just beyond this strip, and off the highway, is the city of Bastrop, 30 miles southeast of downtown Austin and just 15 to 20 minutes to the international airport. Covering seven and a half square miles, Bastrop is the county seat and has a rich history as the second oldest city in the state. Bastrop had a population of 5,000 during World War II, thanks to a nearby military camp; the population dropped with the closing of the camp but began to rise again in the 1980s, when Austin-area growth began to influence the city, and the city's population has grown in recent years (it was 5,340 in the 2000 Census, up 32% from 1990). The city has also grown as a local tourist destination. In the 1970s, the highway was rerouted around the Bastrop, and many of its historic buildings and homes have recently been restored (which has also helped to draw new residents) (Green, 2002); today the city's main street is lined with a combination of antique shops and cafes catering to tourists and more local establishments (see Figure 4.15). Visually, there is a significant contrast between the historic downtown of the city and the new commercial strip growing up on Route 71.

Figure 4.15: Main Street in the city of Bastrop.

Immediately beyond the City of Bastrop is the recreational area of Bastrop State Park, which includes Lake Bastrop and the "Lost Pines," a secluded timber region of pine and hardwood. Further along Route 71 are some older subdivisions, some of which date from the 1970s, along with newly constructed communities, including one high-end development called Colavista, which offers a golf club and attractive views amid the pine trees. Near the end of the study corridor, toward the county border and 42 miles from Austin, is the city of Smithville, with a population of 3,900 in 2000. Area experts predict growth will occur in the Bastrop-Smithville corridor, but is still six years to a decade away.

Off of Texas 71, on smaller county roads within the study area, there is less development evident; the landscape is quite rural in appearance, with wide vistas of open land, much used for grazing (see Figure 4.16). While some new construction has occurred and is apparently of a high-end quality (as in the gated "Colony" development shown in Figure 4.17), Bastrop experts report that much of the development occurring farther out in the county is lower end, with unpaved roads and minimal infrastructure, and often consisting of trailer homes.

Figure 4.16: Grazing along Route 969, off of Texas 71 between Austin and the city of Bastrop.

Figure 4.17: The gate to the Colony development within the Bastrop study corridor.

2. Planning and Growth Issues

Like the other counties of the MSA, Bastrop has little power to regulate development outside of incorporated areas, which draws some developers seeking to avoid the stricter controls of incorporated cities and ETJs. However, the large ETJ surrounding the city of Bastrop, extending west to the Travis County border, provides for more controls than would otherwise exist; for example, the city can charge impact fees for new utilities, regulate subdivision activity, and take a broader look at growth issues. The city of Bastrop recently switched from a general law city to a home rule city to give it more control over growth (home rule cities can more easily annex land (Price, 2004b)). It has also produced a comprehensive plan that won the 2001 Outstanding Comprehensive Plan by the Texas Chapter of the American Planning Association.

Water and wastewater present some constraints on growth in the county, although there does not seem to be the controversy over water issues that characterizes recent

development proposals in Hays County. The city of Bastrop has recently negotiated with two water authorities, the Aqua Water Supply Corporation and the Lower Colorado River Authority, to develop cooperative efforts for development in the ETJ, particularly in the corridor from Austin to Bastrop. Recently, two new MUDS have been proposed to help finance water and wastewater; one of these was approved by the state legislature last year and, as a result, the Colony development (Figure 4.17 above), with its expected 4,000 homes, is moving forward (Embry, 2004). Another impediment to growth, mentioned earlier, is the endangered Houston toad. The toad's presence (most concentrated in Bastrop State Park) has slowed development; the new habitat conservation plan to protect the toad now under development will likely result in low density development around the Lost Pines area to the east of the city of Bastrop.

Traffic along Texas 71 has also become a problem in Bastrop. It may be eased by the new State Highway 130 to the east, expected to open in Travis County in 2007, and by the replacement of traffic lights along 71 with entrance and exit ramps and overpasses (Embry, 2004). Finally, according to a newspaper report, the county is working to attract new jobs within its borders so that the growing population does not all commute to Austin, which would also help to ease traffic (Embry, 2004).

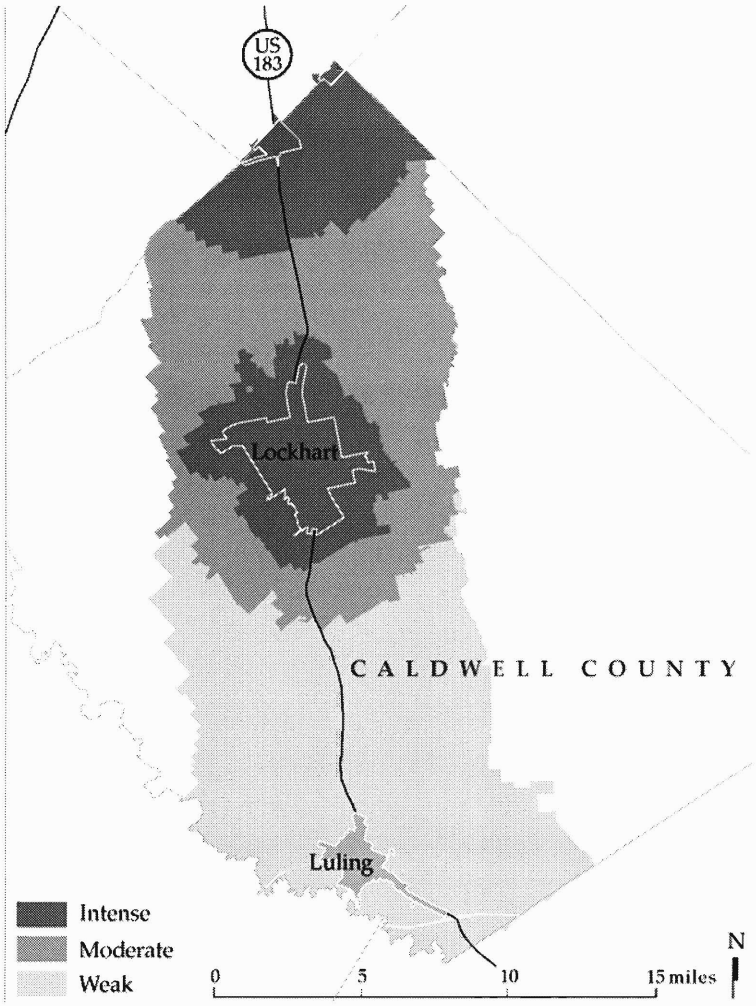
C. Caldwell County: US 183

The Caldwell County study corridor is the least developed of the three discussed here. About half of the county's population lives in two cities: Lockhart, the county seat, a city of over 11,500, and the city of Luling, with a population just over 5,000. The county's economic history includes cattle, cotton, and oil; employment is now primarily in services, local government, and agriculture, particularly livestock and livestock products (cattle, poultry, eggs, and, hogs), as well as feed, sorghum, and watermelon. Caldwell County has

more unemployment than the rest of the region, and has the lowest income per capita in the MSA. Traffic on US 183 is far less significant than that on US 290 running through the Hays County study corridor.

However, with the construction of the new highway 130, paralleling Interstate 35, area experts predict the county will see more truck traffic and industrial and business development along the highway's route, though much of the design (including the number of entrances and exits in Lockhart) had yet to be determined at the time the landowner survey was conducted in the study corridor, and funding has yet to be allocated for this segment of the new highway. Additionally, residential growth is occurring around the county seat of Lockhart, and closer to Austin, near Bergstrom International Airport. One Caldwell County expert predicted that the county may soon be "discovered" by developers because there are increasing environmental barriers to development to the north. Area experts expect, however, that the county will have less intense growth than other counties in the MSA into the near future. The study corridor is shown in Figure 4.18.

Figure 4.18: The Caldwell County Study Corridor



1. The Study Corridor

From the county line, near Bergstrom International Airport, to the city of Lockhart, about halfway down the study corridor, there is less development than might be expected given the area's proximity to the airport and to Austin. Near the border with Travis County,

there are a mix of manufactured housing, subdivisions, junkyards, and bars, but little else along US 183 until Lockhart's city limits, though there are scattered stores and mobile home developments in the area. Growth here is more likely in the future than farther to the south, however, because of proximity to Austin, and because proposed State Highway 130 will cut through this area. Indeed, the Austin American-Statesman, the city's main newspaper, recently reported a plan for a 130-acre industrial park and 500-home residential development on 120 acres in Caldwell County, near the Travis County line (Elder & Embry, 2004) (see Figures 4.19 through 4.21).

Figure 4.19: Land undergoing transformation along the Caldwell County/ Travis County border at the start of the Caldwell study corridor.

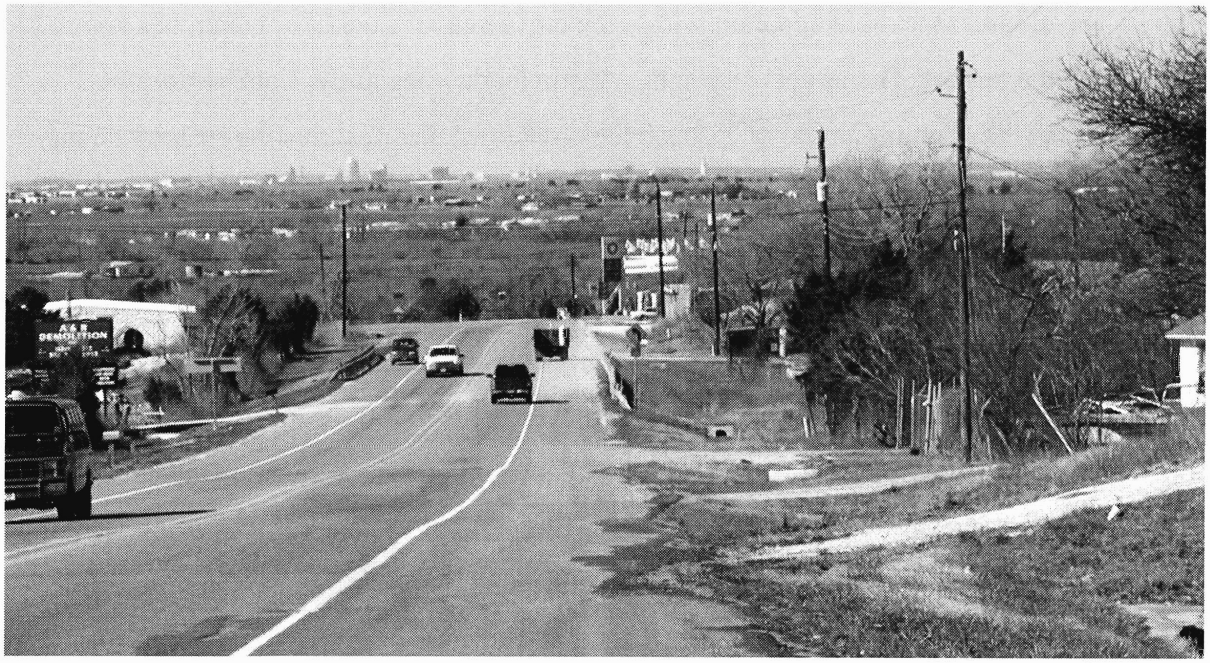
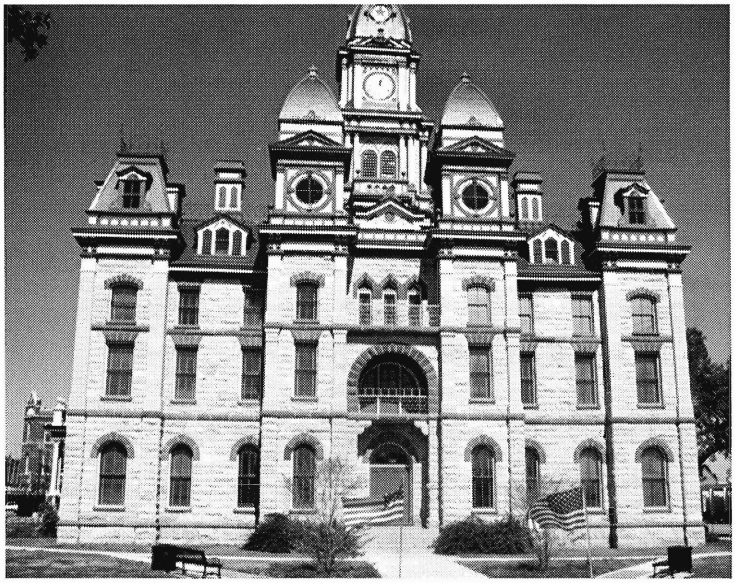


Figure 4.20: Another area in transition along the Caldwell County/ Travis County border. The Austin skyline is just visible on the horizon.

Figure 4.21: Open land in northern Caldwell County.

Development is more apparent within the city limits of Lockhart, which lies about 20 miles from the airport. The largest city in the Austin landowner study, Lockhart draws visitors as the "Barbeque Capital of Texas;" the downtown also features the striking county courthouse, built in 1884 and historic homes and commercial buildings (Figure 4.22 and Figure 4.23), while the outer portions of the city reflect newer commercial growth (Figure 4.24). The city has over 7,000 acres within its city limits, 37% of which is considered already developed; and over 22,000 acres in its ETJ. Many commute from Lockhart to Austin as well as to San Marcos (about 17 miles due west), and even some to San Antonio, over an hour to the southwest. The city has approved a number of annexations since the late 1990s, including annexing land in the path of State Highway 130, allowing for more control over the planning and development surrounding the highway. Several subdivisions have been built in the past few years, possibly in response to increased demand for residences sparked by Austin's international airport, and also to serve newcomers moving from nearby San Marcos.



Figures 4.22: The Caldwell County Courthouse within Lockhart.

Figure 4.23: Downtown Lockhart.

Figure 4.24: A combination of grazing and new development along US 183 in Lockhart.

Figure 4.25: A subdivision under construction within Lockhart city limits.

South of Lockhart, area experts predict only sporadic development along US 183 within the next decade, partly because of a constrained water system. At the southern end of the study corridor is the city of Luling, 15 miles south of Lockhart. Luling has a history as an oil town; oil was discovered there in 1922, and shallow oil exploration continues around the city, though agriculture is also an important part of its economy. Luling is also known for its barbeque and its watermelon festival.

Beyond the cities, the country is still rural; one farming expert noted that it is possible to find landowners who have not yet made any major land decisions regarding subdivision or sale in the "far reaches" of Caldwell County.

2. Planning and Growth Issues

Like the other counties, Caldwell County has little control over growth beyond the review of subdivision plans; in Caldwell's case, reviews are performed by a contractor for the county. Within Lockhart, planning is more extensive: the city has a Development Services Department that processes development proposals and permits, including subdivisions; administers zoning; oversees annexations; and engages in long-range planning through its comprehensive plan.

Water is an issue in the Caldwell County study corridor, and, as in the other study areas, there are concerted efforts to plan regionally to ensure an adequate supply. Recently, 12 small cities and public water supply companies serving Travis, Caldwell, and Hays Counties (south of the Hays study corridor) are working together to identify and finance new water supplies, obtain permits, and build a pipeline from farther out to their service areas.

Another area expert noted that the limited capacity of electricity cooperatives will constrain large-scale development, as will the lack of municipal sewer, meaning that lots must be at least one acre in size. According to a Caldwell planner, however, there are already numerous substandard subdivisions in the county, with unpaved roads, long drives from main roads, no sidewalks, and septic tanks (and sometimes no plumbing).

III. Study Corridors Compared

The study corridors described here reflect the diversity of the Austin fringe in terms of land uses, growth pressures, and character of new development. The Hays County corridor, known for its scenic amenities, has seen the most growth and the costliest

development; development pressures continue, despite environmental constraints and vocal opposition to some proposed subdivisions. Bastrop County, to the east of Austin, has experienced its own commercial and residential development; it lags behind Hays County, but development pressures are increasing, and the county offers its own amenities and recreational resources. Caldwell County has the weakest development pressures and least amount of visible new development; subdivisions that are being built are more modest and less expensive than in the other counties, and tend to cluster around the city of Lockhart (with mobile home developments elsewhere in the county), though the future State Highway 130 may spark more industrial and commercial growth. In all of the study areas, development pressures are greatest between Austin and the major cities of the corridors (Dripping Springs in Hays County, and the county seats of Bastrop and Lockhart in Bastrop and Caldwell counties, respectively), with intense development in and around all of those cities; relative development pressures for each corridor then decrease with further distance from Austin.

For the study of fringe landowners, the variation among the study corridors is useful: it suggests that landowners might be similarly diverse in their characteristics and in the reasons they own land, allowing for a rich exploration of owners' interests. I now turn to owners' interests and the findings of the study in Part II.

Part II: Research Findings

Chapter 5

Landowners' Interests in Their Land

In addition to the insights to be gained by studying fringe landowners' characteristics and behaviors, I contend that one can more easily understand landowners' roles in urbanization, and specifically their decisions and actions regarding the holding, conservation, development, and sale of land, by exploring the *benefits* or *advantages* owners derive from ownership. I now turn to the task of developing a more formal framework for examining these benefits of ownership or "interests." Interests may be of a financial nature, as in the income an owner receives from agricultural production on his land or the capital gain resulting from an appreciation in property values, but may also be less easily quantified: for example, psychological advantages from possessing land, such as a sense of pride, or a connection to previous generations who have passed the land down through the years; or opportunities to improve one's quality of life through recreation, appreciation of nature, or a rural lifestyle. In my conceptualization, each landowner holds a portfolio of interests that are received, at a given point in time, from ownership of land, although the specific benefits in this portfolio, and their prioritization, will likely shift over time in response to changes in the landowner's personal or family circumstances, or as a result of external economic or political factors.

In the first section of this chapter, I briefly examine how interests in land have been defined and studied in three areas of past research: work on landowners' roles in land conversion, which has examined the owners of fringe land most directly, but has not

examined their interests in detail, or the range of interests a single owner might hold; a more recent strand of land conversion literature that places the individual landowner within the context of the larger social, political, and economic system, touching on owners' interests in the process; and a Marxist framework, which has explored interests in urban land and has emphasized the *objective* advantages owners receive from affiliation with property, whether or not they are aware of or appreciate those advantages (Davis, 1991).

Drawing from these veins of research and the empirical research conducted in the Austin fringe, I then introduce my own framework of interests in fringe land in Part II of the chapter. I first offer my specific definition of interests, which varies somewhat from those used in previous scholarship; in particular, I emphasize, more than the Marxist tradition, the *subjective* nature of interests, as I am concerned with the interests that landowners recognize, value, and are likely to act upon. I then describe the specific interests that the owners of fringe land might hold in their land, including the economic values of equity, liquidity, and legacy (the potential to pass land's economic values to children), and the less typically quantified but equally important values related to the use and enjoyment of land, such as appreciation of amenities, opportunities to protect natural resources, satisfaction from owning property and working land, a sense of identity and access to community, and connections to family. Finally, I discuss the factors that might shape an individual owner's particular portfolio of interests in a parcel of land, including features of the property and surrounding area, development pressures, public policies, and the economy, as well as the owner's personal and family circumstances, desires, and resources, illustrated with examples drawn from empirical research. I conclude the chapter with a discussion of the challenges of identifying interests in empirical research.

In the next chapter, Chapter 6, I use empirical data gathered in the Austin landowner survey to provide an overview of the interests and identities of the owners of the Austin

fringe, and to discuss three groups of interests that appear to motivate the majority of owners in the Austin fringe (interests in agricultural income, enjoyment of amenities and recreation, and equity). Finally, in Chapter 7, I present my hypothesis about how interests might change over time.

I. Approaches to Defining and Examining Interests in the Literature

There is an enormous body of literature on interests, particularly within the field of political science, where the focus is primarily on shared or collective interests and their role in politics and the policymaking process. In contrast, this dissertation is concerned with *private* interests, those held by individuals and families, and not with the potential for group political action based on shared interests (though collective action on the part of fringe landowners is a promising area of future research). I have, therefore, drawn from a subset of the vast interest literature to inform my understanding of the benefits owners derive from their possession of fringe land and to describe the numerous factors that shape and influence owners' particular portfolios of interests. Not surprisingly, I have principally relied upon previous work that has specifically addressed interests in land and real property. Below I briefly examine research on fringe landowners that touch on owners' interests; approaches that attempt to relate fringe owner's individual interests to larger social, political, and economic forces; and Marxist approaches to interests in urban land.

A. Land Conversion Research

Research into fringe landowners was discussed in Chapter 2. To review briefly, at the most general level, the land conversion literature focused on landowners is concerned with owners as actors, specifically focusing on their participation in land markets as buyers,

sellers, and developers of land. This research has often focused on owners' financial motivations for owning, buying, and selling property, drawing attention to their financial calculations, and hypothesizing that owners' decisions are shaped by their expectations about future income, expenses, and capital appreciation in land; their current need for capital and income and the profitability of current land uses; and the present market value of land (Brown et al., 1981; Kaiser & Weiss, 1970; Lee, 1979; Pyle, 1985; Sargent, 1972). Healey (1990) writes that much of the early work conducted by Kaiser, Weiss, and others at the University of North Carolina was based in a neo-classical economic tradition that treated owners as rational actors (Healey, 1990, pp. 220-221). However, the owner as rational economic actor is even more apparent in another stream of land conversion literature, that which uses microeconomic models to predict the time and density at which land will be developed (e.g. Arnott & Lewis, 1979; Batabyal, 2000; Leung, 1987; Rodriquez-Bachiller, 1986); much of this research could be said to fall "within a mainstream economics paradigm" that assumes that landowners are rational decision-makers and "utility-maximisers" (Guy & Henneberry, 2000, p. 2399)[1] motivated by profit: the landowner will develop, for example, to maximize present value of property (Arnott & Lewis, 1979; see also Batabyal, 2000), and will sell land to the highest bidder (Dunford et al., 1985). Although "interests" are not the subject of direct study in this area of scholarship, we can extrapolate from the underlying theory and the empirical research that the reasons owners possess land, and the benefits they gain from continued ownership, are primarily related to financial gain, whether through agricultural production, appreciating land values, or development. A handful of authors, however, have argued for explicit attention to landowners' "non-financial utility" and

[1] It is likely that authors' opinions on the definition of a "mainstream economics" approach differ as well. Rodriguez-Bachiller, for example, sees some of the previous work on landowners and their land transactions, such as work by Brown et al. (1981), as falling in a *sociological* tradition, but argues that the findings of their research can be quantified in microeconomic models.

preferences in mainstream economic models of land supply; these authors have noted that owners vary in the non-financial benefits they gain from owning and occupying land (Neutze, 1987), suggesting that some owners might resist selling land because of their enjoyment of farming (Neutze, 1987) or because they do not perceive a need for the additional income a land sale would bring (Evans, 1986) (though Evans sees cases where such preferences outweigh financial considerations as unusual) (Adams & May, 1991; Evans, 1986).

As reviewed in Chapter 2, other previous literature has also noted that non-financial motivations, such as lifecycle and family issues, are likely to be significant in landowners' decisions about their land (Brown & Roberts, 1978; Brown et al., 1981; Goodchild & Munton, 1985; Healey & Short, 1981; Kaiser & Weiss, 1970; Pyle, 1986). Lindeman (1976) notes that some types of user-owners derive psychological values from ownership, such as satisfaction of owning land, and value the use of their land for personal reasons. However, with few exceptions, this literature has not empirically explored these non-financial values associated with landownership, though several findings of this literature do paint a richer picture of landowners' interests in their property. For example, regarding fringe homeowners, Baerwald (1981) has noted that *both* "the substantial investment most households have in their housing" and the "functional utility" of housing are important (p. 342). Pyle (1986) has written that owners have non-economic motives for holding land, and, in her 1986 article, identified certain types of rural users, including farmers, who are apt to sell land for personal reasons unrelated to finances, such as to give a child a plot of land; her work suggests that, in some cases, helping children financially, or passing on a legacy of family land, takes precedence over financial gain. We also learn that speculators may use their land for income-producing agriculture during the period that they wait for land values to appreciate (Brown et al., 1981), so that even if their *primary* interest is in appreciating land values, they also have a secondary interest in the current productivity of their land. These findings, while seldom

the focus of previous fringe landowner research, strongly suggest that landowners' interests are complex and not solely focused on financial gain (or, as in the case of the speculator who also uses land for agricultural production, might involve different manners of financial gain), and I draw from this body of work in developing my framework of possible interests held by fringe landowners.

A distinct but related approach is offered by David W. Harvey. Though well-known as a Marxian urban scholar, Harvey authored an article on behavioral models of decision making for agricultural land in 1966. In it, he acknowledges that, in land use decisions, a farmer "may wish to optimize in several different directions at the same time (income, comfort, pleasure, leisure, and so on)" (Harvey, 1966, p. 370). Arguing for stronger behavioral models of individual decision-making, Harvey notes that it is difficult to measure the farmers' diverse goals, and suggests viewing the farmer as moving toward a satisfying outcome, rather than as a rational decision-maker. Harvey then links individual decisions to larger land-use patterns: "Land-use patterns are, after all, the end product (or geographical expression) of a large number of individual decisions made at different times for often very different reasons (or perhaps for no adequate reason at all)" (Harvey 1966, p. 370). The key to understanding land use patterns, he writes, is to understand decision processes. Harvey's early article is relevant for two reasons: it acknowledges a farmer's multiple interests (though he does not use that word), and links individual decisions and land use outcomes.

While not focused on *landowners'* interests *per se*, research into the urban fringe also talks about different views, held by landowners and others, of land as a resource and as a commodity. Drawing from Russwurm (1975), Bryant et al. (1982) note that land fulfills four functions: *place*, or a site on which to locate activities; biological resources for economic *protection*; mineral and biological resources for *production*, and opportunities to recreate or *play*. Bryant et al. argue that land for "place" is valued as a commodity, and economic values

are based largely on its accessibility. Land for "production" and "play" may also be valued as a commodity, depending upon its accessibility and resources (e.g. agricultural land that is currently valued by the market); however, it may also be valued for its resources, including potential uses (e.g. for agriculture) and amenities. Land for "protection" is valued as a resource rather than a market commodity. The authors write that "[b]ecause of the complexity of the values involved…it is almost inevitable that different groups of people will place different priorities on the same basic element," particularly in the urban-rural fringe (Bryant et al., 1982, p. 23). The authors suggest that these values represent different motivations for landownership: entities may own for the purpose of speculation or as a hedge against inflation; for play, place, and production; and, specifically for public owners interested in resource preservation, for protection. Bryant et al.'s discussion is important because it suggests that, while conflicts over the use and meaning of fringe land may occur *among* owners and other parties, the *same* owner may in fact possess land for multiple (and sometimes conflicting) reasons.

B. Structure, Agency, and Interests

In recent years, several British scholars have attempted to tie the interests and decisions of actors (including, but not limited to landowners) to larger social, political, and economic forces in attempts to explain the land development process. Healey and Barrett (1990) have written about the need to draw together structure and agency, focusing on the "…relationship between strategies, interests and actions of the various agents involved in the development process [including landowners] and the organization both of economic and political activity and of values about land, property, buildings and environments which frames or *structures* their decision-making" (emphasis original) (p. 90). Drawing from Giddens, Healey and Barrett see the "structure" as involving resources (financial resources for development), rules (policies that limit/permit development), and ideas and values (ideas

about what people want to build, live in, kinds of environments they want); together, resources, rules, and ideas and values shape what actors do regarding their land. Healey and Barrett make the point that landowners are not homogeneous, but do not discuss specific interests held by different types of owners. In a 1991 article, Healey also reviews a number of other models that connect owners' interests to the larger socio-political system, including the work of Massey and Catalano (1978) and McNamara (1988), noting that these and other models "open up the complexity of development activity," drawing attention to the different interests, actors, and roles in the development process, but fail to reveal which interests, actors, or roles *drive* development (Healey, 1991, pp. 231-232).

Ganderton (1994) takes a different approach. Drawing on previous research, Ganderton concludes that the land development process is complex and people may have multiple roles in it; that the land market is not perfectly rational; and that models of land conversion need to address complex situations and roles of actors, context, process, structure, and agency. Ganderton builds a model following Levi-Strauss involving deep structure (motivation, power, and perception), rules of the game (social constructs of law and economy), and the superstructure (the visible actors and behavior). Finally, Guy and Henneberry (2000) attempt to develop a research framework that blends economic and social analyses of property development. The authors define institutionalism as seeking to unpack competing ways of seeing the world (in the case of property development, the competing values and views are held by developers, historians, architects, and others); and as seeking to understand the relationship between structure and action (agency). The authors note that, despite good work in this area by Patsy Healey, little has been done in the property research field to extend the institutionalist model, including work testing Healey's ideas, and they argue for more research into the cultural frames through which investment strategies are made.

A slightly different take on agency is offered by Bryant (1995), who develops a model to account for local agency in land conversion in rural areas. Arguing that farmers and other individuals in the fringe are not passive reactors to negative changes in their environments (such as land speculation, land conversion, and conflicts between agriculture and other land uses), he urges more attention to the role of local agency in shaping patterns of development on the fringe. To do so, Bryant proposes a "segment model," where the interests of the local community can be identified and described by identifying the significant dimensions, or "segments," around which actors organize their decisions and actions. Segments may include activities (e.g. agriculture), themes (e.g. environmental concerns, housing), and geography (e.g. geographic areas of particular interest). The interests associated with specific segments might include protecting natural resources, participating in investment opportunities, maintaining income from current commercial activities, improving a community's quality of life, enhancing property values, maintaining current lifestyles, developing political power, social justice, and accessibility to housing, jobs, and other resources (p. 259). Bryant's main purpose is to highlight, understand, and advocate for collective action based on the segments and writes mostly about the community level, but importantly for this dissertation research, Bryant notes that *individuals* may have interests associated with several segments at the same time, and that interests continually change.

These institutional approaches to understanding land development begin to contextualize owners' interests and decisions in a formal way. However, scholarship in this vein provides relatively few specific insights into the nature of *individual* landowners' interests and the mechanisms through which they are shaped by context (whether it be a "superstructure" or "rules, ideas, and values"). This work is most valuable for my purposes for pointing to the larger factors that may shape owners' interests.

C. Marxist Approaches to Interests in Land

Marxist approaches to interests have a specific contextual focus, the capitalist system of production, and generally place ownership "within the structure of the overall system of production and distribution" (Massey & Catalano, 1978, p. 22). Marxist scholars go furthest in delineating specific interests people may hold in land, albeit in an urban context. I draw most from three scholars who have directly examined owners' interests in their real property.

Urban scholars Harvey L. Molotch, in "The City as a Growth Machine" (1976), and Logan and Molotch in *Urban Fortunes: The Political Economy of Place* (1987), have used Marx's distinction between *use* and *exchange* values in their theory of urban politics, which Molotch (1976) describes as essentially a politics of growth. "Use values" relate to peoples' use of particular places, as homes or locations for businesses, as well as their psychological attachments to those places. "Exchange values" (or "rent") refer to the economic values attached to places understood as commodities. In the model presented by Molotch (1976) and expanded in Logan and Molotch (1987), an elite of "place entrepreneurs" with a common interest in the exchange value of land shares a common interest in growth that puts them at odds with residents who derive use values from their neighborhoods that include convenience, support networks, security, a sense of identity, and often a shared ethnicity and an "agglomeration of complementary benefits" that foster fuller and richer communities (p. 108). Although Logan and Molotch acknowledge that some individuals may hold both use and exchange values in their property (the homeowner, for example, whose property provides a home and long-term investment), their chief concern is the powerful pro-growth agenda of the place entrepreneurs, and the conflicts *between* the place entrepreneurs and neighborhood residents who hold use values in their property. Indeed, they note that "[i]ndividuals and groups differ on which aspect (use or exchange) is most crucial to their own lives" (p. 2),

suggesting that, even if people do hold both values, one type of value will be stronger and push them cleanly into one camp or the other.

Davis (1991) uses a similar Marxist approach as Logan and Molotch, but provides a great deal more detail on specific interests (indeed, he critiques Logan and Molotch for saying too little about specific interests and how they might differ among urban groups (Davis, 1991, p. 10)). Davis focuses on interest groups formed around domestic urban property, and he considers *all* actors holding interests in the domestic property, including both landowners and non-owners (such as tenants and homeless persons), using interests as a window to understanding these actors' concerns and values and to build a framework of collective interests and action. Like Logan and Molotch, he uses the Marxist concepts of use (or *accommodation*) and exchange (or *accumulation*) in his efforts to parse and define the interests actors hold in domestic property. In Davis' framework, accommodation interests include security (the right of tenure), amenity (the quantity/quality of living space), and autonomy (degree of control over property). Accumulation interests include equity (financial savings), liquidity (ease of sale), and legacy (ability to pass land on to one's children). Unlike Logan and Molotch, Davis highlights the probability that individuals or groups hold several of these interests simultaneously; for example, a "household homeowner" has interests in both accommodation and accumulation, potentially enjoying the security, amenity, and autonomy offered by ownership, but appreciating legacy, liquidity, and equity interests as well. An "acquisitive homeowner" has the same set of interests, but might place more weight on the exchange values than on use. Indeed, to Davis, *all* landowners have accumulation interests; some also have accommodation interests.

Davis notes that his use of the term "interests" was deliberate, that he could instead have chosen terms such as "preferences," "values," "utilities," or "sticks" (as in the legal conception of property as a bundle of sticks, each of which represents a right associated with

ownership or use) (p. 56). He selects the term "interests" because, in the Marxist tradition, interest is defined as objective, material, collective, and relational. Interests are *objective* in the sense that one does not need to be aware of one's interests to have them: according to Davis, "[o]ne's position in relation to domestic property carries a probability of particular benefits, a susceptibility to particular costs, and a propensity to act in certain ways that inhere in the position itself, regardless of whether the inclumbent of that position is aware of this state of affairs" (p. 56).[2] Davis does recognize subjective interests, but notes that they are only possible if the objective interest exists. Second, interests are *material*, based in the physical world, affecting interest-holders' physical and economic well-being. They are also *collective*, providing the potential basis for "solidarity and collective action among persons who are otherwise isolated and very different" (p. 57). Finally, they are *relational*, tempered by and contingent upon society, including economic, political, and social forces; and on location. This makes them precarious, according to Davis, susceptible to a myriad of forces beyond the actors' control, and contentious, because one's actions may affect the interests of others. Interest-holders will therefore tend to act strategically, predictably, and cooperatively with others in defense of their interests, and in conflict with those with different sets of interests. It follows that, to Davis, interests that are *not* material – e.g. those that affect one's emotional, rather than physical or economic well-being – are of less concern and are less likely to engender collective action.[3] Davis further notes that the particular combination of one's tenure (as a landowner, tenant, homeless person) and the function to which the parcel of property is put, together forms the set of interests or "stake" one holds in property.

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[2] Davis sees three approaches to interests, besides the Marxist approach, that embrace subjective interests more directly: Pluralists, who view interests as the preferences of political groups; Utilitarians, who see interests as the conscious wants of individuals; and a group he describes as "legalists," who view interests as justifiable claims (p. 18 footnote).

[3] Indeed, Davis critiques Logan and Molotch for their conceptualization of use values as emotional attachments and neighborhood ties rather than *material* interests.

Although work in the Marxist tradition expands our notion of interests in land and real property, it has some important limitations. Logan and Molotch fail to recognize the complexities of interests held by their pro-growth place entreprenueurs and residents; both groups might hold more elaborate sets of interests than merely "exchange" or "use" values, and most probably hold some of each. Logan and Molotch do, however, recognize the sentimental and emotional benefits that residents derive from their neighborhoods, such as a sense of belonging or support within a neighborhood, while Davis focuses perhaps too extremely on physical and economic values, putting aside these less quantifiable benefits; Davis also focuses on objective, rather than subjective interests, when subjective interests certainly will play a role in landowners' decisions about their property.

Therefore, while the framework of interests that I introduce below draws on the Marxist concept of interests, there are some key differences. Whereas Marxist scholars, particularly Davis, emphasize the objective nature of interests, I focus on the subjective, as these interests describes the benefits of ownership that are particularly valued by owners and that owners are likely to act upon. I explicitly allow for the emotional values derived from ownership that are mentioned by Logan and Molotch, but, like Davis, anticipate that owners may hold both use and exchange values in their land. I draw from the landowner literature described in Section A, above, as it describes in the most detail the specific benefits of owning *fringe* land, and, I apply the institutional literature to my discussion of the contextual factors that shape landowners' interests. The framework I present is helpful both in identifying the antecedents of owners' interests and the interests themselves; it is also, I hope, a first attempt to understanding the fluid nature of interests as they change over time.

II. Interests Defined and Identified

I have used all of the areas of research described above to inform my discussion of landowners' interests in fringe land. Unlike some of the previous research on interests, I am focusing solely on owners, and not renters, the landless, the general public, or other parties who conceivably hold interests in land. My concern is also with an individual's *private* interests, not their potential for collective action (though that could be a direction for future research).

My framework of interests consists of four elements, three of which are covered in this chapter: 1) a definition of "interests;" 2) the set of specific interests a landowner may hold in fringe land; and 3) a discussion of the factors that influence an owner's unique portfolio of interests at a given point in time. In Chapter 6, I illustrate the framework using empirical data gathered from owners in the Austin fringe, describing both owners' interests as well as illustrating how interests provide deeper insight into owners' identities and actions. In Chapter 7, I return to the framework with a hypothesis about how those interests change over time.

A. Interests Defined

I propose that the set of benefits or advantages that a landowner derives from ownership at a particular point in time comprises that owner's interests in his or her property. These benefits enhance a landowner's well-being, physically, financially, or emotionally. Interests therefore may be of a functional or physical nature, such as the use of the property as a place to reside or to do business or enjoy nature. They may be of a financial character, such as rents earned on property leased to others, or income earned from cultivation of the

property. They may also be of a psychological nature, as in the satisfaction and pride derived from owning land or through stewardship of the resources on the land. (All of these interests might be termed "economic," in the sense that whether of a financial, physical, or emotional nature, they are all features of ownership that contribute to a landowner's utility.[4])

As I describe in greater detail below, the set of interests that are *subjectively* valued by an owner are a function of the owners' unique aspirations, needs, resources, skills, and family and personal circumstances, and the objective set interests that are made *possible* by the features of a particular parcel of land, its location, the policies governing its use, and the larger economic, political, and social framework in which the land exists. Interests may shift over time, as an owner's situation changes and their needs or resources change; as the larger context changes or evolves; or as a result of a combination of these factors.

I posit that owners of fringe land may hold a range of interests in their land. Following Marxist scholars, I separate interests into two broad categories of exchange and use. I follow Marxist work closely in describing exchange values, specifically the set of interests proposed in the most elaborated theory of urban property interests proposed by Davis (1991). However, I diverge from Davis and Logan and Molotch when discussing use values, as those proposed by these authors for urban property are less applicable to metropolitan fringe land and, in Davis' case, do not include the benefits related to emotional fulfillment that might come from owning land.

Since I draw upon the Marxist approach in developing my specific set of fringe interests, it is worth noting where I differ significantly from it: while the Marxist approach to interests views them primarily as objective, I emphasize the owners' subjective assessment of

[4] Anna Hardman brought this to my attention at my doctoral colloquium in 2002.

their own interests as well. For example, two farmers may hypothetically have identically valued properties, with identical equity in their land, so they may be said objectively to have identical equity interests. However, each owner's portfolio of subjective interests will result from his or her unique resources, skills, aspirations, and circumstances. Consequently, one farmer may place high importance on the potential to accumulate wealth by selling land after its value has appreciated, and the other may not (perhaps instead valuing the rural lifestyle he lives and the resources on his land much more highly), with the result that the two farmers have different *subjective* interests, or at least different prioritizations of those interests. I hypothesize that, if both were to receive an offer from a third party to purchase their land, the factors playing into each of their decisions would likely differ; the first farmer might weigh the potential financial gain more heavily, and the second might weigh the potential loss of his lifestyle more heavily, and ultimately, their decisions about whether or not to accept the offer might differ as well. However, that the second farmer *objectively* has an equity interest in his land does remain important in my understanding of interests, as his interest in equity may become "activated" in the future, or may become a higher priority, perhaps because the farmer becomes more aware of the value of his land, or perhaps because a personal financial setback leads the farmer to consider selling his property.[5]

As the previous paragraph discussed, it is certainly possible for certain owners not to value certain objective interests, in which case these objective interests are inactive or latent. I also argue that the reverse is possible: an owner may hold a subjective that is not currently objectively available or possible. I refer to this situation as an interest "mismatch." A farmer,

[5] Davis raises the point in his work that people may be mistaken about their interests (Davis, 1991, p. 17). Because I focus more on subjective interests, I assume that owners are not mistaken about the benefits they derive from ownership. I do acknowledge that owners may not always be able to articulate or discuss their subjective interests clearly (see Section III of this chapter below, on researching interests), particularly those related to emotional well-being.

for example, interested in agricultural income from land, may find his interest frustrated or mismatched after years of drought has prevented the realization of any income.

Aside from the issue of subjectivity/objectivity, there are a number of other features of my definition of interests. First, as in Davis' conceptualization, interests are instrumental: they are a means to some end beyond owning land, enhancing an owner's well-being, which might include their happiness, comfort, welfare, or security. Second, they have a temporal quality: an owner may receive the advantages of ownership now, or may *potentially* receive them in the future. For example, a stream of income from farming or enjoyment of scenery may be realized *now;* in contrast, an owner might hope for or count on a capital gain from the eventual sale of a land parcel, but that gain will be realized in the future, at the end of the owner's tenure. In both of these cases, the owner currently holds interests in agricultural income and in the capital gain, though the latter will not be achieved until later, when the land is sold. A different case is that of a *latent* interest, which I define as an interest that is objectively possible, but that a particular owner has no aspirations toward at the current time, or has aspirations toward but lacks the resources, skills, or opportunities to pursue; for example, an owner's land may be suited for agriculture, making an interest in income from agriculture objectively possible, though if the owner has no desire to pursue farming, or is not pursuing it at the present time, he or she does not currently hold the subjective interest. Since it may pursued in the future, however, I suggest that this is a latent interest that might be "activated" if the owner's needs, resources, or aspirations change. In another example, an owner may have a thought of building a retirement home on what is currently a weekend retreat; this too would be considered a latent interest, to be potentially activated when the owner is closer to retirement.

My understanding of interests assumes owners are rational in the sense that they own land to garner benefits of ownership that will enhance their well-being, and that they will act

to advance those interests where they can. "Well-being" includes physical, financial, and emotional well-being, and interests themselves may be of a functional, financial, or psychological nature.

Finally, it is important to note that some interests might only be fulfilled by ownership of a particular parcel of land, while others might be fulfilled by ownership of any land, or at least any number of parcels of fringe land. Someone who gains deep satisfaction from owning land that has been in his family for 100 years will likely not gain that satisfaction from owning a parcel purchased last year, whereas a farmer interested in agricultural income may find his interest fulfilled by ownership of any arable parcel of a certain size within the metro area.

Table 5.1 below summarizes the dimensions by which interests might be described.

Table 5.1: Dimensions of Interests

- **Strength or prioritization of interest** – Is the interest a high priority? Even if an owner has multiple interests in his or her land, some are likely to be stronger or of higher priority at any given time, as a result of personal circumstances, resources, attitudes, and external events and pressures.
- **Nature of interests** – is the interest of a physical, financial, or emotional nature? For example, the use of land as a residence provides a site for living, and serves a physical function. Income earned from farming on land is a financial interest. Satisfaction gained from owning land is an emotional or psychological interest in land.
- **Temporality** – Is the interest realized now (e.g. residential use – the land is currently providing a location for a home)? Or might it be realized in the future (e.g. investment interests – the owner has an interest now in appreciating land values, but there is uncertainty surrounding whether and to what extent that value might rise).
- **Subjectivity and objectivity** – Is the interest objectively possible? Is it subjectively desired or valued by the owner?
  - Interests are **latent** if they are objectively possible but if the landowner currently has no desire or lacks the resources or opportunities to pursue it at this time, or does not value the benefit
  - Interests are **active** if they are objectively possible and if the landowner currently values the benefits they provide
  - A subjective interest is **mismatched** if it is not objectively possible: if that benefit of ownership, though desired by an owner, is not currently provided by ownership of a particular parcel of land.
- **Relation to particular parcel of land** – Is the interest satisfied by ownership of only a particular parcel of land, or might it be satisfied by ownership of any land (within parameters of size, location, etc.)?

Finally, I differentiate interests from closely related concepts of motivations, decisions, and attachments. Interests are similar to *motivations* for owning land, in that a particular set of benefits of ownership, or interests, motivate the owner to acquire and continue to hold property. Motivations, however, may also be defined as instigators of action. For example, a financial crisis causes a landowner to consider selling his or her land; in this case, the motivation prompts action regarding land (e.g. a land sale) but is unrelated to the

owners' interests. A *decision* about land is also tied closely to interests: interests are key factors in owners' decisions, and at times, the same events or circumstances that influence an owner's unique set of interests will, in turn, motivate and influence an owner's decision about property. The financial crisis, for example, motivates an owner to consider selling and prompts a decision about whether or not to sell. Interests are, however, but one factor in the decision; an owner may have very strong interests in passing land to children, for example, but may nonetheless have no option but to sell land or face bankruptcy. In a more extreme example, if a government agency exercised eminent domain and took a parcel of land for a highway, the landowner's interests in that land would not matter at all in the outcome. As I define them, interests do change over time, in response to a myriad of events and circumstances, but they are separable and more stable than the events and circumstances (the motivations for land decisions), and also distinguishable from the process followed by the owner to reach a decision about land.

Attachment to land is also related, but not equivalent, to the concept of interests. A sense of attachment is an emotion that may arise from ownership of a particular parcel that has personal meaning to one's family, seeing improvement on the land through one's work, or appreciation of a parcel's special and unique resources. As Healey and Short (1981) noted, attachment is not necessarily related to one's length of ownership; a relative newcomer can quickly develop attachments to land. One may also have financial attachments to property because of its actual or potential monetary value. Indeed, one might use the term "attachments to land" interchangeably with "interests" in many cases. However, I choose the term "interests" for two reasons: "attachment" often connotes only emotional or sentimental connections (and not a broader range of connections including those related to land's financial value), and attachments speak only to those aspects of ownership that owners subjectively value, and not to those benefits of ownership that are objectively possible.

In summary, interests provide insight into the values owners derive from their land and from their positions as owners of it, and these in turn provide insight into owners' decisions about their land. However, they have a limit as an analytic tool, as they are but one factor in landowners' decisions regarding their property. I discuss in more detail the factors that influence an owner's portfolio of interests at any given time, and that cause the interests and their prioritization within that portfolio to shift over time, in Part C below.

B. Specific Interests in Fringe Land

Having set out the characteristics of interests above, I now describe the specific interests that landowners might hold in their fringe land. Borrowing from previous literature, I divide interests into two broad categories of "exchange" and "use/emotional" values.

As I describe them, **exchange interests** relate to the economic value of land, or the value of land as a *commodity*. Exchange values include the potential for financial gain and/or security from the use, development, or sale of land. I draw heavily from Davis (1991) in describing these three exchange values; although Davis focused on domestic urban property, the specific exchange values that he presents are quite relevant to land on the metropolitan fringe (the same is not true for his discussion of use values, where urban and fringe land offer owners quite different non-economic benefits). Specific exchange values include:

Equity. According to Davis (1991), equity is the "unencumbered value inherent in land and buildings:" the fair market value of a parcel of land, minus any encumbrances upon it (e.g. mortgage, lien, etc.) that results from the characteristics of the parcel, the money and efforts of the owner to maintain or improve property (including the development of fringe property), and a "social increment," derived from urbanization and development in the area, that enhances or detracts from property values. On the metropolitan fringe, development

pressures raise the value of land, making the social increment particularly important and highly related to the actions of neighboring landowners, the regions' economic development, and policies regulating development. Davis argues that all owners objectively have an equity interest in their land; however, since a key feature of the equity interest is that it is realized upon the sale of land, the amount of equity that might be gained from land sale may be uncertain so until the time of a sale or transfer.

Liquidity. Ownership may provide an owner with liquidity, if land can be sold quickly for cash, can be used as leverage for a loan or as a tax shelter, or if the land generates a stream of income from rents (Davis 1991); in land on the metropolitan fringe, land may also generate a stream of income through agriculture, including farming, ranching, or forestry, or mineral extraction. Again according to Davis, liquidity is realized throughout the period of ownership, unlike equity, which is realized at a property's sale.

Legacy. Ownership may afford an owner with the potential to pass land's economic benefits to children through gift or inheritance. Legacy also has use/emotional dimensions, as described below; as an exchange interest, however, it refers to the economic value of land, the potential for children to accumulate wealth through equity or to gain income through the use of the land.

Use/emotional interests relate to the use of particular places and the non-financial benefits derived from owning, particularly the physical and psychological benefits provided by ownership. As I described earlier, in urban politics literature such as that by Logan, Molotch, and Davis, use values often refer to the benefits accruing to an owner because of their property's location in a specific neighborhood, such as conveniences, support networks, shared identities, etc. (and many of these values might be relevant to other actors besides property owners, such as renters). These are not as easily applied to the metropolitan fringe

as are the exchange values described above, as urban neighborhoods differ in function from semi-rural and rural locales. I have therefore developed a set of interests for owners of fringe land (particularly individual and family owners) that likely would not apply in the urban communities studied by Davis or Logan and Molotch, but that are raised in literature on the metropolitan fringe. I have also added "emotional" interests to the category, underscoring the psychological benefits to ownership (found in Logan and Molotch's concept of use values, but not as much in Davis' characterization; he pays most attention to those interests that he believes might induce collective action, and in the Marxist tradition, these are material interests (Davis, 1991, p. 57 footnote)).[6]

Use of land as a location for a residence, business, recreation, or resource protection. Simply, ownership of fringe land may provide the opportunity to use land for residence, urban or rural business, agriculture (as a business or hobby), recreation, or conservation, and the chance for the owner to derive satisfaction or enjoyment from these activities. The same parcel of land can obviously be used for multiple uses, either on different portions of the site (e.g. residence and agriculture) or on the same area (e.g. recreation and forestry). Fringe land in particular might allow the owner a location for a residence that is more private, is perceived as safer and offers more quality of life (Nelson, 1992) and natural amenities (see below) than an urban location, and according to previous research, residence is a key element in owners' decisions to sell or hold land (Massie, 1968).

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[6] For example, I have modified Davis' conception of amenities to include those relevant to rural and semi-rural areas, and included interests such as recreation and ecological protection, values of great importance to some fringe owners. In addition, because I focus solely on owners, unlike Davis, I have also dropped some of his key values, like security of tenure and autonomy, assuming landowners to be secure in their ownership and in control of land decisions regarding their property (these assumptions might be dropped in future research: when land is owned by multiple parties (a family or partnership, for example), rights and decision-making power may not be equally shared, resulting in a lack of security or autonomy for some landowners; further, it is true that some owners may not have security if land ownership is in dispute).

Use and enjoyment of amenities. Adapting from Davis (1991), amenities relate to the quality and quantity of land, and to the benefits offered by its location. The size, shape, and features of the land, and any improvements upon it (such as barns or a residence), contribute to the amenity of a particular parcel. For example, a large rural parcel may provide an owner with opportunities for privacy from neighbors or enjoyment of scenery or a fishing pond. As discussed below, amenity is heavily influenced by nearby land uses and users (Davis, 1991). Depending on the owner, amenities may include proximity to family or friends. Amenities also include those *off* the property, in the surrounding area, such as community resources (e.g. schools or parks) or natural resources (e.g. scenery). The enjoyment of a rural lifestyle or rural aesthetic, with proximity to urban conveniences, may also be considered amenities of metropolitan fringe land.

Protection of natural resources on land. Ownership may afford opportunities for owners to derive satisfaction from the protection of natural resources (whether for the owner's enjoyment or the public's). While the protection or stewardship of natural resources may be seen as a moral or religious *obligation* of ownership (Healy & Short, 1981)[7], it is the type of responsibility that might compel individuals and families to own land and that might strongly influence their land decisions. I argue that the act of stewarding land may also contribute to owners' satisfaction, making it a *benefit* of ownership, not just a responsibility.

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[7] As Healy and Short (1981) note,

> There is a strong and widespread tradition in rural areas that a landowner has a moral obligation to use his land in a manner that husbands or protects its productive qualities, even in the face of economic incentives to do otherwise. This feeling of land stewardship arises from long-standing cultural and even religious values and is heightened by peer pressure among farmers...Of course, land stewardship is far from universal among traditional landowners. (p. 217).

Healy and Short, drawing on Wendell Berry, argue that absentee ownership and concentrated agricultural production make stewardship less likely; that it is more likely a value or interest of a smaller family farmer or forester.

Satisfaction from owning and working land. The state of owning land may provide the owner with a sense of satisfaction, pleasure, a "pride of ownership" (Healy & Short, 1981, p. 48), or status (Massie, 1968). Similarly, the efforts owners make to maintain or enhance their land, perhaps to "work the land" as a farmer or rancher, may provide similar benefits.

Sense of identity and community. Ownership of land may provide the owner with a sense of identity or common interest with those in similar situations or professions: with other landowners, other rural persons, or other farmers, for example. It might also provide opportunities for relationships with others, support networks, and trust and security within the community on the fringe or among specific groups (e.g. farmers) within that community.[8]

Connections to family. Ownership may provide owners with feelings of connectedness to generations of family who have previously owned the land, or to children to whom owners wish to pass on their land. Legacy, in this case, is a use/emotional value.

Use and exchange interests are summarized in Table 5.2, below.

[8] Logan and Molotch (1987) separate identity, support networks, and security into separate use values, but I place them together here, as they all relate to the *community* aspects of landownership, the aspects of ownership that provide a sense of belonging, support, or safety to the landowner.

Table 5.2: Exchange and Use Interests in Fringe Land

Exchange Interests
Economic or exchange interests: ownership provides the opportunity for economic gain from the following sources: ▪ **Equity:** land ownership may provide an owner the opportunity to accumulate wealth through rising land values and personal effort and investment in the property ▪ **Liquidity:** ownership may provide: o A **liquid asset** that can be sold quickly for cash o A stream of **income from the use of the land** for agriculture or other rural uses o A stream of **income from rental of land** for agriculture, other rural uses, or urban uses o A stream of **income from fees** charged for the periodic use of the land, such as for hunting or fishing ▪ **Legacy:** ownership affords opportunity for owner to pass land's economic benefit to children
Use/Emotional Interests
Use interests: landownership may provide a location for activities or for pleasure, enjoyment, satisfaction, pride, or a sense of identity: ▪ **Use:** ownership may provide the owner with the opportunity to use land for residence, rural or urban business, recreation, conservation/ resource protection, and to enjoy or gain satisfaction or fulfillment from these activities. ▪ **Amenity:** ownership may provide the owner with opportunities to use and enjoy: o **Nearby resources**, such as schools, commercial or retail, parks, etc. o **Amenities related to location,** such as proximity to urbanized areas, friends and family, recreation areas, etc. o **Resources on land or features of land**, such as privacy or natural elements such as scenery, woods, ponds, etc. ▪ **Caring for resources on land:** ownership may afford opportunities for owners to derive satisfaction from the protection of natural resources (whether for the owner's enjoyment or the public's) ▪ **Satisfaction from owning and working land:** merely owning land may provide the owner with a sense of satisfaction, pride, or pleasure, or a sense of identity as a landowner, a rural person, a farmer, etc.; ownership may also afford the opportunity for feelings of satisfaction, pride, or identity that come from maintaining and/or improving land ▪ **Sense of identity and community:** ownership may provide owners with opportunities for community, which in turn might provide support networks, friendship, security, etc. ▪ **Connections to family:** ownership may provide owners with feelings of connectedness to family who have previously owned the land, or to children to whom owners wish to pass on their land

III. Influences on Interests

What shapes the unique portfolio of interests held by a specific owner? Below I draw primarily from literature, as well as the landowner research conducted in the Austin fringe, to discuss the myriad factors that influence landowners' particular sets of interests at any given point of time.

Landowners' portfolios of subjective interests at any point in time will depend on many factors. Subjective interests depend in part on the interests that are o*bjectively* possible. Objective interests are a function of an owner's particular parcel of land, its location, its value, local development pressures, and the larger social, political, and economic context in which the land lies. Owners' *subjective* interests are a then function of their objective interests and their unique family and personal circumstances, attitudes and values, aspirations, and resources. These factors are quite intertwined: for example, development pressures and parcel characteristics will both influence land values, which, with policies regulating development and land use, will in turn shape the legal and economically-viable options for how the owner might use the land. Similarly, policies and the general direction of the economy will influence owners' financial resources and therefore their subjective interests.

Some of these same factors may also influence owners' opportunities for realizing their interests fully. For example, a new subdivision may make conducting agriculture more difficult on the abutting parcel of land, or economic conditions may reduce the price the farmer can gain for his crop, both of which constrain the farmer-owner's chance to pursue his interest in earning income from the land to the fullest extent.

Many of the factors that influence interests have been discussed in detail in literature on landowners' decisions, land values, and processes of metropolitan growth; indeed, these areas of study are closely related to the question of interests. Below I draw on this previous literature as I briefly summarize those factors that I propose influence landowners' interests, first examining the contextual factors that influence owners' objective interests, and then those more personal circumstances and factors that shape an owner's subjective set of interests.

A. Factors Shaping Owners' Objective Interests

I propose that landowners' objective interests are influenced by features of their property and its location, development pressures, other landowners' actions, public policies, and regional and national social and economic trends.

1. Property-Specific Factors

Property-specific factors that influence objective interests include the physical characteristics of the land parcel and the economic value of the property. Both physical characteristics and land values shape the objective interests that can be realized through ownership of the property; subjective interests result if the owner elects to pursue certain activities (such as agriculture, which might yield farm income, an exchange interest) or if the owner appreciates the benefit (for example, the scenery on the property, a use/emotional value).

Physical characteristics include the parcel's size, topography, arability, structural improvements, and natural resources. These features make land more or less suitable for

agriculture, recreation, conservation, or residential or commercial development (including subdivision), or may raise land's value (as in the case of amenities on site (Adams, 1968; Chicoine, 1981)); in some cases certain features (such as slope or wetlands) may make certain uses difficult (or potentially illegal under land use or environmental regulations, in which case the features of the land intersect with public policies in shaping possible interests). The parcel size and, in some cases, land uses, also relate to property taxes owed on the land (Massie, 1968); taxes impact an owner's finances, which in turn may influence how they prioritize their interests in land. Natural amenities on the land also shape potential interests, making possible the enjoyment of scenery, wildlife, and other natural resources, or making land suitable for active or passive recreation.

The property's location and access to highways and employment and commercial centers similarly shape owners' options for their property, particularly for those with an interest in development (since proximity to urban areas will likely be valued on the market, raising demand the and potential for profit from development), or with those who seek to live in the fringe but regularly commute to urban centers (LaGro & DeGloria, 1992; Lee, 1979; Massie, 1968; Pyle, 1985; Whitehand, 1987). Depending on the owner, amenities available at the local level are also important in shaping potential interests by influencing land values, land marketability, and options for rural and urban land uses. Amenities include the prestige of an area (Hepner, 1983), attractiveness (Hepner, 1983) and natural beauty, which might include vegetative cover, scenery, topography, and proximity to water (Bryant et al., 1982), community services such as schools, agricultural extension services, etc.; and, for some migrants to fringe lands, the absence of perceived urban ills or an idealized notion of rural life (Nelson, 1992).

As noted above, these parcel characteristics, together with development pressures and demand for land and public policies regulating development on land, also influence the

economic value of the land. Landowners' perceptions of current land values and expectations for future land values will likely affect their calculations for uses, development, purchase, or land sale, at least for those who are motivated at some level by financial gain from appreciating land values. The factors influencing land values directly are many of the same that influence owners' interests: "The value of land at a particular point in time and space reflects pressures in the market place, the overall condition of the economy, the preferences of the various actors involved and their abilities and levels of knowledge, and generally, all of the factors – institutional, cultural and economic – that impinge upon the value of real estate" (Bryant et al., 1982, page 59). Dunford et al. (1985) summarize the determinants of rural land prices as including external forces, such as economic conditions like inflation, agricultural economics, etc.; governmental regulations and programs including zoning, conservation efforts, sewer and water availability, and property taxes; and urbanization factors including population growth and density. Land characteristics, such as arability, topography, parcel size, amenities, and location (land values are typically higher closer to urban areas (Blumenfeld, 1954; Brown et al., 1981; Hart, 1991), also influence land values.[9]

Obviously, given their different portfolios of interests, landowners, and potential owners of land, will not necessarily value the same aspects of a particular parcel: its location, size, soil productivity, area amenities, etc. will be more or less important to buyers and sellers (King & Sinden, 1994) and to different types of owners, whose interests and personal situations will vary by individual or family, and whose *expectations* about inflation, mortgage rates, agricultural return and subsidy programs, policies, infrastructure, and development pressures may vary.[10]

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[9] See Nelson (1993) for effect on land values of distance to edge cities.

[10] See also Broomhall (1995) and Hepner (1985) for additional reviews and studies of factors influencing rural land values.

2. Development Pressures

As noted above, development pressures influence demand for land and land values, potentially increasing owners' equity in land and the desirability of development on the property. Since development pressures (and land values, unless land is on the market) are difficult to quantify and predict, owners' *perceptions* of development pressures are particularly important. There is some evidence from empirical research that owners tend to be overly optimistic about the potential rise in land value from future growth (Hansen & Schwartz, 1975).

Expectations about development pressures are important to those with interests in appreciating property values and development, but they are also important to those owners who have little immediate interests in selling their land and instead have interests in agriculture. For those actively engaged in rural commercial uses on their land (e.g. farmers, ranchers), expectations about future development may influence their decisions about making capital investments in agriculture: imminent development in the surrounding areas may cause owners not to make heavy investments (Berry, 1979; Bryant et al., 1982). Development pressures may also limit farmers' abilities to purchase additional land for agriculture, as surrounding parcels rise in value beyond what is typical in farm-to-farm sales (Bryant et al., 1982). Local development itself can make the conduct of agriculture more difficult due to rising taxes (Clawson, 1976), suburban neighbors unused to the noise and odors of farming or ranching, traffic arising from new subdivisions, etc.(see "Other Landowners" below). Ilbery notes that each agriculture-oriented owner may differ in his or her response to development pressures: "A neglected aspect in studies of agriculture in the rural-urban fringe has been the extent to which farmers vary in their responses to the threat of urban expansion.

Variations can result from many factors, such as the perceptions of the threat, the ability to interpret changes in the surrounding environment, personal preferences and resources available to the individual farmer" (Ilbery, 1985, p. 200).

3. Other Landowners

Other landowners, particularly those who possess neighboring parcels, also influence owners' objective interests. As noted above, residential developments abutting agricultural uses bring a unique set of problems to the farming or ranching landowner that may influence his or her interests in agriculture – and in alternatives to agriculture, such as the development and/or sale of land (which would potentially serve the owner's equity interest) (Clawson, 1976). Interviews with ranchers in the Austin area revealed frequent conflicts with new non-farming neighbors: instances where neighbors' pet dogs killed small livestock, or cigarettes thrown from car windows ignited fires, etc.; while the noise and odors typical of farming and ranching may in turn bother newer residents not involved in agriculture (Daniels, 1999). (Indeed, "right to farm" laws, adopted by a number of states (including Texas), seek to prohibit localities from enacting laws that make agriculture unreasonably difficult or to protect farmers and ranchers from nuisance lawsuits brought by neighbors (Daniels, 1999; Mandelker et al., 1995)). About one-quarter of owners in the Austin fringe indicated in the telephone survey that they found their neighbors' land decisions to be very important to their own.

4. Public Policy

Public policy encompasses government efforts to manage growth, influence land uses, and protect natural resources that constrain the uses to which land can be put and

therefore landowners' objective interests; policies regarding infrastructure that may influence demand for land, influencing land values and therefore objective interests in equity; and tax and other economic policies that influence landowners' financial calculations and therefore may influence their objective exchange interests.

As noted in Chapter 2, as part of land use planning and growth management efforts, policymakers have created a range of public policies that regulate or attempt to influence the decisions private owners make about their land, including zoning, urban growth boundaries, subdivision regulations and impact fees for new development, and urban growth boundaries; environmental protection regulations; and conservation-priented programs such as transfer of development rights program and agricultural tax assessments. Many of these policies and programs constrain owners' options for their land, and may also influence the present or future market value of land (e.g. through subdivision regulations or availability of public services) (Kaiser & Weiss, 1970), all of which affect owners' objective interests. Optional programs may also provide new opportunities to owners, helping them to pursue interests such as land conservation or agriculture.

Infrastructure policies, such as those related to the construction or improvement of roads and highways and municipal sewer and water provision, will also affect land values, which as noted above, influence owners' equity interests. Tax policies that affect the owner's estimated future stream of income and expenses (Kaiser & Weiss, 1970) are also relevant to shaping and influencing the priority of exchange interests within an owner's portfolio of interests; these include property taxes at the local level, and income, estate, and capital gains taxes at the federal level.

"Property rights" are another aspect of public policy influencing landowners' interests. Mostly, property rights circumscribe owners' options for their land, which in turn influences objective and, therefore, subjective interests.

5. Regional and National Economic and Social Trends

Regional economic trends (e.g. local employment, income, population growth (Broomhall, 1995)) and national economic trends influence owners' opportunities to pursue certain interests with success, such as interests in investing in land (versus another form of investment) (Broomhall, 1995) or developing land for profit (Arnott & Lewis, 1979), both forms of an interest in equity. The economics of a particular sector, such as ranching, will also play a role, those unable to profitably ranch their land, for example, who cannot successfully realize their interest in income from agriculture, may need to find another use for their land, or may decide to sell it, as Austin area experts on conservation noted. National social trends, such as those promoting the desirability of living further from the city, also have a role in shaping land values on the fringe and therefore equity interests.

B. Factors Shaping Owners' Subjective Interests

While the factors discussed above shape the objective or potential interests ownership may provide, individual owners each have their own unique portfolios of subjective interests, the subgroup of the objective interests that they particularly value, and the potential group of any "mismatched interests" that they are currently frustrated in realizing on their land. Owners' personal circumstances, resources, skills, attitudes, preferences, and aspirations shape these subjective interests – and ultimately, also influence their behavior regarding their land. As Marion Clawson noted in 1962,

> Some present landholders may be optimistic about future increases in value of their land, others more cautious; some may have amply capital for which they seek investment outlets, others may have pressing need of any capital they can raise by sale of their land; and in other ways landowners may differ considerably. It seems wholly probably that owners of identical land (if one can imagine such a thing) might react quite differently to exactly the same offers for their land. (Clawson, 1962, p. 106)

However, personal characteristics are one of the least understood and studied factors influencing land conversion on the fringe. Bryant et al. (1982) have stated that "Land owner characteristics have been relatively neglected as an influence on land values and the process of land-use conversion...land owner characteristics have frequently been relegated to an insignificant role" (page 64). The authors also note that while some studies support the idea that landowner characteristics have only a short-term consequence on the form of development, they may have a longer-term effect on spatial patterns of growth, one that is not well understood.

Personal circumstances include the owner's occupation, lifecycle and family situation; for example, whether the owner is nearing retirement, recently divorced, or has children interested in using and/or inheriting the land. (Events such as divorce or death (Healy & Short, 1981) may be more important instigators of land sales than longer-term aspects of owners' circumstances, like occupation.) Personal circumstances also include owners' access to resources, including financial resources and claims against them (e.g. children's college tuition, mortgages, etc.); their knowledge, experience, and savvy about real estate, agriculture, and other matters pertaining to their land; and their social capital, which potentially provides access to financial resources, information, and influence they do not themselves possess.

Attitudes and values are another component of personal circumstances. For example, some owners may hold strong values toward land stewardship (perhaps stemming from religious or moral values) that lead them to derive satisfaction from actively conserving a portion of their property; others may not share these attitudes, and will not prioritize conservation as an interest or an activity. Similarly, some owners may value the manual labor they put into their land; for them, it provides the satisfaction of "working the land;" yet others may not share this attitude, and will not share this interest.

Personal circumstances might also include the form of ownership (e.g. family corporation, estate, trust, individual, partnership, etc.) and the number of owners involved: some families share ownership among many relatives, and partnerships share ownership among a number of partners, which might limit one individual's opportunities to pursue his or her particular interests in the property (and will likely alter the dynamic of decision-making around land, in which different parties' interests may be part of negotiations). In addition, institutional issues surrounding estates, trusts, titles, and covenants may influence the salability of particular parcels (Clawson, 1962), which will directly influence an owner's options and objective interests for his or her land.

III. Examining Interests Empirically

There are, not surprisingly, significant challenges to examining interests empirically. How do we know an individual or family holds particular objective or subjective interests in their land? To identify objective interests, we would need deep information not only about the political, economic, and social context, we would also need detailed data on the unique topographies, vegetation, and natural resources on a particular parcel of land, its arability,

access to main roads, proximity to neighbors, etc. While a survey could gather some of this data, accurately identifying objective interests would be a labor-intensive task.

Identifying subjective interests presents its own challenges. Only a few interests, such as those related to the functional use values of a land for a home, business, or recreation, are straightforward, and can easily be ascertained by observation or by asking landowners how their property is used. It is also possible to assume that all landowners hold at least some equity interest in their land (Davis, 1991); however, the amount of equity, or its relative importance to the owner *vis a vis* other interests, is more difficult to assess because of owners' privacy concerns. Those interests related more to emotional fulfillment, such as legacy or appreciation of amenities, are particularly difficult to measure; it can be difficult for owners to articulate their interests, even if they are aware of them enough to act upon them.[11] An owner may not readily express emotional benefits of owning land, because these may be more personal, subtle, and difficult to describe.

The landowner survey conducted in the Austin fringe asked owners about their interests using a variety of questions. Together, the data provided indication of specific interests. The questions focused on:

- *Owners' characteristics:* Demographic information and data on owners' personal situations (e.g. their age, profession, whether or not they have children, etc.) do more than attach a face to landowners: they also give a sense of the internal factors that shape an owners' portfolio of interests.
- *Owners' behaviors and plans:* In general, behaviors and plans provide both direct data on interests, as well as insight into how interests may have changed over time.

[11] The literature recognizes attachment to land as particularly hard to measure in a survey (Pyle, 1989), but even in in-depth interviews it may be difficult for owners to put into words how land fulfills emotional benefits.

- *How owners use land:* For example, if an owner lives on his land, we can say he has a residential interest in their land.

- *How they came to own it:* Owners who inherited their land or received it from family might have ties to their family through the land.

- *Owners' initial plans for their lands:* Owners' plans for land at acquisition help us understand why they purchased it (or if they inherited it, how they planned to make use of it), indicating some of their interests at the time of acquisition. Compared with information on current land uses, this data also helps us see whether and how owners interests have changed over time.

- *Owners' past behaviors regarding land:* Owners' decisions to sell land in the past or to make use of conservation program provide some insight into their interests, although it is necessary to separate interests (e.g. in earning a profit from land sale) from events unrelated to interest that have forced owners to act (e.g. a health crisis that necessitated a land sale).

- *Owners' future plans for land*: Owners' plans to hold, develop, sell, buy, conserve, or give land to children provides some indication of interests, particularly when we couple plans with information on their personal circumstances.

- *Owners' self-stated interests*: Asking owners directly to rank the importance of interests to them is the most direct way of asking them to name and prioritize their interests, and provides insight into the *priority* of their interests.

Besides identifying interests, it is equally challenging to capture the *influences* on landowners' interests. As noted above, influences on objective interests require a good deal of detailed information on context and land parcels. More problematic, however, is that personal circumstances, resources, and particularly owners' abilities and knowledge are difficult to study empirically, particularly how *combinations* of these factors influence interests. Some lifecycle issues can be inferred from owners' age and the presence of children, for example, but it is difficult to assess fully an the entire family environment in which owners make their land use decisions in the absence of extraordinarily detailed

interviews. Abilities, such as the owners' effectiveness in negotiating with a potential purchaser of their land, are challenging to evaluate.

In this dissertation, the case study provides information on the context governing land uses and demand; and data on parcel size, location, and land uses, as well as data on owners' ages, professions, educational attainment, incomes, net worth, debt, presence of children, and the owner's own assessments of how financial needs and opportunities and non-financial family matters enter into their land decisions provide insight into owners' subjective interests.

IV. Conclusion

Having defined my concept of interests, described specific interests in fringe land, discussed the factors influencing an owner's unique portfolio of interests, and explained the challenges of empirical research into interests, I now turn to research findings from the Austin fringe landowner research in Chapter 6.

Chapter 6

The Landowners of the Austin Fringe

According to survey data collected from 521 landowners, the owners of land in the Austin fringe are overwhelmingly individuals and families who possess their land to pursue agriculture; enjoy recreation, natural resources, and other amenities on their land; and reap financial gain through appreciating land values or development. Indeed, the majority of owners derive multiple benefits from their land, holding their land for two or more of these reasons. This chapter first introduces Austin fringe landowners in aggregate, identifying their characteristics, behaviors, and their subjective interests according to the framework set out in the previous chapter. It then describes in greater detail three types of owners dominating ownership of Austin fringe lands: those whose main interests are in agricultural income from farming or ranching, in enjoying amenities and recreation on their land, and in the investment and development potential of their property.

I. Owners of Austin Fringe Land in Aggregate

Who are the owners of the fringe land surrounding Austin? Below, I present an overview of the owners of undeveloped land on the Austin fringe in aggregate, using data gathered in the landowner telephone survey described in Chapter 3, Methodology.

In general, the picture that emerges from the survey data, and supported by a field visit to Austin, is of an area that *looks* primarily rural and agricultural, with farms and ranches, wide spaces of open land, and the occasional self-contained, new subdivision (often still in the process of construction) accessed from its own single entrance from the main highway. The owners of fringe land, however, are more diverse: although they are overwhelmingly individuals and families, they hold a wide range of interests in their land besides the farming or ranching evident on the landscape; represent a variety of professions; and have quite different histories with their land. Many of these owners derive financial benefits from owning, either through income earned on their land or potentially through appreciating land values as the fringe develops, but they also value the opportunities offered by their land to enjoy amenities like scenery, to recreate on their land, and to live a rural or semi-rural lifestyle.

Below I discuss owners' characteristics, their behaviors and plans regarding their land, their attitudes toward growth, and their interests or stakes in landownership. Owners' demographic characteristics and related information about their personal and family circumstances help put a face on the fringe landowner and allow us to compare owners to the general population in the Austin fringe as well as to landowners discussed in previous empirical research, so that, although the present study is limited to one region, we can begin to gain an understanding of today's fringe landowners. Owners' characteristics also give us insight into the personal and family factors, such as stage of life or the presence of children, that shape landowners' current portfolios of interests and ultimately their decisions. Owners' behaviors and plans, the second area of data analysis, are the principal reason that landowners are a focus of study: their behaviors help us understand what owners do, and might do, with their land, providing insight into the patterns of land conversion evident on the fringe. In this study, the motivations for some of landowners' past behaviors and future plans also provide insights into their underlying interests. With information on who owners

are and what they do and are likely to do, we turn to owners' subjective interests (the benefits of ownership that the landowner finds valuable, given personal characteristics, attitudes, values, skills, and resources); these interests begin to fill a gap in our knowledge of *why* those owners make the decisions that they do regarding their land. I then touch on owners' attitudes toward and perceptions of growth occurring in the fringe. Growth pressures and development help to shape an owners' objective interests, but owners' attitudes toward and perceptions of this growth play a role in determining how it influences their subjective interests.

Although the statistics provided below refer to aggregate owners, I provide comparisons of owners along several dimensions: their location on the fringe, the size of their land parcels, residency (whether or not they maintain their primary residence on their land), and tenure (their length of ownership). These variables speak directly to findings and concerns raised in previous literature. *Location on the fringe* addresses land conversion literature that predicts certain types of owners will control land in certain parts of the fringe (e.g. developers closest to the city, investors in areas undergoing moderate development pressure, and farmers and others in areas deeper into the fringe (Brown et al.,1981)). In this case study, location also refers to the particular *corridors* studied (west, through Hays County; east, through Bastrop County, and southeast, through Caldwell County), rather than just distance from the city of Austin. As shown in Chapter 4, the Bastrop, Caldwell, and Hays study areas vary markedly in development pressure and character of new construction, as well as in geography and population. *Parcel size* is relevant because the decisions made by owners of larger parcels theoretically have more influence over land conversion, simply because these owners control more land; it is therefore worth examining whether their characteristics, behaviors, and interests differ significantly from those with smaller holdings, differences that could be meaningful for policymakers and conservation programs seeking to intervene in land development (Healey & Short, 1981). *Residency* is also relevant because it is easy to imagine that the interests of those living on their land and those using it

sporadically or managing it from a distance will differ (Healey & Short, 1981); also, the interests of absentee landowners have been a concern to some scholars of the fringe – particularly when land is concentrated in the hands of a foreign or corporate absentee owner (The Appalachian land Ownership Task Force, 1983; Bunce, 1985; Lewis, 1980; Markusen & Scheffman, 1978; Popper, 1981). Differences in *land tenure* have been related to value conflicts between longtime owners and newcomers on the fringe, conflicts that often occur within the context of the planning process and, specifically, policymaking around growth management (Dubbink, 1984; Spain, 1993).

A. Landowner Demographics

Nearly all of the landowners captured in the Austin-area survey are individuals or groups of individuals (primarily, individuals who are related to one another). This includes 94% who own as individuals or families, 3% who own through partnerships, and 2% who own through family-held corporations. (According to the survey results, family-held corporations and partnerships are forms of ownership that many families and other groups of individuals select in order to conduct agriculture or to hold land for recreation or investment; therefore, in their purposes and in their composition as a group of (often-related) individuals, they are similar to other individual and family owners captured in the survey.[12]) There were only three non-family corporations captured in the data (two for-profit and one non-profit), but these were dropped from the analysis, along with two respondents whose property ownership was in dispute at the time of the survey. As a result, the data analyzed in this

[12] The one estate and two trusts captured in the survey were included in the analyses as well for the same reasons.

chapter focuses exclusively on owners who hold land as single persons or groups of individuals.[13]

Table 6.1: Forms of Ownership*

Form of Ownership	Percent	Frequency, Unweighted
Individual or family	94%	489
Partnership	3%	14
Family-held corporation	2%	10
Other corporation	1%	3
Estate	0%	1
Trust	0%	2
Ownership in dispute	0%	2
Total	100%	521

**Shading indicates those respondents included in the remainder of analyses.*

Excluding other corporations and disputed ownerships, respondents were, at the time of the survey, an average of 57 years of age (see Table 6.2)[14]. The vast majority of owners are white (92%); 4% describe themselves as Hispanic and 3% as African American. Owners also tend to be well educated: 33% percent of Austin fringe owners are college graduates, with another 25% reporting that they have post-graduate education. Nearly 60% of owners who responded to the survey were male.

[13] As noted in the methodology chapter, as is evident from a visual scan of the publicly available tax assessment rolls used to draw the survey sample, many parcels are owned by groups of individuals, many sharing surnames (e.g. couples or families). It is not clear that each owner of a jointly owned parcel would respond to the survey questions in the same way, and certainly demographic data on age, gender, education, etc. will also differ by which of several owners happened to answer the telephone and agree to respond to survey questions. However, we have no reason to believe that there are biases in any particular direction: that men or women, younger generations or older generations, were more likely to respond to the survey or to provide certain types of responses. Also note that demographic data represents only those respondents who were the actual owner of the property, and not those who responded for the owner (e.g. the respondent's parent, in some cases).

[14] Unless otherwise noted, statistics in this chapter reflect those who responded to a particular question. Refusals or responses of "do not know" were excluded. In most cases, this makes only slight differences in the statistics, and cases with large numbers of refusals are explicitly noted.

The average owner has an income between $50,000 and $75,000 (see Table 6.3; refusals are included). In terms of wealth, there is a large spread: 41% of landowners have net worths below $500,000, yet 13% have net worths of $1 million or more (Table 6.4; refusals are included). Thirty-six percent of owners hold mortgages on their land; those with the largest parcels were significantly less likely to have mortgages.

Table 6.2: Owners' Ages at Time of Survey

	Median Age	Mean Age	Standard Deviation
Age at time of survey	55	57	12.737

Table 6.3: Owners' Income Levels

Income Level	Percent	Cumulative Percent	Frequency, Unweighted
Under $10k	2%	2%	10
$10k-20k	3%	5%	14
$20k-30k	4%	9%	22
$30k-40k	6%	15%	29
$40k-50k	9%	24%	47
$50k-75k	15%	38%	71
$75k-100k	18%	56%	93
$100k-125k	8%	64%	38
$125k+	16%	80%	82
Don't know/ refused	20%	100%	97
Total	100%		503

Table 6.4: Owners' Net Worths

Net Worth	Percent	Cumulative Percent	Frequency, Unweighted
Less than $500,000	41%	41%	206
More than $500,000 and less than $1,000,000	22%	63%	114
More than $1,000,000 and less than $5,000,000	11%	74%	56
$5,000,000 or more	2%	76%	10
Don't know/refused	24%	100%	117
Total	100%		514

Thirty-nine percent of owners earn income from their land. For most landowners, this money is not their sole source of income; on average, owners earn only 13% of their total incomes from their land (this may be a result of owners' estimates of what they earn on the *particular parcel* discussed in the survey; respondents may earn more from other properties, as well as from non-land sources). Owners who do earn income estimated that 58% comes from rural land uses, such as agriculture, forestry, hunting and other recreation fees, mineral extraction, timber, or rents for these uses. The sources of the remainder of income earned from land are unclear but could include rental of residences (a follow-up interview with one landowner indicated that he earned income from the rental of residences to Austin commuters).

One of the most obvious ways to classify owners is by their occupation. Landowners' primary occupation was defined as the job at which they spent 50% or more of their time in the past year. Only 8% of respondents reported that they are farmers or ranchers. Another 4% are involved in real estate investment or development, and 57% are employed in other, non-land intensive professions.[15] Nearly a third reported that they are retired. Demographically, the most significant differences are in owners' education and in the breakdown of male/female owners, as shown in Table 6.6, with farmers and ranchers standing out as less likely to be college graduates and more likely to be male.

[15] The survey was mainly concerned with those in land-intensive professions, including farming/ranching and real estate investment or development, and so therefore did not distinguish among other non-land occupations.

Table 6.5: Landowners' Primary Occupations

Primary Occupation	Percent	Frequency, Unweighted
Farming or ranching	8%	36
Real estate development or investment	4%	23
Other professions	57%	297
Retired	30%	157
Total	100%	513

Table 6.6: Demographic Data by Primary Occupations[16]

	All	Farmer/ Rancher	Real Estate Investor/ Developer	Other Profession	Retiree
Mean age	57	62	55	50	67
Frequency unweighted	503	35	23	291	154
Percent college graduates (some may also have post-graduate education as well)	58%	***43%***	72%	59%	57%
Frequency unweighted	502	34	22	293	153
Percent white	92%	90%	97%	92%	92%
Frequency unweighted	506	35	23	294	154
Percent male	58%	**86%**	66%	**51%**	*64%*
Frequency unweighted	514	36	23	297	156

Farmer/ranchers, as well as real estate professionals, also stand out as the wealthiest landowners, with 48% of the farmers/ranchers and 50% of the real estate professionals who volunteered their net worths (23% did not) holding one million or more, compared to 19% of retirees and 10% of those in other professions. On average, owners estimated that 46% of this net worth is held in land; there were no significant differences in the *percent* of owners' net worth in land by owners' total wealth, parcel size, or owners' occupation – though farmers tend to own the largest parcels of land, and therefore hold higher *absolute* net worths in land.

[16] Unless otherwise noted, in all the tables of this chapter, percents are weighted to account for minor variation in sampling across the counties and areas of development pressure; frequency counts are unweighted. Bold indicates statistical significance at p=.05; bold italics indicates statistical significance at p=.10. Unless otherwise stated, frequencies are for those who responded to the question

Not surprisingly, full-time farmers and ranchers are more apt to earn income from their land (Table 6.7), though even they earn an average of only 24% of their income from the parcel discussed in the survey.

Table 6.7: Income Earned on Land by Profession

Profession	Percent Earning Income from Land Parcel	Of These, Percent of Total Income Earned	Frequency, Unweighted
Farmer/rancher	**90%**	**24%**	36
Real estate investor/developer	35%	11%	22
Other profession	**28%**	8%	297
Retiree	**46%**	6%	157

Owners differ demographically by county. In general, Hays County owners are significantly younger than owners elsewhere, with a mean age of 53, and significantly more likely to be white (95%). Hays landowners also have significantly more schooling than the other two counties – 75% have achieved a college or post-graduate degree – and Caldwell county owners have significantly less, with 46% college or post graduates. Regarding primary occupations, presented in Table 6.8, there are fewer farmers or ranchers in Hays County, and fewer retirees in high-amenity Hays County.[17] Caldwell County has a significantly higher percentage of landowners whose primary profession is in agriculture and who are retired (see Table 6.8). Hays County owners have higher incomes, on average in the $75,000 to $100,000 range, significantly higher than the Caldwell owners, whose income

[17] In general, retirees presented surprising findings: given that conventional wisdom suggests retirees seek out high amenity locales, we instead find them more concentrated in less developed areas; they are not particularly wealthy; and, as discussed in the next section, they are not newcomers to the fringe, suggesting that they have retired in place or that they owned their land for a significant period while living in a more urban location, perhaps using it for weekend recreation, and upon retirement, made it their primary residence. (According to a report published by the state of Texas, retirees *are* moving to Texas Hill Country counties of the Austin fringe beyond those studied in this research (Rylander, 2001).)

averaged between $40,000 and $50,000. There were no differences in net worth or the percent net worth held in land among the counties. On most variables, Bastrop County generally fell between the two other counties.

Table 6.8: Landowners' Occupations by County

Profession	Bastrop County	Caldwell County	Hays County
Farmer/rancher	6%	**12%**	**4%**
Real-estate development or investment	4%	4%	6%
Other professions	59%	**48%**	**67%**
Retired	30%	**36%**	**23%**
Total	100%	100%	100%
Frequency, unweighted	174	170	169

Some of the differences among the counties are predicted by Census data of the general population provided in Chapter 4: for example, Hays owners, like the general population in the county, are more educated, and more likely to be white, than those in Caldwell County. However, the landowners of all three study areas are, in general, a more white, educated, higher income group than the general population of Bastrop, Caldwell, and Hays counties as indicated by the 2000 US Census, as shown in Table 6.9.

Table 6.9 County Comparison*

	Bastrop County, 2000 Census Data	Bastrop Study Corridor Landowners	Caldwell County, 2000 Census Data	Caldwell Study Corridor Landowners	Hays County, 20000 Census Data	Hays Study Corridor Landowners
Female	49%	42% (n=175)	51%	38% (n=170)	50%	45% (n=169)
White	80%	92% (n=`7`)	70%	90% (n=168)	79%	95% (n=167)
Black/African American (Census) / black (Austin survey)	9%	4% (n=171)	9%	2% (n=168)	4%	2% (n=167)
American Indian/ Alaska Native (Census)/ Native American (Austin survey)	.7%	2% (n=171)	0%	0% (n=168)	0%	0% (n=167)
Hispanic or Latino origin (Census) / Hispanic (Austin survey)	24%	2% (n=171)	40%	7% (n=168)	30%	2% (n=167)
Bachelors degree or higher (Census) / College graduate or post graduate (Austin survey)	17%	55% (n=172)	13%	46% (n=165)	31%	75% (n=165)
Median household income (1999) (Census) / median annual family income (Austin survey; respondents were asked to give a range rather than specific number)	$43,580	$50,000-$75,000 (n=175, includes refusals)	$36,580	$50,000-$75,000 (n=170, includes refusals)	$45,000	$75,000-$100,000 (n=169, includes refusals)

** Data from the US Census Bureau and the Austin landowner study. Note that the landowner survey used slightly different wording than the US Census regarding race, education, and income, as indicated in the left hand column. The Census also allows respondents to describe themselves as more than one race, whereas the landowner survey did not; therefore, the data may differ slightly, and certainly is not comparable in the percent of persons of Hispanic origin.*

By area of development pressure,[18] the findings are less striking: the only significant differences among owners are in terms of their age and their race. Owners in areas of weaker development pressure are older, an average of four years older than those in moderate and intense areas, and are more likely to be white. There are no statistically significant differences in professions (there are more farmers and ranchers in moderate and weak areas, as might be expected, but not enough to be significant); there are also no significant differences in educational attainment, income, wealth, or net worth held in land.

By parcel size (which I discuss in more detail below), the owners of the largest parcels (those owners possessing parcel in the 75th to 100th percentile in terms of size), are significantly older, 10 years on average than owners of smaller parcels; they are more likely to be farmers (16% versus 5% of others) and retired (44% versus 26% of others), and are wealthier (34% have net worths over $1 million, compared to 12% of others), although there were no differences by parcel size in *percent* of net worth held in land, as noted above. The owners of the smallest parcels, the quarter of survey respondents with holdings of 5 to 7 acres, were least wealthy and least likely to be retired, and most likely to be engaged in non-land-intensive professions.

By residency, owners differ on another set of dimensions. Ninety-eight percent of resident owners own their land, in the legal sense, as individuals or families, while most partnerships and family corporations are comprised of nonresident owners. Residents are younger than nonresidents, an average of five years; are less well educated (49% are college graduates, compared to 66% of nonresidents); and are less wealthy (with only 11% holding

[18] As described in Chapter 3, Methodology, intense areas are those experiencing significant growth now and likely through the next five years; moderate areas are likely to experience significant growth in the next five to 10 years; and weak areas are those where significant growth is perceived as being 10 or more years away.

net worths of $1 million or more, compared to 24% of nonresidents). There are no differences in residency by occupation.

Finally, by tenure, the owners who have held their land the longest are unsurprisingly older and more likely to be retired than more recent acquirers. Those landowners who acquired most recently, in the past five years, are significantly more racially diverse (only 85% white).

B. Owners' Behaviors Regarding their Land

Landowner behaviors include how owners on the Austin fringe are currently using their land and how much land they own; how, when, and with what intention they acquired their land; previous sales of portions of their property and their general participation in land markets; and their intentions and plans for their land in the near future.

The data reveal that owners use their land chiefly for agriculture, open space, recreation, and residences. Interestingly, nearly one quarter acquired their land with the intention of someday developing it, although very few of those captured in the survey appear to have taken steps in that direction, even those in intensely developing areas of the fringe. Indeed, most indicate that in the next five years they are likely to hold land in its current ownership and use. One quarter, however, indicate they are likely to sell or give their land to children in the near future, suggesting a significant turnover in ownership, if not in land use: most anticipate that if they give their land to children, it is likely their children will continue to use the land in the same way.

1. Land Uses

In this study, data on several types of land uses were gathered from survey respondents: agricultural uses (such as farming, ranching, or forestry, and including farmsteads[19]), rural commercial uses, urban commercial uses, and residential uses. Institutional, transportation, and utility uses were also captured. Survey respondents were read a list of possible land uses and then asked to give their best estimate of the percentage of their land in each use or other unlisted uses that they reported. As shown in Figures 6.1 and 6.2, Overwhelmingly, landowners' property is in agricultural use. Significant acreage is also currently open or idle, or is in residential use not associated with a farm or ranch. Far less land is in rural or urban commercial or industrial uses, institutional, or infrastructure uses.

[19] Note that other studies of land uses, such as those conducted by the US Department of Agriculture's Agricultural Census or National Resource Inventory, have their own specific typologies of land uses and definitions of agricultural land that suit their research purposes. For the purposes of this study, agricultural land and open space were not further categorized, since the main concern was assessing whether land was in productive agricultural use or otherwise undeveloped.

Figure 6.1: Land Uses in Aggregate

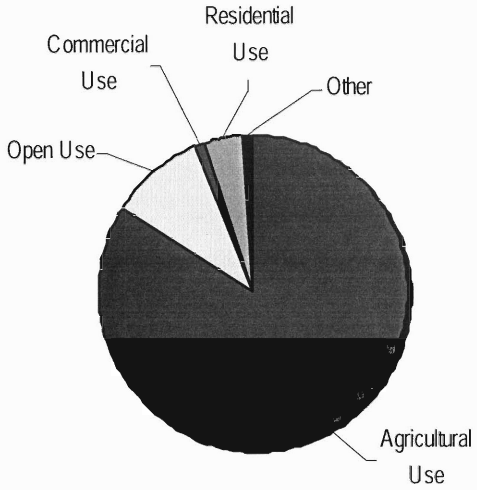
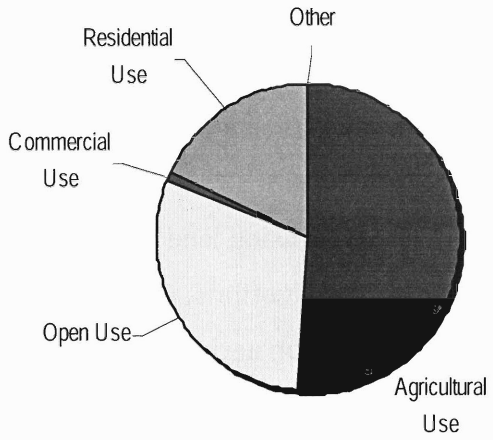


Figure 6.2: Land Uses on Average Parcel



Although most of the acreage captured in the survey, 84%, is in agricultural use (an average of 51% of each parcel, as shown in Figures 6.1 and 6.2), most owners are not farmers or ranchers. As noted in the previous section, only 8% of survey respondents described themselves as full-time farmers or ranchers; this group owns 12% of the total acreage captured in the survey. However, while it may not be the primary concern of the remainder of owners, almost 40% of those who do not farm or ranch full time (most of whom are retired or who work in non-land-intensive professions) are engaged with their land as *part*-time or hobby farmers or ranchers, or lease their land to others for agricultural use (one-third of the parcels and acreage in agricultural use is leased to others to farm or ranch), which accounts for more of the land in agricultural use, and also suggests that the intensity with which agricultural land is farmed or ranched likely varies depending on whether the owner is a full-time professional, part-time professional, or hobby farmer/rancher. For farmers and ranchers, an average 90% of their parcels are in agriculture; for part-time farmers/ranchers (those for whom farming or ranching is not a primary job but who are engaged in it part-time for profit), an average of 80% of parcels is in agricultural use; and for all others not engaged

in agriculture as a full- or part-time profession, nearly 40% of parcels are, on average, in agricultural use, which may include land that is used as a hobby farm or that is rented out to others. Surprisingly, even the most recent owners pursue agriculture, and these newer owners include full-time farmers and ranchers, part-time farmers and ranchers, and hobby farmers in similar proportions to all owners. It is true, however, that newer owners are conducting agriculture on smaller parcels than their long-tenured counterparts.

Besides using land for farming or ranching ranging in intensity from hobbies to serious for-profit efforts, owners have a variety of other purposes in owning fringe land. Land that is not in agricultural use is often left open or idle (10% of the acreage captured in the survey, and an average of 30% of all parcels, since smaller parcels tend to have more open and idle land). Open or idle land may include property taken out of agricultural production, acreage surrounding a non-farming rural estate, wooded areas, etc. Parcels with open or idle uses are more likely to be owned by professional real estate developers or investors and those who reside on their land; these parcels tend to be smaller than others, an average of 22 acres versus 54 acres for all others.

Overall, 43% of landowners reported that they, or someone else, utilize their property for recreation, a use that is not mutually exclusive of other uses: sport or leisure can occur on agricultural land, open space, or any other category of use. Follow-up interviews with survey respondents revealed that recreation might involve horseback riding, hunting, fishing, and might be conducted on property where the owner is resident, or might involve weekly or even annual visits to the land. About half of the landowners captured in the survey maintain their primary residence on their land; another 9% have second homes, cabins, or rental residences on their property. Overall, 4% of the acreage captured in the survey was in residential use.

The survey queried respondents about the percent of their land devoted to rural or urban/suburban commercial or industrial uses, which might include, for example, quarrying operations, retail that supports agricultural uses, kennels, suburban-style shopping centers, offices, etc. The percent of parcels and the overall acreage absorbed by both rural and urban commercial and industrial uses was quite small, 1% of parcels and 1% of land overall, with only 17 owners reporting any of these uses.[20] Similarly, the amount of land used by institutions (e.g. hospitals or colleges), utilities, or transportation was negligible.

Six percent of owners (30 owners in total) reported that some or all of their property is currently participating in a conservation program to help keep land in agricultural uses, preserve the environment, or protect land from development. Sixty-seven percent of the programs used by these landowners are sponsored by state or local agencies; the federal government sponsors the other 33%. No owners reported involvement with a non-profit conservation organization. The majority of conservation programs appear to be tax exemptions given in exchange for maintaining and in agricultural use or engaging in wildlife management on the property. Those most likely to use conservation programs acquired their land after 1980 (at p=.1); there are no significant differences in participation by profession or location.

[20] The relative lack of commercial uses reported in the survey may result, in part, from the omission fro the survey of parcels under 5 acres. The commercial centers in the study area – primarily the cities of Bastrop, Lockhart, and Dripping Springs – are comprised mainly of smaller parcels that would not have been captured in the survey. Additionally, as noted at the outset of the chapter, larger sites that were 100% in urban commercial or industrial uses may also have been omitted because they were considered "fully developed." Thus the survey likely did not have capture any of the handful of notable and noticeable "big box" retailers that have sprung up very recently in the Austin fringe, such as a new Home Depot on the outskirts of the city of Bastrop, in a burgeoning commercial strip, and a Wal-Mart within the city of Lockhart.

Overall, however, owners' use of their land does vary by location. The most significant differences are between the Caldwell County study corridor, the least suburbanized of the three counties corridors in the survey, and the Hays County study corridor, the most developed. In Caldwell, owners hold larger parcels, with more land in agriculture and less in open/idle or residential use, and fewer owners report that they use their property for recreation. In Hays County, the findings are just the opposite: owners report smaller parcels, less land in agriculture and more in residential and open/idle uses, and more use of land for recreation. Hays County's land is more suited to ranching, which, as described in Chapter 4, has faced more difficult times than farming, and land is also more developed – facts that are certainly related – so it is not surprising that this county has significantly less land in agriculture, and less of each parcel is dedicated to farming or ranching. As was often the case with the survey data, Bastrop fell between the extremes of Hays and Caldwell counties, and indeed, it is the "middle" county in terms of the level of development that has occurred, current development pressures, and, some area experts have suggested, amenity and desirability. Land uses by study corridor are summarized in Figure 2 and in Table 6.10.

Figure 6.3: Land Uses by Study Corridor

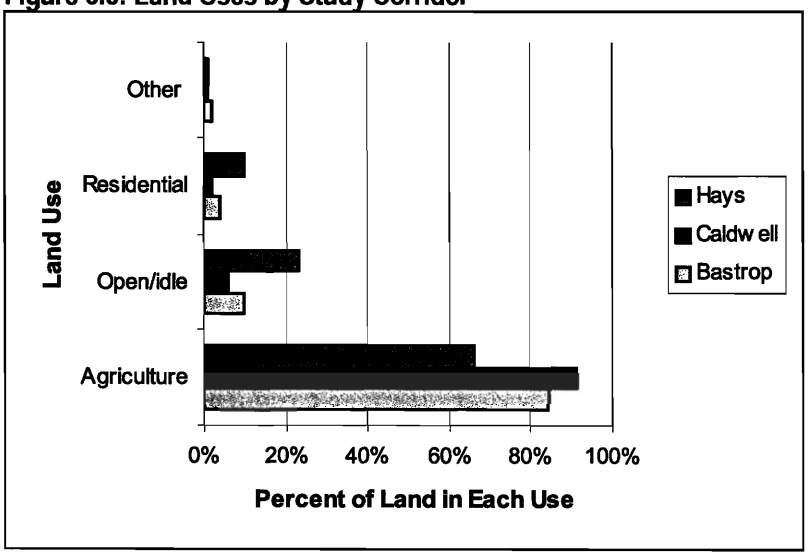


Table 6.10: Land Uses by County

	All	Bastrop County	Caldwell County	Hays County
Land in agricultural use	84% of land 51% of average parcel	82% of land **48%** of average parcel	**91%** of land **71%** of average parcel	**66%** of land **30%** of average parcel
Land in open/idle uses	10% of land 30% of average parcel	12% of land 31% of average parcel	**6%** of land **20%** of average parcel	**23%** of land **40%** of average parcel
Land in residential use	4% of land 18% of average parcel	5% of land 19% of average parcel	**2%** of acres 7% of average parcel	**10%** of acres 29% of average parcel
Landowners using land for recreation	43%	**37%**	**31%**	**63%**
Frequency, unweighted	516	175	172	169

By parcel size, the largest parcels are more likely to be in agricultural use and less likely to be in open use; those parcels held the longest by owners, at least 22 years, are also more likely to be in agricultural use and least likely to be in open use. By residency, the only difference in land use is in recreation: residents are slightly more likely to engage in recreation on their property (47% do, versus 39% of nonresidents (significant at p=.1)).

2. Parcel Size

The landowner survey captured a total of 20,133 acres in tax parcels.[21] Of this, the average *tax* parcel was 42 acres (std. err. of 2.61); the median was 13.5 acres.[22] However, if

[21] Depending on context, the term "parcel of land" may have several meanings. In this dissertation, two definitions are relevant. The first is that of a *tax parcel*, a unit of land under single ownership on which property taxes are levied. A landowner may possess one tax parcel, multiple non-contiguous tax parcels within a particular area such as the fringe, and/or multiple contiguous tax parcels (perhaps because he or she has acquired neighboring properties over the years, assembling a large tract still made up of a number of tax parcels). In this last case, the owner may not differentiate among specific tax parcels, but may instead refer to the entire tract as his or her property. The survey used public tax rolls to identify landowners by their tax parcel. However, when owners responded to the survey, despite repeated references to the specific tax parcel by the survey interviewer, some of them did

one were to consider the average *acre* of land – if one had sampled the land of the fringe by selecting points on a map, for example – it would be in a parcel of 115 acres.

Although there are differences in parcel size by type of owner and location on the fringe, because of the wide dispersion in sizes around the mean, few of these are significant, but they are presented in Table 6.11. The differences in the percent of total acreage owned by each type of owner, however, are striking: retirees and other professionals, those who live off their property, those who acquired earliest, and those in Caldwell County own the most *total* land, while farmers and ranchers own the largest tax *parcels*.

respond based on their larger tract; we suspect this because 21% of user-owners independently reported their acreage as more than 15% different from the acreage listed in the tax roll. Some of this could be general error; calling a five-acre parcels six, for example; but other discrepancies are likely the result of the owner referring to a larger tract of property made up of multiple tax parcels. To be consistent, in this document, parcel sizes refers to the parcel the owner discussed in his or her survey response, unless specially noted.

[22] Outliers were trimmed: to derive the total, mean, and median presented above, 12 parcels with acreages more than 2 standard deviations from the mean were trimmed.

Table 6.11: Parcel Size by Owner Type

Owner Type		Size of Average Owner's Tax Parcel, in Acres	Percent of Total Acreage Captured in Survey Owned by Group
All		42	100%
Occupation	Farmers/ranchers	**85**	12%
	Real estate investors/developers	58	6%
	Retirees	**54**	42%
	Other professions	**29**	40%
Residency	Live on property	**31**	40%
	Live off property	**52**	60%
Tenure	Acquired before 1980	**62**	39%
	Acquired 1981-1990	34	19%
	Acquired 1991-1998	33	22%
	Acquired 1999-2002	**28**	12%
Location	Bastrop County	33	26%
	Caldwell County	**60**	49%
	Hays County	31	25%
	Areas of intense development pressure	**30**	25%
	Areas of moderate development pressure	39	35%
	Areas of intense development pressure	**52**	40%

3. Land Acquisition

The majority of landowners have owned their land for a dozen years or less: although there are numerous longtime owners in the sample (the earliest of whom acquired in 1933), fully half acquired their property since 1990, and one-quarter since 1998 – meaning that one-quarter of Austin fringe land in the study area turned over in the five years before the survey was conducted. The mean year in which owners acquired their land was 1987, with a median year of 1990. Examining owners' intentions for their lands and the location of the land they purchased provides insight into the waves of owners acquiring land over the years, and into the development of the fringe itself.

The intentions with which owners acquired their land have changed some over the years, but the progression predicted by theories of fringe development, from owners buying for farming/ranching uses to owners acquiring land for residences, has not been smooth. Rather, we find that while the earliest owners were most concerned with using their land for agriculture (64% intended the use at acquisition), those *least* interested in agricultural uses are not the newest owners, but were those who bought in the 1980s (only 45% were interested in the use at that time); since, interest in agricultural uses has grown, and over 50% of those acquiring after 1990 indicated an intention to use land for farming or ranching. Further emphasizing that farming and ranching persist even among new owners, there are no statistical differences in the percent of owners calling themselves full-time, part-time, or hobby farmers or ranchers by the time at which they acquired their land, suggesting that the distribution in the level of personal commitment owners bring to farming or ranching has not changed much through the years and despite development on the fringe. It is true, however, that longer-term owners, as noted earlier, tend to own larger parcels on which to conduct agriculture, and newcomers are farming or ranching on smaller plots. The data also show that those acquiring their land prior to 1980 are more likely to earn income from agricultural uses or rents on their land – 50% do, compared to 33% of all other owners. (Across all owners, 85% of those who acquired their land with the intention of using it for agriculture were doing so at the time the survey was conducted.)

Similarly, the percent of owners intending to use their land for residential use was highest in the early to mid 1990s, but dropped slightly in the late 1990s. Although owners' intentions to subdivide and/or develop their land have increased over time, there has not been a steadily rising trend of newer owners expressing more interest in developing their land, as shown in Table 6.12.

Table 6.12: Owners' Intentions at Time of Acquisition

Intention at Time of Acquisition	Acquired Before 1980	Acquired 1981-1990	Acquired 1991-1998	Acquired 1999-2002
Agricultural use	**64%** (n=86)	**45%** (n=47)	56% (n=79)	53% (n=48)
Open/idle use	32% (n=45)	38% (n=42)	35% (n=50)	34% (n=34)
Residential use	**45%** (n=63)	57% (n=65)	**67%** (n=101)	61% (n=61)
Recreational use	34% (n=44)	35% (n=40)	34% (n=48)	37% (n=37)
Eventual development of the property	**17%** (n=22)	28% (n=30)	24% (n=37)	***32%*** (n=32)
Eventual subdivision of the property	7% (n=7)	11% (n=13)	9% (n=14)	**21%** (n=20)

Owners' choice of fringe location has varied over the years. The survey responses reveal that those in Caldwell have owned the longest, on average since 1986, while Hays owners are the newest, since 1989. Though these differences are not statistically significant, they make sense: Hays County has seen the most intense and most recent development, and Caldwell the least. Bastrop, the county facing the second most intense development pressure, has seen a higher percentage of new acquisitions in very recent years. The uses that owners intended for their land differ by county as well: owners in Hays County were more likely to have intended open/idle or residential uses (over the years, an average of 73% of Hays owners anticipated using their land for a residence); in Caldwell County, owners were least likely to intend open or residential uses.

Table 6.13: Date of Acquisition by County

County	Acquired Before 1980	Acquired 1981-1990	Acquired 1991-1998	Acquired 1999-2002	Mean and Median Year of Acquisition
Bastrop	32% (n=45)	33% (n=38)	34% (n=49)	39% (n=34)	Mean: 1988 Median: 1991
Caldwell	**46%** (n=58)	36% (n=34)	**26%** (n=37)	34% (n=33)	Mean: 1986 Median: 1987
Hays	**21%** (n=33)	31% (n=38)	**40%** (n=62)	27% (n=30)	Mean: 1989 Median: 1993
Total	100%	100%	100%	100%	N/A

Most landowners acquired their land through purchase. Not surprisingly, the most important factors in owners' decisions to purchase their particular plot of land were price and the suitability of the land (and house, if any) for the owners' family. However, amenities and services in the area, such as open space, scenery, and schools, ranked highly as well. Suitability for agriculture, property taxes, length of commute, proximity to friends and family, and proximity to municipal services, such as sewer and water, were of moderate importance. That the commute was only somewhat important suggests that owners are either not commuting regularly to urban areas (note that the survey may not have captured commuters living in new residential developments under five acres, and fully half of the sample do not live on their property), are unconcerned with the length of their commute, or that in purchasing their property, owners did not alter their commute significantly enough to make it a factor in their purchase decision (although the vast majority of owners who purchased their land moved from more urban areas to their fringe land, making this last hypothesis unlikely). Amenities and area services that contribute to quality of life weighed more heavily in owners' selections of their land than convenience to urban areas, even in the relatively more developed Hays County, where the commute still only registered a 2.4 (2.6 for those who reside on their land) on the scale of 1 (not at all important) to 5 (very important), not significantly different from other locations on the fringe. Caldwell County owners were most likely to value the suitability of land for agriculture in making their purchase decision.

How those owners who purchased their property first located it is revealing. Nearly equal numbers of owners used a broker or agent; followed up on a sign on the property or advertisement; or learned of the property through a family, friend, or neighbor. By study corridor, however, owners in Hays County relied more on formal methods of locating property: they were significantly less likely to locate property via family or friends and more likely to use a broker; meanwhile, those in Caldwell used more informal methods, being less

likely to use a broker and more likely to initiate their own contact with the owner of a property they desired.

About 20% of owners in the sample inherited their land or received it from family as a gift, the majority before 1990 in the less developed counties of Bastrop and Caldwell, and in areas with weaker development pressures and larger parcels: areas that are more characteristically rural.[23] These owners' parcels, which are generally the larger parcels captured in the survey, have been in the owners' families for many years – an average of 73 years (and a median of 70). Inheritors appear to want to continue the trend: 24%of inheritors describe themselves as likely to give some or all of their land to family in the next five years, compared to 13% of all others; and 86% of inheritors, compared to 77% of all others, have children to whom they wish to pass their land. Inheritors tend to be older and are more likely to be retired; as the Austin fringe becomes more developed, it is likely that there will be fewer of these owners with lengthy family ties to their land, and, perhaps, the wish to pass land to their own children. Inheritors are much less likely to live on their land: only 11% of those who live on their land inherited it, while 31% of nonresidents inherited.

Table 6.14: Means of Land Acquisition

Means of Acquisition	Percent	Frequency, Unweighted
Purchased	79%	417
Inherited	17%	79
Received as gift	1%	4
Received as a debt payment	0%	2
Multiple methods	3%	13
Total	100%	515

[23] A small percentage of landowners acquired their land via multiple methods, assembling a larger parcel either by buying and inheriting contiguous parcels, or inheriting and receiving land as a gift.

Whether they bought or inherited, most owners, 86%, acquired their land in one transaction, while another 14% used multiple transactions to amass their tract of land (inheritors and those who received their land as gifts tended to use more transactions to acquire their land, with 24% using multiple transactions versus 11% of others). Of those using more than one transaction, the average was 2.6 (with a range of 2 to 10). A significant number of landowners were interested, at least at acquisition, in amassing larger parcels and potentially in developing their land: at acquisition, about 38% of landowners thought the possibility of acquiring neighboring parcels in the future to create a larger parcel of land was very or somewhat important; this was particularly true for those intending in conducting agriculture on their property.

At the time they acquired their land, most owners reported that they had long term plans of ownership: the vast majority of owners, 88%, reported that they believed they would likely hold their land for 10 or more years; the remainder anticipated holding for less time. Interestingly, the most recent acquirers of land, those who bought or inherited since 1998, are *least* interested in holding for 10 or more years: only 67% of these owners intend to hold for this long. Residents, on the other hand, are more likely than those who live elsewhere to want to hold their land for 10 or more years. We would expect from previous research that development-minded owners in rapidly growing areas of the fringe would anticipate holding for shorter periods of time (e.g. Brown et al.,1981); we do find that those in real estate-related professions were significantly more likely to state that they intended to hold for shorter times, but there were no overall differences by location on the fringe. Overall, nearly one-quarter of respondents indicated that they intended at some point to develop their land; most of these likely have not developed any of their parcels to date (these owners report similar land uses to other owners and no greater propensity to have sold parts of their parcels in the past, so that their land and actions are not discernible from those who did not acquire their land with the intention of someday developing it), although they are more likely to state

their intention to develop in the next five years than other owners (discussed in greater detail below). Owners in Caldwell County, and owners of land in the weakly developing areas of the Bastrop and Hays counties corridors, were least interested in the possibility of one day developing their property.

Finally, it is interesting that 71% of the landowners whose primary residence is on the fringe land characterized the areas in which they lived before moving to their parcel as more urban than the area in which they now live. This finding was most true for Hays County resident-owners, 80% of whom moved from urban areas. In Bastrop and Caldwell counties, owners were more likely to have moved from areas that were "about the same" in character (Table 6.15). There were no differences in the character of previous residence by the year owners acquired their land, the size of parcel owned, or by profession. The finding that most fringe owners moved from more urban locales strongly suggests that the fringe, while a semi-rural or rural place, is owned by a more urban-oriented population. It is not known, however, how many of these urban transplants grew up in rural environments and then spent a brief stint in an urban area (perhaps while at college), and then returned to the fringe, or whether born-and-bred suburbanites and urbanites have made the fringe their home.

Table 6.15: Location Prior to Moving to Fringe (Resident-Owners Only)

Character of Prior Residence	County		
	Bastrop	Caldwell	Hays
More urban	**61%**	69%	**80%**
More rural	12%	12%	9%
About the same	**25%**	18%	**10%**
Have lived on property all my life	1%	1%	1%
Frequency, unweighted	74	83	104

4. Land Sales and Gifts

Nine percent of landowners have previously sold or given away a portion of their land parcel, the majority of these selling or giving away a piece of land once or twice during their land tenure. Not surprisingly, owners of larger parcels, and those who have owned longer, were significantly more likely to have divided their land for sale or gift in the past. Those who are currently in the real estate professions were most likely to have sold or given away land; those in non-land intensive occupations were least likely. The most frequent reasons for selling or giving away were 1) a need for money, cited by 31% (or 15) of those who had sold or given away land; and 2) a desire to transfer land to children, cited by 24% (12) owners. Twelve percent (6 owners) also reported that they sold land because they had received a good offer from a buyer.

5. Plans and Intentions

The majority of landowners reported that, in the next five years, they are "extremely likely" to hold their land in its current uses and ownership; however, nearly one-third report they are extremely likely to dispose of some or all of their land via gifts to family or through sale (see Table 6.16).[24] Despite the number of owners who acquired their land with thoughts of one day developing it, very few overall had intentions of development or subdivision in the next five years; indeed, more owners expressed a likelihood of *increasing* their land holdings by acquiring adjacent parcels. The earliest owners, those acquiring before 1980, and

[24] Owners were asked to rank how likely they were to pursue seven options in the next five years (hold land, buy adjacent property, sell some or all of the land, give some or all to a family member, develop, subdivide, or make use of a conservation program). The options were presented in random order. Owners could state their intention to pursue multiple options.

those with the largest parcels, are more likely to want to give their land to children; while residents are the most likely to want to hold their land and least likely to be interested in selling their property. The newest owners, acquiring since 1998, were more apt than others to express a strong likelihood of conserving their property in a formal program in the next five years (19% versus 9% of earlier acquirers), and in developing their land (6% versus 2% of earlier acquirers, significant at p=.1) – obviously, two quite different possible outcomes.

Table 6.16: Landowners' Near Term Intentions for Their Property*

Percent of owners stating that, in the next five years, they are extremely likely to:	Percent	Frequency, Unweighted
Hold land in current use	68%	346
Give some or all of parcel to family	15%	70
Sell some or all of parcel	14%	70
Make use of a conservation program	11%	56
Buy adjacent land	9%	44
Develop land and sell land/structures	3%	17
Subdivide parcel	3%	15

** Percents total over 100 because owners may have multiple plans for their property or may plan to split their parcel to carry out multiple plans.*

Twenty-three percent of owners indicated that they were, at the time of the survey, *currently* considering selling or giving away some or all of their parcels (as opposed to in the next five years). For these owners, the primary motives were financial: the most important factor in their decisions were receiving a good offer, their need for money, that they found better investments elsewhere, or that they had identified tax advantages of selling/giving away. Transferring land to children was also an important motivation. Non-financial lifecycle issues and selling to assist a friend or neighbor were of least importance. Those considering selling or giving land away now are more likely to have received offers on their land in the

past year, and to have received offers in the past from those they know to have had an interest in developing their land;[25] they are also less likely to live on their land.

The survey gathered some information on other factors influencing land decisions, finding that the actions of nearby landowners and the presence of children in owners' families were all of importance. Sixty-three percent of owners reported that they would weigh a land use intended by a potential buyer of their land in their decision to sell. Several policies and other factors external to the landowner were also important: respondents reported that taxes (particularly the property tax, with lesser weight given to capital gains, estate, and income taxes) and environmental regulations are particularly influential in their decisions; zoning and subdivision regulations, development pressures, transportation access, sewer and water access, and conservation programs are of moderate importance. The factor of lowest importance to owners' decisions was return on agriculture; it was only of high importance to a small subset of owners including the group of full-time farmers and ranchers.

Within their own families, 38% of owners reported that they regularly analyze their investments in land, with 23% having sought assistance at some point in doing so. Twenty percent have utilized the services of an estate planner, with likelihood of having consulted an estate planner increasing with parcel size. Seventy-eight percent of owners have children to whom they would like to pass their land; 68% of these believe that their children will use the land as it is currently used (13% refused to conjecture about this), suggesting that despite

[25] In general, about a third of owners have received offers from potential buyers of their land *in the past year.* Twenty percent have at some point received offers from parties the owners believed to be interested in developing the land. While not statistically significant, the different times at which owners received these offers from developers is telling: Hays County owners reported receiving offers from developers, on average, in 1989; Bastrop County owners reported receiving offers, on average, in 1991; and Caldwell owners report more recent activity from developers, beginning, on average, in 1997.

development pressures on their land and opportunities for sale or development in the future, most expect their land parcels to remain as their current use.

One-third of owners possess other land in the Austin metropolitan area (which includes urbanized areas as well as the fringe), a median of 10 acres and an average of 56 acres.[26] The vast majority of this land is owned for conducting agriculture, recreation, or a residence. Of those who own multiple parcels, 23% indicated an interest in selling some of this other land now. Significantly more of these would-be sellers are farmers or ranchers – even though farmers and ranchers are significantly *less* likely to want to sell the parcel that was the subject of the survey.

Most landowners do not participate actively in land markets. Aside from the parcel of land that was the primary subject of the survey, 61% percent report that they "never" buy land (retirees in particular were apt to state they never buy land); 30% buy on average only once every six years. Seventy-five percent report that they "never" sell, with 19% selling on average once every six years. (By profession, retirees report they seldom buy, those in non-land intensive professions report they seldom sell; farmers/ranchers and real estate professionals are more active buyers and sellers of land.) Sixteen percent of all owners report they wish to buy other land now. The sense of activity and potential turnover of land comes from a relatively small group of active owners (as found in Brown et al. (1981)) seeking to sell land now or within five years, and from the 15% of owners wishing to give land to their children in the next five years.

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[26] Owners' other land holdings in the Austin metropolitan area ranged from 1 to 2122 acres, but to derive the mean and median presented above, 4 parcels with acreages more than 2 standard deviations from the mean were trimmed.

C. *Landowners' Interests*

As discussed in Chapter 3, Methodology, landowners were asked a series of questions designed to reveal their subjective interests in land. The findings below indicate that all landowners hold multiple interests in their land, and that non-financial interests, such as the opportunity to enjoy natural amenities on one's property such as scenery or open space, were ranked as very important by the majority of landowners.

The survey did not gather data on objective interests. To assess objective interests, very detailed information on a particular parcel of property would be needed to gauge all the possible ways that that land could be used, and therefore to identify *all* the possible benefits an owner *might* derive from it. It would be difficult, for instance, to gauge owners' objective interest in amenities on their property without data on the wildlife resident on and topography of a particular parcel of land.[27] Because of this difficulty, and more importantly, because owners are likely to act on the interests that they acknowledge and value, my discussion below is limited to subjective interests.

1. Equity

Landownership provides owners with the potential to earn income at the time of a land sale as a result of appreciating land values. Equity is "highly important" to 29% of owners and "important" to another 23% as a reason for owning land, regardless of the

[27] The exception might be equity interests: we can presume (as did Davis 1991 in his study of urban property) that all owners hold at least some equity in their property, and therefore objectively have an equity interest. However, it is also relevant that only 29% of owners rank equity as a very important benefit of ownership; the majority of owners are less interested in equity than in amenities on or near their land, the legacy value of land, and in resources on their property.

reported likelihood of an actual land sale. Twenty percent have actually received an offer on their land from someone they knew or believed to want to develop their property, and those currently considering selling their land name "received a good offer" as the most frequent response to their motive for selling.

Potential income from the development and sale of land is a special case of the equity interest. Nearly one-quarter of owners, 24%, reported that, at acquisition, they intended to develop their land at some point in the future. Such intentions may have involved the construction of a cabin or retirement home, or a large-scale subdivision that the owner would develop and sell. Yet, as noted earlier, it appears that few landowners have undertaken the latter, as few report having sold land. Only 10% rank the development potential of land as an important or very important reason for owning, and only 3% report they are likely to develop in the near future.

By type of owner, retirees are least interested in equity, while those engaged in "other" professions rank it significantly more highly, as do those acquired in the mid-1990s and those who own mid-sized parcels, ranging from 14 to 46 acres. Interestingly, those with the largest parcels – and therefore, potentially the most impact on the landscape through their land decisions – are *less* likely to rank equity as a very important or important reason to own.

In follow-up interviews, a number of owners expressed their awareness of the rising land values in the immediate area of their land, yet reported they had no current plans to sell, and had held off selling in previous years, for a number of reasons: owners wanted to use the land for recreation or as a parcel to which to retire, despite rising land values; their children were not yet grown and it was unclear whether or not they would want it in the future; one owner noted that the land was "in the back of their minds" but not something regularly considered; yet another stated that his land would not bring in a price high enough to

compensate for the income he now makes on it. Owners do acknowledge there might be a price at which they would sell, but could or did not name it. One landowner noted that if prices went up "enough," she "couldn't afford not to sell. The question of owners' sales decisions is discussed in greater depth in Chapter 7.

2. Liquidity

Liquidity encompasses the possibility of earning income on land through agriculture or rents, selling it quickly for cash, or using it as financial leverage (such as for a loan or as a tax shelter) (Davis 1991). As noted earlier, 39% earn income from their land, either through farming, ranching, other rural uses, or rental of land for these purposes or for recreation or residences. In most cases, this did not amount to significant amounts of income for owners, although 20% ranked the income as a very important or important reason for owning land. Those in Caldwell County, in areas of the fringe with weaker development pressures, and part- or full-time farmers and ranchers are more likely to rank rural income as an important reason to own. Far fewer owners were concerned with the potential to sell land quickly for cash: only 10% ranked this as an important or very important motivation for owning it.

3. Use of Land as a Location for a Residence, Business, or Recreation

Ownership provides the opportunity to use land for a number of functions, and to derive enjoyment and satisfaction from these uses on their property. As noted above, nearly half of owners use land for their primary residence; these owners tend to be younger, less well-educated, less wealthy, to own smaller parcels, to have acquired in the mid 1990s (at p=.1 for date of acquisition), and to live in Hays County. Residents are also more likely to use their land for recreation.

Forty-three percent of owners use their land for recreation, and 31% rank recreation as an important or very important reason for owning their land (18% rank it as very important). Significantly more of these owners possess land in Hays County, are in non-land intensive professions and are *not* retired, and acquired their land in the 1990s. Owners contacted for follow-up interviews suggested that recreation might take the form of hunting, fishing, or horseback riding, but also of more passive pursuits, and some seemed to define the labor they put in to clear woodland or mend fences as a form of recreation. Recreation, appreciation of amenities, and care of natural resources overlap significantly, so I turn to interests in amenities and natural resources next.

4. Use and Enjoyment of Amenities

Amenities on land, such as scenery and natural features, and in the area surrounding land, such as schools and community services, as well as open space and natural resources, are a major reason that Austin fringe landowners possess their land: 54% rank them as an important or very important reason for owning land. Those ranking amenities highly tend to have acquired more recently, to live on their land and to own in Hays County, and to be in non-land intensive professions (retirees and farmers/ranchers are less likely to report caring deeply amenities). Amenities are also more important to the owners of small parcels (under the median of 14 acres). They are less important to owners in the Caldwell study area, retirees, farmers/ranchers, nonresidents, owners of the largest parcels (over 47 acres), and longer-term owners.

As noted earlier, amenities ranked as highly important in owners' decisions to purchase their particular parcels of land. Amenities on land overlap a good deal with owners' interests in natural resources (since most amenities on fringe land are of the non-manmade kind).

5. Protection and Appreciation of Natural Resources

Ownership may afford opportunities for owners to derive satisfaction from the protection of natural resources (whether for the owners' enjoyment or the public's). Sixty-three percent of owners report that protecting resources on their land is an important or very important reason for owning their land. Residents tend to rank resources highly; while nonresident owners, owners of the smallest parcels, and those who acquired their land in the 1980s rank resources significantly lower.

However, only 47% report that they are aware of programs sponsored by the federal, state, or local government or nonprofit organizations help keep land in agricultural uses, preserve the environment, or protect land from development (25% were not aware; another 29% responded that they did not know). As noted earlier, only 6% of owners (30 owners in total) reported that some or all of their property is currently participating in a conservation program, and most of these are to protect agricultural land uses as opposed to protecting resources on land.[28] The 30 owners involved in these programs overwhelmingly stated their primary reasons for participation as the tax and monetary advantages the programs provide, though several mentioned their desire to protect wildlife and habitat and to maintain agricultural uses.

There are signs of greater interest in conservation programs among landowners. Twenty-one percent of owners who are aware of conservation programs (a total of 47 owners) report that they are considering participating in a program now, and 11% of all

[28] Conservation questions seemed to elicit some confusion; 9% were not sure if they were participating in a program or not. Interviewers read a lengthy description of the types of programs considered "optional, voluntary conservation programs," but it is likely that this description was not sufficient for all owners.

owners report that they are likely or very likely to participate in a conservation program in the next five years. It is important that some of these owners may participate to protect their land, but many may participate for financial return, such as through a tax break for keeping land in agricultural use. Those who are aware of programs and *not* considering them give several reasons for not participating. Aside from owners who state that their land would not qualify for programs, the most frequent reasons given are that they do not have enough information about the programs (26 owners) or that they do not want to spend the time or effort (13 owners).

The desire to protect natural resources as a reason for owning often overlaps with other interests, such as recreation and appreciation of amenities. One owner reached in a follow-up interview explained that the wildlife management work she performs on her property, in fulfillment of a state wildlife program that grants her a tax break, is a form of recreation. The program imposes certain responsibilities for maintenance and wildlife protection, and the owner has planted oat for deer, built bird boxes, created brush piles for small animals, and cleared trees as part of her program. She reports being "enamored" or her land and her role in its management, and indeed, she describes it as a form of recreation, rather than an obligation or a sense of moral responsibility (interestingly, this owner does not see herself as an "environmentalist" despite the work she puts in on her land to protect habitat and manage wildlife). Another owner reached in a follow-up interview expresses deep appreciation for the resources on his property, noting that there are trees on his land dating from a time before Christopher Columbus "even thought about getting on a ship" and calling his land a "very, very special little zone" and "his own private park." He clearly appreciates these resources and they add to his enjoyment of recreation on his land (overlapping with the amenity and recreation interests).

6. Satisfaction, Identity, and Family Connections

The state of owning land may provide the owner with a sense of satisfaction, pride, or pleasure and a sense of identity with the community surrounding their land. While the extent of survey questions on these issues was limited, interviews provide some insight into owners' emotional relationship with their land. Regarding the satisfaction and pride of ownership, one owner described her ownership of recreation land as "a dream;" another, noted that, after the work put into the property by his family through the years, the land is "part of all of us;" yet another mentioned "we have a love for the properties we have bought," and a fourth mentioned that he "enjoys the results of what they have done on the land" and that he is attached to it, noting "you feel at home." These owners are expressing appreciation or love for their land, but also the deep satisfaction and pride they derive from simply owning and working their land.

Owners may also experience connections to family through their land ownership, either to generations of family who have previously owned the land (nearly all the 21% who inherited or received land as a gift received it from family, and may feel these connections), or to children to whom owners wish to pass on their land (15% anticipate giving land to children in the next five years, and 54% believe the possibility of passing land to children to be an important or very important reason to own). Connections might be emotional; they may also be of a financial nature as each generation passes wealth held in land to the next. As noted earlier, most believe their children will use their land in the same way as it is currently used, although several owners in follow-up interviews indicated more uncertainty about what their children might do with the land upon receiving it through gift or inheritance, noting that their children might sell it depending upon their plans, with one owner adding that it can be difficult for siblings to share ownership or for parents to divide a parcel among children. Nonetheless, many owners appear to want to give their children the *option* of owning, and

will even defer decisions about land that they no longer actively use because their children might one day want it.

7. Interests Over Time

In a survey conducted at a single point in time, it is difficult to assess how landowners' interests in Austin fringe land have changed over time. However, by asking owners to recall their intentions at the time they acquired their land, and by engaging in open-ended discussions with a handful of owners, some modest insights emerge. At acquisition, those who intended agricultural or residential uses have been the most likely to continue using their land in this way, with 84% of those intending agriculture and 84% of those intending residential uses having these uses on their land now. Open and recreational uses have been more changeable; only 61% and 65% of owners respectively who intended these uses now utilize their land in these ways. One might suspect that longtime owners may have been likely to alter their land uses over the years, but the survey results do not show any differences among owners' likelihood of maintaining their land in its originally intended use by the year they acquired it. There are differences by county, with Hays owners tending to maintain their original plans for residential and recreational use at higher rates than those in Bastrop or Caldwell counties; and by means of acquisition, with inheritors less likely to remain true to their original intentions to use land for open space or residential use. In Chapter 7, I present more detail on this topic, discussing how and why interests change over time and presenting a hypothesis of how interests changed, supported by additional data gathered from the Austin survey. First, however, I turn to findings on owners' attitudes toward growth.

D. Attitudes Toward Growth

Like personal characteristics such as stage of life or income, attitudes toward growth are relevant to understanding owners' interests and land decisions. As I discuss in greater depth in Chapter 7, growth makes possible some objective interests: perhaps development in the area raises land values, so that an owner's land becomes more valuable, enhancing an equity interest. Growth may also constrain an owner's interests, making it more difficult to realize income from agriculture, for example. Owners' attitudes toward urbanization around them may influence their particular *subjective* set and prioritization of interests, and ultimately their land decisions: someone who perceives a growing sense of community and higher quality of life from new development may find their interest in area amenities enhanced, compared with someone whose attitude toward growth is that it is destructive to the rural sense of place and natural environment.

Owners' attitudes toward growth are connected to their perceptions of the changes they have seen in their areas since acquiring their land. Therefore, it is worth noting that most owners described their areas (defined as the 5-mile area surrounding their property), at acquisition, as rural, but now the majority describes their surroundings as *mostly* rural, with scattered suburban development, as seen in Table 6.17. Not surprisingly, owners' descriptions vary by their location on the fringe, with the areas that have seen the least development more likely to be described as rural, both at acquisition and now (Tables 6.18 and 6.19).

Table 6.17: Owners' Descriptions of Areas Surrounding Their Property

	Percent	Frequency, Unweighted
At acquisition, how would you describe the area around your property?		
Rural	71%	358
Mostly rural, with scattered suburban development	27%	145
Mostly suburban	2%	10
And how would you describe the area now?		
Rural	38%	185
Mostly rural, with scattered suburban development	53%	276
Mostly suburban	9%	50

Table 6.18: Owners' Descriptions of Areas Surrounding Their Property, by Area of Development Pressure

	Areas of Intense Development Pressure	Areas of Moderate Development Pressure	Areas of Weak Development Pressure	Frequency, Unweighted
Area at acquisition:				
Rural	**56%**	75%	**78%**	358
Mostly rural, with scattered suburban development	**41%**	25%	**19%**	145
Mostly suburban	*3%*	**0%**	3%	10
Area now:				
Rural	**19%**	41%	**50%**	185
Mostly rural, with scattered suburban development	**64%**	*54%*	45%	276
Mostly suburban	**17%**	*5%*	*6%*	50

Table 6.19: Owners' Descriptions of Areas Surrounding Their Property, by County

	Bastrop County	Caldwell County	Hays County	Frequency, Unweighted
Area at acquisition:				
Rural	71%	75%	67%	358
Mostly rural, with scattered suburban development	26%	23%	32%	145
Mostly suburban	*2%*	3%	0%	10
Area now:				
Rural	35%	**48%**	**31%**	185
Mostly rural, with scattered suburban development	*53%*	46%	62%	276
Mostly suburban	**12%**	*6%*	8%	50

Landowners have identified signs of growth in even the most rural areas. Sixty-six percent report that growth is a big topic among neighbors and elected officials in their areas (including 30% of those in rural areas); 75% have seen land values higher than would typically be seen in farm-to-farm sales (including 65% in rural areas); 53% have seen higher value agriculture replacing existing farms or ranches (including 46% in rural areas); 64% have noticed construction of new roads and sewer and water connections (including 48% in rural areas); and 75% have seen new suburban style development on former ranches, farmland, or open space (including 58% in rural areas). For those who describe their areas as rural or semi-rural, 52% state that significant suburban growth in their areas is occurring now, while 16% expect it to occur within the next five years and 14% expect it in six to ten years. Only 6% believe significant growth will *never* occur in their areas. For those whose areas are, according to their description, already "mostly suburbs," 63% note that that growth occurred in the past five years, 21% in the past six to ten years.[29]

[29] Responses of "don't know" were included in these counts, as in some cases they reached 10% of respondents.

When asked to name specific impacts of growth, positive or negative, the most often named comments included increased traffic, population pressure on schools, rising land values, increased property taxes, residential development evident on the landscape, strain on infrastructure (including services, roads, and water supply), environmental effects (ranging from increased noise, air, and light pollution to loss of wildlife habitat), and loss of rural character and scenery. Overall, the majority of owners feel that growth has detracted from the character of their communities; however, both those who have seen growth occur and those who are still in rural areas of the fringe are mixed on the impact of growth on the sense of community in their areas and their own quality of life. (Landowners who have not yet seen signs of growth in their areas (e.g. higher land values, higher value agriculture, new infrastructure to support development, and new development itself), a group of only 27 survey respondents, are slightly more optimistic about growth's effects than those who have witnessed these signs.) These findings suggest that owners are very aware of the up- and down-sides of development in their areas; that while the environmental quality, open space and scenery, and ease of conducting agriculture are likely to decline with additional development, and taxes are likely to rise, land values and, in some cases, their alternatives for how they use their land, may increase, potentially providing them with some benefits.

Table 6.20: Owners' Opinions About the Effects of Growth*

	Continued growth in the area will likely:	Owners who have witnessed signs of growth in their areas	Owners who have not seen signs of growth in their areas
Frequency, unweighted		488	27
Land values	Increase	87%	77%
	Decrease	2%	-
	Growth will not affect	6%	2%
Property taxes	Increase	87%	79%
	Decrease	1%	-
	Growth will not affect	8%	2%
Options for what you can do with your land	Increase	35%	41%
	Decrease	25%	15%
	Growth will not affect	32%	43%
Ease of conducting agriculture	Increase	9%	3%
	Decrease	54%	39%
	Growth will not affect	28%	58%
Open space/scenery in area	Increase	8%	5%
	Decrease	71%	43%
	Growth will not affect	17%	49%
Environmental quality in area	Increase	12%	12%
	Decrease	59%	49%
	Growth will not affect	22%	39%
Sense of community in area	Increase	35%	24%
	Decrease	28%	18%
	Growth will not affect	26%	49%
Quality of life	Increase	21%	6%
	Decrease	39%	39%
	Growth will not affect	35%	55%

** "Don't know" and "refused" responses were included in calculations, so responses may not total 100%.*

E. Conclusion: Owners in Aggregate

The Austin-area research presented above revealed that Austin fringe landowners are overwhelmingly individuals and families. They are less racially diverse, wealthier, and have

more education than the general population. Yet these owners are nonetheless a widely varying collection of professional farmers and ranchers, hobby farmers and ranchers, urban-oriented professionals, and retirees; indeed, they are more diverse than might be expected from the physical appearance of the fringe, which is predominately rural and largely undeveloped in appearance. Landowners differ in their characteristics, behaviors, and interests by their location: Caldwell County owners are more rural-oriented and Hays County owners more urban-oriented, as described by parcel size, land uses, professions, and other demographic characteristics, and Bastrop owners generally fall between the two extremes. Owners differ by the size of their land parcels, with larger parcels more likely to be held by wealthier, longtime owners who are older and retired or farmers/ranchers or retired. By tenure, newer owners are concentrated in Hays and Bastrop Counties on smaller parcels, longer-term owners are more likely to own in Caldwell County. By residency, owners who reside on their parcels tending to be younger, less wealthy, and to own smaller parcels with higher percents of the land devoted to open space than nonresidents.

All landowners hold a range of interests in their property, the vast majority holding both financial and non-financial interests. Of all the interests ranked by survey respondents (equity, liquidity, rural income, development, amenity, resources, recreation, and legacy[30]), equity, resources, amenities, and legacy received the highest ratings; more owners gave resources and legacy their highest rankings than other interests. These interests are described in greater detail in the next section of this chapter.

The data reveal that ownership of fringe land is rapidly changing: one-quarter of parcels have turned over in the five years preceding the survey, and nearly 30% anticipate

[30] Survey respondents were not asked to rank emotional interests, and the use of land as a location for various activities was not ranked but was tracked with yes/no questions.

selling some or all of their land or giving land to children in the next five years. The newcomers profess less intent to hold their land for lengthy periods, and are more likely to state either that they wish to develop their land, or that they are likely to conserve it in some kind of conservation program. Despite the sense that the fringe is on the verge of even greater change, however, the group of owners remains quite diverse, with even newcomers involving themselves in traditional rural activities like professional farming or ranching. To try to understand this paradox, and to understand the relation between interests and owners' characteristics and behaviors more fully, I next explore sub-groups of owners within the Austin fringe according to their interests in land.

II. Landowner Orientations

The variation *within* the group of individual and family owners is much greater and more interesting than might be expected from findings reported in previous research, in large part because prior research has focused more on differences *among* major groups of owners such as owner-users, investors, and developers, rather than exploring the diversity *within* individual and family owners. Exploring differences among owners presents some challenges, which I discuss in Section A below. I then turn to a description of three main types of individual and family owners: agriculture-oriented, enjoyment-oriented, and investment-oriented owners. As I discuss in Section B, these three owner orientations describe owners with strong interests in cultivating, recreating on and otherwise enjoying, and investing in their land.

A. The Challenge of Categorizing Owners

The aggregate data described in the first part of this chapter provides a high-level picture of the landowners of the Austin fringe. As was suggested by that overview, there are significant differences within this large group of individual and family owners in terms of owners' characteristics, their behavior, and their interests in land. Developing a more detailed understanding of fringe landowners requires an exploration of those differences and the organization of owners into narrower categories of landowner types. Categorizing owners, however, presents two challenges. First, while categories allow us to simplify complex and abundant data, there is the risk that overly broad categories will obscure the subtleties of individual owners' identities, experiences, and interests that make the study of fringe landowners compelling (and the opposite is also true: too many categories may capture subtle differences, but without the benefit of condensing the data). Indeed, my hypothesis, that owners have *multiple* interests in their land, made the organization of the data into specific categories particularly complicated.

A second challenge is that the categories of owners in existing literature (e.g. farmer, investor, developer, homeowner) did not match what I found in my data: nearly all of the landowners surveyed in Austin were farmers and other rural "users" of land, with no professional developers and few easily identified as having a *primary* concern with land investment – although two-thirds expressed an interest in the investment potential of their land. These preexisting categories, therefore, did not provide much insight into my topic – owners' sets of complex and, at times, conflicting interests in land – requiring the development of a new set of owner categories.

As I analyzed the survey data, I sought to develop categories that spoke to my research interests in why owners possess land and in what benefits they derive from

ownership. I first conducted a factor analysis on owners' *stated values* (in which they reported the importance, on a numerical scale, of various reasons for owning their land) successfully reducing the survey data to three general groups of landowner interests relating to 1) enjoyment of the land (e.g. the owners placed high value on natural resources, amenities, and recreation); 2) agriculture (e.g. the owner placed high value on income from agriculture, natural resources, and legacy for children); 3) and investment, liquidity, and development income (e.g. the owner placed high value on income from these sources). This offered a good starting point. However, additional analyses of the data revealed that *stated values* do not always relate to actual behaviors or owners' identities. For example, two-thirds of professional farmers and ranchers ranked highly on the agricultural factor, indicating they have strong values related to rural income, natural resources, and passing land to children, while one-third of professional farmers and ranchers ranked agriculture-oriented interests as neutral or not important to their ownership of land. Furthermore, many owners ranked highly on multiple factors – ranking agriculture and enjoyment, or enjoyment and investment, equally highly. Thus, the single factor analysis conducted on stated values was not sufficient by itself to classify owners' interests and identities accurately. Yet when I attempted additional factor analyses using variables relating to behaviors, decision-making, and identities, the results were nonsensical or failed to add a deeper level of insight.[31] I therefore applied my knowledge of the data, the results of the successful factor analysis on stated interests, existing literature, and knowledge of the Austin area to a more intuitive approach. Using the agriculture, enjoyment, and investment factors suggested by the factor analysis, I

[31] One reason the factor analyses proved unsuccessful may be that the same values, demographic variables, and behavior variables often loaded highly on multiple factors; indeed, this occurred even in the successful factor analysis of owners' stated values, where "equity" and "natural resources" values loaded on multiple factors. This is consistent with my hypothesis that while we might be able to identify general types of owners, each type has multiple, complex interests, some of which are shared, to different degrees, with other types.

used seven additional variables to create three categories that I then compared and contrasted. I call the categories "orientations," as they are not mutually exclusive or strictly defined by single criteria such as profession. The orientations are as follows:

- *Agriculture-oriented owners*: defined as those whose primary profession is farming or ranching, those who farm or ranch part-time for profit, and those who lease their land to others to farm or ranch;
- *Enjoyment-oriented owners*: defined as those who recreate on their land, rank recreation as highly important to why they own, or rank amenities as highly important to why they own;
- *Investment-oriented owners*: defined as those who rank the potential to build equity in their land as highly important to why they own; within this group I distinguish those with a strong interest in equity from those more actively interested in developing their property.

Owners in the three orientations exhibited strongly significant differences in demographics, past buying and selling behavior, current land uses and parcel sizes, plans, decision-making factors, and stated interests, according to analyses of variance tests. However, as noted above, the three orientations are not mutually exclusive: it is possible and, in many cases, probable, that owners fall into two or even all three categories, depending on the range and strength of their interests in cultivating, enjoying, and investing in their land. It should also be noted that these groupings might be improved with additional qualitative research: detailed interviews might yield better criteria for grouping owners, since the survey did not capture the depth of landowners' attachments to their land, and variance in emotional ties would be useful in differentiating owners, understanding their portfolios of interests, and ultimately in helping to explain their decisions. I discuss these emotional ties in more detail in the next chapter; however, this is clearly an area for future research.

While the three orientations highlight the major interests in land held by owners in the Austin fringe, they are necessarily broad, and there is a good deal of diversity within each orientation. I therefore examined each category further, using means tests to assess statistical differences *within* each of the three groups, focusing as I did in Section I of this chapter on owners' characteristics, behaviors and plans, interests, and attitudes toward growth. I then explored differences by several other criteria: location on the fringe, the extent of owners' participation in agriculture (within the agriculture-oriented orientation), and owners' interest in land development (within the agriculture-oriented orientation). I analyzed how owners falling into multiple orientations differed from those described by only one. Finally, as in the earlier portion of this chapter, I investigated the differences among owners in each category by parcel size, residency (whether or not the owner resides on the parcel), and tenure of ownership.

B. *Agriculture-Oriented Owners*

Agriculture-oriented owners include those who farm or ranch for profit, those who lease their land for others to farm or ranch, and those who otherwise earn some income from rural uses on their land (such as hunting or fishing); 40% (n=196) owners can be described by this orientation. More than other owners, agriculture-oriented owners are interested in earning rural income on their land. They are also more concerned with intergenerational relationships, inheriting land at greater rates and expressing more interested in passing their properties to their children. They are less interested than other owners in potentially gaining equity from the sale of their land or from its development.[32]

[32] Note that numerous survey respondents described themselves as "hobby farmers." I have not considered them to be agriculture-oriented owners, as their connection to agriculture is less a money-making venture than it is for those who farm or ranch their property, or lease it to others for these uses, and more of a hobby from which they gain personal satisfaction and enjoyment.

Most agriculture-oriented owners' property is located in the least developed county, Caldwell: over 50% of agriculture-oriented owners are in Caldwell County; 32% is in Bastrop, and just 16% in Hays County. In all counties, agricultural owners are concentrated in the least developed areas, in the moderate and weak development areas, with fewer in the areas of intense development pressure.

Demographically, agriculture-oriented owners tend to be older (with a median age of 58 at the time of the study, compared to 54 for all others). Agriculture-oriented owners are significantly less likely to be college graduates than other owners. Ninety-two percent are white, similar to other owners, and 68% are male, which is significantly higher than the rate for other owners. Like the average landowner sampled, their income is, on average, between $50,000 and $75,000. Agriculture-oriented owners are less likely than other owners to hold mortgages on their property, and 24% report net worths of over $1 million (compared to 12% of all others). There is no statistically significant difference between agriculture-oriented owners and others in the *percent* of net worth held in land, although agriculture-oriented owners possess larger parcels (with a median size of 46 acres, compared to a median of 10 acres for all others), so that their absolute net worth in land is higher. Not surprisingly, the vast majority of agriculture-oriented owners' parcels are in agricultural use (94% of the land owned by agriculture-oriented owners is in farming or ranching use, versus 68% for others), with much lower percentages in open or residential use. Agriculture-oriented owners are significantly less likely to utilize their property for recreation.

Table 6.21: Agriculture-Oriented Owners' Characteristics and Land uses

	Agriculture-Oriented Owners	All Others	Frequency, Unweighted
	Percent/Mean	Percent/Mean	
Demographic Characteristics			
Mean age	58	54	513
Percent college graduates	**53%**	**60%**	501
Percent white	92%	92%	505
Percent male	**68%**	**52%**	512
Average income	$50-$75k	$50-7%5k	512
Average net worth in land (refusals included in percentages)	42%	48%	512
Land Uses and Parcel Size			
Percent of total land owned by type of owner in agricultural use	**94%**	**68%**	513
Percent of total land owned by type of owner in open use	**3%**	**22%**	513
Percent of total land owned by type of owner in residential use	**2%**	**7%**	513
Percent of owners using land for recreation	**37%**	**47%**	510
Median parcel size	46	10	502

Although it might be expected that agriculture-oriented owners acquired land earlier than other owners, statistically, there are no significant differences between agriculture-oriented owners and others in the mean year of acquisition; the median year in which agriculture-oriented owners acquired their land was 1990, compared to 1991 for all other owners. Agriculture-oriented owners were more likely to have inherited their land (31%, compared to 13% of all others), suggesting that at least some of these owners potentially have strong emotional ties to their land through the chain of family ownership.

For those who acquired their land through purchase, agriculture-oriented owners were more likely to locate their land through informal methods, such as family and friends, and less likely through a broker. Purchasers reported that suitability for agriculture was the most important consideration in their decision to acquire their parcel of land; amenities in the area and suitability for family rated lower for these owners than for all other owner types. At acquisition, most agricultural owners intended to use their land for farming or ranching, and a

significantly lower percentage than other owner types anticipated developing their land in the future. Over half of agriculture-oriented owners reported that the potential to aggregate a larger parcel was very important, compared to 34% of others; indeed, a higher percentage have used multiple transactions to amass a larger land parcel during the course of their ownership.

Table 6.22: Land Acquisition by Agriculture-Oriented Owners

	Agriculture-Oriented Owners	All Others	Frequency, unweighted
	Percent	Percent	
Acquired through inheritance/gift*	**31%**	**13%**	512
Acquired through purchase	**71%**	**87%**	
Utilized multiple transactions to amass larger parcel	**19%**	**11%**	513
At acquisition intended to use land for agriculture	**85%**	**36%**	509
At acquisition intended to maintain land in open use	**24%**	**41%**	504
At acquisition intended to use land for residence	**36%**	**70%**	507
At acquisition intended to use land for recreation	30%	37%	510
At acquisition intended to develop parcel in the future	**15%**	**29%**	498
At acquisition considered future acquisition of nearby parcels to be very important	**45%**	**34%**	513
At acquisition, intended to hold for 10 years or more	89%	85%	504

** Percents may exceed 100% because some used multiple methods to acquire land.*

Forty-one percent of agriculture-oriented owners posses other land in the metro area, significantly higher than other owners; 45% of agriculture-oriented owners with other land possess it for recreation or residence, while 40% own it for agriculture (compared to 6% of all others who possess multiple parcels).

Agriculture-oriented owners describe themselves as selling land more frequently in general, although only 12% have previously sold off or given away a portion of their parcel, not significantly different from the 8% of all other owners. However, a significantly lower percentage are interested in selling land now (18% versus 26% of others), and only 12%

believe they are likely to sell their parcel in the next five years (versus 16% of all others). Agriculture-oriented owners are more likely to want to give their land away, however: 22% report that they are very likely to give some or all of their land to children in the next five years, which is again a significantly higher rate than other owners. These owners are also more active buyers of land: they are currently more interested in buying other land in the metro area, are more likely to buy adjacent land in the next five years, and report buying more frequently in general. In summary, the owners of farm and ranchland are not necessarily actively divesting their land holdings, as one might expect; certainly *some* are seeking to sell their land or plan to do so in the near future, potentially providing the land for new residential subdivisions or commercial development, but the majority do not plan to do so.

In terms of interests, agriculture-oriented owners are less likely to **reside** on their property (41% versus 55% of others). They **recreate** less, as noted above, but rank the importance of recreation similarly to others. Agriculture-oriented owners rank **amenities** as less important to why they own; they rank the possibility of protecting **resources** on their property similarly to others. Sixty-three percent rank the potential to build **equity** on their property as important/very important and a small portion rank the potential to earn income through **development** or by selling land quickly for cash (**liquidity**) as important/very important; all of these results are similar to those for other owners. Agriculture-oriented owners rank the potential to pass land to **heirs** more highly than do others, and indeed are more likely to plan to do so in the near future. Not surprisingly, nearly three-quarters of agriculture-oriented owners earn **income** from their land, although it is notable that this amounts on average to only 10% of the landowners' annual income – compared to 23% for non-agriculture owners who earn income from their property (perhaps because agricultural owners do possess other parcels at higher rates, and earn income from other parcels).

Agriculture-oriented owners are more likely to rank the potential to earn income from their land from rural sources as more important than others.

Table 6.23: Agriculture-Oriented Owners' Interests in Land

Interest		Agriculture-Oriented Owners	All Others	Frequency, Unweighted
		Percent/ Mean	Percent/ Mean	
Residence	Reside on property	**41%**	**55%**	512
	At acquisition, intended to reside on property	**36%**	**70%**	507
Recreation	Recreate on property	**37%**	**47%**	510
	Rank recreation as important/very important reason for owning	33%	25%	507
	At acquisition, intended to recreate on property	30%	37%	510
Amenities	Rank enjoyment of amenities as important/very important reason for owning	**44%**	**62%**	503
	Ranked amenities as very important/ important reason for purchasing parcel (purchasers only)	**37%**	**57%**	422
Natural resources	Rank protecting natural resources on land as important/very important reason for owning	68%	62%	505
Equity	Rank potential to build equity in land as important/very important reason for owning	52%	51%	506
Liquidity*	Rank liquidity as important/very important reason for owning	9%	10%	511
Legacy	Rank potential to pass land to heirs as important/very important reason for owning	**62%**	**49%**	511
	Report they are very likely to give land to children in next five years	**22%**	**11%**	506
Rural income	Rank rural income as important/very important reason for owning	**41%**	**12%**	503
	Earn income from land	**71%**	**17%**	512
Development income	Rank development income as important/very important reason for owning	**8%**	**10%**	506
	At acquisition, Intended eventual development of parcel	**15%**	**29%**	498
	Report they are very likely to develop land in next five years	***2%***	***4%***	510

** Defined as potential to sell land quickly for cash.*

Within the group of agriculture-oriented owners, owners vary in their demographic characteristics, behaviors, and interests along several dimensions: the extent of their participation in agriculture, the size of their land parcel, whether their residence is on the property or elsewhere, their tenure, and whether the agriculture-oriented owner is also enjoyment- or investment-minded.

1. Participation in Agriculture

Agriculture-oriented owners have a range of involvement in agriculture, including as full-time farmers and ranchers, part-time farmers and ranchers, and leasers. **Full-time farmers and ranchers** are most dedicated to earning income from their property. Although the literature predicts that they are likely to have the longest tenure, they have owned no longer than the average owner surveyed or other agriculture-oriented owners, though they are more likely to have inherited land. That there is barely any difference in acquisition dates between farmers and ranchers and other owners is unexpected, given that previous literature suggests that farmers and ranchers are the "original" fringe owners, owning before (and selling to) investors, developers, and more urban-oriented newcomers (e.g. Brown et al.1981, Pond and Yeates 1994a).

Full-time farmers and ranchers are less likely than other agriculture-oriented owners, and all other owners, to anticipate selling their land in the next five years. A significantly higher percentage, however, are actively interested in acquiring more land in the metro area (28% versus 11% of all others), and they are also significantly higher than all other agriculture-oriented owners in planning to acquire adjacent land in the next five years, data that belies the literature's stereotype of farmers/ranchers as major *sellers* of land into the development process.

Full-time farmers and ranchers are wealthier than other agriculture-oriented owners; nearly half have $1 million on more in net worth, compared to 18% for part-time farmer/ranchers and leasers. Full-time farmer/ranchers are much more likely to be men (86% versus 63% for all others). Over half of full-time farmers and ranchers own other parcels in the Austin metro area, a higher rate than for all other owners and all other agriculture-oriented owners. Most of this additional land is used for agricultural purposes.

In terms of interests, full-time farmers and ranchers are similar to their other agriculture-oriented counterparts in their ranking of amenities as less important than all other owners. While they rank protection of natural resources highly, a significantly lower percentage of full-time farmers and ranchers are aware of conservation programs operating in their areas. Full-time farmers and ranchers place a higher importance on rural income than other agriculture-oriented owners, and 90% earn income from their land, compared to 67% of other agriculture-oriented owners. In their ranking of the importance of recreation, equity, development income, and legacy, farmer/ranchers rank similarly to other agriculture-oriented owners, and they are just as likely to live on their property as their other agriculture-oriented counterparts.

Part-time farmers and ranchers have a less intense relationship to agriculture. Overall, they have about the same amount of land in agriculture, but it represents smaller percentages of their parcels than is true of other agriculture-oriented owners, and they have more land in open space or idle use. A higher percentage of part-time farmers and ranchers reside on their property, 53% versus 33% of others, and they are also more likely to recreate on their land. Part-time farmers and ranchers are the youngest of the agriculture-oriented owners (with a median age of 55). They are also active buyers, with a third looking to buy land in the metro area at the time of the survey, and a higher percentage reporting buying in general more frequently.

Leasers are those who lease some or all of their land (an average of 94% of their parcels) for others to farm or ranch.[33] Nearly all of their property is, on average, in agricultural use; only 1% is reported in open use. Most leasers appear not to have planned to farm or ranch their own land; from the start, over two-thirds report they were interested in leasing their land to others. In general, leasers are, like full-time farmers and ranchers, more likely to have inherited land. They are less likely to own other land in the metro area, but also less likely to live on their parcel, suggesting that at least some of them reside full-time outside the metropolitan area. They do, however, use their leased land more for recreation than other agriculture-oriented owners. Leasers are more interested in selling land, and, unlike full- and part-time farmer/ranchers, they are less frequent buyers and less interested in buying land now. They rank natural resources, equity, and rural income less highly than other owners. This generally lower ranking on several interests may be related to the fact that 43% of leasers are retired: retirees in the survey sample tended, on average, to rank *all* interests about which the survey inquired lower than non-retirees.

In summary, full-time farmers and ranchers are most intensely involved in agriculture and most interested in the income they earn from it. Part-time farmers and ranchers are more likely to reside and recreate on their property in addition to conducting agriculture for profit. Leasers are, like farmers and ranchers, older and more likely to have inherited their land, but, like part-time farmers and ranchers, are more interested in recreation on their property; and are least likely to live on their property. Full- and part-time farmers and ranchers are more interested in acquiring land than selling it, while leasers express more interest in selling land now, particularly other land they own in the metropolitan area.

[33] While full- and part-time farmers and ranchers may also lease some of their land to others, they are not included here.

2. Residence

Agriculture-oriented owners who reside on their properties tend to live in more developed areas of the fringe and are more likely to farm or ranch only part-time, while otherwise engaged in a non-agricultural profession. Residents have a greater appreciation for amenities and services in their area. In contrast, nonresidents are more likely to have inherited their property from family and to lease it to others to farm or ranch. Buying and selling behaviors differ only slightly by residence, with nonresidents more interested in selling other land in the metro area now, and residents more interested in acquiring land adjacent to their parcel in the next few years.

3. Parcel Size

The median parcel size of all agricultural owners is 30 acres. Dividing agriculture-oriented owners into two groups, those with 30 or fewer acres, and those with more than 30 acres, we find some significant differences in owner characteristics. In general, smaller parcel owners are younger (by an average of eight years); more likely to be involved in agriculture on a part-time basis, and less likely to lease their land to others, than other agriculture-oriented owners; and more likely to own in the two more developed corridors studied, Bastrop and Hays counties. They rank amenities more highly than large parcel owners, and more acquired their land via purchase than inheritance. Small parcel owners are newer owners: their median year of acquisition was 1994, versus 1985 for those with parcels over 30 acres.

4. Tenure

As noted in the previous paragraph, newer owners to the fringe possess smaller parcels and are themselves younger. There are, however, no differences in tenure among agriculture-oriented owners by their involvement in agriculture (i.e., whether they are full or part time farmers or ranchers or leasers), by residency, or by their location on the fringe (as there are differences by tenure and location for all owners in aggregate, as described in the previous section).

C. *Enjoyment-Oriented Owners*

The majority of landowners, 71% of those surveyed, fall in the enjoyment-orientation, defined as those who recreate on their land, give recreation a rank of four or five a scale of one to five as a reason they own their property, and/or give enjoyment of amenities a rank of four or five.[34] As I discuss in more detail at the end of this chapter, there is considerable overlap with the agriculture-orientation: 36% of enjoyment-oriented owners are also agriculture-oriented. Enjoyment-oriented owners are spread throughout all three counties, but are most likely to be found in Hays County, the most developed and, by many accounts, scenic of the areas around Austin, and less likely than others to own in Caldwell County, the most agricultural and least developed of the counties.

Enjoyment-oriented owners are younger on average than other owners, with a median age of 53 at the time of the survey, versus 62 for all others. Enjoyers are more likely than

[34] Note that, when only those who gave the highest rank, a five, were included as enjoyment-oriented owners, there were few differences. Slightly fewer owners qualified as enjoyment-oriented, 61% versus 71%. The same demographic differences between enjoyment-oriented and other owners, discussed in the next paragraph, were statistically significant, but were slightly less dramatic.

others to live on their property (55% do, versus 36% of all others); they are also more likely to be college graduates (61% versus 49% of all others). Enjoyment-oriented owners are more likely to hold mortgages on their property, perhaps because they acquired their parcels more recently than other owners: the median year of acquisition was 1992, while the median for all others was 1984.

Since more recent acquisitions of land are generally smaller, it is not surprising that enjoyment-oriented owners possess smaller parcels than other owners: the median size is 12 acres, compared to 25 for all others (with a mean size of 36 acres versus 55). About one-half of each parcel is, on average, in agricultural use, with about 30% of this acreage leased to others; 30% is in open space; and 20% is in residential use. Eighteen percent inherited their land. For those who purchased their property, price and suitability of the land and home for family ranked as the most important factors in deciding upon the specific parcel. The length of the commute, although slightly less important to enjoyers than price and suitability for family, was still ranked significantly higher by enjoyers than by others.

Enjoyment-oriented owners are slightly less interested in selling or giving away all or part of their land in the next five years (significant at p=.1). They report no differences from others in past selling behavior, but are more likely to report that, if they had an offer on their property, they would consider the intentions of the buyer of their land before making a sale. They are, in general, more active buyers, although they express no greater inclination to purchase additional land in the near future.

Regarding their interests (see Table 6.24 below), enjoyment-oriented owners by definition place greater importance on **recreation** and **amenities**. As noted above, they are more likely to **reside** on their property. They also place higher importance on the protection of **natural resources,** and 70% report knowledge of conservation programs working in their areas. Fewer earn **income** from their land, compared to non-enjoyment owners; however,

there is no difference in the importance enjoyers place on that income. Enjoyment-oriented owners place greater importance than other owners on the potential of building **equity** in their land, and slightly lower importance on **liquidity**. They are not any more likely to state intentions to **develop** their land, but they report being influenced in their land decisions by neighbors' decisions, development pressures, zoning, environmental regulations, taxes, and transportation access to greater extents than are other owners. Regarding **legacy**, they are similar to all other owners, with 80% wanting to pass land to children; 80% of these believe those children will use land similarly to its current uses, and 20% have used the services of an estate planner. Enjoyment owners are more likely, however, to rank heirs as an important reason for owning: 67% (versus 57%) rank the possibility of passing land to children as important or very important.

Within the enjoyment orientation, there are significant differences between those who own small and large parcels, those who are also agriculture-oriented, those who are resident and nonresident, and longtime owners and newcomers.

1. Parcel Size

The median parcel size of enjoyment-oriented owners is 12 acres. I divided the group into those at the median or below, and those above. Owners of smaller parcels own land in more developed, high-amenity areas. More of their land is in open space and less in agriculture, and they are more likely to live on their land. Amenities are more important to them. Owners of larger parcels are conversely located in less developed portions of the fringe; they are older and more likely to be involved in agriculture professions. They are more likely to use land for farming or ranching, and more likely to have inherited their property. In the past, owners of large parcels have been more active sellers of land, but are now more interested in purchasing new properties. They rank natural resources and rural

income more highly, and are more likely to use advisors and estate planners to make land decisions.

Table 6.24: Enjoyment-Oriented Owners' Interests in Land

Interest		Enjoyment-Oriented Owners	All Others	Frequency, Unweighted
		Percent/ Mean	Percent/ Mean	
Residence	Reside on property	**55%**	**36%**	513
	At acquisition, intended to reside on property	**61%**	**46%**	510
Recreation	Recreate on property *(one of the conditions for inclusion in enjoyment-orientation)*	**60%**	**0%**	513
	At acquisition, intended to recreate on property	**44%**	**8%**	513
Amenities	Rank enjoyment of amenities as important/very important reason for owning *(one of the conditions for inclusion in enjoyment-orientation)*	**77%**	**0%**	506
	Ranked amenities as very important/ important reason for purchasing parcel (purchasers only)	**62%**	**22%**	424
Natural resources	Rank protecting natural resources on land as important/ very important reason for owning	**72%**	**46%**	508
Equity	Rank potential to build equity in land as important/very important reason for owning	**57%**	**39%**	509
Liquidity*	Rank liquidity as important/very important reason for owning	***8%***	***13%***	514
Legacy	Rank potential to pass land to heirs as important/very important reason for owning	***50%****	***56%***	514
	Report they are very likely to give land to children in next five years	***13%****	***20%***	509
Rural income	Rank rural income as important/very important reason for owning	25%	18%	506
	Earn income from land	**34%**	**51%**	515
Develop-ment income	Rank development income as important/very important reason for owning	6%	11%	509
	At acquisition, Intended eventual development of parcel	**26%**	**17%**	501
	Report they are very likely to develop land in next five years	3%	4%	513

** Defined as potential to sell land quickly for cash.*

2. Residence

Enjoyment-oriented owners differ significantly by whether or not they make their primary residence on their land. Those that do are appear more urban-oriented: they are more likely to live in more developed portions of the fringe, are younger, own less land, are more likely to hold mortgages on their land, and acquired only slightly more recently (1990 versus 1988, significant at p=.1). In acquiring their land, the length of the commute was more important to these owners, and amenities in general are more important: fully 84% of resident enjoyers rate them as an important or very important reason for owning. In contrast, nonresident enjoyers own larger parcels (49 acres versus 26 on average, with a median of 21 acres versus 10 for resident enjoyers) in more moderate and weakly developing areas of the fringe, and they own more land in general: nearly half hold other parcels in the metro area. They are older, wealthier, and more educated, and are more actively looking to buy and sell land now: 27% want to sell their parcel now, as opposed to 17% of residents, and 22% are looking to buy other land in the metro area, compared to 12% of resident enjoyers. More nonresidents acquired their land with the intention of using it for recreation, but there is no difference in recreational use between resident and nonresident enjoyers. Although their ownership of more land and their desire to buy and sell might indicate owners more interested in the equity potential of their property, they profess no greater concern for equity or liquidity than resident enjoyers.

3. Tenure

It has been noted that owners who acquired earlier tend to have larger parcels of land. For enjoyment-oriented owners, this holds true, but there is a sharp distinction between the earliest owners and all other enjoyment-oriented owners: those who acquired before 1980 have an average of 56 acres, and all owners acquiring after, whether in the 1980s have less

than half that size parcel. The data also reveal that the newest owners are some of the most interested in giving away or selling their land, and in buying other landing the metro area now, as shown in Table 6.25.

Table 6.25: Likely Plans in Next Five Years

	Acquired <1980	Acquired 1981-1990	Acquired 1991-1998	Acquired 1999-2002
Likely to sell in next five years	10%	10%	12%	18%
Likely to give land to children in next five years	**24%**	**6%**	10%	13%
Interested in buying other land in the metro area now	**7%**	13%	20%	**24%**

D. Investment-Oriented Owners

Investment-oriented owners, 52% of the sample, are the most difficult of all the types to describe, as those with a high reported interest in building equity in their land run the spectrum from farmers to new urban-oriented commuters, and are located in all parts of the fringe. They are, however, younger by four years than other owners, and the median date of acquisition was 1992, compared to 1990 for all others, so that most acquired about the same time as enjoyment-oriented owners. While they do not use their land any differently or own any more of it, they do hold slightly more net worth in their land (49% of their net worth, as opposed to 42% for all other types of owners, significant at p=.1). More investment-oriented owners are interested in selling land now (27% versus 19% of all others. Investment-oriented owners tend to see more importance for their own land decisions in their neighbors' decisions, development pressures, taxes, environmental regulations, zoning, sewer and water access, transportation access to land, and availability of conservation programs. They are also more likely to rate *all* interests highly: amenities, rural income, legacy, development, liquidity, recreation, and natural resources. It appears that investment-oriented owners are

generally high-interest owners, seeing the value in many aspects of owning land; it is unclear, however, if these owners see amenities or rural income through a different lens than other owners, as contributing to the financial value of the property, as opposed to contributing to their enjoyment of the land. However, that these owners rank legacy highly, and state in similar proportions to other owners that they have children to whom they would like to pass their land, is telling: though the legacy interest might mean keeping wealth in the family, it has no market value (unlike scenery or arability, for example), suggesting that at least some of these interests are *not* viewed through a development-oriented lens.

Table 6.26: Investment-Oriented Owners' Interests in Land

Interest		Investment-Oriented Owners	All Others	Frequency, Unweighted
		Percent/ Mean	Percent/ Mean	
Residence	Reside on property	49%	49%	506
	At acquisition, intended to reside on property	59%	54%	506
Recreation	Recreate on property	46%	40%	506
	At acquisition, intended to recreate on property	35%	34%	503
Amenities	Rank enjoyment of amenities as important/very important reason for owning	**65%**	**44%**	502
	Ranked amenities as very important/ important reason for purchasing parcel (purchasers only)	**57%**	**44%**	414
Natural resources	Rank protecting natural resources on land as important/very important reason for owning	**69%**	**60%**	504
Equity	Rank potential to build equity in land as important/very important reason for owning *(condition for inclusion in investment-oriented group)*	**100%**	**0%**	509
Liquidity	Rank liquidity as important/very important reason for owning	**15%**	**3%**	509
Legacy	Rank potential to pass land to heirs as important/very important reason for owning	**60%**	**48%**	508
	Report they are very likely to give land to children in next five years	***12%****	***19%***	504
Rural income	Rank rural income as important/very important reason for owning	**24%**	**16%**	503
	Earn income from land	40%	40%	416
Development income	Rank development income as important/very important reason for owning	**16%**	**2%**	506
	At acquisition, Intended eventual development of parcel	**30%**	**18%**	494
	Report they are very likely to develop land in next five years	4%	2%	507

**Defined as potential to sell land quickly for cash.*

A subgroup of investment-oriented owners, numbering 48 in the survey, are those with an interest in both equity and the development potential of their land, either ranking that potential as an important/very important reason for owning or stating that they are likely or

very likely to develop their land in the next five years. (Note this group overlaps with those who report their profession as "real estate investor or developer," but is not equivalent to it: six of the 14 reported real estate professionals fall into this development-oriented group; the other eight do not.) These owners do not hold significantly larger parcels or own in any particular area of the fringe, but they are less likely to live or recreate on their property, and they are more likely to own other land in the metro area than other investment-oriented owners. What distinguishes this group most, however, is their long-standing interest in developing their land (nearly half intended eventual development at the time of acquisition) and their current interest in selling their property: 52% wish to sell now (versus 22% of other investment-oriented owners), and their most frequently cited factors in their decision are receiving a good offer, needing cash, tax advantages of sale, or identification of a better investment elsewhere. The possibility of selling land quickly for cash is much more important to this group. Only nine of these owners anticipate developing their land, however, in the next five years.

Of the three orientations, investment-oriented owners (including those with an additional interest in the development potential of their property) exhibited the fewest differences by parcel size, residency, or tenure. There are no differences among owners' propensity to rank equity or development potential as important interests by parcel size, by residency, or tenure.

E. Orientations Compared

The point of examining interests is to deepen our understanding of landowners' roles in development and their likely actions regarding their property. By comparing the three orientations, we see that owners with different interests do act differently on dimensions that matter to land conversion. Those in the agricultural orientation, with active interests in

earning rural income from their land, a higher-than-average interest in passing land to children, and lower interest in development, own the most land, both in terms of total acreage and average parcel size, and a higher percentage own multiple properties in the metro area. These owners are more active sellers *and buyers* of land than the average owner, and, while they are more likely to plan to give land to family in the next five years than others, they are also, in greater percentages, planning to buy other land now, and to buy adjacent parcels in the next five years. Enjoyment-oriented owners control nearly as much land as the agriculture-oriented owners (and indeed, overlap with them to quite an extent, as discussed below), but hold smaller parcels that are more likely to be in open or idle uses. The most recent acquirers, enjoyment-oriented owners are more likely to live on their land and thus likely have a day-to-day familiarity with their areas that nonresidents lack. Finally, investment-oriented owners are least easily described, suggesting that an interest in equity spans all types of owners, but this group is most interested in selling their land now, particularly the development-oriented sub-group of investors.

Table 6.27: Comparison of Owner-Orientations

		All Owners	Agriculture Oriented Owners	Enjoyment Oriented Owners	Investment Oriented Owners	
					All	Development Minded Owners*
Number of Owners		516	196	370	266	48
Current Land Ownership and Uses	Acreage owned *	20,133	13,056	12,464	9,262	1,746
	Average parcel size (acres)	42	**69**	**36**	38	37
	Percent land in agricultural use	84%	**94%**	83%	83%	**50%**
	Percent land in open use	10%	**3%**	10%	11%	**35%**
	Percent land in residential use	4%	**2%**	**5%**	4%	6%
	Percent residing on land	49%	**41%**	**55%**	49%	**28%**
	Percent using land for recreation	43%	**37%**	**60%****	46%	**32%**
	Percent owning other land in region	33%	**41%**	32%	33%	**48%**
Acquisition	Average year acquired	1987	1986	**1988**	1988	1990
	Median year acquired	1990	1990	1992	1992	1994
	Percent who inherited land	21%	**31%**	19%	18%	18%
	Percent intending, at acquisition, to hold land for at least 10 years	88%	90%	**89%**	**83%**	**56%**
Land Purchases, Sales, and Gifts	Percent who have sold part of parcel previously	9%	12%	10%	10%	11%
	Percent seeking to sell/give away parcel now	23%	**18%**	22%	**27%**	**52%**
	Percent likely to sell all/part of parcel in next 5 years	14%	12%	12%	15%	**46%**
	Percent likely to give away all/part of parcel in next 5 years	15%	**22%**	**13%**	***12%***	10%
	Percent who buy, on average, at least once every five years	10%	10%	10%	11%	***19%***
	Percent reporting they "never" buy land	61%	**55%**	**57%**	**56%**	**45%**
	Percent looking to buy land now	16%	**22%**	16%	***19%***	26%
	Percent likely to buy adjacent land in next 5 years	9%	***12%***	8%	11%	***3%***
	Percent who sell, on average, at least once every five years	6%	6%	7%	8%	**22%**
	Percent reporting they "never" sell	75%	**69%**	74%	73%	**54%**
	Percent looking to sell **other** land now	24%	28%	23%	28%	23%
	Percent likely to hold land as is for at least 5 years	68%	71%	70%	66%	**47%**

** Among the orientations, double counting may occur because owners can fall into multiple orientations. Note that significance measures for all columns are in relation to other orientations, with the exception of the developer subset of the investment-orientation, which is in relation to others in the investment-orientation only.*

*** One of the possible criteria for inclusion in category.*

The variation in behaviors (including land uses and plans) among the three orientations gives some insight into the paradoxical nature of the Austin fringe. Land is largely in rural uses, yet owners, depending on their interests, have a variety of ways of using that rural land, including cultivating it, recreating on it, or letting it lie idle. Area experts and many landowners perceive strong development pressures, yet the majority of current owners plan to hold their land for the near future, or even buy more land, rather than sell it into development, suggesting that land conversion is not necessarily a smooth process, as I discuss in the next chapter, and that relatively few owners are directly participating in transactions leading to land development.

The orientations also show clearly that interests differ by location on the fringe. Caldwell study corridors owners are more likely to described by the agricultural orientation, and Hays study corridor owners are more likely to be described as enjoyment-oriented. Bastrop, as with most other findings, falls between the two extremes of the two, as it does in reported perceptions of its natural beauty, in the price range of its new residences, and in its level of development and development pressures. Although agriculture-oriented owners are among the newest owners, their relative absence in the most developed study corridor, and their concentration in the weakest, suggests that the trend among fringe owners' interests in their land, on the whole, is away from agriculture and toward an enjoyment-orientation (with investment-oriented owners continuing to have a strong presence, as investing continues to be strong motivation for owning, particularly as land values rise).

As is evident in Table 6.28, the three orientations overlap considerably. Fifteen percent (n=72) of owners fall into all three orientations, having strong and active interests in agricultural income, enjoyment of amenities and recreation on their property, and in potential capital gains. More commonly, owners fall into two categories. As for single-orientation owners, there were 39 owners in the survey who fell *only* into the agriculture-orientation, 106

who fell *only* into the enjoyment orientation, and 27 who fell *only* into the investment-orientation. Statistical analyses of these single-orientation groups revealed more striking differences than comparing non-mutually exclusive orientations, but the sample sizes were too small for the investment and agriculture orientations for any to be statistically significant, so they are not shown here; such owners might be provide an interesting case for future research.

Table 6.28: Overlapping Orientations

	Percent of All Landowners	Frequency, Unweighted	Percent Also Agriculture-Oriented	Percent Also Enjoyment-Oriented	Percent Also Investment-Oriented
Agriculture-Oriented	40%	196	NA	65% (125)	52% (102)
Enjoyment-Oriented	71%	370	36% (125)	NA	57% (209)
Investment-Oriented	52%	266	40% (102)	79% (209)	NA

In general, owners who share two orientations are likely to exhibit predictable qualities of both. For example, owners who are both agriculture- and enjoyment-oriented are more likely than other agriculture-oriented owners to possess land in high-amenity Hays County, are younger, are more likely to farm or ranch only part-time while engaged in another profession, and are more likely to appreciate natural resources, equity, and development potential. Compared to other enjoyment-oriented owners, however, those who also have an agriculture-orientation are more likely to own in Caldwell County, to be older, wealthier, less likely to be resident, to own more land that they acquired earlier, to sell land more frequently and own other land in the metro area, and to rank amenities as less important and rural income and legacy as more important.

Those with the "triple orientation," the 72 survey respondents who ranked highly on the agriculture-, enjoyment-, and investment-orientation, have larger parcels, with more land

in agriculture, and are more likely to be full-time farmers and ranchers who earn income on their land and value rural income highly. These owners are more likely to have inherited their land (at p=.1) and in greater percentages value legacy and have children to whom they wish to pass their land. In general, these owners are not likely to disappear from the fringe; most anticipate holding their land in the near future and in fact wish to acquire more land in the metro area now, and buy more in general. Interestingly, "triple orientation" owners did not arrive any earlier or later than other owners.

Only 45 respondents had *no* orientation; that is, their interests were not strong enough on any of the key dimensions to allow their categorization as agriculture-, enjoyment-, or investment-oriented. These "low-interest" owners are older and more likely to be retired (at p=.1), less likely to own in Hays County and more likely in Bastrop (at p=.1), less likely to reside on their property (at p=.1), and were less likely to have acquired their land in the mid-1990s, but they indicate no differences in their plans for their land or past buying or selling behaviors.

III. Conclusion

This chapter examined landowners' demographic characteristics, which help us describe the people who own Austin's fringe land and also understand some of the factors (such as the presence of children or the owners' age) that likely shape their interests and, ultimately, their land decisions. It explored owners' behaviors regarding their property, which are the primary object of research into landowners on the fringe, helping us understand what owners do and are likely to do with their land. The chapter also covered owners' interests, which are the particular contribution of this study, and which offer explanatory power to who owners are, what they do, and why and how they decide to do what they do.

As the data presented in this chapter demonstrate, the owners of the Austin fringe exhibit combinations of the use and exchange interests set out in Chapter 5, particularly liquidity, equity, amenity, recreation, resource protection, and legacy. The research provided evidence of the more psychological values derived from interests, such as pride of ownership, although these were more difficult to assess directly. Although each individual owner has his or her own unique set of interests reflecting the benefits they personally derive from ownership, interests did tend to group together predictably into three categories that I call orientations: agricultural-oriented owners, with strong interests in agricultural income, intergenerational land transfers, and protecting natural resources on their land; enjoyment-oriented owners, with strong interests in recreation and amenities; and investment-oriented owners, with strong interests in equity (and for a subset, the development potential of their land). That many of the same owners could be described by two or even three orientations underscores how owners hold multiple interests, and we might imagine that these at times might conflict or are differently served by development pressures and area growth, as I discuss in greater depth in the next chapter.

In Chapter 7, I first turn to an exploration of the factors that influence the sets of interests each landowner holds in his or her land. With the exception of data on why owners bought or sold land in the past, the data captured in the survey reflect an owners' interests at a particular point of time, yet interests are not static, and so I also present a hypothesis in Chapter 7 about how interests might change over time in response to internal personal and family dynamics and external events such as development pressures.

Chapter 7

Landowners' Interests Over Time

As noted in Chapter 5, a host of issues internal to the landowner and his or her family, and external issues relating to development pressures, public policy, economic trends, and social forces, all shape an owners interests at any given point. Over time, *changes* to these same internal and external factors may cause owners' interests to evolve: owners may reprioritize or drop existing interests, adopt new interests, or see the realization of their existing interests frustrated by events beyond their control. This chapter presents a hypothesis about how these internal and external factors affect interests over time. I then turn to the Austin-area landowner research once again to discuss some of the possible outcomes of changes to interests: owners' decisions about how to use their land, and whether to sell or hold their property.

I. Interests Over Time: A Hypothesis

I suggest that changes to external factors (such as social, economic, and political events and policies) will affect objective interests: the set of *possible* benefits of landownership associated with a particular parcel of land. Whether or not these changes to objective interests matter to a landowner and ultimately influence that owner's *subjective* interests will depend on the individual owner. Subjective interests will also be influenced by

changes internal to the landowner and his or her family, such as major life events like marriage or retirement, changes to wealth, etc. I discuss both changes to objective and subjective interests in turn below.

A. Changes to Objective Interests

In general, changes to the factors *external* to a landowner and his or her family, such as public policies (e.g. a new subdivision regulation), development pressures and growth in the area that increase land values and new construction, or social and economic trends (e.g. an increased interest in exurban lifestyles, a rise in interest rates, or change in the market price for a certain agricultural product important to local farmers), influence an owner's *objective* interests – the set of possible benefits of ownership – in one of two ways. They may 1) *prohibit, constrain* or *support* owners' chances of realizing an existing objective interest; or 2) *make possible* new objective interests. In the first case, external factors affect the extent to which an existing objective interest can be realized, or whether an interest can be realized at all. For example, new residential development may bring with it increased traffic and new neighbors sensitive to the noises and odors of ranching, so that even if earning agricultural income on a particular parcel of land is objectively possible, it may become more difficult as a result of surrounding growth. In another instance, the construction of a new subdivision might obscure the view from a particular property, making enjoyment of natural scenery virtually impossible. In the second case, external factors may make a new interest possible, as in the case of a newly constructed highway that accesses properties previously untouched by growth pressures, making them desirable sites for new development, and for potential financial gain from land's development and sale. Some of these external factors will have a relatively abrupt effect on owners' interests (e.g. the new highway or subdivision), while the influence of others will be much more gradual, as with social trends that may take years to become apparent and to affect owners.

The effect of changes to objective interests – the benefits that ownership might possibly fulfill – on owners' subjective interests will depend on the individual landowner, as I discuss next.

B. Influences on Subjective Interests

Whether or not, and how, these changes to objective interests matter to a landowner depends upon the individual's subjective interests (which, as described in Chapter 5, are a function of their personal circumstances, resources, skills, attitudes, preferences, and aspirations). For example, depending on an owner's existing subjective interest in amenities on land – and his interest in specific amenities, such as the privacy afforded by the parcel's topography and size – a new residential subdivision abutting the land may be perceived in a number of different ways. An owner might view the new construction as a disruption to his view and solitude, frustrating his interest in enjoying amenities on his land (and creating an interest "mismatch," whereby a subjective interest can no longer be realized by ownership of a particular parcel of land). The owner might view it as a positive event, perhaps because it results in an influx of new neighbors serves a latent interest in companionship with neighbors who share a similar interest in an exurban lifestyle. Finally, the owner might see the development as neutral, because it neither constrains nor supports any of his current interests in owning property, or because the development's negative and positive impacts balance each other in the eyes of the owner. Another example, drawn from the Austin-area landowner survey data, is that of the influence of growth pressures on owners' interests. Those owners who have seen signs of growth in their areas, such as increasing land values, higher value agriculture, new infrastructure to support development, and new development itself, and who ranked equity as a very important subjective interest in their land, believed that if development were to continue at its current pace it would likely positively influence quality of life (perhaps a proxy for landowners' well-being). Since many of these same owners

perceived that growth would have negative effects on environmental quality, scenery and open space, and property taxes, it is likely that the enhanced quality of life results directly the expected increase in land values. In contrast, those who ranked equity as a less important subjective interest tended to have more negative views of growth on overall quality of life.

Events completely internal to an owner and his or her family, such as marriage, divorce, illness, children leaving home, large changes in income or wealth, retirement, or a new desire to try farming, might also lead an owners' set of subjective interests to evolve or to become mismatched. The owner's subjective interest may change if internal events and circumstances result in the land 1) no longer serving an interest or interests held by the owner at all (e.g. an owner no longer has an interest in recreating on the land because her children are grown); or 2) fulfilling a new or latent interest resulting from a family or personal event (e.g. that same owner suddenly needs income and decides to lease the land for farming, so that the owner has a new interest in rural income from the property). In either case, it is possible for some existing subjective interests to continue to be served by ownership (e.g. an owner retired from farming no longer actively uses land for agriculture but still derives a sense of identity or connection to family through ownership of property passed down through generations). Note that internal events affect only owners' *subjective* interests: objective interests have not changed as a result of events in an owner's life, just the owner's desire to realize their existing interests.

Changes to internal family or personal situations may also have another effect on owners' subjective interests: they may cause them to be mismatched when the owner still has the desire to realize certain benefits of ownership, but no longer has the capacity to realize them. An illness, for example, may prevent an owner from recreating on land as he once did, although the wish to use land in this way remains. In this case, the owner's capacity to realize his or her interests has been frustrated by internal family or personal events.

In summary, external changes may or may not influence an owner's existing set of subjective interests; it is possible that the owner will find some interests reprioritized or, in cases where interests are still important to the owner but now cannot be realized on a particular parcel of land, mismatched. Changes to internal family and personal factors may also lead to a new set or prioritization of interests or interests mismatch, when the owner's circumstances prevent him or her from realizing benefits of ownership still held dear. Note that these effects on interests may or may not be consciously considered by the landowner: a major life event may compel an landowner to think about whether or not ownership of a particular parcel of land is still a worthy, fulfilling endeavor, whereas a more subtle change (perhaps a growing interest in resource protection over the years) may more subtly enter into how an owner sees his or her land and the reasons for continuing to own it.

II. Changing Interests and Landowner Behavior: Examples from Research

Exploring how and why interests change over time provides insights into owners' behavior, particular when and why landowners will change the use of their land, sell their land, or hold it out of development. These topics, particularly land sales, have been a major focus of previous landowner research, as previous authors have considered variation in owners' individual decisions about their properties to result in the patchy nature of fringe development, as discussed in Chapter 2. If a framework of interests in land, as I've presented in this paper, is to be helpful to our understanding of land conversion, it must address why an owner might decide to change the use of land, sell land and, conversely and just as importantly, why they might decide to hold land out of the market, particularly when they have opportunities to sell at a profit. Below I use the Austin-area landowner research to explore these questions.

A. *Changes in Interests and Owners' Decisions about Land*

It follows from the hypothesis set out in Section 7.I above that an owner may, at some point decide that interests are best served by disposing of land, either through a land sale or gift (perhaps to a conservation organization or to family members). A landowner might reach a decision if his or her subjective interests have become severely constrained or mismatched and no new interests in land have arisen to motivate an owner to continue to hold land; or if interests, such as those in realizing equity, legacy, or protection of natural resources, can best be fulfilled by selling or giving away property. In reality, an owner will likely weigh the benefits of holding versus disposing of land, a process that will consider the effect of these options on the owner's multiple interests, and will make a decision that best serves his or her overall well-being. As is clear from research in the Austin fringe, many owners in recent years have made the decision to sell or give away land: 19% of properties sampled changed hands between 1999 and 2002, representing 14% of all acreage captured in the survey. Because former owners were not captured in the survey, we have no data to explore why they decided to sell or give away their properties; we can only surmise that, on balance, these previous landowners' subjective interests were best served by land sales or gifts.[35]

We do, however, have data on the many longtime owners of land in the Austin fringe who have elected *not* to sell or give away their land, and it is instructive to consider why they have not sold, despite years of external changes to their areas and land values, and internal changes in their own lives that have likely influenced their interests in their land. Twenty-eight percent of survey respondents acquired their land before 1982, holding their property for an average of 30 years (and a range of 20 to 69 years). Nearly 70% of these owners state they will likely hold for at least another five years. I posit that these longtime owners, if they

[35] Some other properties have likely changed hands upon the death of an owner rather than through a sale or gift while an owner is alive.

are acting in their best interests (including their emotional *and* financial interests), must continue to derive benefits from their ownership, whether these interests have been held steadily through the years, or whether new interests have been adopted that have given owners new motivation for owning.

The landowner survey indicated that the majority of Austin fringe owners are using their land as they report they intended when they acquired it, suggesting that at least some of their interests – those we can see reflected in land uses, such as recreation, residential use, or agriculture – have indeed held steady through years of ownership. However, follow-up interviews with survey respondents reveal that the *specific ways* that these interests are fulfilled have often changed in response to factors external to the landowner, or internal to the owner's personal situation and family. For example, several owners indicated that although they are using their land for recreation as originally intended when they acquired their land, the *form* of recreation has changed in response to their family's evolving circumstances and needs. One enjoyment-oriented owner noted that her land has always been primarily a place to recreate, but the nature of that recreation has varied considerably. The owner acquired her property with her husband as a location for a hobby ranch, but turned it into a weekend retreat for the owner and her children after her husband's death. More recently, the owner enrolled the property in a wildlife management program and enthusiastically makes regular visits in order to perform certain maintenance responsibilities of the program, such as building shelters for small animals – physical labor that the owner considers a very fulfilling form of recreation. This owner's interest in recreation has existed all along, and it appears to always have been a high priority, although the form it has taken (and not incidentally, its effect on the landscape of her particular parcel) has evolved through the years. It is also possible that over time, the same interests may also deepen or become stronger: for some owners, the more years of work put into maintain and improve property,

the more satisfaction that work brings; as one agriculture-oriented owner noted, all the effort put into his land over the years by his family has made the property "a part of all of us."

Interviews also revealed that, while some interests that may have motivated a land purchase years ago have faded entirely, others have remained strong priorities over the years. One owner, an agriculture- and investment-oriented owner, reported that, although her family regularly camped and rode horses on her land when her children were young, they no longer use their property actively for recreation and, indeed, have not even visited it for two years. However, even though recreation may no longer be an active interest, her land still fulfills several other interests: it is leased for ranching and generates income for the family; it is a possible legacy for her children, should they want it when they are older; and ownership itself provides the family with a sense of fulfillment and satisfaction. In this case, the owner and her family have multiple interests in their land and find several reasons to hold onto it, even though family needs have changed and one of their original motivations for acquiring it, recreation, is no longer a strong interest.

Finally, interviews revealed that *new* interests have motivated longtime owners to continue to hold their land – whether or not other interests have remained strong or have faded. For example, one agriculture-oriented owner has raised cattle on his land for over thirty years, but has always lived elsewhere; however, upon retirement, he moved with his wife to the property. His interest in the use of his land for daily shelter is new, or at least, was a latent interest that he realized upon retirement. Another owner who acquired land for cattle farming responded to rising demand and growth pressures in his area by building several residences on his property that he rents to Austin commuters; today he maintains his agricultural use but now also earns rental income on the property. His interests now include that rental income, as well as the agricultural income he initially intended when acquiring the land. This owner, clearly interested in the income-producing potential of his property, has

received offers on his property (including offers from developers), but has chosen to hold his land as is, noting that he does not believe anyone could offer him more for his land than it produces for him now.

Among longtime owners interviewed, 23 (17% of this group); in addition to 24 more recent owners, have sold or given away *portions* of their property – in some cases, very small segments; in other cases, sizeable tracts; according to the survey, the majority of these owners have sold or given away land to transfer it to their children or for financial reasons. Follow-up interviews revealed that at least some of these owners may have sold because they had no need for their entire land holding; their interests could be served on smaller parcels, and at the same time they could earn a profit from selling some of their land. For example, owners reported selling small strips with road frontages to commercial buyers, while maintaining the bulk of their properties behind, or selling half of their acreage because they could earn a profit while better managing, and still enjoying, the remaining half of their property. One owner sold the bulk of his land to a developer, placed another large piece in a conservation program, and maintained a residence on a small remaining parcel. These owners appear to have found ways to satisfy an interest in the profit potential of their land and continue to use the remainder of their land to satisfy other interests, in these cases in conservation, recreation, amenity, and residence.

Not coincidentally, the longtime owners interviewed did not report experiencing any catastrophic internal family events or circumstances, such as a financial crisis or serious illness, that would have created a *need* for owners to sell their entire properties in order to realize its equity value or because the owner no longer had the capacity to manage the land.[36]

[36] Pyle referred to owners forced to sell for financial reasons as "crisis-managers;" she also noted that "farmers" and "individualists" often sold because of personal reasons such as illness, divorce, or retirement (Pyle, 1985).

One owner noted that his neighbors had sold "out of necessity," but that his family "had never had the misfortune" to have to do the same. Whether the longtime owners captured in the Austin survey have avoided the crisis situations as a result of luck, sound planning, and/or the owners' prioritization of their landownership over other financial assets and endeavors is unknown, but it is clear these owners have had *both* the fortune not to be forced to sell their land, and have found that some or all of their interests have continued to be served by ownership.

B. Growth Pressures, Interests, and Land Decisions

The question of why landowners hold their properties is particularly interesting when one considers the intense development pressure on much of the land in the Austin fringe. As with other external factors, the Austin research findings indicate that development pressures may have a mixed effect on owners' interests, constraining some, supporting others, and making possible new or latent interests. As described in Chapter 6, increasing development pressures, and actual residential and commercial development, have been accompanied by a host of side-effects identified by owners in the landowner survey, most of which were perceived by owners to be negative and detracted from the owners' use and enjoyment of their property, such as increased traffic, pollution, and visual intrusions on an open landscape. However, most owners also believe that growth has had, and will continue to have, positive effects on their land values.

It might be assumed that, because of the generally negative perceptions of growth pressures on owners' amenities and the environment, and, particularly, the positive effects on land values, that some owners in developing areas will "sell out" to the highest bidder in order to profit from their land. Indeed, the belief that owners are purely profit-motivated is echoed in some of the previous landowner literature (e.g. Arnott and Lewis, 1979; Leung,

1987; Rodriquez-Bachiller, 1986), as well as in more practice-oriented literature suggesting that landowners will fight any attempt to manage growth because it will impede their abilities to earn top dollar on their land (e.g. Daniels, 1999; Diamond and Noonan, 1996; Kaiser et al., 1995). These concerns imply that profit motivation is the paramount interest of nearly all landowners, but fail to explain why so many landowners on the Austin fringe have held their land despite escalating land values and lucrative offers (often from developers), and why these owners overwhelmingly state that they intend to hold their land for at least another next five years. I suggest that many of these landowners continue to own, despite the fact that growth pressures or actual development may have increased land's sales potential or impeded their ability to realize existing interests, because, as noted in the previous section, land continues to serve at least some important interests, including recreation, satisfaction of owning and working land, attachment to a particular parcel that has been in the family for generations and the desire for children to have the land one day, and contentment that their ownership is a means to protect natural resources and, for at least one owner interviewed, represents the preservation of a pocket of "wild" land in an urbanizing area; and because owners do not all share the same level of subjective interest in realizing a profit on their property. In these cases, the owners likely find that on balance their interests are better served by not selling at the current time to realize a profit, though of course, they may choose to do so in the future. In some cases, owners see few negative impacts at all and find that growth has in fact enhanced their existing interests and awakened others. The farmer described above, who took advantage of increased demand for homes in the area by building and leasing houses to Austin commuters, also noted that road improvements accompanying recent development have had a positive effect on his agricultural interests by making his farm more accessible – an unusual sentiment among Austin owners with an interest in agriculture, who generally noted that new development had made the conduct of farming or ranching more difficult.

Another way of understanding why owners hold is that their reservation prices have not been met – but these reservation prices encompass the range of interests owners' hold in land. Healey and Short (1981) used this language, noting that each owner has a "reservation demand" to hold land for the resources or benefits it provides (p. 85); the cost of moving (and finding a replacement parcel of land) and attachment to land figure into the reservation price. I suggest that owners' set of interests, including enjoyment, investment potential, rural income, etc. figure into each owner's unique reservation price.

Other owners reported seeing signs of growth and experienced some negative effects, but have not found that these were significant enough to affect their existing interests. Some, for example, noted that they have seen subdivisions, that they now know fewer people in their areas personally, and that they generally do not like the direction of change in their locale, but they still find enjoyment from living on their land and fulfillment from ranching or farming, even if it is slightly more difficult to conduct agriculture. In these cases, growth either has neutral effects on owners' interests, or is just slightly negative but not bad enough to seriously impair owners' chances of realizing their interests (and, as a result, driving the owner to consider changing land uses or selling property).[37] This point is taken up in the final chapter, because for some of these owners, the public policies meant to address growth may have more severe impacts than the actual development these owners experience in their areas.

For all of these owners who have chosen to hold their land, it is worth asking whether land values may someday rise high enough to satisfy owners' interests in equity, prompting them to sell. In other words, does every landowner have a price at which they will eventually

[37] Some owners in the "deeper" fringe included in the study area – generally farther away from development pressures – have not yet experienced significant changes to their daily lives from the growth around them, even though that growth may be having substantial impacts on the region.

sell, despite having other interests that continue to be satisfied? Previous research suggests that owners' characteristics become less important the more urbanization occurs (Kaiser et al. 1968), suggesting that the pressure to sell may overwhelm individuals' varied and personal reasons for holding. Several longtime owners with no imminent plans to sell indicated that they might indeed pursue this course eventually, but that the price they would accept is high, and has not yet been met. According to one landowner, whose land lies in the most desirable area of the Austin study area, and who frequently gets offers from developers for his land: "They say everything has a price, but right now it would have to be a hell of a price." Another owner shared her ambivalence about selling, noting that although she doesn't want to sell her land, it would be hard not to sell at a certain price: at that point, she indicated, "I couldn't afford *not* to sell it." This same owner also indicated regret that she had sold a large tract to her neighbor a decade ago, because the land's value has risen so much in recent years. But this owner also indicated a certain reluctance to ever receiving an offer so high that she would seriously considering selling her property, noting that she was relieved when her neighbor tried and ultimately failed to negotiate the sale of his land, because she preferred her land to have lower value than to feel pressured to sell it for a high profit. This owner intends her children to have the land, and like many of the owners interviewed, notes that its ultimate ownership and fate will be in their hands: they may elect to sell it, at which point it would likely be developed, or to hold it out of development.

Indeed, children seem a major factor in owners' decisions to sell, even in the most intensely developing areas of the fringe where the profit motive is high. Three owners interviewed wanted to give their children the option to take over ownership in the future, but were not sure what use they would make of it, or whether they might eventually sell it for profit; the implication in all three cases was that the children's interest in the land would depend on their interest in a rural lifestyle, agriculture, or recreation, and two owners noted

that their children had more urban-oriented professions. Two other owners interviewed noted the complex dynamics of dividing land among children, or of siblings co-managing land

III. Conclusion

The landowner research in the Austin fringe allowed me to generate several hypotheses about how interests change over time. I then considered why, despite changes to their subjective interests, owners might hold onto their land, particularly in environments conducive to land sales. Clearly, a major factor in both are owners' individual preferences, aspirations, circumstances, resources, and skills, elements that began to be emerge from follow-up interviews, but that are deserving of much more attention in future research. I propose that the discussion of interests presented in the previous chapters and continued above provides a useful skeleton on which to build a more detailed theory of owners' decision-making to aid in predicting how urbanization will occur in specific areas. For now, the framework that I've presented allows us deeper insight into *why* owners own their land and why they do what they do (including why they do *not* take certain actions, like selling their land), insights useful to policymakers, as I discuss in the following chapter.

Chapter 8

Discussion and Implications of the Research

As reviewed in Chapter 2, numerous authors have noted that the patchy, uneven, sprawling pattern of development characterizing the fringe results, at least in part, from the actions of individual landowners, actions that are dependent on a host of characteristics and circumstances unique to the individual. As Baerwald expressed it, "[e]ach individual [owner] has a unique set of interests, expectations, abilities, and resources" that influence land decisions (Baerwald 1981, p.344). These factors are not easily modeled or predicted. However, I have argued that a more rigorous understanding of landowners' *interests*, defined as the benefits received from ownership or the stake that owners have in owning land, is, at least, both a feasible and fertile area for research, augmenting our knowledge of why, when, and how land conversion occurs, and contributing to the development of workable policies to manage new growth in the fringe. To that end, in Chapter 5, I proposed a set of possible interests that owners might hold in fringe land, discussed the dimensions that help us define them more specifically, and explained how they might be shaped by both external and personal events and circumstances; these elements together comprise what I call a "framework of interests." In Chapter 6, I used this framework to gain insights into the identities, behaviors, and plans of owners of fringe land in Austin, Texas, and I extended the framework in Chapter 7 to offer hypotheses about how interests change over time and influence owners' decisions.

In developing this framework, I integrated the emotional, functional, and financial benefits associated with landownership that are discussed in previous research on fringe land conversion, including research that has noted the importance of emotional ties to land, but not explored these attachments in depth; models of fringe owners' financial motivations for selling and developing land; literature focused on the institutional context in which owners act; and Marxist scholarship on the "exchange" and "use" values of urban land. The framework also developed iteratively from the results of the empirical research conducted in the Austin fringe, involving interviews with 60 Austin-area experts on growth and development, over 500 telephone surveys with fringe landowners, 11in-depth interviews with owners, and a field visit. As discussed in Chapter 6, the data collected from this study revealed that Austin owners hold a range of subjective interests in their property, including those related to the financial benefits of ownership (such as interests in building equity or income from land), the use of land for residence or business, and satisfaction or fulfillment from the enjoyment of resources, amenities, or activities conducted on the property. While each individual has his or her own unique profile of interests, many of these interests group predictably into three general "orientations" toward agriculture, enjoyment of land, and investment. These orientations, along with other key variables including residency, size of land parcel, tenure, and location on the fringe, are useful in describing and differentiating fringe landowners and their past and potential behaviors regarding their land. For example, as discussed at the conclusion of Chapter 6, some behaviors regarding the use, acquisition, and transaction of properties in land markets vary by orientation. Those with an agriculture-orientation are more interested in passing land to children rather than selling it, and are active acquirers of other parcels of land, both properties adjacent to their parcels as well as other tracts in the metro area. Residents (more of whom are enjoyment-oriented) are more likely to state their plans to hold land as is. Investment-oriented owners, particularly development-minded owners, are most interested in selling land now, and development-minded owners are more interested in selling in the near future than others. All three orientations, agriculture,

enjoyment, and investment, report that they buy land more frequently than those without strong interests, suggesting that there is value in looking not just *among* owners with various interests, but in comparing owners who have strong interests in land with those who do not (at least on the dimensions inquired about in the survey; as noted earlier, some emotional attachments were more clearly seen in interviews than in results of the telephone survey, and are a promising arena for future research).

In Chapter 7, I extended the framework of interests from a model that documents and differentiates static interests in land to one that attempts to explain how and why interests change over time. I posited that interests shift over time in response to external events (such as increasing development pressures) and internal family events and circumstances, and the same event or circumstance that serves one interest may be deleterious to another, complicating owners' decision-making. Furthermore, some interests are not likely to be stable over time. Models of landowner behavior that look only at landowners' financial interests or at the owner at only one point of time might miss this richness, and its potential to explain certain actions: for example, the fact that owners with a new opportunity to profit from the sale of their land may not sell, choosing instead to hold their land, because ownership still serves some strong interests and their overall, subjective well-being.

In this concluding chapter, I discuss implications of the Austin-area landowner research and the interest framework for theories of land conversion and for policymaking around growth and development. Since the interest framework is also intended to be a tool that might be applied in future research, I also describe its potential applications.

I. Implications for Theories of Land Conversion

The research presented in this dissertation offers a new perspective on the study of landowners, while also providing an updated empirical look at the fringe landowners in a rapidly growing region of the United States. Both have implications for theories of land conversion, particularly our understanding of landowners' specific roles in the conversion process, as I discuss below.

A. Multiple Interests, Multiple Roles in Land Conversion

The Austin-area landowner study has shown that fringe landowners are, as predicted by previous research, a varied group, including longtime owners and newcomers; residents and nonresidents; farmers, ranchers, and others conducting agriculture on their land; retirees; those in land-intensive occupations and those whose jobs are unrelated to the land; recreators; and those seeking to develop their land. According to previous research, the diversity of owners results from the nature of the fringe as an area in transition from rural to urban (Pryor 1968, Pond and Yeates 1993) and from the outward migration of individuals and families from urban settings who desire the rural amenities and proximity to the city offered by exurban or fringe living (Nelson 1992).

However, the Austin case departs in some ways from previous literature regarding the land-owning population of the fringe. Whereas previous literature has tended to organize owners into mutually exclusive categories, the approach taken in this dissertation reveals that all individual and family owners in Austin hold multiple interests in their land, and, as a result, might accurately be described by several labels. For example, an owner might ranch her land for profit, recreate on the property, and be deeply interested in the potential for appreciating land values, so that she might be called a "rancher," a "recreator," (both might

be called a "rural user" in previous research) and an "investor." *It follows that this same owner may, at different times, play different roles in land markets and in the land conversion process itself:* she might buy land for the purposes of agriculture, recreation, or investment; sell land to those wishing to develop it; subdivide in order to make gifts of land to her children; or hold land out of development even as surrounding parcels are converted to urban uses. The decision the owner makes at any given point, and the role the owner then plays in land conversion in that instance (as a buyer, seller, investor, developer, or holder of land), depends upon the owner's subjective interests, the strength and prioritization of those interests at the time, the specific opportunities that arise that prompt a land decision (such as an offer from a potential buyer of the land, or chance to buy adjacent property), and the potential effects these opportunities might have on interests in the owner's portfolio.[38]

The orientations I introduced in Chapter 6 toward agriculture, enjoyment, and investment are intended to simplify the wide array of multiple-interest landowners into types more easily recognized on the fringe. Indeed, the orientations were only possible because some interests group together predictably: for example, for agriculture-oriented owners, interests are particularly strong in land's legacy value and in the potential for earning income from the land, while for enjoyment oriented owners, interests are strong in recreation and amenities. The orientations also reveal general differences in owners' behaviors and plans. Yet those owners described by only a single orientation still vary in the nature and intensity

[38] We might think of multiple interest owners as having multiple "identities;" however, I prefer to think of an owner as having a single unique *identity*, formed by his or her demographic characteristics, personal circumstances, past behaviors, and portfolio of subjective interests, and as having many possible *roles* in land conversion, as buyer, seller, holder, giver, or conserver of land. In making land decisions, owners do not likely differentiate distinct identities as owners (e.g. a "farmer-owner" or "parent-owner" who will make different decisions depending on which of the hats the owner is wearing); rather, I have proposed that owners assess potential decisions against their *entire* sets of interests and choose the course of action that serves their overall well-being.

of their interests in agriculture, recreation, or investment; the array and strength of their other interests (e.g. in using land for a primary residence); their location, tenure, and parcel size; and their personal characteristics and circumstances. Even these single-orientation owners captured in the Austin-area survey have multiple interests in their land, and certainly all have unique personal and family circumstances, which together create the potential for multiple roles in the land conversion process. For example, a farmer holding both legacy and rural income interests might reasonably make decisions to buy land for farming, give land to children, or, if forced by personal circumstances such as illness, to sell land to support himself in a financial crisis.[39] Those described by multiple orientations – owners who are both investment- and enjoyment-oriented, for example – also have the potential to play multiple roles in the development process at different times, and perhaps have even more complicated land decisions because they hold more interests of higher priority.

That owners play multiple roles in land conversion, as a direct result of their multiple interests in land, helps explain why the fringe develops patchily. As noted earlier, previous literature predicts that pre-development landowners have different points at which they will sell their property, because they seek to optimize profits (Arnott and Lewis, 1979; Batabyal, 2000; Brown et al., 1981; Kaiser and Weiss 1970; Lee, 1979; Leung, 1987; Pyle, 1985; Rodriguez-Bachiller, 1986; Sargent 1972) or as a result of variation among personal circumstances (Brown and Roberts, 1978; Brown et al., 1981; Goodchild and Munton, 1985; Kaiser and Weiss, 1970; Pyle, 1985), resulting in the patchy and leapfrogging nature of fringe growth. However, as I suggested in Chapter 7, because of their multiple interests, and because of the mixed effect growth pressures have on those interests, these owners may also

[39] Baerwald 1981 noted that an owner might reasonably play different roles in the development process depending on their stage of life (a farmer nearing retirement, in Baerwald's example, might become more interested in the investment value of land); in contrast, I suggest that an owners' multiple interests might allow an owner to play one of several roles at *any* given point in time.

buy land; give it to their children (deferring a decision on whether or not to sell in many cases until the next generation has the opportunity to own the property); or hold land out of development, despite opportunities to sell, as it continues to fulfill some of their interests. *The resulting fragmented pattern of land conversion results not just from owners' differences in times of land sale, but from the entire array of their actions.*

Another key finding of the empirical research in Austin is that the progression of ownership we would expect in a developing area, from rural-oriented owners to urban-oriented owners, is not necessarily smooth, and this may also contribute to the patchy nature of fringe development. Rather, the data show that while there appears to be a general trend toward viewing land more for its enjoyment than its agricultural value (and a constant interest in its investment value), those expected by previous literature to be the earliest acquirers of fringe land, farmers and ranchers, do not have significantly longer tenures than enjoyment-oriented or investment-oriented owners,[40] and owners' intentions to use land for agriculture have gone up and down through the years rather than steadily declined. Similarly, the strength of owners' interests in building equity in land, earning rural income from their properties, liquidity, or protecting resources on land, do not vary significantly by the time period in which an owner acquired his or her land. *These findings suggest that, while an individual owner's interests in fringe land will likely change over time, many of the interests that owners in general hold in fringe land take a longer time to evolve: the transition from an agriculture-orientation to enjoyment-orientation is not accomplished quickly, even in rapidly growing regions.*

[40] This is true for both full-time farmers and ranchers, who acquired an average of one year before other owners, and part-time farmers and ranchers, who acquired an average of one year *later* than other owners.

It is clear, however, that this transition is occurring, as noted by other research noting that Texas land values are being driven by demand for residential and recreational land (Gilliland et al., 2004). In the Austin study, this transition is evident in the various portions of the study corridors. Interests in amenities and recreation are significantly stronger among newcomers. Legacy is significantly stronger among the earliest acquirers, and newcomers plan to hold their land for shorter periods, are more likely to want to develop it in the near future and have intended to do so since acquisition, and are also more likely to plan to conserve their property through a formal program in the near future, suggesting that decades-long family attachments to land, and perhaps the quality and quantity of emotional attachments to land, are decreasing. Land is also increasingly fragmented: land uses do not vary much among owners by the year they acquired their land, but newer owners hold smaller parcels on average.

As noted in Chapter 6, in just the five years preceding the landowner survey, the Austin fringe changed a great deal. Roughly one-quarter of land changed hands, and owners reported seeing numerous signs of growth and development in their immediate areas. If landowners' plans hold, a good many more parcels are set to be sold, conserved, developed, or passed to children in the near future. Despite the sense that the fringe is on the verge of even greater change, however, there is a large set of owners, indeed, the majority, whose plans are to hold land as is for the near future. Pyle noted in 1986, "Both the research and the planning communities have overlooked these persistent landowners and their strong non-economic motives for holding rural land that may seem 'ripe' for development" (Pyle 1986, p. 347). These owners' decisions not to sell, develop, or give land away shapes the fringe as much as those who subdivide, develop, or sell their property.

B. Speculation in Land

Another finding emerging from the data regards speculation in land. As noted in Chapter 1, the survey identified few owners whose primary motive for owning land appears to be speculation: merely seven owners appeared in the survey whose *only* strong interests in their property were in equity, liquidity (selling land quickly for cash), or development, despite previous studies that identified small but important groups of owners who actively speculated in land, buying it from rural users like farmers and holding it until selling to developers (Baerwald, 1981; Brown et al., 1981; Clawson, 1971; Coughlin, 1985; Pond and Yeates, 1994a; Sargent, 1976). There are several possible reasons for the apparent lack of speculators in the Austin fringe. First, it is possible that, in Austin in 2002, there are simply fewer owners whose sole purpose in owning is speculation; pre-development owners today, such as farmers or ranchers, might hold land longer and sell directly to developers, rather than selling to the "middle-man" speculator. According to one Austin-area expert, the 1960s through the 80s saw successful doctors, layers, and oilmen assembling large properties in the Austin fringe for investment; now, however, experts in the Austin land market note that this generation is splitting land into smaller parcels, and baby boomers seem to have less affinity for land investment, perhaps because other assets provide greater returns and/or less risk. Today, some of the newer owners of large tracts of land are cash-rich high-tech entrepreneurs and financial executives, according to the area expert, but these owners seek recreation and aesthetics,[41] and have more environmental concerns than past owners.[42] These owners today

[41] These assertions are born out by the survey: amenities, including aesthetics, are of higher interest to all newer owners, and recreation is of higher interest to newer owners of larger parcels.

[42] Note that the survey did not show that newer owners of larger parcels were more interested in environmental protection; resource protection was a concern of high interest to the majority of owners regardless of the date they acquired their land, but it is highly possible that the extent of concern or form (e.g. advocacy for environmental protection policies) does vary between newer, wealthier owners of larger parcels and others; this was not captured by the survey; also, newer owners were more likely to state their likelihood of utilizing a formal conservation program in the near future.

may also be more savvy about the investment potential of their land, perhaps as a result of rising awareness of metropolitan growth and the potential for rising land values (due to recent public discussions about sprawl and policies intended to manage it); as a result, many individual and family owners might act as speculators to some degree, holding land out of development until a certain profit can be made from its sale (in some cases, the owner might deliberately wait for the right price; in other cases, as discussed in Chapter 7, owners may not be waiting for an offer, but might feel they "cannot afford to refuse" a high offer if it comes).

A second possible explanation for the dearth of speculators is that the previous empirical research differed from the Austin landowner survey in the questions used to identify owners as speculators. Previous research may have overlooked the secondary interests of speculators, such as agriculture or recreation in favor of more neatly categorizing owners by their primary interest in speculation. In contrast, the Austin-area survey inquired about the *range* of owners' interests, so that the primary interest may not have emerged as clearly. Nonetheless, it is true that owners were asked to compare the potential for increasing land values with other possible reasons for owning, and very few owners, as noted above, reported that their interest in land values was greater than other non-financial interests. It is difficult, however, to predict the role that equity and other interests will play in actual future land decisions – whether these financial interests ultimately take precedence over other interests – or whether some owners prioritize non-financial interests, such as amenities, for the economic value they add to land, rather than for the enjoyment that is gained from them. More research would certainly be needed to assess the state of Austin-area speculation in land, and whether fewer speculators are found in other metro regions, and why.

If the Austin-area findings hold in other regions and there are indeed fewer professional land speculators participating in land markets today, land conversion theories should be updated to account for changes in the nature of land investment. As noted,

investment may be a less deliberate activity for multiple-interest owners, but those holding land out of development with the knowledge they may one day sell it, or pass it to children who may sell it, are as important to theories of land conversion as professional speculators were in previous decades. Indeed, because these owners are less deliberate speculators and have a range of strong interests in their land, their actions may be more difficult to predict and plan around than in the past.

Pond and Yeates (1994b) (and others, such as Bryant et al. 1982) have argued that landownership changes are good indicators of impending *land use* changes because the "original land user, usually the farmer, rarely acts as a land speculator, developer, builder, or final urban land consumer...Thus it is reasonable to expect a number of landownership changes to occur before actual changes in land use are visible on the landscape" (p. 208). If the "original" owner is today filling the role of speculator – even as he or she uses, earns income from, and enjoys his or her land – the use of landownership change as an indicator of impending land conversion may not be as reliable, as there may be fewer ownership transfers before land development.

II. Implications for Policy

As Brown et al. (1981) noted, if policymakers seek to intervene in land markets, they must know more about those markets, including the landowners who participate in them and their interests and motives. The Austin-area landowner survey revealed a fringe dominated by individual and family owners with multiple interests. These are not the foreign and corporate owners to whom many authors in the 1970s and 80s called policymakers' attention (e.g. Popper, 1976, 1978, 1981), though absentee owners, another group specifically mentioned by previous literature as warranting attention (e.g. Bunce, 1985; Jacobs and Moyer, 1986; Popper, 1978, 1981), comprise about half of the Austin-area owners sampled.

Nonetheless, there are good reasons for policymakers to improve their understanding of individual and family owners, whether resident or not. If Austin is not an anomaly, individuals and families have a great deal of influence over the development of the metropolitan fringe through their land decisions. This group holds the majority of fringe land, and through their individual decisions, determines when it is available for future development. They are also often the targets of and constituencies for policies designed to curb sprawl and protect the environment. In both roles, individual and family owners are central to efforts to manage fringe development and promote alternative patterns of growth. The Austin landowner survey offered some relevant findings for planners and policymakers involved in planning for fringe growth.

A. *Leveraging Owners' Interests*

As noted earlier, Americans hold multiple views of fringe land, seeing it as both a commodity, a private, tradeable good, and as a resource that serves the goals of a broader public (Bryant et al., 1982). In the United States, land use policy attempts to balance these private and public interests. Altshuler (1999) argues that at the heart of land use regulation are two conflicting "ide-ologics" (a combination of ideology and institutional orientation), one valuing private property, and the other valuing community. Americans hold individual rights dear and believe strongly in the power of the free market, but also see the benefits of government intervention to promote communal values. The conflicts inherent in these two ideo-logics spark controversy over appropriate levels of government regulation, but, Altshuler argues, because Americans support both private capitalism and public communalism, there is little likelihood of a swing in the balance toward one or the other; indeed, there is even an acceptance of the inconsistent ideologies because they allow people to draw on one value or the other at any given time.

Some of the individual landowners surveyed and interviewed in Austin reflected these two values within their own private interests. For example, the equity interest and resource protection interest were two of the most highly ranked reasons for owning land, according to landowners surveyed. Equity, the potential for reaping financial gain through appreciating land values, is an interest that will serve the owner and his or her family alone (setting aside instances where the owner uses equity gained from land sale for some social good). An interest in resource protection, on the other hand, is less clearly a private interest: while some of those holding a strong interest in natural resources on their land may simply feel the resources contribute to their personal enjoyment, others may consider that they are providing a communal good by stewarding these resources; and in any case, if the result is the protection of environmental features valued by the larger public, the owner's private interest overlaps with that of the public, regardless of the motivation behind the owner's interest. In some cases, owners might conceivably pursue two or more different interests through multiple land decisions, some with private benefit, some reflecting communal values. For example, one owner in the Austin fringe sold a large parcel of his family's long-held land for a major development, but, with the help of a land trust, protected the remainder of his property through a dedicated easement that allows him to live on the parcel, but not develop it.

Those advocating smarter growth in the fringe can build on shared interests, given an awareness that owners hold a range of interests in their land, and that some of these overlap with communal interests, or are at least consistent with some communal interests (e.g. an owner's appreciation for open space, scenery, other natural amenities, or keeping family lands intact may be consistent with the public interest in protecting open space and environmental resources). This is not a new strategy: staff of conservation organizations who work directly with landowners know the value of appealing to private interests that overlap with those of the public; and visioning sessions around planning for growth try to elicit and

build on shared values, though owners' specific interests may not be as well understood or acknowledged in these group processes. The policymaking process around growth might benefit from a more specific understanding of the range of owners' interests and their potential overlap with communal values; the interest framework presented in this dissertation might help policymakers become more attuned to the diversity of interests that owners have in their land.

However, the Austin-area research raises interesting questions about how one identifies "communal" or public interests; indeed, this is one of the most difficult questions in the field of planning and policy. When the interests of large groups of landowners (and other non-owners in the fringe) conflict with those of planners and policymakers, who represent the public's interests? Many Austin-area landowners reported that the decisions of their neighbors regarding their land are important factors in their own decisions; as some owners explained, they do not wish to be the last agricultural operation in their areas, surrounded by subdivisions built on the former pastures of their neighbors. When a neighbor does decide to sell or develop, abutters might prefer low-density ranchettes over a higher-density development, which they perceive as less threatening to their interests, though perhaps from a planner's perspective, a higher-density development would be more appropriate. While there are no easy solutions to these land use conflicts, steps to minimize the negative effects on area owners' interests, or to find ways to positively affect their other interests (e.g. in community amenities and services) are obviously helpful. It also follows that when an owner's property is directly involved, in general, policies that reward at least some of the owner's interests, such as transfer of development rights or agricultural use tax exemptions, may be the best policies for gaining owner cooperation, because the financial reward, even if less than the value that could be gained through development of the land, may be sufficient to serve an owner's financial interests while fulfilling also non-financial

interests, such as a desire for a rural lifestyle, maintenance of family lands in the family, or enjoyment of natural amenities.

B. Transparency and Inclusion

While previous authors have noted the need to put policies in place early to deal with impending growth, before land has changed ownership into the hands of speculators or developers intent on converting it from rural to urban uses (Brown et al., 1981; Coughlin, 1985); before an agricultural area is drawn into a larger urban field, and small towns and exurbs are growing (Pond and Yeates, 1993); and before landowners' expectations about higher property values have taken hold (Coughlin, 1985; Heimlich and Anderson, 2001), the Austin-area research suggested that, sometimes, owners (and others) may perceive policies to be worse than the growth they seek to address. In one case, an owner who has seen development in his area, but perceives its effects as minimal (e.g. traffic has not increased substantially, scenic views have not changed that much), learned of a proposed policy that would involve flooding his land in order to protect a certain water source from over-development. Obviously, in this dramatic case, the policy was worse for the owner than the problems he encountered on a day-to-day basis as a result of the problem, the area's development. Less dramatically, owners in areas that have yet to experience much development may question proactive efforts by municipalities, counties, or regions to control growth when they have not yet seen the effects of that growth. This is not to suggest that such efforts should be delayed until development is already occurring, but it does highlight the value of transparency and inclusion in the planning process. A landowner interviewed in Austin noted that, even in areas where the effects of growth are evident and proposed development or growth management policies are contentious, policymaking efforts often involve the development community and the environmental communities on opposite sides, with mediation from the planners and policymakers, but often without the direct involvement

of landowners at the negotiating table; such exclusion can raise suspicion and increase conflict. In short, policymakers and planners must be aware both of owners' perceptions of the *problem* and the proposed *policy* formulated to address it as they seek workable and politically-acceptable land use and growth policies, and engage owners at the earliest stages, which is likely to lead to more productive participation and negotiation.

C. Value Conflict in the Planning Process

Above, I discussed potential conflicts and areas of convergence between landowners and those seeking alternative development patterns. I now turn to a related issue, conflicts in the planning process among different types of landowners. Previous articles by Dubbink (1984) and Spain (1993) have pointed out the value conflicts that can occur in developing areas between different types of owners, notably, in Spain's terms, the "been-heres" (longtime owners) and "come-heres" (newcomers), in particular over willingness to accept government intervention into managing growth. In general, Spain argues says that longtime owners who believe that their rural communities have become more urban perceive policies to protect the remaining rural aspects to be more restrictive than useful, while newcomers seek to put policies in place to protect the quaint towns and rural landscape that they have just come to know (Spain, 1993). Spain argued that the rhetoric used in planning processes is important, because it can mask differences in underlying values between "been-heres" and "come-heres."

The lessons from Spain's research are instructive. As I learned through the Austin fringe research, the rhetoric owners use and the stories they tell about their land are critical for understanding their values, perceptions, and positions. Such stories are a kind of information that should be given as much weight as technical, formal information (Innes, 1998), and could be brought out more in the planning processes surrounding growth, rather

than being seen as a distraction to the process. This is probably most practically accomplished in lengthy sessions, like charrettes or visioning sessions, than in more time sensitive venues like public hearings. The rhetoric planners use is also important (a regional planner noted that terms like "smart growth" or "new urbanism" "might get you shot up in rural areas" of the Austin fringe, but people respond positively to images of places planned with these principals).

The Austin-area research also revealed that potential interest conflicts may arise between groups other than newcomers and longtime owners. Though there are differences in owners' characteristics, behaviors, and plans by the date they acquired their land, differences among Austin fringe owners are more clearly seen in the light of interests, or at least interest orientations. For example, there may be more differences between a recent acquirer with an agriculture orientation and a recent acquirer with an investment orientation, than there are between two a longtime farmer and a new farmer. Future research might examine differences in the perceptions of policies and the values expressed in the planning process among different owner orientations.

Landowners aside for a moment, the research also suggests that regional discourse on growth can also be improved with a deeper awareness of rhetoric and participants' perceptions of growth and change. When asked in interviews to comment on the likely rate and location of new development in the Austin fringe, area experts' perceptions of the rate of growth tended to differ depending on whether they took an urban, fringe, or rural perspective, and on their temporal frame. For example, developers tended to begin their assessment of development trends at the site of current development and to look outward from already urbanized places to the next desirable and undeveloped area, and overall had fairly modest expectations about the rate of new growth; indeed, this group of interviewees focused most on the short term. In sharp contrast, conservation and farming advocates, who

tended to look from rural areas inward, toward Austin, were much more likely to state that growth was intense nearly everywhere in the fringe. Regional planners, and those who worked for the counties included in the study, fell between developers and farmland and environmental advocates in their assessments of how deep into the fringe development currently extended and how rapidly growth was likely to occur in the Austin fringe in the next decade. It is admittedly unusual for all of these actors to weigh in with their opinions on the direction and pace of new growth in a metropolitan region, but as it is not unusual for developers, environmental and farmland advocates, and local and regional planners to participate in public discourse about growth and appropriate tools for its management, these findings suggest it would be beneficial for participants to make clear their point of reference, including what indicators of growth they find pertinent and what time horizons they consider important.

D. *Practical Smart Growth*

As the research described in this dissertation revealed, most of the fringe land in Austin is in the hands of private individual and family landowners (it is likely that other regions will have similarly high rates of private ownership, though unclear whether individual and family ownership is as dominant in all locations). Advocates of "smart growth" policies must acknowledge that any workable alternative to low-density, auto-dependent sprawl must take into account the interests of private landowners. As I have shown, however, more efficient, equitable, and environmentally-sensitive forms of development are not necessarily incompatible with landowner's interests; the hope, however, is that planners and others do a better job of understanding these interests. This involves some of the suggestions above: inclusion and transparency in the planning process, and an emphasis on learning about the range of owners' interests through stories told one-on-one to planners, policymakers, or others (such as conservation officials), or in the policy process

itself; if given proper attention, owners' emotional interests in land may in particular emerge in a clearer light.

III. Future Research

I have argued in this dissertation that land conversion scholarship and policymakers would do well to adopt the lens of interests to understand landowners' complex motivations and behavior regarding their land, and their roles in land conversion. The framework of interests proposed here could be applied to owners of fringe land in any American metro region, as it specifically allows for the unique relationships between owners and their locations; indeed, a key part of the framework is the need to understand owners in their contexts. However, more than one case is clearly needed to test the framework's usefulness and its hypotheses about the range and interest of interests owners might hold in fringe land, the factors shaping them, and the reasons for and implications of changes to those interests over time. In particular, more research is needed into the nature of specific interests: for example, though many Austin-area owners indicated strong interests in equity or natural resources, these benefits of ownership may hold different meanings to different owners, and the subtleties within the interest should be investigated in greater detail. Qualitative research will also be particularly useful in providing insight into the important emotional attachments that owners have to their properties.

In addition, qualitative research will also help draw more clearly the link between interests and owners' decisions, particularly the circumstances under which owners' prioritization of interests change, and how those interests play into decisions. For example, landowners may value recreation and equity equally, but decide to sell upon receiving an offer the owner "can't refuse." Future research can explore the mechanism at work here that, at a certain point, makes the equity interest the higher priority.

Practically, additional cases are also needed to assess the type and mix of owners who possess land on the fringes of American metropolitan areas, as owner profiles may differ by region, size and character of fringe, and level of development pressures. For example, all fringe areas may not be so dominated by individual and family owners as Austin; while the validity of the findings for individuals and families still holds, they may be of less concern or value in other regions where corporate ownership dominates. In addition, different regions have stronger planning and land use controls than Austin, which may influence how owners think of their property and, certainly, the decisions they are able to make.[43]

Another area of research might be owners' interests and decision-making when the same parcel is owned by multiple parties, such as large families or partnerships. In such cases, land decisions are likely to be particularly complex as participants negotiate with each other from their unique portfolios of interests. Indeed, interviews with Austin-area owners pointed to the difficulties of making land decisions with multiple parties: one described large family meetings over the fate of particular parcels of land, another spoke of how it might be easier for two brothers to sell land than fight over what was to become of it as their children neared adulthood. Since multiple-party ownership is not unusual, future research might explore the particular dynamics of interests and decisions in these cases, and their effect on the use and development of large land parcels on the fringe.

Finally, there are three possible avenues for policy-oriented research. First, research could examine the rhetoric and values of different types of owners expressed in local and regional policymaking processes, with the goal of increasing understanding among participants and making public discourse more productive. Second, future studies can examine the incentive structures in policies and programs targeted at landowners, such as

[43] The Lincoln Institute of Land Policy has data from four regions with varying levels of public land use intervention and is poised to address this question.

agricultural tax exemptions, the Endangered Species Act, and others, through the lens of owners' interests, which might help policymakers devise more effective incentives. Third, research might examine the link between owners' private subjective interests and collective special interest politics, where owners band together to press a particular political agenda. There is an obvious link here to the private property movement, the organization of some landowners to resist government regulation of private property, and research could explore whether private interests, as defined in this dissertation, are the building blocks to political action in organized groups, either in opposition to government regulation, or for other political purposes (perhaps to push for a certain type of regulation or development plan for an area or region). An interesting comparison could certainly be explored between fringe owners' efforts to organize around their interests, and the collective responses of urban property owners and urban neighborhoods to change, particularly gentrification. Spain (1993) compares the responses of urban and fringe actors to development and change, but future research could explore explicit efforts to *organize* around interests (including owners' potential to organize around emotional, rather than financial, interests), and the nature of interests themselves in urban and fringe settings.

Whether we own land in the fringe or not, we all have an interest in the resources of the metropolitan fringe: in its arable land, water resources, open space, scenery, wildlife and wild places; in the land that can support future development; and in the rural communities that exist now. Indeed, it is not surprising, given the variety of features and the diversity of people interested in these resources, that conflicts over land uses and land conversion are characteristic of fringe areas (Bryant et al. 1982). As increasing numbers of Americans make their homes in the fringe, it is imperative that we understand better the processes of fringe development and *all* of the interests at stake, including the interests of the owners of fringe land (and the differences among these owners); of other residents and users of fringe land;

and of the public. This dissertation has offered a deeper examination of the interests of landowners, those who are currently in control of future sites of development, but clearly, there are plentiful avenues for future research.

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City of Bastrop, including its comprehensive plan: http://www.cityofbastrop.org/
City of Bastrop Chamber of Commerce: http://www.bastropchamber.com/
City of Dripping Springs: http://www.drippingspring.com/
City of Lockhart, including its comprehensive plan: http://www.lockhart-tx.org/
Envision Central Texas: http://www.envisioncentraltexas.org/
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Save our Springs Alliance: http://www.sosalliance.org/
State of Texas, for information on the property tax: http://www.window.state.tx.us/taxinfo/proptax/
State of Texas Parks and Wildlife: http://www.tpwd.state.tx.us/
State Highway 130 information: http://www.sh130.com/project/
US Census Bureau: http://www.census.gov/
US Department of Agriculture National Agricultural Statistics Service 2002 Agricultural Census: http://www.nass.usda.gov/census/census02/
US Fish and Wildlife Service: http://www.fws.gov/

Appendix

Lincoln Institute of Land Policy
Austin Fringe Landowner Survey
Questionnaire
2002

If contacted for the pilot study (PILOT=1):

Hello, my name is $I and I'm calling from the University of Connecticut on behalf of the Lincoln Institute of Land Policy and the Joint Center for Housing Studies of Harvard University. We are conducting a survey regarding land use and landownership in the Austin region. May I please speak with <owner>? (REPEAT INTRO IF NEW PERSON GETS ON PHONE.)

If not contacted for the pilot study (PILOT=0):

Hello, my name is $I and I'm calling from the University of Connecticut on behalf of the Lincoln Institute of Land Policy and the Joint Center for Housing Studies of Harvard University. May I please speak with <owner>? You may have been contacted last year to participate in a similar survey about land use and landownership in the Austin region but we'd like to ask you some new questions on this topic at this time.

CONTINUE..... 01

We are calling about the <acres > acre parcel of land, (specifically, the property at <address> in <city >) in <county> county. You should have received a letter prior to this phone call, explaining this study. (IF NO ADDRESS AND CITY, SAY THE NUMBER ACRE PARCEL IN THE COUNTY LISTED.)

SCQ1. First, let me verify that you are (or "your organization is") in fact an owner of the property at <address > in <city> in <county> county. (IF NECESSARY ASK: "Are you or is your organization considered the legal owners of this property?")

Yes	01	=> Q1
I am related to or authorized to speak for the owner	02	=> Q1
Not owner-but able to provide referral (SET UP CALL BACK INFO)	03	=> NAME
Not owner-can not identify appropriate respondent	04	
Don't know	98	
Refused	99	

Thank you very much. That is all the questions we have for you.

Terminate Interview (Not owner)	TI	=> END

All others continuing:

Q1. Please tell me which of the following forms of ownership applies to this property? (READ CHOICES 1-4)

Individual or family	01	=> Q3
Partnership	02	=> Q3
Family-held corporation	03	=> Q3
Other corporation	04	
Other (Do not read precoded list:)	05	=> Q3
Other-Cooperative (volunteered)	06	=> Q3
Other-Estate (volunteered)	07	=> Q3
Other-Trust (volunteered)	08	=> Q3
Other-Institution (volunteered)	09	=> Q3
Other (Specify) (volunteered)	80	=> Q3
_____		
_____		
_____		
Don't Know	98	=> Q3
Refused	99	=> Q3

Q2. Is the corporation for-profit or not-for-profit?

For-profit	01
Not-for-profit	02
Don't know	98
Refused	99

Q3. Approximately how many acres is the property at <address> in <city> in <county> county. (INTERVIEWER NOTE: ENTER 6 DIGITS, ROUND UP IF 1/2 ACRE OR MORE).

Don't know 999998
Refused 999999

IQ4. Unless otherwise noted, the questions in this survey are about this <q3 > acre property.

Continue 01

Please tell me what percent of the property is currently involved in each of the following uses. I'll read all the uses first, and then repeat them for your responses one by one. Those uses are: 1) uses related to farming, ranching or forestry including dwellings, 2) open idle or other undeveloped land, 3) rural commercial or industrial uses, 4) urban or suburban commercial or industrial uses, 5) residential uses, but not associated with a farm or ranch, or 6) other uses.

Continue 01

(If at the end of this series, Q4A-Q4J total greater than 100, say "Your answers to the last set of questions total more than 100%. Please revise some or all of your answers to these questions.")

IQ4A. Please tell me what percentage of the property is currently involved in each of the following uses. Please keep in mind that all uses, combined together, should equal 100% of the property usage. First...

CONTINUE 01

Q4A. Uses related to farming, ranching, or forestry, including dwellings (ENTER NUMBER 0-100).

Don't know 998
Refused 999

Q4B. Open, idle, or other undeveloped land (ENTER NUMBER 0-100).

Don't know 998
Refused 999

Q4C. Rural commercial or industrial uses (INTERVIEWER NOTE: for example, a quarrying operation or farm supply business) (ENTER NUMBER 0-100).

Don't know 998
Refused 999

Q4D. Urban or suburban commercial or industrial uses (ENTER NUMBER 0-100).

Don't know 998
Refused 999

Q4F. Residential use, but not associated with a farm or ranch (ENTER NUMBER 0-100).

Don't know 998
Refused 999

Q4G. Other use such as utility. For example, power lines or sub station.

Don't know 998
Refused 999

Q4h. Other use such as transportation. For example, private rail lines for example.

Don't know 998
Refused 999

Q4i. Other use such as institutional uses. For example, educational, religious uses, church, or university.

Don't know 998
Refused 999

Q4J. What about some other use that we have not mentioned? (ENTER NUMBER 0-100)

Don't Know 998
Refused 999

Q4JA. You mentioned that <q4j >% of the property is related to something we did not list. What exactly is that other use?

Type verbatim 01

_____

_____

_____

Don't Know 98
Refused 99

If ALL land is in developed use (commercial, residential, utility, transportation) uses, terminate interview. (Not included in final sample for analysis).

Thank you very much for your time. Those are all the questions that I have.

Terminate Interview (100% land use) ..... LU => END

Q5. Is the property used for recreation? (INTERVIEWER NOTE: COULD BE PUBLIC, PRIVATE, OR PERSONAL RECREATION.)

Yes 01
No 02
Don't know 98
Refused 99

For those with land in agricultural use: Q4A>0; *otherwise skip to Q12*

Q9. What percent of the land in agricultural use do you lease to others to farm or ranch?

Don't know 998
Refused 999

Q12. How did you acquire the property? Did you: (Read choices, accept up to 4 responses)

Buy it 01
Inherit it 02
Receive it as a gift 03
Receive it as payment for a debt 04
Don't know 98
Refused 99

Q13. Did you acquire the property all at once, or in more than one transaction?

All at once 01
More than one 02
Don't know ..... 98 => Q57
Refused ..... 99 => Q57

If Q12==01 AND Q13==01, skip to Q14 *(Bought property all at once.)*

If ((Q12=01 AND Q12=02,03,04) AND Q13==02), skip to Q56 *(Acquired property by purchasing some and received other parts via inheritance, gift, or debt payment in multiple transactions.)*

If Q12==01 AND Q13==02, skip to Q24 *(Bought property in multiple transactions.)*

If (Q12>01 AND Q12<98) AND Q13==01, skip to Q35 *(Acquired via inheritance, gift, or debt payment in one transaction.)*

If (Q12>01 AND Q12<98) AND Q13==02, skip to Q45 *(Acquired via inheritance, gift, and/or debt payment in multiple transactions.)*

For those who bought property in one transaction:

Q14. In what year did you buy the property? (ENTER 4-DIGIT YEAR.)

Don't know 9998
Refused 9999

Q15. How did you first identify the property? (READ LIST.)

Family member, friend, or neighbor 01
Sign posted on property or advertisement 02
Broker/real estate agent 03
Self-initiated contact with owner 04
Other (specify) 05

_____

_____

_____

Don't know 98
Refused 99

IQ16. At the time you first acquired the property, did you intend to use it for:

CONTINUE 01

Rotation => Questions Q16a through Q16f asked in random order.

Q16a. Uses related to farming, ranching, or forestry, including dwellings

Yes 01
No 02
Don't know 98
Refused 99

Q16b. Open, idle, or other undeveloped land

Yes 01
No 02
Don't know 98
Refused 99

Q16c. Rural commercial or industrial uses

Yes 01
No 02
Don't know 98
Refused 99

Q16d. Urban or suburban commercial or industrial uses

Yes 01
No 02
Don't know 98
Refused 99

Q16e. Residential use not associated with a farm or ranch

Yes 01
No 02
Don't know 98
Refused 99

Q16f. Recreation (Interviewer: Either public, private or personal recreation)

Yes 01
No 02
Don't know 98
Refused 99

IQ17. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, please tell me how important each of the following were in influencing your decision to purchase this particular property:

CONTINUE 01

Rotation => Questions Q17a through Q17h asked in random order.

Q17a. Proximity to municipal services, such as sewer or water (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q17B. Length of commute time to your job (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q17c. Amenities and services in the area, such as scenery, open space, and schools (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q17d. Land size and property suited for agriculture or ranching (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q17e. Price or terms of sale (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q17f. Property taxes(PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q17g. Land and house suited for family (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q17h. Proximity to family or friends (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q18. When you bought the property, did you intend to subdivide it at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q19. Did you intend to develop the property at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q20. When you bought the property, did you think you would likely hold the land: (Read choices 1-3)

For 10 years or more years 01
For 6 to 10 years 02
For 5 years or less 03
Don't know 98
Refused 99

Q21. When you first bought the property, how important was the possibility that you could at some point acquire neighboring land to create a larger property? Was it very important, somewhat important, not very important, or not at all important?

Very important 01
Somewhat important 02
Not very important ..... 03 => Q23
Not at all important ..... 04 => Q23
Don't know ..... 98 => Q23
Refused ..... 99 => Q23

Q22. Why did you consider creating a larger parcel? (READ CHOICES 1-3; ACCEPT UP TO 4 RESPONSES.)

Farming, ranching, or forestry 01
Investment 02
Development 03
Other reason (specify) 80

_____

_____

_____

Don't know 98
Refused 99

Q23. At the time of purchase, did you intend to lease any of the land to others to farm or ranch?

Yes	01	=> IQ70
No	02	=> IQ70
Don't know	98	=> IQ70
Refused	99	=> IQ70

For those who bought property in multiple transactions:

Q24. How many transactions did you take to acquire the entire property? (ENTER 2 DIGITS.)

Don't know 98
Refused 99

Q25. In what year did you buy the first parcel of the property? (ENTER 4-DIGIT YEAR.)

Don't know 9998
Refused 9999

Q26. How did you find the first parcel? (READ CHOICE 1-4.)

Family member, friend, or neighbor 01
Sign posted on property or advertisement 02
Broker/real estate agent 03
Self-initiated contact with owner 04
Other (specify) 80

_____

_____

_____

Don't know 98
Refused 99

IQ27. At the time you bought the first parcel of the property, did you intend to use it for:

CONTINUE..... 01

Rotation => Questions Q27a through Q27f asked in random order.

Q27a. Uses related to farming, ranching, or forestry, including dwellings

Yes..... 01
No..... 02
Don't know..... 98
Refused..... 99

Q27b. Open, idle, or other undeveloped land

Yes..... 01
No..... 02
Don't know..... 98
Refused..... 99

Q27c. Rural commercial or industrial uses

Yes..... 01
No..... 02
Don't know..... 98
Refused..... 99

Q27d. Urban or suburban commercial or industrial uses

Yes..... 01
No..... 02
Don't know..... 98
Refused..... 99

Q27e. Residential use, not associated with a farm or ranch

Yes..... 01
No..... 02
Don't know..... 98
Refused..... 99

Q27f. Recreation (INTERVIEWER: public, private or personal recreation.)

Yes 01
No 02
Don't know 98
Refused 99

IQ28. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, please tell me how important each of the following were in influencing your decision to purchase the first parcel of this particular property:

CONTINUE 01

Rotation => Questions Q28a through Q28h are asked in random order.

Q28a. Proximity to municipal services, such as sewer or water (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28b. Length of commute time to your job (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28c. Amenities and services in the area, such as scenery, open space, and schools (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28d. Land size and property suited for agriculture or ranching (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28e. Price or terms of sale (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28f. Property taxes (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28g. Land size and house suited for family (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q28h. Proximity to family or friends (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q29. When you bought the first parcel of the property, did you intend to subdivide it at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q30. Did you intend to develop the property at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q31. When you bought the first parcel of the property, did you think you would likely hold the land: (READ LIST.)

For 10 or more years	01
For 6 to 10 years	02
For 5 years or less	03
Don't know	98
Refused	99

Q32. When you first bought the first parcel of the property, how important was the possibility that you could at some point acquire neighboring land to create a larger parcel? Was it very important, somewhat important, not very important, or not at all important?

Very important	01	
Somewhat important	02	
Not very important	03	=> Q34
Not at all important	04	=> Q34
Don't know	98	=> Q34
Refused	99	=> Q34

Q33. Why did you consider creating a larger parcel? (READ CHOICES 1-3; ACCEPT UP TO 4 RESPONSES.)

Farming, ranching, or forestry	01
Investment	02
Development	03
Other reasons (specify)	80

_____

_____

_____

Don't know	98
Refused	99

Q34. At the time you purchased the first parcel, did you intend to lease any of it to others to farm or ranch?

Yes	01	=> IQ70
No	02	=> IQ70
Don't know	98	=> IQ70
Refused	99	=> IQ70

For those who acquired via inheritance, gift, or debt payment in one transaction.

Q35. In what year did you acquire the property? (ENTER 4-DIGIT YEAR.)

Don't know	9998
Refused	9999

Q36. Did you receive the property from a family member?

Yes	01	
No	02	=> IQ38
Don't know	98	=> IQ38
Refused	99	=> IQ38

Q37. At the point you acquired it, how many years had the property been in your family? (ENTER THREE DIGITS.)

Don't know	998
Refused	999

IQ38. At the time you first acquired the property, did you intend to use it for:

CONTINUE	01

Rotation => Questions Q38a through Q38f asked in random order.

Q38a. Uses related to farming, ranching, or forestry, including dwellings

Yes	01
No	02
Don't know	98
Refused	99

Q38b. Open, idle, or other undeveloped land

Yes	01
No	02
Don't know	98
Refused	99

Q38c. Rural commercial or industrial uses

Yes	01
No	02
Don't know	98
Refused	99

Q38d. Urban or suburban commercial or industrial uses

Yes	01
No	02
Don't know	98
Refused	99

Q38e. Residential use, not associated with a farm or ranch

Yes 01
No 02
Don't know 98
Refused 99

Q38f. Recreation (Interviewer: either personal or public recreation)

Yes 01
No 02
Don't know 98
Refused 99

Q39. When you acquired the property, did you intend to subdivide it at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q40. Did you intend to develop the property at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q41. When you first acquired the property, did you think you would likely hold the land: (READ CHOICES 1-3.)

For 10 or more years 01
For 6 to 10 years 02
For 5 years or less 03
Don't know 98
Refused 99

Q42. When you first acquired the property, how important was the possibility that you could at some point acquire neighboring land to create a larger parcel? Was it very important, somewhat important, not very important, or not at all important?

Very Important	01	
Somewhat important	02	
Not very important	03	=> Q44
Not at all important	04	=> Q44
Don't know	98	=> Q44
Refused	99	=> Q44

Q43. Why did you consider creating a larger parcel? (READ CHOICES 1-3; ACCEPT UP TO 4 CHOICES.)

Farming, ranching, or forestry	01
Investment	02
Development	03
Other reasons (specify)	80
_____	
_____	
_____	
Don't know	98
Refused	99

Q44. At the time you acquired the property, did you intend to lease any of it to others to farm or ranch?

Yes	01	=> IQ70
No	02	=> IQ70
Don't know	98	=> IQ70
Refused	99	=> IQ70

Acquired via inheritance, gift, and/or debt payment in multiple transactions.

Q45. How many transactions did you take to acquire the property? (ENTER TWO DIGITS.)

Don't know	98
Refused	99

Q46. In what year did you acquire the first parcel of the property? (ENTER 4- DIGIT YEAR.)

Don't know	9998
Refused	9999

Q47. Did you receive the first parcel of property from a family member?

Yes	01	
No	02	=> IQ49
Don't know	98	=> IQ49
Refused	99	=> IQ49

Q48. At the point you acquired it, how many years had the property been in your family? (ENTER 3 DIGITS. ROUND TO THE NEAREST YEAR: 1.5 YEARS = 2.)

Inherited from someone other than family member	997
Don't know	998
Refused	999

IQ49. At the time you acquired the first parcel of the property, did you intend to use it for:

CONTINUE	01

Rotation => Questions Q49a through Q49f asked in random order.

Q49a. Uses related to farming, ranching, or forestry , including dwellings

Yes	01
No	02
Don't know	98
Refused	99

Q49b. Open, idle, or other undeveloped land

Yes	01
No	02
Don't know	98
Refused	99

Q49c. Rural commercial or industrial uses

Yes	01
No	02
Don't know	98
Refused	99

Q49d. Urban or suburban commercial or industrial uses

Yes 01
No 02
Don't know 98
Refused 99

Q49e. Residential use, not associated with a farm or ranch

Yes 01
No 02
Don't know 98
Refused 99

Q49f. Recreation (Interviewer: either public, private or personal recreation)

Yes 01
No 02
Don't know 98
Refused 99

Q50. When you acquired the first parcel of the property, did you intend to subdivide it at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q51. Did you intend to develop the property at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q52. When you acquired the first parcel of the property, did you think you would likely hold the land: (READ CHOICE 1-3.)

For 10 or more years 01
For 6 to 10 years 02
For 5 years or less 03
Don't know 98
Refused 99

Q53. When you first acquired the first parcel of the property, how important was the possibility that you could at some point acquire neighboring land to create a larger

parcel? Was it very important, somewhat important, not very important, or not at all important?

Very important	01	
Somewhat important	02	
Not very important	03	=> Q55
Not at all important	04	=> Q55
Don't know	98	=> Q55
Refused	99	=> Q55

Q54. Why did you consider creating a larger parcel? (READ CHOICES 1-3, ACCEPT UP TO 4 RESPONSES.)

Farming, ranching, or forestry	01
Investment	02
Development	03
Other reasons (specify)	80
_____	
_____	
_____	
Don't know	98
Refused	99

Q55. At the time you acquired the first parcel of the property, did you intend to lease any of the land to others to farm or ranch?

Yes	01	=> IQ70
No	02	=> IQ70
Don't know	98	=> IQ70
Refused	99	=> IQ70

Acquired property by purchasing some and received other parts via inheritance, gift, or debt payment in multiple transactions.

Q56. How many transactions did you take to acquire the property? (ENTER 2 DIGITS.)

Don't Know	98
Refused	99

Q57. When did you acquire the first parcel of land? (ENTER 4-DIGIT YEAR.)

Don't know	9998
Refused	9999

Q58. How did you acquire the first parcel of land?

Bought it	01	
Inherited it	02	=> Q59A
Received it as a gift	03	=> Q59A
Received it as payment for a debt	04	=> IQ63
Don't Know	98	=> IQ63
Refused	99	=> IQ63

Q59. How did you find this first parcel? (READ LIST.)

Family member, friend, or neighbor	01
Sign posted on property or advertisement	02
Broker/real estate agent	03
Self-initiated contact with owner	04
Other (specify)_____	80
_____	
_____	
Don't know	98
Refused	99

Q59a. Thinking about the piece of the property that you inherited or received as a gift: did you receive this part of the property from a family member?

Yes	01	=> Q59B
No	02	=> DUM11
Don't Know	98	=> DUM11
Refused	99	=> DUM11

Q59b. At the point you acquired it, how long had the property been in your family?

Don't Know	998
Refused	999

Skip to IQ63 if first parcel was inherited/received as gift (Q58==02 OR Q58==03).

IQ60. Now I would like to ask you about the portion of the parcel you purchased. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, please tell me how important each of the following were in influencing your decision to purchase this first parcel:

CONTINUE	01

Rotation => Questions Q60a through Q60h asked in random order.

Q60a. Proximity to municipal services, such as sewer or water (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q60b. Length of commute time to your job (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q60c. Amenities and services in the area, such as scenery, open space, and schools. (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q60d. Land size and property suited for agriculture or ranching (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q60e. Price or terms of sale (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q60F. Property taxes (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q60G. Land size and house suited for family (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q60h. Proximity to family or friends (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

IQ63. At the time you first acquired the first part of the property, did you intend to use it for:

CONTINUE 01

Rotation => Questions Q63a through Q63f asked in random order.

Q63a. Uses related to farming, ranching, or forestry, including dwellings

Yes 01
No 02
Don't know 98
Refused 99

Q63b. Open, idle, or other undeveloped land

Yes 01
No 02
Don't know 98
Refused 99

Q63c. Rural commercial or industrial uses

Yes 01
No 02
Don't know 98
Refused 99

Q63d. Urban or suburban commercial or industrial uses

Yes 01
No 02
Don't know 98
Refused 99

Q63e. Residential uses, not associated with a farm or ranch.

Yes 01
No 02
Don't know 98
Refused 99

Q63f. Recreation (Note: either public, private or personal recreation)

Yes 01
No 02
Don't know 98
Refused 99

Q64. When you acquired the first parcel of the property, did you intend to subdivide it at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q65. Did you intend to develop the property at some point in the future?

Yes 01
No 02
Don't know 98
Refused 99

Q66. When you acquired the first parcel of the property, did you think you would likely hold the land: (READ CHOICES 1-3.)

For 10 or more years 01
For 6 to 10 years 02
For 5 years or less 03
Don't know 98
Refused 99

Q67. When you acquired the first parcel of the property, how important was the possibility that you could at some point acquire neighboring land to create a larger parcel? Was it very important, somewhat important, not very important, or not at all important?

Very important	01	
Somewhat important	02	
Not very important	03	=> Q69
Not at all important	04	=> Q69
Don't know	98	=> Q69
Refused	99	=> Q69

Q68. Why did you consider creating a larger parcel? (READ CHOICES 1-3, ACCEPT UP TO 4 RESPONSES.)

Farming, ranching or forestry	01
Investment	02
Development	03
Other reasons (specify)	80
_____	
_____	
_____	
Don't know	98
Refused	99

Q69. At the time you acquired the first parcel of the property, did you intend to lease any of the land to others to farm or ranch?

Yes	01
No	02
Don't know	98
Refused	99

All respondents:

IQ70. Now we have some questions on land sales.

CONTINUE	01

Q70. Have you ever owned and then sold or given away land adjacent to this property?

Yes	01	
No	02	=> Q75
Don't know	98	=> Q75
Refused	99	=> Q75

Q71. How many times have you sold or given away land adjacent to the property? (ENTER 2 DIGITS.)

Don't Know 98
Refused 99

For those who have sold/given away 1 time (Q71=1):

Q72. Why did you sell or give away a portion of the property? (DO NOT READ LIST and ACCEPT MULTIPLE.)

To transfer land to children or other family members 01
Other non-financial family or lifecycle issues (e.g. retirement, divorce, new job, wanted change of pace, etc) 02
To assist a neighbor or friend 03
Received good offer 04
Needed money 05
To protect land from development 06
Tax advantages 07
Better investment elsewhere 08
Area ripe for development/development pressures 09
Some other reason (specify) 80

_____
_____
_____

Don't know 98
Refused 99

For those who have sold/given away more than 1 time (Q71>1 and <98):

Q72B. Thinking about the largest parcel, why did you sell or give this portion of the property? (DO NOT READ LIST and ACCEPT MULTIPLE.)

To transfer land to children or other family members 01
Other non-financial family or lifecycle issues (e.g. retirement, divorce, new job, wanted change of pace, etc) 02
To assist a neighbor or friend 03
Received good offer 04
Needed money 05
To protect land from development 06
Tax advantages 07
Better investment elsewhere 08
Area ripe for development/development pressures 09
Some other reason (specify) 80

_____
_____
_____

Don't know 98
Refused 99

Q73. In what year did you sell or give away the parcel? (ENTER 4 DIGIT YEAR) (IF NECESSARY, SAY "Thinking about the largest parcels".)

Don't Know 9998
Refused 9999

Q74. How many acres was the parcel? (ENTER 6 DIGITS.)

Don't know 999998
Refused 999999

Q75. Are you currently considering selling or giving away any or all of the property?

Yes 01
No ..... 02 => IQ78
Don't know ..... 98 => IQ78
Refused ..... 99 => IQ78

IQ76. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, how important are each of the following in your current consideration to sell or give away some or all of the property?

CONTINUE 01

For those currently contemplating sale/gift of land (Q75=1).
Rotation => Questions Q76a through Q76i asked in random order.

Q76a. Received a good offer (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q76b. A need for money (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q76c. Transferring land to children or other family members (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q76d. Non-financial family or lifecycle issues (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q76e. Assisting a neighbor or friend (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q76f. Protecting land from development (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q76g. Tax advantages (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q76h. Better investment elsewhere (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q76i. Pace at which development is occurring in the area (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

For those who are not currently contemplating sale of land (Q75>1):

IQ78. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, how important would each of the following be in deciding to sell or give away all or a part of your land?

CONTINUE 01

Rotation => Questions Q78a through Q78i asked in random order:

Q78a. Receiving a good offer (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78b. A need for money (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78c. Transferring land to children or other family members (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78d. Non-financial family or lifecycle issues (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78e. Assisting a neighbor or friend (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78f. Protecting land from development (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78g. Tax advantages (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78h. Better investment elsewhere (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q78i. Pace at which development is occurring in the area (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q79. Are there other factors important to why you would sell or give away the property that we did not mention?

Yes 01
No ..... 02 => Q81
Don't know ..... 98 => Q81
Refused ..... 99 => Q81

Q80. What are those factors?

RECORD VERBATIM 01

_____

_____

_____

Don't know 98
Refused 99

Q81. In deciding upon a specific offer, do you think you would consider the land uses intended by the person or people bidding on the property?

Yes 01
No 02
Don't know 98
Refused 99

Q82. Have any potential buyers approached you with an offer to purchase some or all of the property in the past year?

Yes 01
No 02
Don't know 98
Refused 99

Q83. To your knowledge, have you ever received offers from people wishing to develop the land? (Interviewer note: develop means to convert land from a rural to a suburban use.)

Yes	01	
No	02	=> Q85
Don't know	98	=> Q85
Refused	99	=> Q85

Q84. What is the earliest year that you recall receiving an offer from someone you knew to be interested in developing the property? Your best guess is fine. (RECORD 4 DIGIT YEAR.)

Don't Know	9998
Refused	9999

Q85. Do you earn income from your property at <address> <city> in <county> county? (IF NO ADDRESS AND CITY, SAY THE COUNTY LISTED.)

Yes	01	
No	02	=> Q88
Don't know	98	=> Q88
Refused	99	=> Q88

086. What percent of your total income is this? (ENTER 3 DIGITS.)

Don't know	998
Refused	999

Q87. What percent of the income earned from your property at <address> <city> in <county> county is from RURAL LAND USES, including agriculture, forestry, recreation, hunting, mineral, timber, or rents earned from leasing for these uses? (ENTER 3 DIGITS. IF NO ADDRESS AND CITY, SAY THE COUNTY LISTED.)

Don't know	998
Refused	999

Q88. Do you currently carry a mortgage on the property?

Yes	01
No	02
Don't know	98
Refused	99

Q89. The federal government, many state and local governments, and non- governmental organizations offer optional programs to help owners keep land in agricultural uses, preserve land from development, or protect the environment. These may include agricultural and conservation restrictions or easements, sometimes known as purchase or transfer of development rights; current use tax abatements, remainder interests; conservation-related

estate planning; and others. We are not talking about land use regulations like zoning here, but *optional, voluntary* programs in which you may choose to participate. Do any of these, or other conservation programs, operate in your area?

Yes	01	
No	02	=> IQ96
Don't know	98	=> IQ96
Refused	99	=> IQ96

Q90. Is any of your property at <address> <city> in <county> county currently participating in any of these programs? (IF NO ADDRESS AND CITY, SAY THE COUNTY LISTED.)

Yes	01	
No	02	=> Q94
Don't know	98	=> Q94
Refused	99	=> Q94

Q91. What is the name of the organization or department of government that sponsors the program? (PROBE FOR SPECIFICS AND CLARIFY IF NECESSARY.)

Record verbatim	01	=> Q92
_____		
_____		
_____		
Don't know	98	
Refused	99	=> Q92

Q91a. Do you think it is a program that is sponsored by the federal government, the state or local government or a non-governmental organization?

Federal government	01
State or local government	02
Non-governmental organization	03
Don't Know	98
Refused	99

Q92. Why did you decide to become involved with the program? (DO NOT READ LIST; ACCEPT UP TO 6 RESPONSES.)

Protect open space or scenery from development 01
Protect agricultural use or other current use from development 02
Protect wildlife or the environment from development 03
Tax or monetary advantages 04
Keep land in family ownership 05
Other (specify) 80

_____
_____
_____
_____

Don't know 98
Refused 99

Q93. Are you considering placing any more of the property in a land conservation program like those I described?

Yes	01	=> IQ96
No	02	=> Q95
Don't know	98	=> IQ96
Refused	99	=> IQ96

Q94. Are you considering placing any of the property in a land conservation program like those I described?

Yes	01	=> IQ96
No	02	
Don't know	98	=> IQ96
Refused	99	=> IQ96

Q95. Why not? (DO NOT READ LIST; ACCEPT UP TO 8 RESPONSES.)

Don't have enough information about programs 01
Do not want to spend time 02
Program would cost me money 03
Land does not qualify for programs 04
All land currently in a program 05
Programs too restrictive 06
Programs incompatible with current use 07
Other (Specify) 80

_____
_____
_____

Don't Know 98
Refused 99

IQ96. People own land for many reasons. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, how important are each of the following to you?

CONTINUE 01

Rotation => Questions Q96a through Q96h asked in random order.

Q96a. Amenities and services in the area, such as scenery, open space, schools, and other factors contribution to quality of life (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q96b. Building equity as a result of increasing land values (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q96c. Generating income through rural land uses like agriculture, forestry, recreation, mineral, timber, or rents earned from leasing for these rural uses (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q96d. Generating income by developing and selling the land and structures (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q96e. Possibility of selling land quickly for cash (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q96f. Wish to give land to heirs (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

Q96g. Protecting land and resources on land (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't know 98
Refused 99

Q96h. Recreation (PROBE: ON A SCALE OF 1 TO 5 WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER 1-5.)

Don't Know 98
Refused 99

IQ97. Now, concerning your future plans...On a scale of one to five, where one is "not at all likely" and five is " extremely likely", please tell me how likely you are to do the following with the property within the next five years:

CONTINUE 01

Rotation => Questions Q97a through Q97h asked in random order.

Q97a. Hold the property in its current usage (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q97b. Make use of an optional conservation program (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q97c. Purchase surrounding land (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q97d. Sell some or all of the property (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q97f. Give some or all of the property to a family member (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q97g. Develop the land yourself and sell land and structures (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q97h. Subdivide the property (PROBE: ON A SCALE OF ONE TO FIVE, WHERE ONE IS "NOT AT ALL LIKELY" AND FIVE IS "EXTREMELY LIKELY." ENTER NUMBER 1-5.)

Don't Know 98
Refused 99

Skip to Q99 if no strong intention to subdivide (Q97h<4 or Q97h>=98).

Q98. What is the primary reason you are considering subdividing the property? (READ CHOICES 1-4.)

Estate planning 01
To develop land within the next 5 years 02
To reserve the opportunity to develop land in the future 03
To sell parcels off for personal financial or non-financial reasons 04
Other (specify) 80

_____

_____

_____

Don't know 98
Refused 99

Q99. Are there other plans you have for your property in the next five years that we did not mention?

Yes	01	
No	02	=> IQ101
Don't know	98	=> IQ101
Refused	99	=> IQ101

Q100. What are they?

RECORD VERBATIM 01

_____

_____

_____

Don't know	98
Refused	99

IQ101. On a scale of 1 to 5, where 1 is not at all important and 5 is very important, how important are the following to your decisions about the property at <address > in <city> in <county> county?

Continue 01

Rotation => Questions q101a through q101i asked in random order:

Q101a. Your neighbors' land decisions (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know	98
Refused	99

Q101b. Development pressures in the area (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know	98
Refused	99

Q101c. Expected return on agriculture or forestry (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know	98
Refused	99

Q101d. Zoning and subdivision regulations (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q101e. Environmental regulations (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q101f. Taxes (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q101g. Transportation access to your area (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q101h. Sewer and water access in your area (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q101i. Availability of optional conservation programs (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Skip to Q103 if taxes relatively unimportant to owners' decisions (if Q101f<4 or Q101f>5.

IQ102. On the same scale of 1 to 5, please tell me how important the following taxes are to your decisions about the property:

CONTINUE 01

Rotation => Questions Q102a through Q102d asked in random order.

Q102a. Income tax (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q102b. Capital gains tax (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q102c. Gift and estate taxes (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q102d. Property tax (PROBE: ON A SCALE OF 1 TO 5, WHERE 1 IS NOT AT ALL IMPORTANT AND 5 IS VERY IMPORTANT. ENTER NUMBER 1-5.)

Don't know 98
Refused 99

Q103. Other than the parcel we've been discussing, do you own other land in this metro area?

Yes	01	
No	02	=> Q106
Don't know	98	=> Q106
Refused	99	=> Q106

Q104. About how many acres in total is this other land? (ENTER 6 DIGITS)

Don't know 999998
Refused 999999

Q105. What is your primary motive for owning this land? (READ CHOICES 1-6; ACCEPT UP TO 7 RESPONSES.)

Recreation or residence 01
To conduct agriculture, forestry, or other rural land uses that will generate income, or to lease to others for these uses 02
To develop land 03
For investment, with the goal of selling in less than 5 years 04
For investment, with the goal of selling in 5 years or more 05
To protect land or other natural resources 06
Other (specify) 80

_____

_____

_____

_____

Don't know 98
Refused 99

Q106. Are you currently looking to buy new parcels in this metropolitan area?

Yes 01
No 02
Don't know 98
Refused 99

Q107. Not including the property at <address> <city> in <county> county which of the following best describes how frequently you buy land in this metro area, on average? (IF NO ADDRESS AND CITY, SAY THE COUNTY LISTED.)

Never 01
Less than once every 6 years 02
Once every 3 to 5 years 03
Once every 2 years 04
Once every year 05
More than once a year 06
Don't know 98
Refused 99

Q108. Besides the property at <address> <city> in <county> county, are you currently looking to sell property in this metropolitan area? (IF NO ADDRESS AND CITY, SAY THE COUNTY LISTED.)

Yes 01
No 02
Don't know 98
Refused 99

Q109. On average, which of the following best describes how frequently you sell land in this metro area? (READ CHOICES 1-6.)

Never	01	
Less than once every 6 years	02	
Once every 3 to 5 years	03	
Once every 2 years	04	
Once every year	05	
More than once a year	06	
Don't know	98	
Refused	99	

Q110. Do you regularly analyze your investments in land?

Yes	01	
No	02	=> Q112
Don't know	98	=> Q112
Refused	99	=> Q112

Q111. On average, about how many hours per month do you spend on this task? (ENTER 3 DIGITS. ROUND UP TO NEAREST HOURS .5 = 1 HOUR.)

Don't know	998
Refused	999

Q112. Have you ever sought advice or assistance in analyzing your land investments?

Yes	01
No	02
Don't know	98
Refused	99

Skip to Q116 if ownership is non-family corporation or estate (Q1=4 or 7).

Q113. Do you have children or other heirs to whom you wish to pass on the property?

Yes	01	
No	02	=> Q115
Don't know	98	=> Q115
Refused	99	=> Q115

Q114. Do you anticipate that they will use the property in the same way that you are using it now?

Yes	01
No	02
Don't know	98
Refused	99

Q115. Have you ever sought advice from an estate planner for your property?

Yes 01
No 02
Don't know 98
Refused 99

IQ116. Now we'd like to ask you for your thoughts on growth and development in the area. By area, we mean land within five miles of your property.

CONTINUE 01

Q116. At the time you first acquired the property at <address> <city> in <county> county, how would you describe the area around your property? (READ CHOICES 1-3. IF NO ADDRESS AND CITY, SAY THE COUNTY LISTED.)

Rural 01
Mostly rural, with scattered suburban development 02
Mostly suburban 03
Don't know 98
Refused 99

Q117. And how would you describe the area now? (READ CHOICES 1-3.)

Rural 01
Mostly rural, with scattered suburban development 02
Mostly suburban 03
Don't know 98
Refused 99

Q118. Is growth a big topic of discussion among your neighbors and elected officials?

Yes 01
No 02
Don't know 98
Refused 99

Skip to Q121 if area is now mostly suburban (Q117=3 or Q117>=98).

IQ119. Have you seen any of the following occurring in your area in the past 5 years...

CONTINUE 01

Rotation => Questions Q119a through Q119d asked in random order.

Q119a. Land values higher than you would typically see in farm-to-farm sales

Yes 01
No 02
Don't know 98
Refused 99

Q119b. Higher value agriculture or hobby farms or ranches replacing existing farms or ranches

Yes 01
No 02
Don't know 98
Refused 99

Q119c. Construction of new roads, sewers, or water connections to support suburban style development

Yes 01
No 02
Don't know 98
Refused 99

Q119d. New suburban style development built on land that was once farmland or open space

Yes 01
No 02
Don't know 98
Refused 99

Q120. Would you say that significant suburban development, either residential or commercial, is occurring... (READ CHOICES 1-5.)

In the area right now	01	=> Q122
Will occur in the area in the next 5 years	02	=> Q122
Will occur in the area in 6 to 10 years	03	=> Q122
Is more than 10 years away from occurring	04	=> Q122
Or is this kind of development not likely to ever occur here	05	=> Q122
Don't know	98	=> Q122
Refused	99	=> Q122

For those whose areas are now mostly suburban (Q117=03 or Q117>=98):

Q121. Would you say that most of the suburban growth and development you've seen...(READ CHOICES 1-3.)

Occurred within the past 5 years 01
Occurred within the past 10 years..... 02
Occurred more than 10 years ago 03
Don't know 98
Refused..... 99

Skip to IQ124 if respondent has seen no signs of growth in Q119 (Q119A=02 and Q119B=02 and Q119C=02 and Q119D==02).

BE VERY SPECIFIC IN THE DETAILS OF "OTHER SPECIFY"

Q122. Thinking about the development that has occurred in your area in the past 5 years, what do you think its most significant impacts have been? (ASK OPEN ENDED. USE LIST BELOW TO CODE. INTERVIEWER NOTE: WE NEED TO KNOW IF AN IMPACT IS "POSITIVE" OR "NEGATIVE" -- E.G. IF RESPONDENT SAYS "TRAFFIC," SAY, "MORE OR LESS TRAFFIC?")

Property/land values rose..... 01
Property taxes rose..... 02
Increased opportunities to make money on property by selling or developing it .. 03
Greater economic opportunity in area (e.g. new jobs)..... 04
Fewer economic opportunities in area..... 05
More regulation of land and land uses (e.g. zoning, subdivision controls)..... 06
Harder to conduct agriculture or forestry 07
"Environmental quality has declined (air pollution, water pollution, habitat destruction)" 08
Less open space 09
Loss of scenery and physical character..... 10
Increased traffic congestion..... 11
More crowded schools..... 12
Newcomers not like current population (wealthier, don't participate in community)13
Loss of community character..... 14
OTHER-SPECIFY..... 80

_____

_____

_____

Don't know 98
Refused..... 99

IQ123. If development were to continue at its current pace, in your opinion, is it likely to increase, decrease, or not affect the following in the next 5 years:

CONTINUE..... 01

Rotation => Questions Q123a through Q123i asked in random order.

Q123a. Your land values (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123b. Your property taxes (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123c. Options for what you can do with your land (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123d. Regulation on your land (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123e. Ease with which agriculture or forestry can be conducted in the area (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123f. Open space and scenery in the area (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123g. Environmental quality in the area (INTERVIEWER: INCLUDING QUALITY OF WATER, AIR, AND ENDANGERED SPECIES HABITAT.) (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123h. The sense of community in the area (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q123i. Your quality of life (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

For those who have seen no signs of growth in their areas (Q119A=02 and Q119B=02 and Q119C=02 and Q119D=02).

IQ124. If significant development were to occur in your area, in your opinion, is it likely to increase, decrease, or not affect the following:

CONTINUE 01

Rotation => Questions Q124a through Q124i asked in random order:

Q124a. Your land values (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124b. Your property taxes (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124c. Options for what you can do with your land (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124d. Regulation on your land (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124e. Ease with which agriculture or forestry can be conducted in the area (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124f. Open space and scenery in the area (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124g. Environmental quality in the area (INTERVIEWER: INCLUDING QUALITY OF WATER, AIR, AND ENDANGERED SPECIES HABITAT) (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124h. The sense of community in the area (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124i. Your quality of life (PROBE: INCREASE, DECREASE, OR NOT AFFECT IN THE NEXT 5 YEARS.)

Increase 01
Decrease 02
Not affect 03
Don't know 98
Refused 99

Q124j. Can you think of any other SIGNIFICANT impacts or effects that this growth would have?

Can't think of any others 01
Other-SPECIFY 80

_____

_____

_____

Don't know 98
Refused 99

Q125. In general would you say that increased development in your area would enhance or detract from the character of your community?

Enhance	01
Detract	02
Don't know	98
Refused	99

Q126. Do you agree or disagree with the following statement: Given the choice, I would keep my land in its current use indefinitely

Agree	01
Disagree	02
Don't know	98
Refused	99

ID1. Now just a few questions about you for classification purposes...

CONTINUE	01

D1. What year were you born? (ENTER 4 DIGIT YEAR.)

Don't know	9998
Refused	9999

D2. What is your primary occupation, at which you spent 50% or more of your time in the past year? (READ CHOICES 1-3.)

Agriculture related (farmer/rancher/forester)	01	=> D4
Real-estate investment or development related	02	
Retired	03	
Other	80	
Don't know	98	
Refused	99	

Skip to D16 if owner is non-family corporation (Q1=04):

D3. How would you describe your personal participation in agriculture? (READ CHOICES 1-3.)

I have minimal or no involvement 01
It is a hobby I pursue in my leisure time 02
It is a part-time activity I pursue for profit 03
Other (specify) 80

_____

_____

_____

Don't know 98
Refused 99

Skip to D16 if owner in non-family corporation (Q1=04):

D4. Is your primary residence located on the property we discussed in the survey? (INTERVIEWER NOTE: PRIMARY RESIDENCE IS WHERE YOU LIVE FOR 6 OR MORE MONTHS PER YEAR.)

Yes ..... 01 => D7
No 02
Don't know ..... 98 => D7
Refused ..... 99 => D7

D5. In your best estimate, how many miles is your primary residence from the property? (RECORD TWO DIGITS. ROUND TO NEAREST WHOLE NUMBER .5 = 1.)

Don't know 998
Refused 999

Skip to D7 if distance from primary residence is greater than 75 miles (D5>75):

D6. What is the name of the town or city in which your primary residence is located?

RECORD VERBATIM 001

_____

_____

_____

Don't know ..... 998 => D8
Refused ..... 999 => D8

Skip to D8 if primary residence is not on property (D4>1):

D7. Was the place you lived before moving your primary residence to this property more urban, more rural, or about the same as the area surrounding the property?

More urban	01
More rural	02
About the same	03
Have lived on property all my life (vol.)	04
Don't know	98
Refused	99

D8. For classification purposes only, is the total yearly income before taxes of all members of your family now living at home: $40,000 or more, or is it less than $40,000?

Less than $40,000	01	
$40,000 or more	02	=> D10
Don't know	98	=> D11
Refused	99	=> D11

D9. And is that? (Read list)

Under $10,000	01	=> D11
$10,000 to less than $20,000	02	=> D11
$20,000 to less than $30,000	03	=> D11
$30,000 to less than $40,000	04	=> D11
Don't know	98	=> D11
Refused	99	=> D11

D10. And is that? (Read list)

$40,000 to less than $50,000	01
$50,000 to less than $75,000	02
$75,000 to less than $100,000	03
$100,000 to less than $125,000	04
$125,000 or more	05
Don't know	98
Refused	99

D11. What percent of your monthly income goes to paying mortgage, credit cards, personal and farm loans, or car loan debt? (RECORD THREE DIGITS.)

Don't know	998
Refused	999

D12. What do you estimate your individual net worth to be?

Less than $500,000 01
More than $500,000 and less than $1,000,000 02
More than $1,000,000 and less than $5,000,000 03
$5,000,000 or more 04
Don't know 98
Refused 99

D13. Approximately what percent of your net worth is made up of land holdings? (ENTER 3 DIGITS.)

Don't know 998
Refused 999

D14. What is the highest grade of school that you have completed?

High school or less 01
Some college 02
College graduate 03
Post graduate 04
Don't know 98
Refused 99

D15. Are you white, black, Hispanic, or some other race?

White 01
Black 02
Hispanic 03
Asian or Pacific Islander 04
Native American 05
Other 06
Don't know 98
Refused 99

D16. (DO NOT ASK. RECORD GENDER.)

Male 01
Female 02

THANK respondent if owner is individual or other; otherwise, proceed.

For partnerships (Q1=2):

P17. How many partners are involved in the ownership of this parcel? (ENTER 2 DIGITS.)

Don't Know 98
Refused 99

P18. What is the primary business of the partnership? (READ LIST.)

Agriculture or forestry 01
Real-estate investment or development 02
Other (SPECIFY) 03
_____
_____
_____

Don't know 98
Refused 99

P19. What is the annual revenue of this partnership?

Less than $500,000	01	=> THANK
More than $500,000 and less than $1,000,000	02	=> THANK
More than $1,000,000 and less than $5,000,000	03	=> THANK
$5,000,000 or more	04	=> THANK
Don't Know	98	=> THANK
Refused	99	=> THANK

For corporations and family-held corporations (Q1=3 or Q1=4):

FC19. What is the annual revenue of the corporation?

Less than $500,000 01
More than $500,000 and less than $1,000,000 02
More than $1,000,000 and less than $5,000,000 03
$5,000,000 or more 04
Don't know 98
Refused 99

FC20. What is the primary focus of the corporation? (READ LIST.)

Agriculture or forestry 01
Other (specify) 80
_____
_____
_____

Don't know 98
Refused 99

FC21. Is the corporation an "S" or a "C" corporation?

S 01
C 02
Don't know 98
Refused 99

FC22. About how many shareholders does the corporation have? (RECORD 2 DIGITS.)

Don't know 98
Refused 99

FC23. In what city and state are your headquarters located?

RECORD VERBATIM 01

_____

_____

_____

Don't know 98
Refused 99

For non-profit corporations (Q2=01):

NC24. Which of the following best describes the primary focus of the organization? (READ LIST.)

Agriculture or forestry 01
Environmental protection or conservation 02
Historic preservation 03
Other (specify) 80

_____

_____

_____

Don't know 98
Refused 99

NC25. What is the operating budget for the entity?

Less than $500,000 01
More than $500,000 and less than $1,000,000 02
More than $1,000,000 and less than $5,000,000 03
$5,000,000 or more 04
Don't know 98
Refused 99

NC26. What is the size of the organization's endowment, if it has one?

Less than $500,000	01	=> THANK
More than $500,000 and less than $1,000,000	02	=> THANK
More than $1,000,000 and less than $5,000,000	03	=> THANK
$5,000,000 or more	04	=> THANK
Does Not Have One	05	
Don't know	98	=> THANK
Refused	99	=> THANK

NC27. In what city and state are your headquarters located?

RECORD VERBATIM 01

_____

_____

_____

Don't know	98	
Refused	99	

A researcher from the Lincoln Institute of Land Policy may be interested in speaking with you in more depth about land usage in your region. Would this researcher be able to contact you?

Yes	01	
No	02	=> THANK
Don't Know	98	=> THANK
Refused	99	=> THANK

Can I please have your first name so when the researcher cal she will know who to ask for? (CONFIRM SPELLING.)

RECORD FIRST NAME 01

_____

Don't Know	98	=> THANK
Refused	99	=> THANK

And your last name please? (CONFIRM SPELLING.)

RECORD LAST NAME 01

_____

Don't Know	98	=> THANK
Refused	99	=> THANK

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