

A Line in the Land: Urban-growth Boundaries, Smart Growth, and Housing Affordability

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Executive Summary

More than 100 cities and counties have adopted some form of a growth boundary—a limit on land development beyond a politically designated area—to curb sprawl, protect open space, or encourage the redevelopment of inner-city neighborhoods. Statewide mandates for growth boundaries exist in Oregon, Tennessee, and Washington.

Urban-growth boundaries, however, have potentially negative, if unintended, side effects. By reducing the supply of developable land, for example, housing and land prices could increase, reducing housing affordability and production. Local policymakers and citizens need to understand the nature of these tradeoffs and impacts before they adopt growth boundaries.

Growth boundaries, in fact, have not achieved many of their supporters' objectives. Their effectiveness has been constrained by:

- Persistent preferences for single-family, detached homes by prospective home buyers;
- Poor coordination among local public agencies;
- Housing-price increases; and
- Political manipulation by antigrowth interest groups.

This study explores the experiences of four cities and regions to more fully elucidate the intended and unintended effects of growth boundaries.

- **Portland's** growth boundary was adopted in 1979 as part of Oregon's statewide growth-management law. The growth boundary, encompassing 24 cities and three counties, has hemmed in development as Metro, the

elected regional government, attempts to foster higher density development and redevelop urban areas. Meanwhile, housing prices have increased dramatically. In less than a decade, Portland has transformed itself from one of the most affordable to one of the least affordable housing markets on the West Coast. While inflation as measured by the Consumer Price Index increased by 52.5 percent from 1990 to 1995, lot prices in Portland more than doubled.

- **Boulder County, Colorado** has had urban-service areas in place since 1978. Combined with the county's strict growth controls to protect open space, an effective urban-growth boundary exists. While housing prices in Boulder County are 13.2 percent higher than nearby Denver and 23.9 percent higher than Fort Collins, price increases have not been as rapid as in Portland. This appears to be a result of aggressive city-level annexations that bring new land inside the service areas and mitigate housing inflation. If the growth boundary becomes an effective limit line, however, the county will face a deficit of over 20,000 housing units by 2010 at current rates, and the boundary would place significant upward pressure on housing prices.
- **Lancaster County, Pennsylvania** has one of the nation's most aggressive county-level growth-management programs. Fueled by a desire to protect the rural character of the county and the flavor of the local Amish culture, local policymakers enacted farmland protection programs (in the 1980s) and growth boundaries (in 1990) to hem in urban development. Nevertheless, almost 60 percent of the county's land development still occurs outside growth boundaries. Despite a recommended density of five units per acre (one-fifth acre lots), actual densities average three units per acre (one-third acre lots) inside the boundary and less than one unit per acre (more than one acre) outside the boundary.
- **Northern California's** experience illustrates how growth-management tools such as urban-growth boundaries can be used by political interest groups to stop new development. In Sacramento County, an urban-service area is being converted into a growth boundary via political resistance to new development even though infrastructure is provided privately. A proposed 5,000 home development in the Tassajara Valley in Contra Costa County in the San Francisco Bay Area was withdrawn as a result of local resistance despite a projected regional housing deficit of 34,000 homes by 2020. County elected officials are considering reducing existing growth boundaries to prevent further development.

Urban-growth boundaries are not the only approach available to create the growth patterns that Smart Growth advocates champion. Market-oriented approaches can produce many of these elements with greater efficiency and with fewer negative consequences. Recommendations for harnessing the incentives and power of the real-estate market to achieve these include:

- Relaxing density restrictions in zoning codes to allow for market-determined densities;
- Purchasing development rights to private land with private funds to protect open space in strategic areas of the city or metropolitan area; and
- Pricing public infrastructure at its full marginal cost to ensure new development pays its way without subsidizing new or existing residents.

Local policymakers need to recognize the political, economic, and social tradeoffs implicit in adopting restrictive land-use policies, including urban-growth boundaries. While local policymakers should avoid subsidizing low-density development, they must also avoid subsidizing high-density development. A market-driven approach is more likely to achieve broad land-use and housing goals than establishing arbitrary limits on land development through urban-growth boundaries.

Part 1

Introduction

One of the hottest planning tools in the nation may be the urban-growth boundary, or urban-limit line. More than 100 cities and counties have adopted some form of an urban-growth boundary—a limit on new growth beyond a politically designated boundary—as a way to curb suburban development or protect open space. Oregon, Tennessee, and Washington have adopted statewide policies that mandate urban-growth boundaries for local governments. In Oregon, a regional-limit line hems in 24 cities and three counties in the Portland metropolitan area. Many cities and counties outside these states have adopted them unilaterally.

Packaged as part of a menu of growth-management policies (sometimes called “Smart Growth” initiatives), limit lines are pitched as a “common sense” approach to managing land development and economic growth.¹ They have become particularly popular as potential ways to preserve farmland and open space: if land development is not permitted beyond a certain point, the theory goes, open space and farmland will be preserved, while existing urbanized areas will experience higher levels of investment and development.

But the consequences of adopting an urban-growth boundary extend beyond the intended goals of preserving open space and farmland. By restricting land development, an effective urban-growth boundary will almost certainly impact the pattern, density, and cost of housing and development. Adopting an urban-growth boundary implies tradeoffs about how land will be used and who can use it. In some cases, such as Portland, these tradeoffs are explicit: an elected regional planning agency, Metro, is consciously trying to shape the metropolitan area from the top down. In Napa, California, a plebiscite in 1973 led the city council to adopt a rural-urban limit line in 1975 to cap the city population at 75,000 by the year 2000.²

Urban-growth boundaries, however, may have unintended, negative side effects. Reducing the supply of land for housing, for example, may reduce the amount of housing developed to meet market demand, increasing prices and reducing housing affordability. Using growth boundaries to alter regional land-use patterns also risks eroding the authority of local governments and home rule. In addition, growth boundaries and growth management tools are often implemented in an unrealistic political environment. Public support for growth management is often support for growth control; rather than directing development, grassroots opposition attempts to stop new

¹ Urban-growth boundaries, however, are not necessarily considered an element of “Smart Growth” policies. While growth boundaries are an integral part of the land-use planning system in Oregon, they are not mentioned in a 1998 survey of Smart Growth principles and tools published by the American Planning Association. See *The Principles of Smart Development*, Planning Advisory Service Report Number 479 (Chicago, Illinois: American Planning Association and Oregon Transportation and Growth Management Program, September 1998).

² John Yost, Planning Director, City of Napa, California, interview with author, May 14, 1999.

development completely. Thus, the local debate often focuses on population growth and overall new housing built, not whether the people or homes are in the “right” place at the “right” density.

Despite their apparent popularity, growth boundaries often fail to achieve many of their most basic goals and objectives. Their effectiveness has been constrained by:

- Persistent preferences for single-family, detached homes by prospective home buyers, reducing the ability of growth controls and boundaries to slow the pace of suburban development;
- Poor coordination among local public agencies, creating mismatches between planning goals and actual investments in infrastructure such as roads, sewer, and water;
- Housing-price increases; and
- Political manipulation by antigrowth interest groups, converting a tool intended to manage growth into a vehicle for stopping growth.

Local policymakers and citizens should understand the nature of the tradeoffs and impacts implicit in using urban-growth boundaries as growth-management tools before they adopt them. This policy study examines urban-growth boundaries in four cities, counties, and regions, seeking insight into the diverse nature of growth boundaries and their effects—intended and unintended:

- Portland’s (OR) growth boundary is an example of regional land-use planning and is used to help reshape the metropolitan area into a higher density, more compact, transit-oriented city.
- Lancaster County’s (PA) growth boundaries are tied to an aggressive countywide effort to preserve farmland and a unique local culture.
- Boulder County (CO) is attempting to use city-level growth boundaries and highly restrictive county growth controls to slow development while bolstering its reputation as a high-income satellite community of Denver.
- Napa County (CA) and the San Francisco Bay Area illustrate how growth boundaries and growth-management initiatives fare in a highly charged political environment where land-use issues have been prominent for decades.

These case studies provide important lessons about the effectiveness and limitations of growth boundaries as growth-management tools, including their potential impacts on housing production and affordability. They also highlight important market constraints on the ability to use growth boundaries to alter development patterns given the realities of consumer preferences and local-government decisionmaking. The final section of this study provides a brief review of alternatives to growth boundaries, many of which achieve the same goals with fewer unintended and negative side effects.

Part 2

Defining Urban-growth Boundaries

Growth-management initiatives are gathering unprecedented public support nationwide. Two hundred and forty growth-management and “Smart Growth” initiatives were on ballots during the November 1998 election.³ Seventy-two percent passed.⁴ Urban-growth boundaries have been an important part of this movement. In California, for example, most ballot initiatives with growth boundaries passed (see the discussion in Section 6). “I’ve seen what happened in Los Angeles, the San Fernando Valley, and Orange County,” observed one city council woman in Contra Costa County, California, across the bay from San Francisco.⁵ “When I moved here 20 years ago, I saw the potential for the same thing to happen here.” The growth boundary has become popular as a way to stop the spread of low-density residential development in suburban and rural areas.

While some local activists prefer to prohibit development altogether, this is both legally difficult and expensive. Zoning implies a legal right to develop property according to standards established by the local government.⁶ Permanent prohibitions would likely constitute a Fifth Amendment taking and require compensation to landowners, an expensive way to preserve open space. Moreover, the freedom to migrate and choose where one wishes to live is an ingrained part of the nation’s political and social culture.

While prohibiting development is not legally or financially feasible, courts give local governments wide latitude to determine development standards and performance levels as long as all the economic value of the land is not eliminated. Thus, state and local governments are permitted to engage in extensive regulation of land development to protect and promote the general welfare. In this context, urban-growth boundaries are increasingly seen as the growth-management tool of choice by local communities.

³ See Phyllis Myers, “Livability at the Ballot Box: State and Local Referenda on Parks, Conservation, and Smarter Growth, Election Day 1998,” Discussion Paper prepared for The Brookings Institution, Center for Urban and Metropolitan Policy, January 1999.

⁴ Ibid.

⁵ Quoted in William Fulton, “Rapidly Growing Contra Costa Considers Tighter Urban Limit Line,” *California Planning and Development Report*, vol. 14, no. 4 (April 1999), p. 9.

⁶ For a more extensive discussion of the legal context and nature of the planning and zoning process, see William A. Fischel, *The Economics of Zoning Laws: A Property Rights Approach* (Baltimore, Maryland: Johns Hopkins University Press, 1985) and Robert H. Nelson, “Zoning Myth and Practice—From Euclid into the Future,” in *Zoning and the American Dream: Promises Still to Keep*, ed. Charles M. Haar and Jerola S. Kayden (Chicago: Planners Press, APA, 1989), pp. 299-318.

A. Purposes of Urban-growth Boundaries

An urban-growth boundary is a “line in the land” drawn around an urban area outside of which development is prevented or highly discouraged. Urban-growth boundaries are usually considered long-term growth-management tools, often established for 15- or 20-year periods.⁷ Proponents suggest they can accomplish at least six objectives:⁸

- Preserve open space and farmland;
- Minimize the use of land generally by reducing lot sizes and increasing residential densities;
- Reduce infrastructure costs by encouraging urban revitalization, infill, and compact development;
- Clearly separate urban and rural uses;
- Ensure the orderly transition of land from rural to urban uses; and
- Promote a sense of unified community.

The first objective is straightforward and, in principle, achievable. By limiting development outside the growth boundary, open space is preserved *outside the urban area*. Inside the urban area, the loss of open space accelerates. In fact, if the growth boundary is effective, infill will accelerate along with increasing densities. In Portland, Oregon, the regional-planning agency is deliberately attempting to eliminate farmland inside the growth boundary since it is inconsistent with the goal of separating urban from rural uses and encouraging higher-density residential neighborhoods.⁹ Growth boundaries, however, have not always succeeded in achieving their goals and have created unintended side effects, as the cases of Portland and Lancaster County will show.

The second and third goals are more problematic. Proponents of growth boundaries often argue that reducing the amount of land available for development and reducing infrastructure costs is “efficient.” Efficiency is narrowly defined by many proponents as “less” in absolute terms. A more precise (and meaningful) definition of efficiency would consider costs tied to producing a particular product of a certain quality. For example, the efficiency of automobile manufacturing is not determined solely by the amount of metal (or plastic) used in production. A midsize family car such as the Ford Taurus requires more metal than a subcompact car such as the Escort. Even among cars of the similar size and class, efficiency needs to be evaluated based on the quality of the product. A Toyota Tercel may use less metal, but the Escort may need more metal to provide certain kinds of amenities or ensure the proper level of engine or body reliability. Efficiency, then, depends on the product and the consumer market.

⁷ For discussions, see Tom Daniels and Deborah Bowers, *Holding Our Ground: Protecting America’s Farms and Farmland* (Washington, D.C.: Island Press, 1997), pp. 136-137; and V. Gail Easley, *Staying Inside the Line*, Planning Advisory Service Report Number 440 (Chicago, Illinois: American Planning Association, 1992), pp. 3-6.

⁸ These goals are not exclusive. The San Francisco-based Greenbelt Alliance, an open-space advocacy group, claims seven distinct advantages: affirming community identity, saving taxpayer dollars, encouraging affordable housing, stimulating public transit-oriented development, providing open space close to urbanized areas, bringing together diverse interests to promote development, and encouraging long-term strategic thinking about the future. See *Fact Sheet: Urban-growth Boundaries*, published by the Green Belt Alliance, <http://www.greenbelt.org/ugbs.html>.

⁹ This is accomplished by promoting infill of vacant land inside the growth boundary and purchasing land for recreational uses such as parks. See the discussion in Samuel R. Staley, *The Sprawling of America: In Defense of the Dynamic City*, Policy Study No. 251 (Los Angeles: Reason Public Policy Institute, January 1999), pp. 55-56, <http://www.rppi.org/sprawl.html>, and the letter-to-the-editor by John A. Charles, former director of the Oregon Environmental Council and current director of environmental policy at the Cascade Policy Institute, “Growth Boundary Stifles Options for Farmland,” *The Oregonian*, May 12, 1997.

If the goal of housing is defined narrowly as providing shelter, reducing the amount of land could potentially reduce costs and increase the efficiency of housing production. Growth boundaries would be efficient because they minimize a cost of shelter (without using land). If, on the other hand, the goal of land development is to provide a high-quality living environment, minimizing land might not be efficient. Land may well be an important characteristic of housing that consumers want and are willing to pay for. People may value open space enough to buy it and preserve it as a yard. Tradeoffs between land and other values (such as shelter, parks, shopping, or access to employment) would be necessary.

A limit line ignores these tradeoffs. Instead, it sets up a static perimeter for development independent of what consumers want. If the limit line artificially reduced the supply of housing, it could boost home prices and reduce affordability without a compensating increase in benefits.¹⁰ The urban-growth boundary could well be an anticonsumer growth-management strategy if homeowners preferred larger lots and were willing to pay for them.

The fourth goal addresses more clearly the tradeoffs between land development and other community characteristics. The growth boundary, proponents suggest, is a way to shape communities to produce higher densities and a more compact urban form. The boundary, notes the Greenbelt Alliance in San Francisco, “is a proactive growth management tool that seeks to contain, control, direct or phase growth in order to promote more compact, continuous urban development.”¹¹ Often this is tied to the belief that compact development promotes “community” and a sense of place (goal six from above). Preventing development beyond existing urban areas connects housing subdivisions physically through roads and other urban services. Physically connecting communities is expected to create a unified sense of place or community. Growth boundaries are thus intended to change the physical characteristics of cities, most often by attempting to transform them into higher density, transit-friendly cities with a distinct urban edge. By limiting development on the urban periphery, growth boundaries are expected to channel growth back into existing urbanized areas. Whether growth boundaries have achieved this policy goal is an empirical question explored later in this report. Whether compact development creates a greater sense of community is more difficult to assess and beyond the scope of this report.

The fifth goal—ensuring an orderly transition between rural and urban uses—recognizes the dynamic nature of land development. This objective was explicitly acknowledged as part of Oregon’s growth-management plan to meet the goals established in its statewide-planning law.¹² In practice, growth boundaries serve many political purposes independent of the transition among land uses. For example, limit lines are used to change urban form (into more high-density neighborhoods) or preserve farmland and open space. Thus, rather than accommodating the dynamic nature of growth, boundaries may be transformed into growth-limiting policies or can evolve into permanent limit lines.¹³

¹⁰ For a survey of research on how restrictive growth-management policies increase housing prices, see William A. Fischel, *Do Growth Controls Matter? A Review of Empirical Evidence on the Effectiveness and Efficiency of Local Government Land Use Regulations* (Cambridge, Massachusetts: Lincoln Institute of Land Policy, 1988). Whether housing and land-price increases result from an increase in amenities or land-supply restrictions is less clear. See the discussion in Gerrit Knaap, “The Determinants of Residential Property Values: Implications for Metropolitan Planning,” *Journal of Planning Literature*, vol. 12, no. 3 (February 1998), pp. 275-278.

¹¹ *Fact Sheet: Urban-growth Boundaries*.

¹² See Gerrit Knaap and Arthur C. Nelson, *The Regulated Landscape: Lessons on State Land Use Planning from Oregon* (Cambridge, Massachusetts: Lincoln Institute of Land Policy, 1992), p. 40.

¹³ For a discussion of the issues surrounding the decision to expand urban-growth boundaries, see Chengri Ding, Gerrit J. Knaap, and Lewis D. Hopkins, *Management of Urban Growth with Urban-growth Boundaries: A Theoretical Analysis*, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign, n.d., unpublished paper.

B. Unintended Consequences and Tradeoffs

Many advocates would consider growth boundaries successful if they increased residential densities, redirected growth into central cities, reduced the pace of farmland and open-space development, lowered infrastructure costs, and provided for the orderly development of land. These outcomes would have to be attributed to the growth boundary, not ongoing trends in the local economy or other public policies. But these effects, even if they were achievable, do not capture the full range of potential impacts. Other impacts—intended or unintended—must also be considered as part of the decision to limit land development through planning.

For example, urban-growth boundaries require a sophisticated understanding of the real-estate market to avoid increases in housing prices. Researchers at the University of Illinois at Urbana-Champaign refer to it as an “inventory control” problem.¹⁴ The problem for planners and elected officials goes like this: if growth boundaries are successful, they must constrain land supplies sufficiently to encourage higher densities; reducing land, an important cost of new housing, can increase housing prices (therefore reducing affordability) as builders and developers bid up land prices for an increasingly scarce resource; the key is to expand the supply (inventory) of land before land prices increase enough to impact housing prices.

Knowing when to expand the supply of land and by how much is theoretically simple. In the practical world of land development, the decision is rife with uncertainty and imprecision. Despite their popularity, note the University of Illinois researchers, the “optimal” size of the growth boundary and expansions “depend on parameters and relationships about which very little is known.”¹⁵

These parameters are not purely technical. They are inherently uncertain. Real-estate markets change to suit different income groups and tastes. Thus, land-development needs at one point in time may not be the same a few years later, particularly in fast-growing areas undergoing significant economic changes (e.g., moving from a manufacturing economic base to white-collar services). Whether local and regional planning authorities can time the expansions of the growth boundary is both a technical and empirical question that the case studies in the following sections can shed light on.

Another salient issue is whether growth boundaries can accommodate the dynamics of community change. The Portland metropolitan area, as the next section discusses, is going through an economic metamorphosis. Traditionally, the region’s growth has been rooted in natural resources such as the timber industry. Increasingly, local economic growth is driven by high-tech and specialized manufacturing. These new jobs are attracting residents with higher levels of education and income. As the region evolves, the tastes of local residents will also change. Local planning policies need the flexibility to accommodate the needs and demands of new residents as well as existing residents.

Higher density may also result in higher housing prices, less private open space, and increased traffic congestion. As vacant land becomes more scarce, developers and builders will bid land prices up (see the discussion in Appendix A). To minimize costs, builders will use less land—put houses on smaller lots—even when households would prefer larger lots if they were available. If residents continue to use cars as their

¹⁴ See the discussion in Gerrit J. Knaap, Lewis D. Hopkins, and Chengri Ding, *The Inventory Approach to Urban Growth Management*, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign, n.d., unpublished paper.

¹⁵ *Ibid.*, p. 15.

primary mode of transportation, congestion will increase as higher traffic volumes clog narrow roads in concentrated areas and road capacity does not expand. These potential outcomes should also be part of the growth-management debate as local officials consider adopting urban-growth boundaries.

Finally, local policymakers and planners must consider how establishing a growth boundary may change the dynamics of the local political system. By subjecting land development to a legislative process—where elected officials determine what land will be developed, when, and at what density—the inherently conservative decision-making process of representative democracy may stifle innovation and repress the dynamism of local real-estate markets. The effects may be even more pronounced as “winners” and “losers” are created and new special-interest groups form to intervene in the political process. Groups, particularly antigrowth interests, that previously had little opportunity to impose their beliefs on the larger community may find local growth-management laws uniquely convenient mechanisms for achieving their goals, irrespective of the social costs.

Unfortunately, growth-management and growth-control policies such as urban-growth boundaries are often adopted without a full consideration of these potential tradeoffs and consequences.

Local planning policies need the flexibility to accommodate the needs and demands of new residents as well as existing residents.

C. The Politics of Growth

Concerns about the unintended consequences of legislative control over land development are not theoretical. Urban-growth boundary supporters generally fall into three groups: those that want to encourage more-efficient land-use patterns (where low-density development is considered inefficient by definition), those that want to preserve open space, and those that want to stop or significantly slow development.

The first group is proactive and prospective. Proponents believe current development patterns are inefficient, and real-estate markets do not lead to proper land use. Supporters of this view believe the tools of government should be used to promote a certain kind of city and neighborhood with specific characteristics, usually compact development, that distinguishes between rural and urban lifestyles. By implication, this group believes strongly in the ability of planning, particularly land-use planning, to accomplish these goals.

The second and third views are more reactionary. Proponents see the growth boundary as a way to protect farmland and open space by excluding most other uses. Often, the urban-growth boundary is seen as a permanent wall, outside of which development will not (or should not) be allowed. Environmental activists and other antigrowth groups, for example, are attempting to convert Sacramento County’s urban-service area into a growth boundary to prevent further land development. Opposition to a proposed 1,900-acre, 3,000-home, mixed-use development called Deer Creek Hills may potentially serve as the vehicle for this conversion.

How Urban-growth Boundaries Differ from Urban-service Areas

Growth boundaries are distinct from urban-service areas.¹ Service areas are determined (theoretically) by objective information about a local government's costs to extend roads, water and sewer lines, or other publicly provided services. Beyond some point, the county or local government determines that the extension of those services is not cost effective.² Urban-service areas apply to public infrastructure and utilities and reflect decisions about the cost-effectiveness of extending these services into new areas.³

Urban-growth boundaries are explicit attempts to channel growth for broader political purposes and goals. In principle, a service area can change if improved efficiencies in service provision allow for the expansion of the region it serves, or natural market forces increase densities to the level where their extension is cost effective. Service areas also do not foreclose alternative forms of development. Growth boundaries, in contrast, attempt to place some land off limits to development irrespective of public-service costs and efficiencies. Development will be discouraged or even prohibited beyond the boundary (if legally possible), even when services are privately provided.

Maryland's recent Smart Growth initiatives provide an example of how state policy can impact land development through indirect effects on local-government decisionmaking. Maryland adopted a limited form of a growth boundary in 1996 when it created Priority Funding Areas (PFAs). PFAs act as growth boundaries but apply only to state infrastructure-financing decisions. In principle, local governments and the private sector could provide infrastructure and develop property in non-PFAs. In practice, this is unlikely. Private developers still need to obtain development permission and planning approval from county governments and local cities, which would likely view development outside PFAs as inconsistent with their comprehensive plans. These projects would likely be rejected. Thus, in practice, Maryland's PFAs serve as growth boundaries for state and local governments (although PFAs are determined at the county level and approved by the State of Maryland).

Notes:

- ¹ This distinction differs from other interpretations. Some planners have suggested that service areas and growth boundaries are virtually the same since public infrastructure spending determines the location and pattern of development. See the discussion in V. Gail Easley, *Staying Inside the Line*, Planning Advisory Service Report Number 440 (Chicago, Illinois: American Planning Association, 1992), pp. 2-6.
- ² In principle, this is really a "pricing" problem: extending infrastructure services is not cost effective because the public agency is unwilling to charge the full cost of extending the service. For a more complete discussion of this issue, see Samuel R. Staley, *The Sprawling of America: In Defense of the Dynamic City*, Policy Study No. 251 (Los Angeles: Reason Public Policy Institute, January 1999), pp. 29-42; Tara Ellman, *Infill: The Cure for Sprawl?* Arizona Issue Analysis 146 (Phoenix, Arizona: Goldwater Institute, August 1997), <http://www.urbanfutures.org/p82897.html>.
- ³ The Minneapolis-St. Paul Metropolitan Council (Met Council) administers one of the nation's longest-running urban-service areas. Recently, political pressures have increased to convert the urban-service area into an urban-growth boundary as a mechanism for achieving Portland-style regional planning. See Myron Orfield, *Metropolitics: A Regional Agenda for Community and Stability*, rev. ed. (Washington, D.C.: Brookings Institution, 1997), especially Chapter Nine and Appendix.

Deer Creek Hills was explicitly designed to satisfy environmental-activist concerns about water usage and land preservation.¹⁶ The proposed project was a master-planned, age-restricted, golf-oriented retirement community that would have included 20-acres of medical, professional, and community services, and an 80,000 square-foot shopping center. Seventy percent of the land was dedicated to open space and

¹⁶ Janice Phillip, "Stretching the Limits," *Comstock's* (February 1998), pp. 47-48.

recreational land. If Deer Creek Hills “were inside the urban service boundary,” says Tom Hutchings, Director of Sacramento County’s Planning and Community Development Department, “everybody would be falling all over themselves to approve it. It would have been an expedited project and it would have been built by now.”¹⁷ Instead, the future of Deer Creek Hills is uncertain. The Sacramento County Board of Supervisors refused to approve the project in part because it lies outside the service area (even though it would not have impacted infrastructure services in Sacramento County). By denying development permission, opponents are successfully converting the urban-service area into a *de facto* growth boundary.¹⁸ The lesson for the land developer is that an urban-growth boundary prevents any type of development, “no matter how well you plan, no matter how well you breathe life into the vision.”¹⁹

Not surprisingly, antidevelopment groups who support growth boundaries encourage the adoption of the most-restrictive types. “If you’re looking to lock in your [urban-growth boundary] for the longer term, [urban-growth boundary] by voter approval is the better way to go,” notes the Greenbelt Alliance, an environmental advocacy group based in San Francisco.²⁰ City councils can be changed when new members take office. Initiatives and referenda are far more permanent since changing the boundary requires another ballot drive. Ballot-box growth-management initiatives are also becoming more popular, growing by more than 50 percent between 1996 and 1998.²¹

While growth boundaries are promoted as growth-management tools, they are often adopted as part of a more general antigrowth movement on the local level.

D. Conclusion

Tradeoffs among political goals and outcomes are rarely clear in the political process when voters decide whether or not to adopt growth boundaries. When they are adopted at the ballot box, the effects are unknown to voters—limits are placed on future residents and homeowners. In addition, enough land is usually included at the outset so that short-term impacts on housing prices are small. Urban-growth boundaries may serve as political vehicles for claiming to preserve the physical character of the community (an explicit goal in Lancaster County), rather than as a dynamic growth-management tool tied to a progressive, evolutionary vision of the community.²²

¹⁷ Ibid.

¹⁸ An element of risk exists in all land development. Unless a project happens to be consistent in every respect with the underlying zoning, land development is almost always subject to public review and scrutiny by planning boards and city councils. To some extent, Deer Creek Hills is an example of a gamble that did not pay off. Nevertheless, in the case of Deer Creek Hills, the rules of the game were changed. The urban-service boundary was not intended to stop growth beyond its borders. Rather, the boundary was intended to regulate the extension of public infrastructure. Thus, land developers would have had a reasonable expectation that their project would be approved if it met normal development standards and criteria.

¹⁹ Phillip, “Stretching the Limits,” p. 48.

²⁰ *Fact Sheet: Urban-growth Boundaries*.

²¹ Myers, “Livability at the Ballot Box.”

²² In theory, Portland, Oregon is an important exception. The statewide growth-management system explicitly attempts to use urban-growth boundaries to separate rural and urban uses. To achieve goal 14—the orderly and efficient transition from rural to urban uses—the state agency responsible for administering the law requires communities to adopt urban-

In addition, growth boundaries are rarely used in isolation. They are often accompanied by strong planning provisions that limit development through state or local ordinances.²³ Growth-boundary proposals are increasingly accompanied by ballot-box initiatives that restrict the discretion of local governments to modify or expand the boundary. In California, for example, several cities in the San Francisco Bay Area are proposing that new developments that include ten or more housing units be subject to voter approval.²⁴ Thus, while growth boundaries are promoted as growth-management tools, they are often adopted as part of a more general antigrowth movement on the local level. The following case studies illustrate these points in more detail.



While many growth-management advocates believe urban-growth boundaries can be used to channel and redirect new development, antigrowth interest groups are increasingly finding them convenient ways to stop any development beyond existing city boundaries.

growth boundaries. See Knaap and Nelson, *The Regulated Landscape*, pp. 39-42. Statewide laws, in contrast to local ballot-box measures, typically have more specific and deliberate goals.

²³ Some analysts have attempted to distinguish between growth controls—density restrictions, population caps, and growth moratoria—and growth management—the channeling of growth into certain regions. Some have argued that urban-growth boundaries are tools intended to manage the location and timing of development rather than restrict it. See T. Moore and A.C. Nelson, “Lessons for Effective Urban-Containment and Resource-Land Preservation Policy,” *Journal of Urban Planning and Development*, vol. 120, no. 4 (December 1994), p. 158. In practice, however, as this report shows, growth controls are used to administer the growth-management program. Nevertheless, some planners continue to use a broader definition that emphasizes growth-management techniques that “limit growth, channel it, or manage its impacts.” See Marc T. Smith, “Evolution and Conflict in Growth Management,” in *Growth Management: The Planning Challenge of the 1990s*, ed. Jay M. Stein (Newbury Park, California: Sage Publications, 1993), p. 46.

²⁴ Phil Serna, Vice President for Government Relations, Homebuilders Association of Northern California, interview with authors, March 17, 1999.

Part 3

Growth Boundaries and Housing Affordability: The Case of Portland

The most sophisticated and comprehensive attempt to implement urban-growth boundaries is in Oregon. The Portland effort, in particular, provides an excellent case study for examining the intended and unintended effects of growth boundaries. Growth boundaries in Oregon were intended to be the linchpins of regional-growth management and explicitly addressed the six main objectives listed in Part 2 of this study. The limit line has emerged as a key component of a regional strategy intended to increase housing density, encourage compact development, and redirect investment into the urban core. Its comprehensive design and implementation provides a unique opportunity to examine its impacts on a regional scale.

While considered by many as one of the most successful examples of growth boundary implementation, the Portland case also reveals many of the pitfalls and unintended consequences that can result from their application. More specifically, the Portland experience provides a useful perspective on how growth boundaries may start with one purpose and then be transformed into a vehicle for achieving new and sometimes unanticipated objectives. The potential impact of a growth boundary on housing prices is also becoming clear in Portland.

A. Overview

In 1973, Oregon became the second state in the nation to adopt a statewide growth-management law. Growth boundaries were added in the mid-1970s as a mandate for all cities and metropolitan areas. Growth boundaries were considered the “cornerstone” of the state’s growth-management initiative, both as a way to ensure the orderly transition from rural to urban uses and to protect Oregon’s farmland.²⁵ By 1986, all 242 cities and 36 counties had comprehensive plans and urban-growth boundaries in place, conforming to 19 state goals established by Oregon’s growth-management law.²⁶ The Portland-area growth boundary (established in 1979) covers three counties and 24 cities and has been used to aggressively promote infill and increase housing density. Hundreds of policymakers and planners from across the nation have visited Portland to see how growth boundaries and

²⁵ Knaap and Nelson, *The Regulated Landscape*.

²⁶ Deborah A. Howe, “Growth Management in Oregon,” in *Growth Management: The Planning Challenge of the 1990’s*, ed. Jay M. Stein (Newbury Park, California: Sage Publications, 1993), p. 65.

regional planning work.²⁷ “On the whole,” notes the Greenbelt Alliance, echoing plaudits from numerous other sources, “the [urban-growth boundary] has been a huge success.”²⁸

Evaluations of Oregon’s growth boundaries are hampered by the fact that the Oregon state-planning system did not establish a program for collecting data to systematically evaluate whether the programs were meeting state goals until the 1990s. The problems this oversight poses are particularly evident in examinations of the effects of growth boundaries on farmland protection (see box on page 13). A task force established by the Oregon Department of Transportation initially attempted to gather data on ten cities to evaluate land-use patterns inside urban-growth boundaries, but settled on three, significantly limiting the ability of researchers to generalize their results beyond the specific case studies.²⁹ Despite these data limitations, a substantial body of research has emerged that attempts to evaluate the effectiveness of growth boundaries and other land-use planning techniques in Oregon.

Ironically, despite its perceived success outside the state, Oregon’s land-use planning system fell sufficiently short of its goals that many planners and policymakers argued for “mid-course corrections” as early as the mid-1980s.³⁰ Actual densities inside the growth boundaries ranged from 33 percent to 75 percent of the level permitted by local comprehensive plans.³¹ In Portland, which had the highest-allowable densities, actual densities were one-third lower than those permitted by local land-use plans.³² While just 5 percent of residential housing units were built outside Portland’s growth boundary from 1985 to 1989, the proportion ranged from 24 percent to 57 percent for other cities and regions in Oregon.³³

B. Growth Boundaries, Land Supply, and Housing Prices

Despite increases in density, the amount of vacant land available for new development inside the Portland regional-growth boundary has fallen from 75,000 acres in 1985 to less than 55,000 today.³⁴ Almost 40 percent of the land in the boundary was vacant in 1980.³⁵ By 1997, the amount of vacant land represented just 19.8 percent of the land (Figure 1). At current trends, without an expansion of the boundary, the

²⁷ See Knaap and Nelson, *The Regulated Landscape*, pp. 2-3; Howe, “Growth Management in Oregon,” p. 61; J. Barry Cullingworth, *The Political Culture of Planning: American Land Use Planning in Comparative Perspective* (New York: Routledge, 1993), p. 245. Portland now receives about 70 visits per year from cities across the nation and world according to local officials.

²⁸ *Fact Sheet: Urban-growth Boundaries*.

²⁹ Jerry Weitz and Terry Moore, “Development Inside Urban-growth Boundaries: Oregon’s Empirical Evidence of Continuous Urban Form,” *Journal of the American Planning Association*, vol. 64, no. 4 (Autumn 1998), p. 427.

³⁰ *Ibid.*, pp. 425-426.

³¹ Howe, “Growth Management in Oregon,” p. 70. See also Moore and Nelson, “Lessons for Effective Urban-containment and Resource-land Preservation Policy,” pp. 165-166; V. Gail Easely, *Inside the Lines*, pp. 18-19.

³² Howe, “Growth Management in Oregon,” p.70.

³³ *Ibid.* p. 72. Some have argued that the low-density character of development inside the boundary is an indication that the boundary was drawn too large. Thus, its effects were not sufficiently binding to force higher densities.

³⁴ An initial survey by Metro estimated vacant land had fallen to 50,000 acres. A new land inventory subsequently conducted by Metro found 55,000 vacant acres.

³⁵ Gerard C.S. Mildner, “Growth Management in the Portland Region and the Housing Boom of the 1990s,” *Urban Futures Working Paper No. 98-1*, Reason Public Policy Institute, May 1998, <http://www.urbanfutures.org>.

Portland metropolitan area will experience a 42,060 housing unit deficit by the year 2017.³⁶ Even if densities increase to achieve those recommended in the Metro 2040 Plan, the housing deficit would be 8,590 units.

³⁶ Portland Metro, *Urban Growth Report Addendum*, August 1998, Figure 2, p. 3. This includes development of new land, infill, and projected redevelopment of existing land.

Preserving Farmland in Oregon

An important intended benefit of Oregon's statewide planning system was its ability to protect farmland and open space (goal no. 3 in Oregon's statewide planning law). Urban-growth boundaries appear to have achieved moderate success toward this goal. Planners studying farmland-development trends around Medford (Jackson County) found that 73 percent of residential growth occurred inside the urban-growth boundary. Ninety-six percent of the new commercial and industrial development, and 100 percent of multifamily housing development, occurred inside the boundary.¹

While the authors suggest that this is evidence of the boundary's success in containing urban development, the results are not definitive. The study examined trends in building permits and land development from 1985 to 1989, *after* the growth boundary was established. The study did not include data from before the boundary was established. Thus, conclusions cannot be drawn about *the growth boundary's* effectiveness in slowing or containing development in rural areas; trends toward moderation in rural areas may have been established before the boundary was implemented.

Moreover, outside the growth boundaries, the researchers continued to find scattered and low-density residential development.² The persistence of low-density, scattered-site residential development, say critics, continues to threaten the financial viability of farming as well as the expansion of the growth boundary.³ "The presence of small-acreage tracts used for nonfarm purposes," the researchers note, "may impede future plans to convert these areas into higher-density urban uses."⁴ Moreover, development inside the urban-growth boundary is occurring at lower than allowable densities, potentially requiring an expansion of the growth boundary sooner than expected.⁵

In another analysis of farmland-development trends in the Salem and Portland areas, planner Arthur Nelson found that the growth boundary successfully shifted the demand for development inside the boundary.⁶ The amount of land in farms in these metropolitan areas stabilized while farmland continued to decline in other parts of the nation. Nelson also found that Oregon farm operations generated higher revenues during the study period. By eliminating competition for land from residential or commercial uses, Nelson speculates that the urban-growth boundaries protected the economic returns of the local-farming industry.⁷ (To the extent farmers leverage themselves financially based on development rights, however, urban-growth boundaries may in fact reduce the financial viability of farmers and farming operations.)

The growth boundaries may also have had an unintended side effect. Most of the farms outside the boundaries are noncommercial "hobby" farms. Ninety percent of the farms under 160 acres where new homes were authorized reported no farm receipts.⁸ Half of the farm operations with new homes were in the Willamette Valley,⁹ which contains the City of Portland and about 60 percent of Oregon's residents. Hobby farmers are increasingly hostile to expanding the boundary because higher-residential densities and development of nearby open space would result. Thus, an apparent outcome of Oregon's farmland-protection policies is the creation of a new antigrowth special-interest group: hobby farmers.

Notes:

¹ T. Moore and A.C. Nelson, "Lessons for Effective Urban Containment and Resource Land-preservation Policy," *Journal of Urban Planning and Development*, vol. 120, no. 4, (December 1994), pp. 161-162.

² *Ibid.*, p. 162.

³ Farming viability is threatened, say critics, through fragmentation and resistance to routine farming operations by new residents. Fragmentation, for example, increases the difficulty of using industrial agricultural techniques that must be applied to large expanses of farmland. Road traffic created by residential development impedes movement of farm equipment from parcel to parcel.

⁴ Moore and Nelson, "Lessons for Effective Urban-containment and Resource Land-preservation Policy," p. 162.

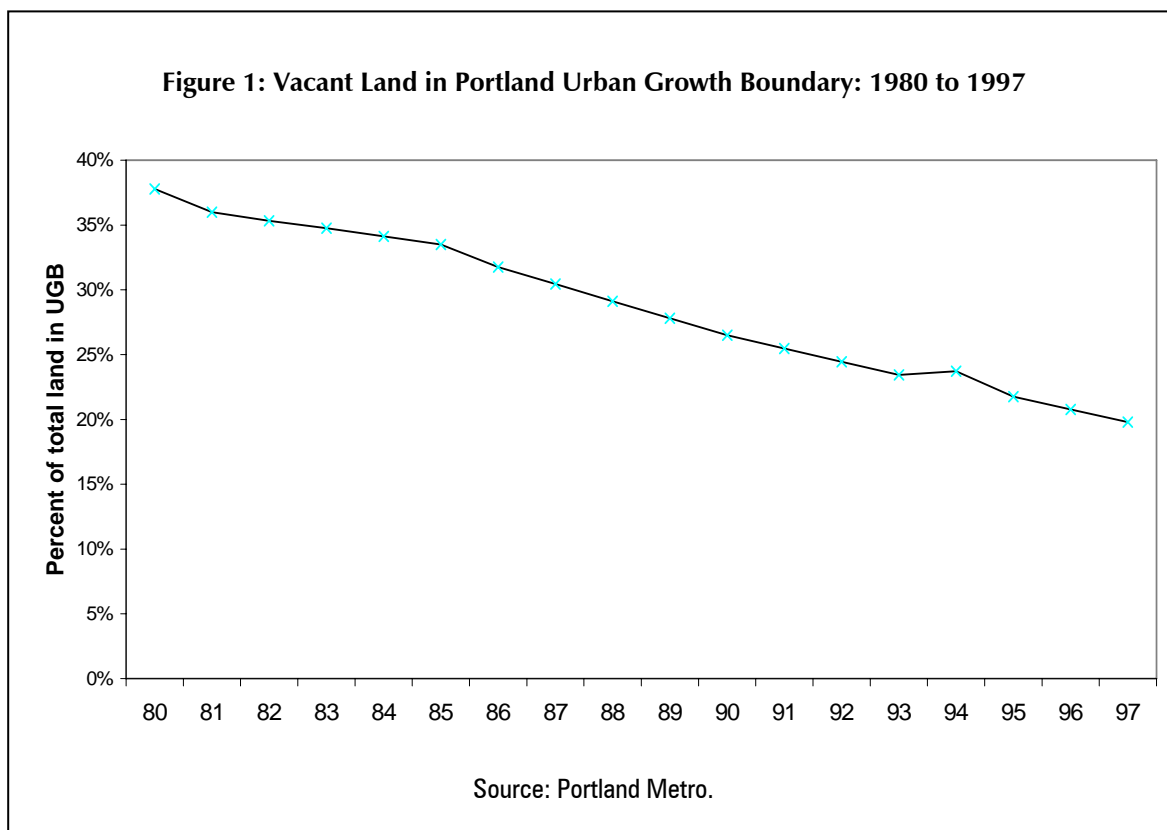
⁵ *Ibid.*, pp. 164-66.

⁶ Arthur C. Nelson, "Preserving Prime Farmland in the Face of Urbanization: Lessons from Oregon," *Journal of the American Planning Association*, vol. 58, no. 4 (Autumn 1992), pp. 467-488. These laws protect farming at the expense of alternative uses. By preventing land use for other purposes (e.g., housing), the growth boundary lowers the value of land artificially to reflect its narrower, legally permitted use. The opportunity costs to society include housing people in more urban settings than they prefer.

⁷ *Ibid.*, p. 474.

⁸ *Ibid.*

⁹ *Ibid.*



Metro and local governments in the region have planned for adjustments in the growth boundary to account for future growth through the “2040 Process,” a strategic transportation and land-use planning initiative intended to accommodate and allocate growth among the region’s cities and urban areas. Oddly, metro planners and officials are hesitant to view the decision to expand the growth boundary in terms of housing markets and prices. Rather, they are using the narrow legal view that the boundary should include a 20-year supply of land and should preserve farm and forest land irrespective of impacts on housing affordability.³⁷

Local politics is also making expansion of the growth boundary difficult. The Metro Executive Officer’s recommendation for 7,000-acre expansion was rejected by a coalition of five of the seven council members in 1997. Metro voted to expand the boundary in December 1998 by 3,500 acres and passed a resolution to add 1,800 additional acres in the future.³⁸ These votes were a compromise between environmental activists and zero-expansion advocates and prodevelopment groups who favored an expansion of at least 10,000 acres. The 5,300-acre anticipated expansion of the boundary accommodates less than two years of the average land take-up through development.³⁹ Efforts to improve housing affordability through strategies such as fair-share housing or inclusionary zoning are unlikely to be effective given current growth trends (see box on page 22).

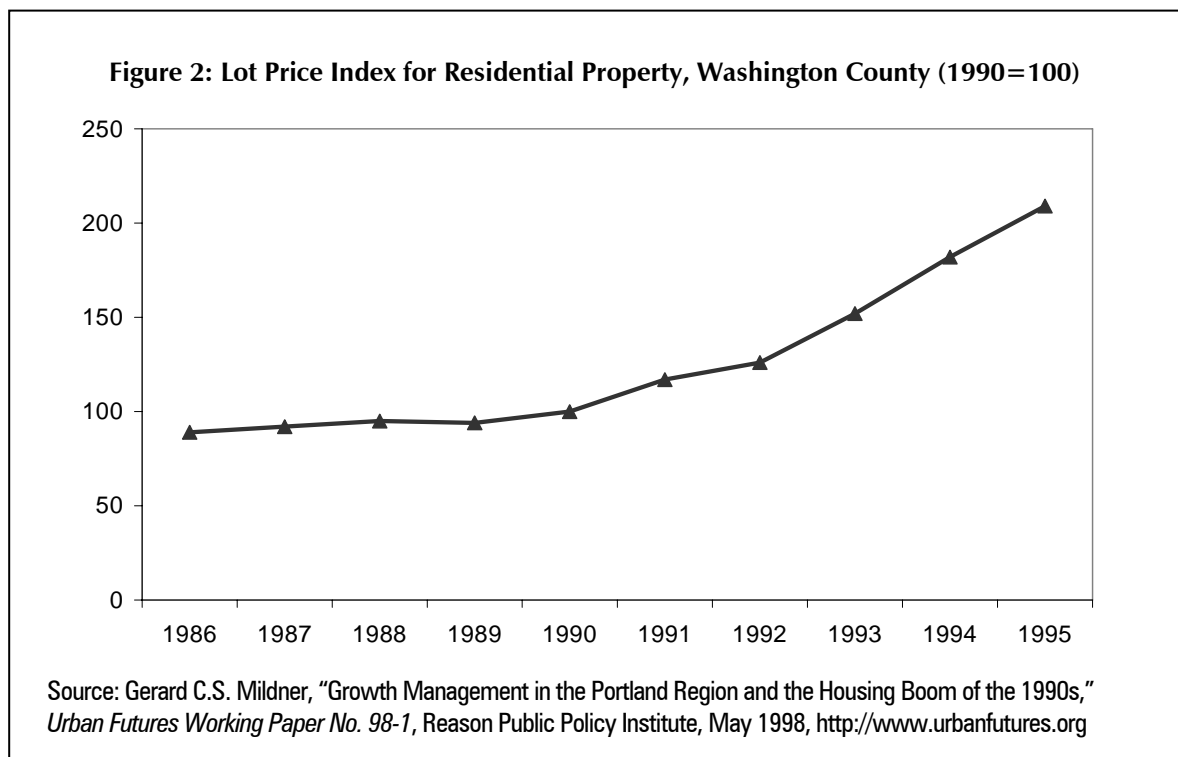
³⁷ State law mandates that they establish a growth boundary which contains a “20-year land supply.” Planners and elected officials, however, have been bolstered by surveys taken early in the planning process that showed strong public support for zero expansion. Mildner, “Growth Management in the Portland Region.” For a detailed analysis of popular and interest-group support for growth management in Oregon, see Knaap and Nelson, *The Regulated Landscape*, pp. 187-206.

³⁸ Metro staff, correspondence with the authors, July 30, 1999.

³⁹ Local real-estate consultant Jerry Johnson estimates land take-up of 2,850 acres per year. See Jerry Johnson, Hobson, Johnson, and Associates, memorandum dated October 24, 1997. This estimate is higher than Metro’s estimate of about 2,000 gross buildable acres per year. See Portland Metro, *Urban Growth Report Addendum*, p. 14.

As Figure 2 suggests, as less new land has become available for development, the increased *competition* for existing developable land has translated into higher land prices.⁴⁰ For a brief period (1988 to 1990), during the regional recession, housing prices stabilized along with the proportion of vacant land available for development. After 1990, prices rose significantly as the difference between the median price for a one-family home in Portland went from 71.7 percent of the national median in 1988 to 100.7 percent in 1994.⁴¹

These effects are evident in suburban Washington County, the Portland metropolitan area's second largest county. Lot prices for single-family houses in Washington County lagged inflation, as measured by the CPI from 1985 to 1990, the years the Portland area experienced a housing recession (Figure 3).⁴² After 1990, housing prices increased significantly. By 1994, home prices were one and one-half times greater than in 1985 (a 140 percent increase). Lot prices more than doubled in five years while the Consumer Price Index (CPI) increased by 52.5 percent.⁴³ These trends significantly surpassed Metro's housing-price forecast, which predicted land prices would rise by 20 percent in real terms from 1995 to 2000.⁴⁴



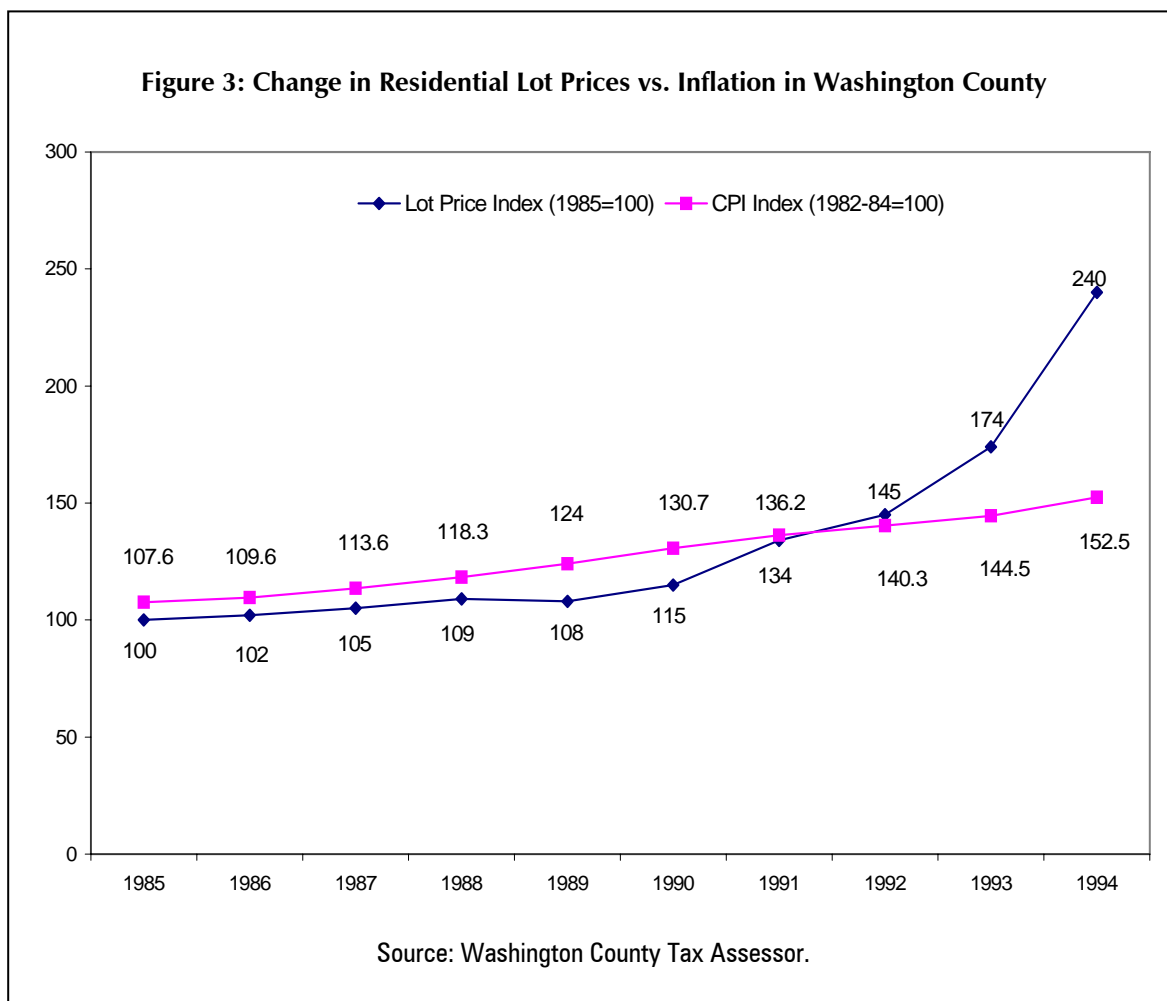
⁴⁰ Reliable and accurate data on land prices are difficult to obtain. The Metro staff uses data from the Urban Land Institute's ULI Market Profiles to compare Portland to other cities. Much of this information, however, is drawn from very small or narrow samples. For example, the Los Angeles data comes from development in a single place, the Antelope Valley, and the Las Vegas data are a per lot price estimate derived from builders' cost information.

⁴¹ Mildner, "Growth Management in the Portland Region and the Housing Boom of the 1990s."

⁴² Washington County is the most-populous suburban county in the four-county Portland area and the county with the greatest new-home production. The Washington County Tax Assessor reviews sale prices and determines an average ratio of sale price to assessed value for each class of property. These ratios are used to adjust assessments and can be interpreted as an average-percentage price increase for property within these property classes. With low transaction volumes, the average-percentage increase might be unrepresentative of the class as a whole. However, errors due to the low number of observations do not create either an upward or downward bias and should be minimized over a number of years.

⁴³ We have adjusted the price index by the Consumer Price Index and report inflation-adjusted price indices. This adjustment shows that about 20 percent of the increase in lot prices over the 1990-95 period was due to inflation. Thus, lot prices in Washington County grew by 79 percent in inflation-adjusted terms.

⁴⁴ Mildner, "Growth Management in the Portland Region and the Housing Boom of the 1990s."



The housing price data in Figures 1, 2, and 3 are not adjusted for the quality or size of homes. Densities increased on average from five homes per acre (one-fifth of an acre) to eight homes per acre (one-eighth of an acre) from 1994 to 1997.⁴⁵ Land absorption has been declining steadily as multifamily housing units have increased from 25 percent of all building permits in 1992 to 49 percent in 1997.⁴⁶ Thus, to the extent Portland families prefer detached single-family homes with private open space in the form of yards, housing quality may well be declining as housing prices per unit increase.

These pressures are unlikely to moderate in the near future. Metro's policy is to encourage redevelopment of existing land at higher densities and encourage the development of vacant land in existing urban areas. These goals may only be possible if home prices increase significantly. Moreover, higher "refill" rates may not be able to compensate for a reduction in overall housing production (see Appendix A).

⁴⁵ Portland Metro, *Urban Growth Report Addendum*, pp. 14-15.

⁴⁶ *Ibid.*, Figure 13, p. 15. Land consumption has declined from 2,900 acres in 1995, to 2,300 in 1996, to 1,700 in 1997.

C. Housing-price Appreciation in Portland

A glimpse of the growth boundary's potential impacts on land and housing prices was evident soon after the boundary was established.⁴⁷ In 1980, an analysis of 455 purchases of vacant lots for single-family homes found that land prices inside the boundary were significantly higher than those outside the boundary.⁴⁸ The changes in market price were tied to expectations by builders and developers about the likelihood the land could be developed for residential purposes. Thus, land prices varied by how much local governments restricted development.⁴⁹ Rural land values outside the boundary fell as developers recognized its availability for urban development was limited. Land values inside the boundary increased as developers recognized its potential for development. Thus, strict regulatory adherence to the growth boundary resulted in the largest differences in price.

Despite the increases in land prices, early evaluations of Portland's growth boundary found little initial impact on housing prices. Housing prices in the 1980s, noted one planner, followed national trends (although prices inside growth boundaries tended to be higher than those outside).⁵⁰ The Portland housing market, in fact, was depressed in the 1980s, hit by the national recession and low timber prices. Thus, low demand offset upward pressure on housing prices from the higher cost of land induced by the growth boundary. By the late 1980s and early 1990s, the economy had picked up, and housing prices began to rise primarily in higher-income communities such as Lake Oswego, West and Northwest Portland, Tigard, and Wilsonville (Table 1). Population growth rates have tripled relative to the early 1980s, and land prices have doubled since 1990. While nominal housing prices have risen by more than 60 percent regionwide since 1990, inner-city Portland experienced little investment and housing-price appreciation until the 1990s.

From 1990 to 1995, inner-city neighborhoods in Portland experienced a housing renaissance. The average home price among these cities increased from \$97,684 to \$152,700.

From 1990 to 1995, inner-city neighborhoods in Portland experienced a housing renaissance: the North, Southeast, and Northeast Portland areas saw the greatest rate of housing-price appreciation in the region (although they started from a lower base price). Home prices in North Portland doubled, rising from \$41,300 in 1990 to \$83,800 in 1995 (in noninflation-adjusted dollars). The average home price among these cities increased from \$97,684 to \$152,700.

For those favoring growth boundaries in Portland, these trends are an indicator of success. As land becomes more scarce on the fringe inside the boundary, housing demand is pushed inward. Increased land prices, in

⁴⁷ Gerrit J. Knaap and Arthur C. Nelson, "The Effects of Regional Land Use Control in Oregon: A Theoretical and Empirical Review," *The Review of Regional Studies*, vol. 18, no. 2 (1988), pp. 37-46.

⁴⁸ Gerrit J. Knaap, "The Price Effects of Urban-growth Boundaries in Metropolitan Portland, Oregon," *Land Economics*, vol. 61, no. 1 (February 1985), pp. 26-35.

⁴⁹ The growth boundary was new enough that the 20-year supply of vacant land provided little constraint on development. Land is converted to residential uses as local zoning boards permit development. See Knaap, "The Price Effects of Urban-growth Boundaries," p. 33.

⁵⁰ Howe, "Growth Management in Oregon," p. 71.

turn, create incentives for higher-density development in suburbs and inner-city neighborhoods.⁵¹ As suburban neighborhoods achieve higher densities and become less distinguishable from inner-city neighborhoods in physical form, higher-income households compete with lower-income households for inner-city locations. The urban-growth boundary has pushed investment inward and promoted inner-city development, a key goal of urban-growth boundary proponents.

But, housing-price appreciation is a double-edged sword. On the one hand, higher prices may reflect greater demand for a scarce commodity (e.g., quality inner-city housing). On the other hand, higher housing prices may reflect a constraint on supply. In the latter case, higher housing prices reduce the overall quality of life for residents, since they must pay more for a home that may provide fewer benefits (e.g., smaller lots, more dense living).

While a number of factors contribute to rising home prices in Portland (see box on page 20), the growth boundary is increasingly recognized as an important supplyside constraint in the local housing market. Unlike the early- and mid-1980s, low densities and abundant land inside the boundary are not softening the impact of the limit line on housing prices. By restricting the supply of vacant land and forcing development into higher cost, inner-city locations, the boundary is contributing to Portland's housing-price appreciation and potentially reducing overall housing quality by making homes less affordable. In the current boom, the growth boundary has become a binding constraint even though it is one of the few tools local policymakers can use to mitigate housing-price effects (by expanding the boundary to include cheaper land).

Table 1: Housing Prices by Portland SubMarket, 1982-95

	Type	Prices(in thousands) 1995	Appreciation Rate		
			1982-85	1985-90	1990-95
N. Portland	inner city	\$83,800	-17.48%	16.67%	102.91%
NE Portland	inner city	\$114,500	-9.15%	24.42%	78.35%
SE Portland	inner city	\$109,700	-8.83%	22.06%	85.30%
Gresham/Troutdale	suburb	\$132,900	-5.97%	34.49%	49.49%
Milwaukie/Gladstone	suburb	\$144,800	-4.79%	43.29%	54.04%
Oregon City/Mollala	suburb	\$144,500	10.60%	37.87%	62.00%
Lake Oswego/West Linn	suburb	\$244,400	-0.25%	54.55%	33.12%
West Portland	inner city	\$210,200	-2.27%	51.11%	46.58%
NW Portland	inner city	\$195,900	0.50%	44.78%	35.85%
Beaverton/Aloha	suburb	\$141,700	-3.05%	44.52%	34.31%
Tigard/Wilsonville	suburb	\$174,900	-9.86%	61.65%	39.25%
Hillsboro/Forest Grove	suburb	\$134,500	-6.62%	34.05%	54.60%
Unweighted Averages		\$152,700	-4.76%	39.12%	56.32%

Source: Gerard C.S. Mildner, "Growth Management in the Portland Region and the Housing Boom of the 1990s," *Urban Futures Working Paper No. 98-1*, Reason Public Policy Institute, May 1998, <http://www.urbanfutures.org>.

⁵¹ See the discussion in Sonny Conder, *Residential Refill Study*, Growth Management Services Department Technical Report, Portland Metro, February 10, 1999.

Homebuyers Trade off Lot and Building Size Based on Cost

Consumers make numerous decisions about the quantity and quality of housing when they decide when to buy a house. This is a dynamic process: consumers are continually evaluating different characteristics of a home such as the number of bedrooms, square footage, lot size, and other attributes while suppliers (builders) are continually trying to develop property to meet these needs. The lot size/building size tradeoff illustrates this process and the dynamism of real-estate markets.

Land is an important beneficial characteristic of a home. Sometimes this land is privately owned (e.g., back and front yards), and sometimes it is public open space (e.g., a neighborhood park). Not surprisingly, when land is abundant, people prefer homes with larger lots. As housing prices increase, homebuyers recalculate the benefits of different housing characteristics. Since houses usually provide important, high-priority benefits—bedrooms for personal privacy, shelter from the elements, kitchens, etc.—homebuyers will often choose smaller lots when home prices are high.

Portland, Oregon provides an interesting case. When Metro, Portland’s regional planning agency, began to implement its land-use plan, maximum allowable densities increased. In other words, developers were allowed to build more houses per acre of land. During the 1990s, Portland experienced rapidly increasing housing prices as immigration and rising incomes fueled demand for housing, and supply failed to keep pace (see the discussion in Part 3). Researchers at Metro examined almost 8,000 home sales from January 1996 through June 1997 to determine how households responded to higher housing prices and whether the lot size/building size tradeoff existed.¹ Portland-area homebuyers, it turned out, bought larger homes on smaller lots as prices increased.² They did not buy larger lots as home prices increased for houses of the same size. For homes of different sizes, researchers also found consumers trade off lot size for home size.³

Notes:

¹ Sonny Conder and Karen Larson, *Residential Lot Values and the Capital-Land Substitution Parameter—Some Recent Results from the Portland Metro Area*, Growth Management Services Division, Metro, unpublished paper, May 1998. The sample consisted of 5,500 records from Clackamas, Multnomah, and Washington Counties in Oregon and 2,200 records from Clark County, Washington.

² *Ibid.*, p. 6. Conder and Larson speculate that this may be the result of smaller household sizes and the increase in multiple-income households.

³ *Ibid.*, pp. 6-7. The estimates ranged from 0.642 to 0.8, where 1 represents a 1:1 willingness to trade off lot size for home size and 0 represents no substitution. In other words, a ratio of 1 would imply that, as home prices increase, a 10 percent increase in home size would be equivalent to a 10 percent reduction in lot size.

D. The Politics of Growth-boundary Expansion

Metro is also experiencing significant resistance among grassroots groups to higher-density residential development and the proposed transportation plan. For example,

- Portland residents rejected a referendum to fund the region’s light-rail extension in November 1998; and
- Residents of the suburban community of Milwaukee recalled all city council members that voted to accept Metro’s high-density zoning mandate to accommodate future population growth.

Population Growth, Migration, and Housing Prices

A number of factors in addition to the growth boundary are probably contributing to the boom in housing prices, including: the national decline in interest rates since 1989; the precipitous decline in property taxes in Oregon begun through a 1990 ballot-box initiative; Portland's rapid employment growth; investment in new high-tech businesses; and rising household incomes.

Many have argued that rapid migration into Oregon during the 1990s created substantial housing demand with which the local building industry has simply been unable to keep pace. On average, 35,000 people per year have moved into the Portland area in the 1990s, triple the rate of pre-1988 levels.¹ As much as two-thirds of Portland's population growth may be attributed to migration from other states, particularly California.² Since a substantial portion of this migration was a result of job creation in high-tech industries, higher-than-average incomes may be fueling housing demand as well.³ Most regional economies will experience difficulties when facing an unexpected increase in population and housing demand.

These effects, however, should be temporary as the building industry adjusts to higher levels of demand and new housing supply comes on line and prices moderate. For the Portland metropolitan area, population is increasing between 2.0 percent and 2.5 percent per year.⁴ While larger than the national average, this is less than other metropolitan areas such as Las Vegas (about 6.5 percent per year), Phoenix (about 3.0 percent), Riverside (about 2.7 percent), and Orlando (about 2.7 percent). These fast-growing cities did not experience significant housing price appreciation during the same period. While Portland's housing prices increased by 61.5 percent from 1990 to 1995, housing prices in Las Vegas—the fastest growing city among the cities listed—increased by about one-third as fast (22.0 percent during this period).

Notes:

¹ Portland Metro, *Urban Growth Report Addendum*, August 1998, Figure 3, p. 7.

² Portland Metro, *Urban Growth Report*, December 1997, p. 42.

³ For a discussion of projected trends in household income, see Portland Metro, *Urban Growth Report*, pp. 51-52.

⁴ Portland Metro, *Urban Growth Report*, p. 42.

These events and others suggest that anti-Portland and anti-Metro votes exist and may be mobilized.

Moreover, the coalition of interest groups supporting and opposing regional planning is shifting. Initially, low-income households supported statewide planning because the law included a plank supporting the housing needs of all residents in the state.⁵² Many believed a properly planned region would yield affordable housing.

As of December 1998, all four of Oregon's metropolitan areas ranked among the nation's least affordable housing markets, according to the National Association of Home Builders, which tracked home prices in 186 metropolitan areas throughout the nation (Table 2).⁵³ The homebuilders examined interest rates, median-

⁵² This was goal 10 in the statewide growth management law. See Knaap, "Self-Interest and Voter Support for Oregon's Land Use Controls," and "The Political Economy of Growth Management in Oregon."

⁵³ See also the discussion in Richard H. Carson, *Paying for Oregon's Growth*. Rapid housing-price appreciation is only circumstantial evidence of whether urban-growth boundaries reduce housing affordability. Although the Oregon system of land-use management is unique, all metropolitan areas have some level of local zoning and building code regulation that, if stringent enough, could have a significant effect on the supply of housing. Lower-housing supply causes demand for existing homes to increase, leading to increased home appreciation. However, comparable data on the harshness of land-use regulation on a metropolitan-wide basis are generally not available, although economist Gerrit Knaap has examined the differences within the Portland metropolitan area. See Knaap, "The Price Effects of Urban Growth Boundaries." In addition, some metropolitan areas may have significant water, mountain, terrain, or public ownership of land that may restrict the availability of local land supply for housing development. Finally, there may be significant variations in local policies that affect the underlying attractiveness or amenities of a metropolitan area. In Portland's case, the implementation of a series of property tax-cut measures, beginning in 1991, may have had such an effect.

family income, and home sales in each metropolitan area to determine what proportion of homes could be purchased by a family with the median income in the metropolitan area. In Eugene, the least-affordable housing market among Oregon's metropolitan areas, a family earning the median income could only afford to buy 30.4 percent of the homes sold (in the last four months of 1998). When Oregon's metropolitan areas are compared to 48 areas in western states, Eugene ranks among the bottom 3 percent in housing affordability, Portland and Medford among the bottom 10 percent least affordable, and Salem among the bottom 25 percent least affordable.

In the current environment of rapidly rising housing prices, political resistance to expanding the growth boundary, and efforts to increase residential densities in existing neighborhoods, low- and middle-income households may be less supportive of regional planning. Similarly, the emergence of hobby farmers as a significant voting block opposing expansion of the growth boundary can potentially expose inequities created by farmland-preservation efforts as noncommercial farms owned by wealthier households are subsidized by lower land values outside the growth boundary. Thus, regional planning has created new "winners" (e.g., hobby farmers) and "losers" (e.g., lower- and middle-income families), and how these and other groups impact the land-use planning process will determine the fate of Portland's regional-planning system.

Oregon farmers may also become even more divided over the growth-boundary issue. Land-use planning was sold as a way to bolster the economic viability of farming by guaranteeing permanence and "protecting" farmers from urban encroachment. By prohibiting specific types of uses, such as residential and commercial development, land prices would fall for farmland (since demand would fall), making it easier for farmers to acquire and maintain land in agricultural activities with relatively low economic value added. While early results indicate some of these goals may have been achieved, a policy of minimum boundary expansion creates additional problems. To keep land-use regulation less costly for farmers, and to insure support from the agricultural community, farmers retained the right to develop their properties should their land be included in the growth boundary at a later point. In the future, the agricultural community is likely to divide farmers who own their land (and want to see their land reach its highest-market value) and farmers who lease their land and fear that development threatens their livelihood. The farming implements and supplier lobby will also resist development of farmland in order to preserve its customer base.

City/MSA	Opportunity Index	Nation (N=186)		Western States (N=48)	
		National Rank	Percentile Rank	Regional Rank	Percentile Rank
Eugene - Springfield	30.4	185	99.5%	47	97.9%
Medford - Ashland	38.5	182	97.8%	45	93.8%
Portland - Vancouver	38.7	180	96.8%	43	89.6%
Salem	44.8	173	93.0%	37	77.1%

Source: National Association of Home Builders, <http://www.nahb.com>. The Housing Opportunity Index (HOI) score represents the share of new and existing homes that could be purchased by a family earning the metropolitan area's median-family income. Thus, lower housing-affordability index scores represent less affordable areas since the median family could afford to purchase a lower percentage of homes sold on the regional market. Therefore, lower rankings represent less affordable areas.

Growth versus Affordable Housing in Portland

Metro and local-government officials have been quiet in discussing the rise of housing prices in inner-city neighborhoods and their gentrification by higher-income groups. Housing prices in inner-city areas such as Southeast Portland, Northeast Portland, and North Portland increased by 85 percent, 78 percent, and 103 percent, respectively between 1990-95, while the suburban communities averaged 45 percent. Inner-city gentrification, while a laudable planning goal, creates a burden carried mainly by Portland's poor. As they are displaced by higher-income families, poorer households are less able to find better housing on the urban fringe and in suburban areas.

To respond to affordable-housing concerns, advocates of zero-expansion, headed by 1,000 Friends of Oregon, a leading environmental interest group, formed the Coalition for a Liveable Future. The coalition sought to merge the efforts of environmental interests with low-income housing advocates. The coalition was seen as a vehicle by environmentalists to prevent low-income housing advocates from forming a coalition with developers that favored expanding the boundary to increase the supply of housing and mitigate housing-price appreciation. To attract the housing advocates, the coalition added planks to their agenda that linked local low-income housing trust funds to real-estate transfer taxes and land-sales taxes and supported an inclusionary zoning mandate on new-housing development. Both planks appealed to the environmental community by reducing the likelihood that the metropolitan area would expand. Developers on the urban fringe would be required to build at inner-city densities, pay for local-service expansion, build low-income housing, or pay funds into a low-income housing trust fund.

Inclusionary zoning is unlikely to significantly improve affordable housing. Portland has considered requiring developments over ten units to provide 20 percent of their units at a price affordable to households earning 80 percent of the region's median income.¹ From 1990 to 1997, local real-estate market consultant Jerald Johnson reports that 6,450 single-family homes and 3,530 multifamily units were approved.² The inclusionary-zoning program, if enacted, would have required that 1,032 single-family homes and 565 multifamily apartment units be priced at "affordable" levels.³ Yet, from the second quarter 1995 through second quarter 1997, Johnson estimated that housing-price appreciation alone pushed 80,000 single-family homes over thresholds for affordability. In other words, 80,000 fewer units were considered "affordable" in 1997 compared to 1995. Thus, programs such as the one considered by Metro would make little headway in improving affordability in the Portland metropolitan area.

Nevertheless, the economic effect of these policies would be to reinforce housing-price appreciation in the Portland area. High-density housing is more expensive to build per unit for the same size and quality (see Appendix A),⁴ and the burden of impact fees and low-income housing subsidies would be shared by reduced returns on investment for land owners and higher rents and purchase prices for housing consumers. By raising the cost of building new homes, this policy would raise the market price of housing in the region and create additional burdens on low-income and middle-income households.⁵

Notes:

¹ For homes, the affordable housing threshold was pegged at \$125,000. For apartments, the threshold was \$500 per month. Jerald Johnson, "Issues Associated with the Imposition of Inclusionary Zoning in the Portland Metropolitan Area," Hobson, Johnson, and Associates, Portland, Oregon, unpublished paper, December 1, 1997.

² Ibid.

³ Ibid. When this report went to press, Portland Metro had not adopted this policy.

⁴ Higher-density houses tend to be smaller, thus increasing the cost per square foot of living area (see Appendix A).

⁵ For an alternative approach to housing affordability, see Howard Husock, *Repairing the Ladder: Toward a New Housing Paradigm*, Policy Study No. 207 (Los Angeles: Reason Foundation, July 1996).

E. Conclusion

As Portland's growth boundary evolves beyond its first generation of implementation, support for growth management is emerging as special-interest support for growth control. The urban-growth boundary in Portland appears to have transformed itself from a growth-management tool, where growth was guided or channeled, to a growth-control strategy, where Metro sets density requirements and actively directs growth through infrastructure planning and land-use regulation. Metro is increasingly moving toward an approach where the planning agency sets, even mandates, densities and infrastructure policies.

Growth management in the Portland region appears to be politically unstable, as new interest groups and coalitions have emerged to support specific aspects of the regional plan. The Portland region has experienced rapid population growth and a significant rise in housing demand. As land inside the growth boundary becomes increasingly scarce, rising housing demand has led to significant increases in housing prices. These effects are compounded by the fact that density targets have not been met within the boundary. Portland still retains many of the characteristics of suburban living that the growth boundary was intended to discourage. Ironically, achieving these density targets may only be possible through high land prices that make expensive and inefficient parcels of land profitable to develop.

Old and new special-interest groups are using the growth boundary to create a static line in the land around the metropolitan area.

The political and economic requirements for greater land supply were partially addressed by a minor expansion of the urban-growth boundary in 1997. However, the push to expand the region's growth boundary has been led more by the development community than those most affected by housing-price escalation. That expansion decision has been hamstrung by the requirements placed on the housing to be built. While some believe a substantial amount of land still exists within the urban-growth boundary for land development, Metro is predicting a housing deficit even if significantly higher densities are achieved on current land. In addition, the remaining land inside the boundary is generally less productive and more expensive to develop. Combined with a political climate supportive of zero growth, Metro will not likely expand the growth boundary significantly to moderate upward pressure on housing prices.

In sum, the Portland case illustrates several potential pitfalls for local policymakers considering growth boundaries. While farmland loss has moderated, and densities have clearly increased, housing affordability has suffered. Housing appreciation is destabilizing the local political environment as growth-management goals conflict and new interest groups and coalitions emerge to challenge the system of regional planning. While the boundary was initially intended to be a dynamic tool that would guide growth, old and new special-interest groups are using the growth boundary to create a static line in the land around the metropolitan area. These outcomes, albeit unforeseen and unintended, must also be considered when evaluating growth boundaries.

Part 4

Urban-service Areas and Housing Affordability: Boulder County, Colorado

Communities often implement growth-management plans or growth controls when they face historically high levels of growth and development. Boulder County, Colorado experienced significant growth in the 1970s, prompting local community leaders to adopt a comprehensive plan that now provides an example of a hybrid urban-growth boundary. In contrast to Portland, Boulder County has not experienced a rapid escalation of housing prices. This may well be a function of the localized and flexible (and broadly market driven) nature of growth-management policies implemented at the city, rather than regional, levels. Ironically, the boundaries may avoid the pitfalls of growth boundaries precisely because they do not function as true growth boundaries. Decisions about boundary expansion are locally driven by cities, which provides an unintended relief valve for the local housing market, and fail to truly constrain development on the fringe. In fact, significant regional efficiencies may be emerging because land use is politically determined, and economic diversity and balance are not important local political priorities.

A. Community-service Areas in Boulder County

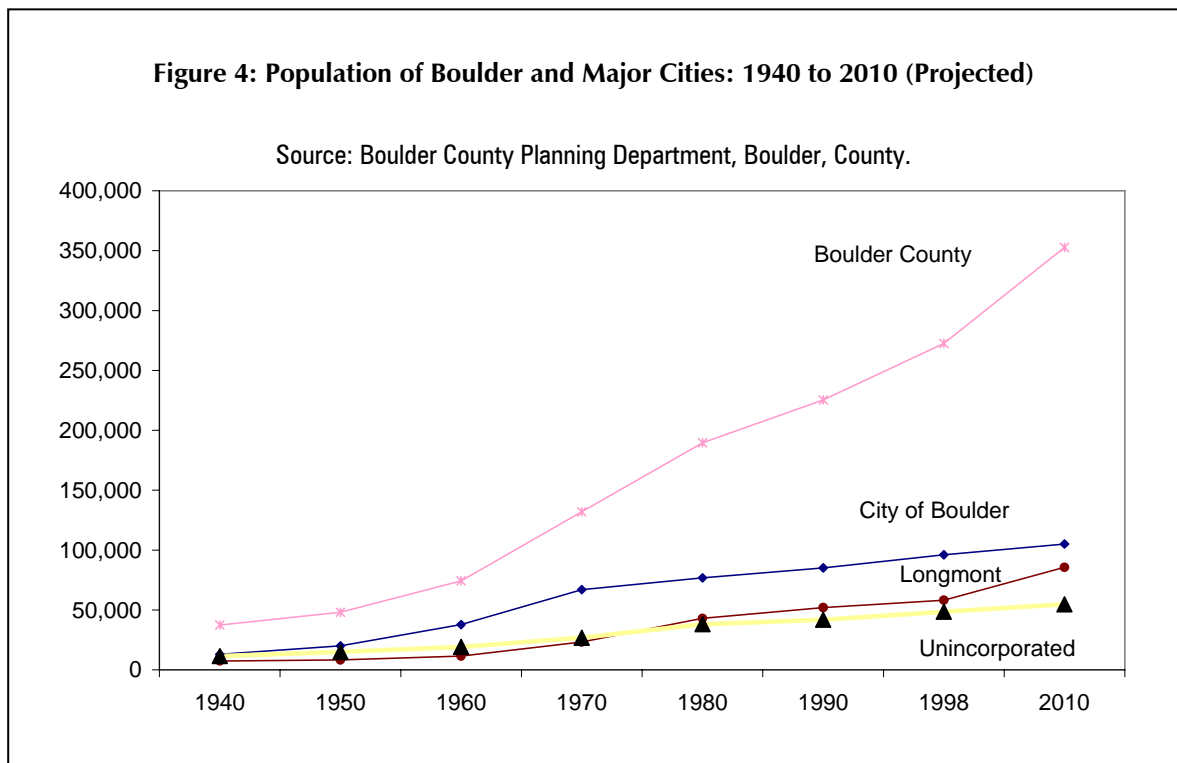
Local officials began to examine growth-management tools to help preserve open space and the rural character of the county in the 1970s when the county's population began to expand rapidly. Boulder County's population has grown dramatically and steadily since the 1960s (Figure 4), a result of its proximity to the diverse work force in the Denver metropolitan area and the growth of the University of Colorado-Boulder (see box on page 25). In the 1960s, the county's population grew 77.6 percent to 131,889 people.⁵⁴ Growth rates began to slow in subsequent decades, dropping to 43.8 percent growth in the 1970s and 18.8 percent in the 1980s. Since 1990, however, the county has added another 47,161 people (20.9 percent), increasing the county population to 272,500. By 2010, the Boulder County planning department expects the county's population to expand by another 29.4 percent to 352,605.

Public officials and planners in Boulder County use community-service areas—boundaries within which infrastructure such as roads, sewers, and water will be publicly provided—and restrictive county ordinances and regulations to ostensibly protect open space, increase urban densities, preserve the quality of life, ensure the efficient provision of infrastructure, and solidify a sense of place and community. A growth boundary was created through the simultaneous implementation of community-service areas at the city level (most notably around the City of Boulder) and highly restrictive land-use and permitting policies at the county level.

⁵⁴ Population data taken from Boulder County, Colorado, Department of Land Use, <http://www.co.boulder.co.us/lu>.

Boulder County's Access to Denver Drives Growth

Boulder County is located northwest of Denver. The City of Boulder, the county seat and largest municipality, is just 26 miles from Denver with easy access via a limited-access highway (U.S. Route 36). Most of the county's population lives on the eastern side, in the cities of Boulder, Longmont, Broomfield, Lafayette, and Louisville. The bulk of the county consists of Roosevelt National Forest and the Arapahoe National Recreation Area. About 45 miles northeast of Boulder is Fort Collins, another fast-growing suburban community with easy access to Denver via Interstate 25 (which is 60 miles south of Fort Collins).



In 1978, Boulder County officials adopted a comprehensive plan that established community-service areas for each of its municipalities. Technically, the community service areas are not growth boundaries, although they were adopted to achieve “the basic planning goal of encouraging all future urban development to occur in and around existing urban centers.”⁵⁵ Infrastructure is provided at the city level in Boulder County. Thus, the county does not play a significant role in providing water, sewer, or other urban services.

The community-service areas and county-comprehensive plan were adopted to explicitly address the issues of rapid urbanization, suburban development, and fragmented local government. Since community-service areas are city based, the county comprehensive plan recognizes that “municipalities and not the county are best able to provide, at realistic, fair costs, the types of public services an urban society requires.”⁵⁶ This principle is reinforced by the explicit acknowledgement in the plan’s goals that existing communities should

⁵⁵ Community-service areas were first adopted as part of the Boulder Valley Comprehensive Plan in 1970 but were first tied to growth controls in the comprehensive plan adopted in 1978. See the discussion in *Boulder County Comprehensive Plan: Goals, Policies, & Maps Element*, Department of Land Use, Boulder County, Colorado. <http://www.co.boulder.co.us/lu/bccp/bccpform.htm>.

⁵⁶ Ibid.

be allowed to grow at “whatever rate they consider desirable.”⁵⁷ Thus, unlike cities in California, which must receive approval from a regional council of governments to annex land, cities in Boulder County can expand their service areas unilaterally through annexation. This policy has inadvertently weakened the ability of the community-service areas to act as true urban-growth boundaries, as the following section will show.

Boulder County’s comprehensive plan explicitly discourages development outside community-service areas. In Colorado, property owners can develop property without planning review if the density is one housing unit per 35 acres, and Boulder County strictly enforces this rule. Thus, by adhering to the one dwelling unit to 35-acres rule, the county attempts to preserve the “agricultural, environmental, visual, and cultural characteristics that make up the rural character of the county’s unincorporated areas.”⁵⁸

Municipalities and not the county are best able to provide, at realistic, fair costs, the types of public services an urban society requires.

B. Growth Controls and Housing Prices

Housing prices in the Boulder metropolitan area are higher than in nearby Denver and Fort Collins. Boulder County’s home prices may be influenced by higher incomes, a product of a thriving local economy and the University of Colorado-Boulder. Higher incomes can fuel higher housing prices, a claim often made in Portland (see the discussion in Part 3). With a median-family income of \$63,100, incomes in Boulder are 13.2 percent higher than in the Denver metropolitan area (\$55,700) and 23.9 percent higher than in Fort Collins (\$50,900).⁵⁹ According to the National Association of Homebuilders, 63.4 percent of the new and existing homes in the Boulder metropolitan area could be purchased by a family earning the median income, the same proportion as in Fort Collins but lower than Denver (67.9 percent).⁶⁰ While the average sales price of a home was nearly the same in Denver and Fort Collins (about \$150,000), 1998 home prices in Boulder County averaged \$180,000, about 20.0 percent higher.⁶¹

An offsetting factor in Boulder County may be aggressive annexation policies by other cities within the county that have enabled homes to remain affordable to nearly two-thirds of the families in the county.

⁵⁷ Goal A.2 in the comprehensive plan from Boulder County Web site, <http://www.co.boulder.co.us/lu/bccp/bccpgoal.htm>. The plan also qualifies this freedom by stipulating that growth should preserve and improve the quality of life and aesthetic and functional fitness of land uses within the county.

⁵⁸ *Boulder County Comprehensive Plan*, <http://www.co.boulder.co.us/lu/bccp/bccpform.htm>. In its effort to further curtail development in rural areas, Boulder County recently adopted a transfer of development rights program that allows higher development densities in urban areas in exchange for conservation easements that prevent future development on land outside service areas. In this context, the rural planned-unit development option in the county’s zoning code allows property owners to develop land at two units per 35 acres when used within the context of the county’s transfer of development rights program.

⁵⁹ See the Housing Opportunity Index for Fourth Quarter 1998 published by National Association of Home Builders, <http://www.nahb.com/alpha1.html>. Median-family income calculated by the U.S. Department of Housing and Urban Development and reported by the National Association of Home Builders.

⁶⁰ Boulder ranks 19th out of 48 metropolitan areas on the association’s Housing Opportunity Index, placing Boulder in the middle in terms of housing affordability among western metropolitan areas. In contrast, 67.9 percent of the homes could be purchased by a family earning the median income in the Denver metropolitan area, ranking Denver among the most affordable metropolitan areas in the west. See the Housing Opportunity Index for Fourth Quarter 1998.

⁶¹ *Ibid.*

Annexation increases the supply of buildable land on the fringe, which usually costs less than land closer to the cities (see Appendix A). Thus, cities are able to keep land costs from placing significant pressure on housing prices, facilitating low-cost building on vacant land.

The City of Boulder, for example, annexed 3,776 acres, or 24.1 percent of its total land area, between 1990 and 1997 (Table 3).⁶² The City of Longmont, the county’s second-largest city, annexed 3,712 acres (one-third of its total land area) during this period. In fact, most cities in the county have aggressively annexed land, increasing the supply of land for developable purposes. Overall, cities in Boulder County brought 11,598 acres of land (22.9 percent of the total) inside their borders, suggesting a substantial willingness by local communities to accommodate future development and growth. Without these annexations, restrictive development controls in the county would shift housing demand to cities outside the county. Thus, negative housing impacts of restrictive growth policies are mitigated by more market-driven policies at the city level within and outside the county. Rather than hem in development, local cities annex new land and, by extension, expand the community-service area.

Since real-estate prices are driven in part by builder expectations about future land availability, many builders recognize that annexation will likely result in significantly more housing units added to the growth areas to accommodate housing demand.⁶³ Overall, local city annexations will help accommodate 24,000 new single-family and multifamily residential units that can house another 58,100 residents.⁶⁴

	Total Land Area in 1997 (Acres)	% Annexed 1990-1997
Boulder	15,680	24.1%
Broomfield*	6,016	13.0%
Erie*	2,176	64.7%
Lafayette	5,056	16.6%
Longmont	11,136	33.3%
Louisville**	5,056	6.4%
Lyons	832	21.5%
Nederland	896	4.5%
Superior**	2,432	9.0%

*Boulder County portion only

**Excludes land deannexed for open space or other reasons.

Source: Calculated by author from Boulder County Commissioner’s Office, *Growth Watch*, Issue No. 1 (Summer 1997) and Issue No. 2 (Fall 1998).

⁶² Calculated from data in Issue 1 (Summer 1997) and Issue 2 (Fall 1998) of *Growth Watch*, a report published by the Boulder County Commissioner’s Office.

⁶³ Knaap, “The Price Effects of Urban-growth Boundaries in Metropolitan Portland, Oregon”; Knaap and Nelson, “The Effects of Regional Land Use Control in Oregon.”

⁶⁴ The estimated numbers of additional units at build out are provided in *Growth Watch*, issue 2 (Fall 1998). Estimates of population capacity are based on dwelling units per household and assume this ratio does not change.

The likely impacts on housing supply become apparent when the number of potential housing units is compared to projected population growth. Planners estimate that Boulder County will grow to 352,605 people by 2010, a 56 percent increase since 1990 (Table 4).⁶⁵ Without the annexations, most of this growth would either be accommodated through “refill,” the redevelopment of existing sites at higher densities and development of vacant land in current urban areas, or the exportation of housing demand to other communities. These land-supply constraints would inevitably put upward pressure on land and home prices since redevelopment and infill tend to be more costly than building on vacant land, opposition to higher density development often reduces the overall level of housing production, and more developers would bid on fewer parcels of land. To the extent land-supply constraints reduce the beneficial characteristics of a home by reducing lot sizes, these effects will be even greater. Annexation serves as a *de facto* expansion of the growth boundary, mitigating land-supply constraints as a factor in housing production and price appreciation. With current annexations, however, Boulder County would still have a deficit of 20,196 residential units by 2010 even if existing land is fully developed (“built out”) at current densities.⁶⁶

	Estimated Population 1998	Projected Population 2010	Estimated Capacity at Buildout	Surplus/Deficit
Boulder	96,000	105,000	104,393	-607
Broomfield*	23,102**	25,300	26,382	1,082
Lafayette	20,447	30,500	28,826	-1,674
Longmont	58,173	85,500	79,047	-6,453
Louisville	18,825	19,450	20,374	924
Lyons	1,650	3,700	2,854	-846
Nederland	1,725	2,365	2,491	126
Superior	5,400	15,800	9,605	-6,194
County	272,500	352,605	332,409	-20,196

*Boulder County portion only

**Broomfield population estimate based on two-thirds of citywide population living in Boulder County.

Source: Author’s calculations from Boulder County Land-Use Department data and Boulder County Commissioners Office, *Growth Watch*, Issue No. 1 (Summer 1997) and Issue No. 2 (Fall 1998). Estimates of residential units at buildout are provided by Boulder County Land-Use Department.

Despite the county’s commitment to comprehensive planning, it relies heavily on its proximity to more affordable housing in neighboring counties. Boulder County is facing rapid employment growth relative to its population. While its labor force participation rate—the proportion of working-age people with a job or actively seeking a job—is 62 percent, the county is creating 0.67 jobs for every resident according to a recent study from the University of Colorado at Boulder.⁶⁷ Thus, Boulder County is “importing” workers from other parts of the state. Moreover, the population/job ratio is expected to increase to 0.85 as large employers such as Sun Microsystems, Iomega, Level 3, and other high-tech companies move into the county and the small-business sector continues to grow. To accommodate the housing needs of the work force these companies rely on,

⁶⁵ Population estimates from Boulder County, Department of Land Use.

⁶⁶ The estimated numbers of additional units at buildout are provided in *Growth Watch*, Issue 2 (Fall 1998).

⁶⁷ “Job Growth in Boulder County Booming,” *Growth Watch*, Issue no. 2 (Fall 1998), p. 2. The job-resident population balance is even larger than these proportions indicate because the employment/population ratio includes non-working age residents.

Boulder County will have to increase residential development or significantly upgrade transportation infrastructure to enable commuting from outside the county. The jobs-housing imbalance is likely to worsen as local communities adopt strategies that favor commercial development, including national retailers such as Home Depot, Target, and CompUSA, rather than residential development.⁶⁸

Congestion and the jobs-housing imbalance within the county will persist if growth-management policies attempt to channel housing development into more densely packed patterns than local workers prefer.

C. Conclusion

These trends toward more restrictive growth policies may have significant regional consequences. By promoting commercial development, the county has significantly boosted job growth without a corresponding increase in residential development. Thus, workers increasingly commute from outside the county, adding congestion and demands on transportation infrastructure. Congestion and the jobs-housing imbalance within the county will persist if growth-management policies attempt to channel housing development into more densely packed patterns than local workers prefer. Indeed, Boulder County's commercial development may depend on neighboring communities pursuing more relaxed growth-control policies, allowing affordable housing to develop within commuting distance of jobs in the county. Ironically, Boulder County's "success" may well depend on the willingness of other counties to house Boulder County workers and regional commitments to upgrade infrastructure to accommodate increased traffic volumes from low- and moderate-income commuters.

In sum, even though Boulder County has some of the highest-cost housing in Colorado, further significant housing-price appreciation may have been forestalled because community-service areas "breathed"—they expanded to include more vacant land through annexation. This accommodating growth policy is unlikely to continue as the county and local cities restrict the supply of land through aggressive open-space protection programs (e.g., conservation easements, purchases of future development rights, and further restrictions on land development). If the growth boundaries are converted into static lines in the land, the county is likely to face the density/housing price tradeoff already evident in Portland within the next decade.

⁶⁸ Ibid.

Part 5

Down on the Farm: Lancaster County, Pennsylvania

Farmland protection is a major goal of many states and counties across the nation. Nowhere is this more evident than in Lancaster County, Pennsylvania, home to one of the nation's largest communities of Old Order Amish and Mennonites. As in Oregon, local policymakers in Pennsylvania see urban-growth boundaries as an important policy tool for protecting the local agricultural economy, particularly farming. As a result, Lancaster County has one of the nation's most ambitious programs geared toward protecting farmland. Lancaster County's experiences are particularly relevant for states and regions that have convened agricultural and farmland-preservation task forces, such as the Central Valley near Sacramento and states such as Michigan, Indiana, and Ohio.

Once again, Lancaster County's experience must be considered within the broader context of all the impacts and the realities of plan implementation. Despite the laudable goals of the county and optimistic projections of local planners, urban-growth boundaries in Lancaster County have provided few tangible benefits to local residents. In fact, growth boundaries appear to have a negligible impact on population growth, development patterns, and farmland preservation.

A. History of Farmland Preservation

Lancaster County pursues a two-pronged approach to farmland and open-space preservation to protect a rural and semi-rural lifestyle. The first strategy, begun in the early 1980s, purchases future-development rights to land as a way of permanently preventing development or conversion of farmland to other uses.⁶⁹ To date, the county has preserved almost 30,000 acres through this program.⁷⁰

⁶⁹ Farmland is acquired through a publicly funded program operated by the Lancaster County Agricultural Preserve Board and a privately funded Lancaster Farmland Trust. The two organizations have different strategies. The preserve board usually buys land for its appraised value. The trust usually acquires easements through bargaining and donations for tax benefits. The trust is used most often by the Amish who are unwilling to accept government payments. Non-Amish are heavier users of the county boards. See Keith Wiebe, Abebayehu Tegene, and Betsey Kuhn, *Partial Interests in Land: Policy Tools for Resource Use and Conservation*, Agricultural Economic Report Number 744, U.S. Department of Agriculture, November 1996, p. 13.

⁷⁰ While this total acreage may seem significant, Lancaster County has about 391,836 acres of farmland. Thus, only about 7.7 percent of the county's farmland is currently protected through the program. Land in farms has increased from 388,368 in 1992. See U.S. Department of Agriculture, Pennsylvania Agricultural Statistics Service, *1997 Census of Agriculture* county profile for Lancaster County, <http://www.nass.usda.gov/census/census97/profiles/pa/pap036.pdf>.

The second strategy, implemented when the county adopted its comprehensive plan in 1990, establishes urban-growth boundaries to limit development beyond existing urbanized areas. The growth boundaries were “promoted as the key growth management tool” in the county’s comprehensive plan that would direct, through the power of regulation, growth to occur in “appropriate places” based on its regional land-use planning model.⁷¹ More specifically, local officials argued the growth boundaries would:

- induce more-compact development close to existing urban areas;
- create a definable urban/rural edge to protect scenic vistas;
- preserve farmland to protect open space;
- protect the local agricultural industry from encroachment by nonrural land uses;
- promote infill in already developed areas and foster the revitalization of the county’s major city; and
- provide for efficient public services near already urbanized areas.

Nineteen of the county’s 26 cities and villages have established urban-growth boundaries in an attempt to contain land development and preserve farmland.⁷² The county’s comprehensive plan is expected to evolve as a “living plan” that addresses new issues and challenges as they emerge in the county.⁷³ The plan is reviewed every five years to “maintain its vitality.”

Lancaster County’s aggressive growth-management and farmland-preservation initiatives are an outgrowth of local desires to preserve its unique cultural mix and small-farm feel. Lancaster County is also one of the larger agricultural counties in Pennsylvania. About 4,700 family farms, many owned by Amish families, currently operate on 64.5 percent of Lancaster County’s land area.⁷⁴ Farming is considered a critical component of the local economy (although most Amish businesses in the county are no longer linked to agriculture).⁷⁵

Lancaster County Is Easily Accessible from Major Urban Areas

Lancaster County’s location in southeastern Pennsylvania places it directly in the path of development. Lancaster County is easily accessible from a number of metropolitan areas: an hour and a half from Philadelphia (69 miles) and Baltimore (67 miles) and less than an hour from the state capital of Harrisburg (36 miles). The county is serviced by two four-lane state highways (U.S. 222 and S.R. 283) and hosts a major interchange for the Pennsylvania Turnpike (I-76) and I-176 (link to Reading, Pennsylvania) at Morgantown. This accessibility, combined with the aesthetic qualities of rural life, helped push Lancaster County’s population from 362,346 in 1980 to 454,063 in 1996, an increase of 25.3 percent. More than one-third of these new residents have moved in since 1990, and the county is adding about 5,200 residents each year. Most of the county’s growth has occurred outside its major city, Lancaster, and in dozens of smaller boroughs and villages. In fact, the City of Lancaster has been losing population steadily, falling 3.5 percent in the 1990s to 53,597.¹ Most of the county’s growth has occurred in low-density rural and suburban settings.

Note:

¹ *Estimates of the Population of Places: Annual Time Series, July 1, 1991 to July 1, 1996*, Population Estimates Program, Population Division, U.S. Bureau of the Census, Washington, D.C., http://www.census.gov/population/estimates/metro-city/scts96/sc96t_PA.txt.

⁷¹ *Report of the 21st Century Environment Commission*, Harrisburg, Pennsylvania, September 1998, p. 21.

⁷² *Ibid.* Sixty municipalities exist within the county.

⁷³ *Lancaster County Comprehensive Plan: Draft Policy Plan Update*, County of Lancaster, Pennsylvania, no date, <http://www.co.lancaster.pa.us/PolicyPlan/1.htm>.

⁷⁴ The county consists of 607,443 acres. Wiebe, Tegene, and Kuhn, *Partial Interests in Land*, p. 13.

⁷⁵ Non-farm businesses include building contracting, retailing for specialty goods, furniture manufacturing and sales, and harness shops. See *PA 23 Corridor Study: Land Use Preliminary Problem Statements*, Lancaster County, Pennsylvania, 1998, <http://www.co.lancaster.pa.us/pa23/landuse.htm>.

Formal farmland-protection efforts in Lancaster County date to April 1980, when county commissioners appointed a nine-member Agricultural Preserve Board to develop and administer a conservation-easement program. Three years later, the commissioners established the board as a separate department within county government for the sole purpose of acquiring open space and farmland to prevent development. The county has since preserved 314 farms and more than 26,200 acres of farmland.⁷⁶ The county spent \$2.2 million for agricultural land preservation in 1998 and allocated another \$1.5 million in 1999.⁷⁷ In addition to farmland preservation, the county allocated almost \$2 million for program grants to municipalities for community parks in 1998 and allocated another \$1.7 million for this program in 1999.⁷⁸ Combined with additional parkland acquisition and facilities improvements, these open-space initiatives accounted for 15.6 percent and 18.9 percent of the county's capital budgets in 1998 and 1999 respectively. While a private land trust is also active in securing conservation easements, the county's program is responsible for acquiring about 80 percent of all the land currently protected from development.⁷⁹

In 1990, Lancaster County responded to ongoing public concerns about development's perceived threat to the cultural and aesthetic characteristics of their county by adopting a comprehensive plan with strong growth-management provisions. The plan called for urban-growth boundaries for significant urbanized areas in the county and recommended that townships adopt strong pro-agricultural zoning. To date, 39 of the county's 41 townships have adopted agricultural-zoning provisions to discourage farmland conversion to other uses such as housing or businesses, and three-quarters of the cities and villages expected to adopt growth boundaries have implemented them.⁸⁰ Growth boundaries in Lancaster County were expected to include enough developable land for as much as 20 years at a density of five dwellings per acre (one-fifth of an acre, or 8,800 square-foot lots) for cities and boroughs, and 2.5-dwellings per acre for rural villages and boroughs.

B. Effectiveness of Growth Boundaries

Despite these efforts, rural and low-density development continues across the county, and farmland-protection proponents are asking for additional tools to stem growth and protect farmland. Urban growth has pushed farmland prices to \$12,000 per acre in some portions of the county, providing powerful incentives for farmers to develop their land or sell it to others for development.⁸¹ Over a three-year period, 6,201 acres were developed in Lancaster County, most for residential purposes.⁸² Almost 60 percent of this land was developed outside designated urban-growth boundaries (Figure 5).

⁷⁶ *Lancaster County Agricultural Preserve Board Annual Report*, 1997.

⁷⁷ County of Lancaster budget summaries, <http://www.co.lancaster.pa.us/current/1999bud.htm>.

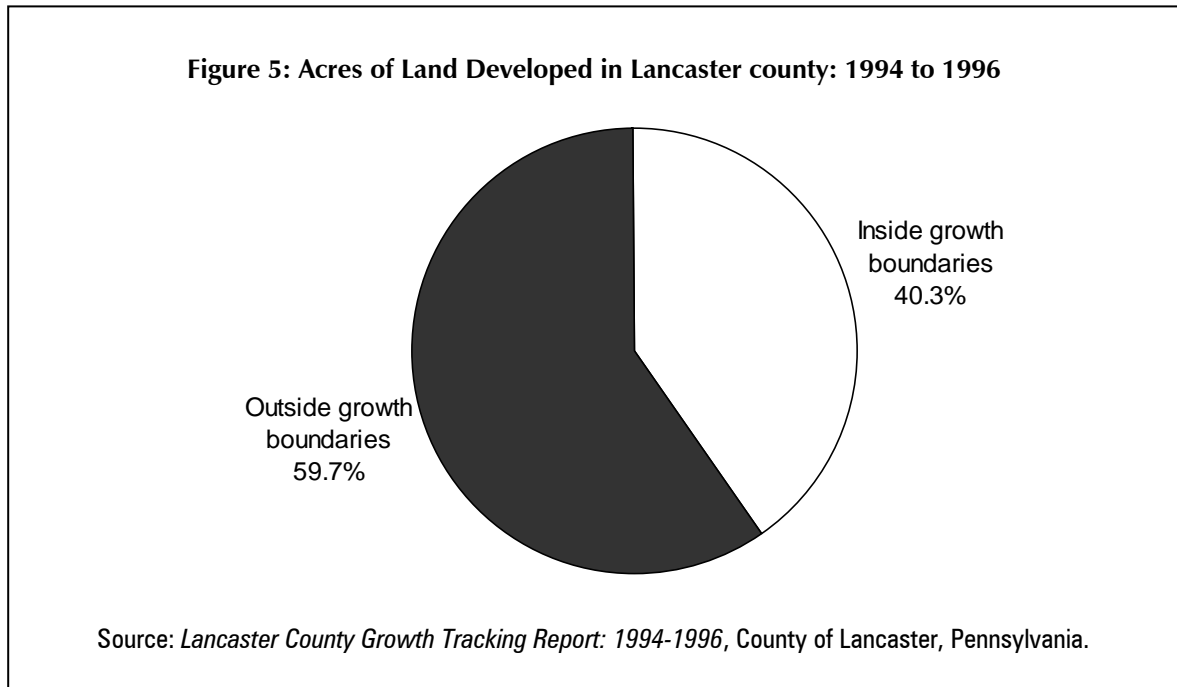
⁷⁸ *Ibid.*

⁷⁹ Wiebe, Tegene, and Kuhn, *Partial Interests in Land*, p. 13.

⁸⁰ These strong zoning provisions typically make converting land to nonagricultural uses more difficult. *Lancaster County Comprehensive Plan*, <http://www.co.lancaster.pa.us/policyplan/2.htm>.

⁸¹ Wiebe, Tegene, and Kuhn, *Partial Interests in Land*, p. 13. A complicating factor is that Amish culture shuns government activity. Land-use planning and zoning are inherently government activities. Local governments can effectively zone Amish land for exclusive use without objection, reducing the supply of land overall for development and boosting prices for non-Amish landowners. We are not aware of study that empirically examines this issue.

⁸² *Lancaster County Growth Tracking Report, 1994-1996*.



More importantly, most of this land was developed below the recommended densities (Figure 6). The 2,500 acres developed inside the growth boundaries—40 percent of the county’s total during this period—were developed at only three dwellings per acre, significantly lower than the recommended density.⁸³ Land outside the growth boundaries was developed at a density of 0.7 dwellings per acres. Not surprisingly, the county found that, while its population growth rate is lower than the projected rate, land consumption is 2.8 times faster than projected population growth.⁸⁴ Thus, despite the written goals of the comprehensive plan, real-estate markets continued to develop land for low-density uses.

Significantly, about 1,500 acres (42 percent) developed outside the growth boundaries were classified as agriculture on the county land-use map. More than 2,000 of the remaining acres (58 percent of the total outside the growth boundaries) were designated as conservation or preservation areas.

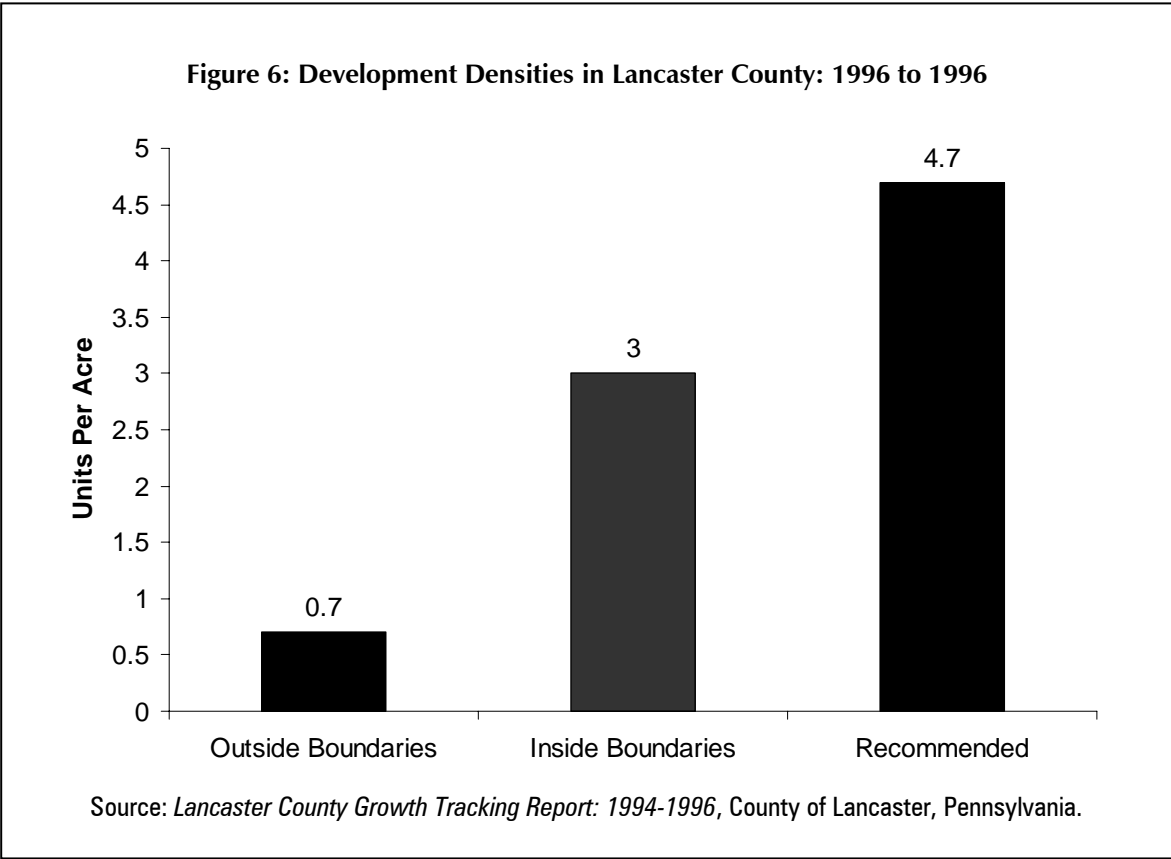
In part, the discrepancy between land development inside and outside the boundary is a result of poor planning and coordination between the county’s land-use and infrastructure investment plans (see box on page 36). Another issue propelling political sentiment for a strong growth-management policy is the concern about road safety and congestion. An analysis of roads in the Pennsylvania State Route (PA) 23 corridor found that economic growth had pushed traffic volumes above their capacity, converting roads intended as low-volume arterials to high-volume collectors.⁸⁵ The 20-mile corridor had been studied in the 1970s, 1980s, and 1990s, but the roads were not significantly upgraded or improved to keep pace with development.⁸⁶ Many residents are concerned about the lack of compatibility between high truck and automobile volume on narrow, two-lane roads and nonmotorized transportation (e.g., horse and buggies) and other farm equipment.

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ *PA 23 Corridor Study: Transportation Preliminary Problem Statements*, County of Lancaster, Pennsylvania, 1998.

⁸⁶ See the discussions in *PA 23 Corridor Study: PA 23 Corridor Background Information*, County of Lancaster, Pennsylvania and “Defining the Goals,” *PA 23 Corridor Study Area Newsletter*, vol. 1, no. 1 (1997).



Urban-growth boundaries have not stemmed urban decline either. The City of Lancaster is Pennsylvania’s eighth-largest city. Its population has continued to decline at rates greater than larger cities. Among Pennsylvania’s cities with populations over 40,000, Lancaster’s population ranks as the fifth-fastest declining city in the 1990s (Table 5), faster than the state capital of Harrisburg and steel towns such as Bethlehem and Allentown.

Table 5: Population Growth Rates in Pennsylvania Cities with Populations over 40,000, 1990 to 1996

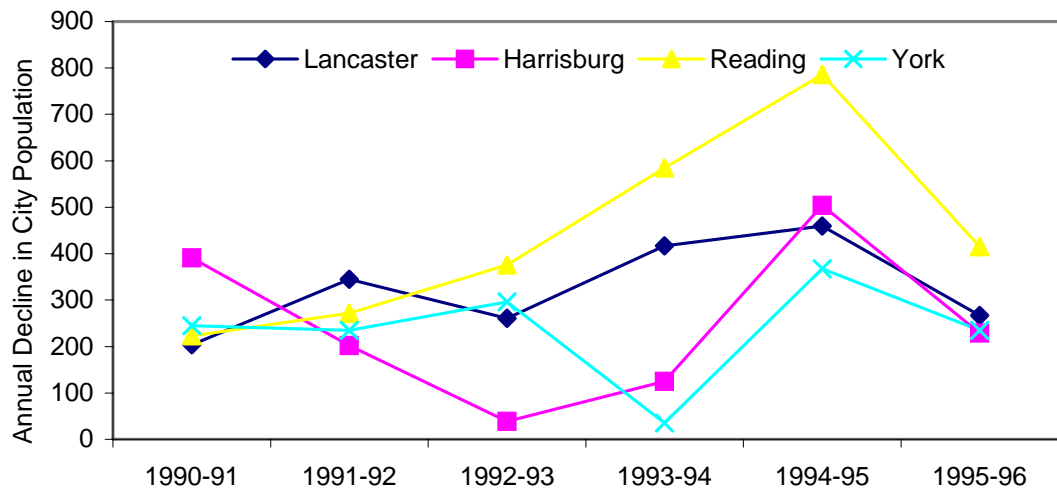
Ranking	City	Population 1990	Population 1996	Change	Growth Rate (%)
1	Philadelphia	1,585,577	1,478,002	-107,575	-6.8%
2	Wilkes-Barre	47,523	44,407	-3,116	-6.6%
3	Scranton	81,805	77,189	-4,616	-5.6%
4	Pittsburgh	369,879	350,363	-19,516	-5.3%
5	Lancaster	55,551	53,597	-1,954	-3.5%
6	Reading	78,380	75,723	-2,657	-3.4%
7	Altoona	51,881	50,101	-1,780	-3.4%
8	York	42,192	40,779	-1,413	-3.3%
9	Erie	108,718	105,270	-3,448	-3.2%
10	Allentown	105,301	102,211	-3,090	-2.9%
11	Chester	41,856	40,660	-1,196	-2.9%
12	Harrisburg	52,376	50,886	-1,490	-2.8%
13	Bethlehem	71,427	70,245	-1,182	-1.7%

Source: *Estimates of the Population of Places: Annual Time Series, July 1, 1991 to July 1, 1996*, Population Estimates Program, Population Division, U.S. Bureau of the Census, Washington, D.C.

Perhaps more important are the annual trends in population growth or decline. While the growth boundaries have not stemmed Lancaster’s decline, they may have impacted the pace of its decline. To explore this issue more fully, annual changes in population were compared between the City of Lancaster and three cities of roughly equal size within the central Pennsylvania region: Harrisburg (population 50,886), Reading (population 75,723), and York (population 40,779). The populations of Harrisburg and York stabilized then declined again after 1994 (Figure 7). Population decline increased significantly throughout the early- and mid-1990s for Reading, then dropped off dramatically from 1995 to 1996. Lancaster’s population decline accelerated slightly during the mid-1990s, and then fell significantly from 1995 to 1996 in a pattern similar to the other cities. Urban-growth boundaries in Lancaster County, then, do not appear to have significantly altered the City of Lancaster’s decline relative to similar cities (in size and location) without growth boundaries.

Indeed, surveys and focus groups among Lancaster County residents found that many were still concerned about the continued deterioration of the city and its downtown. A declining tax base, closing of downtown businesses, and crime were all identified as “worst trends” in the update of the county’s comprehensive plan. The revision of the comprehensive plan envisions strengthening Lancaster City’s role as the “social, cultural, and economic hub of the county” by maintaining compact communities, maintaining “a distinct edge between urban and rural areas by directing new growth to development areas” within growth boundaries, strengthening existing growth boundaries, and implementing them where they do not exist.⁸⁷

Figure 7: Change in Population for Cities of Lancaster, Harrisburg, Reading, and York



Source: *Estimates of the Population of Places: Annual Time Series, July 1, 1991 to July 1, 1996*, Population Estimates Program, Population Division, U.S. Bureau of the Census, Washington, D.C.

⁸⁷ *Lancaster County Comprehensive Plan: Draft Policy Plan Update*, County of Lancaster, Pennsylvania, no date, <http://www.co.lancaster.pa.us/policyplan/10.htm>.

Coordinating Development and Capital Improvement Planning

An example of how poor plan coordination is undermining the county's growth management goals is the Pennsylvania State Route 23 (PA 23) corridor. The corridor runs east through the City of Lancaster and extends to the Pennsylvania Turnpike interchange in Morgantown at the county line. The area currently houses about 56,000 people, 12.3 percent of Lancaster County's population.¹ Current zoning and planned sewer service could accommodate about 103,000 new residents, although the county expects this area's population to grow to 79,000 by 2020.²

The county, however, is working from a sewer plan that was developed in the 1970s and has not been updated (despite the adoption of its growth-management plan in 1990). Nearly half of the land available inside the growth boundaries is not included in existing or planned sewer-service areas.³ About 2,500 acres—capable of housing 7,750 new residents on one-acre lots, 15,500 new residents on half-acre lots, 31,000 new residents on quarter-acre lots, or 38,750 new residents at the recommended density of five units per acre—exist outside growth boundaries but within planned or existing sewer-service extension areas.⁴ Development of this land would reduce current farmland by 3.2 percent.⁵ (Whether this land would, in fact, be developed depends on whether demand exists for housing or other development in those areas of the county.)

Notes:

¹ *PA 23 Corridor study: Land Use Preliminary Problem Statements*, Lancaster County, Pennsylvania, 1998, <http://www.co.lancaster.pa.us/pa23/landuse.htm>.

² *Ibid.*

³ *Ibid.* See also *PA 23 Corridor Study: Phase I Conclusion of Planning Study, Executive Summary*, County of Lancaster, Pennsylvania, 1998, <http://www.co.lancaster.pa.us/PA23/Executive.htm>.

⁴ Based on an average of 3.1 persons per housing unit. *PA 23 Corridor Study: Land Use Preliminary Problem Statements*.

⁵ The county estimates that 78,100 acres are still in farmland uses.

C. Pressures for More Planning

Despite a 15-year commitment to a publicly funded program to purchase development rights and seven years of urban-growth boundaries, the anticipated benefits of growth management—infill, compact development, efficient public-services provision, and urban revitalization—have not materialized. Lancaster County's most recent update of its comprehensive plan found widespread concern that development continued to threaten the quality of life and unique cultural characteristics of the county. "Suburban sprawl weighs heavily on the minds of our citizens," the comprehensive plan notes.⁸⁸ Rather than re-evaluating current policies, the plan calls for even more regulation to address the deficiencies of the original plan. Local residents continue to believe urban-growth boundaries are "essential to maintaining the unique character of Lancaster County," the plan update says.⁸⁹

⁸⁸ *Lancaster County Comprehensive Plan*, <http://www.co.lancaster.pa.us/policyplan/2.htm>.

⁸⁹ *Ibid.* "This, along with increased levels of comprehensive planning and intermunicipal cooperation, was often mentioned by citizens as one of the most encouraging trends in the last five years." Similarly, in a survey of 505 residents of the PA 23 corridor study area, 73.8 percent said a "key requirement" of a transportation solution should be to "facilitate implementation

Lancaster County's planning goals embody inherent conflicts. Re-establishing the City of Lancaster and other boroughs and villages as residential and commercial centers, for example, appears to conflict with the preference residents have for low-density residential areas, often outside the growth boundary. Notably, the comprehensive plan's vision statement asks residents to "imagine" that by the year 2010 "the majority of all new growth occurring throughout the county" is directed to urban-growth areas.⁹⁰ Currently, 40 percent of the growth is already occurring inside the growth boundaries. Once sewer services are extended to more land within the boundary, higher densities are likely to be achieved without further land-use planning and control, although development is unlikely to reach the five-unit per acre planning goal.

Lancaster County has shown after just a few short years of implementing their urban-growth boundary that the density of five dwellings per acre cannot be achieved without serious attitudinal adjustments of residents or through strict density requirements. New residents would have to change their living habits and expectations of the "American Dream" in order to accommodate the county's expected density requirements. Ironically, this would require people moving into the region to adopt a lifestyle that directly contradicts their reasons for moving to Lancaster County. New residents looking for a rural lifestyle would have to adopt an urban/high-density suburban lifestyle.

While Lancaster County is correctly identified as an example of aggressive growth management with the goal of preserving farmland, the county is far from achieving its goals.

Lancaster's latest proposal moves in this direction by attempting to increase development density within these growth boundaries and require the average of 4.7-dwellings per acre. The county recommends providing subsidies to developers to encourage a mix of housing types in order to reach that dwelling-unit target. In addition, the county is considering mandatory limits on the number or sizes of lots for single-family detached homes so that more-compact development patterns can be achieved. One option is to require new developments to adopt design standards that encourage compact-community living, enforce maximum-lot sizes and setbacks, and specify street dimensions and parking consistent with development patterns envisioned in the county's updated comprehensive plan. The county also hopes to encourage developers and financial institutions to pursue neotraditional, high-density development styles and patterns.⁹¹

D. Conclusion

The county's quest to preserve farmland is unlikely to end soon since nonagricultural development is likely to determine future land-use patterns. Despite the widespread belief that farming is critical to the local economy, 29.9 percent of the county's employment and 39.4 percent of its payroll is derived from manufacturing.⁹² The county's retail sector employs 21.4 percent of county workers but contributes just 12 percent to its annual payroll.

of the County's growth-management strategy." See *Interim Report on Responses to Study Area Survey on the Phase 1 Key Requirements*, County of Lancaster, Pennsylvania, December 15, 1998, <http://www.co.lancaster.pa.us/pa23.interim.htm>.

⁹⁰ *Lancaster County Comprehensive Plan*, <http://www.co.lancaster.pa.us/policyplan/4.htm>.

⁹¹ Other ideas include providing a full range of public facilities and services within growth boundaries, directing growth to the city or boroughs, reserving industrial land within growth boundaries for industrial use, and minimizing development in rural areas.

⁹² U.S. Bureau of the Census, *1996 County Business Patterns*.

Agricultural services provide less than 1 percent of the county's jobs and payroll. The county's economy, then, is likely to be spurred by future growth in nonagricultural sectors, including manufacturing and tourism. These trends will continue to put development pressure on vacant land despite the productivity of the county's farming community. Moreover, as tourism continues as an important sector of the local economy, the larger concern to the county may be a less visible presence of the local Amish and Mennonite farming community and culture. These trends, of course, cannot be reversed by urban planning or urban-growth boundaries.

In sum, while Lancaster County is correctly identified as an example of aggressive growth management with the goal of preserving farmland, the county is far from achieving its goals. Most land is still developed outside the growth boundaries, land development is at significantly lower densities than anticipated by the plan, the City of Lancaster's population has not benefited appreciably from growth boundaries, and development patterns continue to be very low-density, particularly in rural areas. Ironically, despite continued urban-land development, farmland in the county increased from 1992 to 1997. Given current development trends that suggest growth is moderating (since actual population growth is lower than projected and farmland is increasing), current development is likely to have a minimal impact on the overall supply of farmland in Lancaster County in the near or long-term future.

Part 6

The New Wave of Growth Management: Northern California

The perceived successes of growth boundaries in Portland, Boulder County, and Lancaster County encouraged many communities across the nation to take a look at this tool as a way to contain suburban development. This trend is most clearly evident in California, which has re-emerged as a prolific regional center for growth-boundary activity.⁹³ California also provides a useful illustration of the political economy of growth management in the 1990s. Concerns about lost open space, increased congestion, and changing communities led more than 20 counties and 50 cities to adopt limit lines or greenbelts in the 1970s and 1980s. After a brief lull in the late 1980s and early 1990s, interest in growth boundaries has increased significantly. Almost a dozen California cities, Ventura County, and San Diego County had growth boundary initiatives on local ballots in the November 1998 elections. Issues of farmland preservation are contributing to the debate, particularly in the Central Valley (the inland area stretching from Sacramento southward to Bakersfield). The urban-growth boundary initiatives are part of a broader move to restrict or limit growth at the local level.

Growth boundaries in California are gaining in popularity. Of the ten California cities and counties with growth-boundary initiatives up for voter approval in 1998, most passed by large margins (Table 6). San Jose adopted its growth boundary in 1996 after a unanimous (11-0) city-council vote. Boundaries were voted in virtually without dissent in Santa Clara County, the cities of Cupertino, Morgan Hill, and Los Gatos. Only an initiative in the city of Santa Paula in Ventura County and a countywide initiative in San Diego were defeated. Moreover, boundaries appear popular among cities of all sizes. In California, cities as small as Cotati (population 6,227) and as large as San Jose (population 824,491) have adopted them.

Contra Costa County adopted growth boundaries with the stipulation that 65 percent of the county's land would be reserved for open space, agriculture, parks, and other nonurban uses. The growth boundaries encompass major urban areas such as Richmond, Martinez, Orinda, San Ramon, Concord, Walnut Creek, Antioch, Oakley, Clayton, and Byron. Contra Costa County's boundary is supposed to be reviewed every five years, but a real-estate recession slowed the pace of development, and the limit line was not evaluated in 1995. As the real-estate market began to pick up in the late 1990s, proposed development projects began pushing up against the southern border of the boundary, stimulating further local resistance to development. In fact, one of Contra Costa County's supervisors was elected on a no-growth platform, which included an

⁹³ William Fulton, "Sliced on the Cutting Edge: Growth Management and Growth Control in California," in *Growth Management: The Planning Challenge of the 1990's*, ed. Jay M. Stein (Newbury Park, California: Sage Publications 1993), pp. 113-126.

agenda to reduce the limit line to prevent a specific project from going forward. Public sentiment appears to support shrinking the county’s boundary. In the 1990s, the City of Cotati in Sonoma County passed Measure E, which reduced the amount of developed and developable land within in its growth boundary by one-third.⁹⁴

City	County	Date	% Approval
Cotati	Sonoma	1998	71%
Healdsburg	Sonoma	1996	71%
Milpitas	Santa Clara	1998	55%
Novato	Marin	1997	70%
Petaluma	Sonoma	1998	80%
Pleasanton	Alameda	1996	75%
Sabastopol	Sonoma	1996	66%
Santa Rosa	Sonoma	1996	59%
Simi Valley	Ventura	1998	70%
Thousand Oaks	Ventura	1998	70%
Windsor	Sonoma	1998	72%

Source: Compiled by the authors from information provided by the Greenbelt Alliance, California Building Industry Association, and individual cities.

The California initiatives appear to be driven primarily by open-space concerns. Issues of farmland preservation surface, particularly in the Central Valley and to a lesser extent in Ventura County, but usually within the broader context of protecting open space. Indeed, California’s agricultural industry is thriving, despite current land-development patterns, in part because high-value crops such as fruit and specialty flowers are using land more intensively and productively.⁹⁵ The importance of open space as a justification for growth boundaries is most apparent in the San Francisco Bay Area.

A. The Politics of Growth Boundaries in California

The San Francisco Bay Area consists of nine counties and almost 4.4 million acres, 18.4 percent of which is urbanized.⁹⁶ The remaining nonurbanized acres are considered “greenbelt.” San Francisco, San Jose, and Santa Rosa (the region’s largest cities) use 152,000 acres, or about one-fifth of the urbanized portion of the region.⁹⁷

⁹⁴ In 1990, Cotati voters established a growth boundary that would allow the city to expand to 3,809 developed acres (current city plus additional developable property). The revised growth boundary shrinks the potential size of the city to 2,459 acres. See “Clean Sweep for Bay Area Smart Growth Ballot Measures,” Greenbelt Alliance, <http://www.greenbelt.org/elect.html>.

⁹⁵ The trend toward higher-value crops and products is in part a response to competitive market pressures to use land at its highest and best economic use. In order for farmland to compete effectively with alternative uses such as residential or commercial development, farmers and growers must cultivate higher-yield and higher-valued crops.

⁹⁶ “Little Bay Area Land Needed to Fix Housing Crisis, Research Shows,” *HBA News* (June 1998), p. 16. This differs slightly from data from the Greenbelt Alliance, which estimates total acreage in the nine-county Bay Area is about 4.5 million acres, 16.2 percent of which is urbanized. See Greenbelt Alliance Web site, <http://www.greenbelt.org/aboutgb.html>, December 30, 1998.

⁹⁷ Greenbelt Alliance, <http://www.greenbelt.org/aboutgb.html>.

Of the Bay Area's greenbelt, the Greenbelt Alliance estimates 23 percent is already held as parks, watershed, or public lands.⁹⁸ Almost half—1.9 million acres—is in privately held cropland or grazing land. The Greenbelt Alliance considers 570,000 acres, or 15.2 percent of the total greenbelt, “at risk” to development.⁹⁹ If these at-risk lands were developed, a total of 1.3 million acres in the Bay Area would then be urbanized and would represent 29 percent of its land mass. In other words, two-thirds of the nine-county Bay Area would remain as parks, watershed, wetland, public lands, cropland, grazing land, forests, or other open land. The Home Builders Association of Northern California, however, estimates that just 27.4 percent (156,363 acres) of the 570,000 “at risk” acres identified by the Greenbelt Alliance is needed to meet the Bay Area's estimated housing demand through 2020.¹⁰⁰ The San Francisco Bay Area, which includes Silicon Valley, is creating significantly more jobs than housing. At current rates of construction, the home builders estimate the region will generate a 350,000 housing-unit deficit by 2015.¹⁰¹

The California initiatives appear to be driven primarily by open-space concerns.

Nevertheless, several land-preservation groups are opposing large new housing developments since they would reduce public open space.¹⁰² Antidevelopment groups are also successfully putting initiatives on local ballots that subject projects over a certain size to voter approval. Developers were attempting to build 5,000 homes in the Tassajara Valley in Contra Costa County but withdrew their proposal in 1998 after lengthy planning delays. Even though the land was previously available for development, antigrowth interest groups are using the opportunity to further limit development in the county. Contra Costa County already protects 78.9 percent of the county's land zoned for agricultural use, but open-space advocates are attempting to add the 4,000 acres from the Tassajara Valley project to the protected acreage.¹⁰³ Moreover, county supervisors are considering reducing the county's growth boundary even further.¹⁰⁴ Meanwhile, local communities are actively encouraging commercial development without a similar increase in housing. The Tassajara Valley project, in fact, would have provided homes to many people working in nearby employment centers. The City of San Ramon is expected to have 27,520 more jobs than employed residents by 2020, according to the Association of Bay Area Governments.¹⁰⁵ Without additional housing, Contra Costa and Alameda Counties will face a housing deficit of 34,000 units.¹⁰⁶

⁹⁸ Ibid.

⁹⁹ Ibid.

¹⁰⁰ “Little Bay Area Land Needed to Fix Housing Crisis,” pp. 8-9.

¹⁰¹ “New HBA Study: Jobs-housing Imbalance Spells Dismal Future in 21st Century,” *HBA News* (December 1997), p. 9.

¹⁰² The Greenbelt Alliance is currently leading the fight against a 5,200 housing unit subdivision in Contra Costa County called Cowell Ranch. The development would use 4,000 acres of land and, according to the alliance, “threaten the County's quality of life by clogging local roads with more traffic, endangering nearby agricultural operations, draining resources from existing communities, paving open space, destroying critical wildlife habitat and encouraging more sprawl.” Another argument levied against Cowell Ranch is that it would require moving the county's growth boundary to include land that was previously set aside as open space. See “Help Defeat the Cowell Ranch Mega-Development,” *Greenbelt Alliance Action Alert*, <http://www.greenbelt.org/actlist.html>, December 30, 1998.

¹⁰³ Ryan Tate, “Contra Costa Set to Preserve Farmland,” *Wall Street Journal*, December 22, 1998. See also Fulton, “Rapidly Growing Contra Costa Considers Tighter Urban Limit Line,” pp. 1, 9.

¹⁰⁴ Fulton, “Rapidly Growing Contra Cost Considers Tighter Urban Limit Line.”

¹⁰⁵ Cited in Phil Serna, *Tri-Valley Housing Needs Assessment*, Home Builders Association of Northern California, June 1998, Table C.

¹⁰⁶ Ibid.

Contra Costa County, considered a “bellweather” of growth management trends in California, is not unique.¹⁰⁷ Communities across the Bay Area and elsewhere in California are zoning land for commercial and industrial development while reducing land for residential purposes. This is a result of the politics of local-growth control, as well as other factors such as California’s fiscal and tax policies.¹⁰⁸ Local governments have strong incentives to encourage commercial development as a result of Proposition 13, the California property-tax limitation initiative adopted in 1979. The tax limit “essentially rewarded cities and counties for developing retail land uses, which generated sales tax, and punished them for developing land uses that generate only property tax—essentially, all low- and moderate-income housing.”¹⁰⁹ The result is “imbalanced” development, where communities accommodate commercial development and avoid residential development.¹¹⁰ Not surprisingly, cities in the Bay Area balanced jobs with housing when businesses “located near labor pools, enabling residents to find jobs within their communities,”¹¹¹ rather than by building new or more affordable housing. Many of these imbalances are more the product of the local-planning process than market forces. “To the degree that it exists, any problem of jobs-housing imbalance is fundamentally one of barriers to the production of suitable housing in job-rich cities and subregions,” notes University of California-Berkeley planning professor Robert Cervero.¹¹²

B. Growth Boundaries, Housing Growth, and Housing-price Inflation

Urban-growth boundaries, as they are being implemented in California, are likely to reduce housing construction and boost home prices in ways similar to what appears to be happening in Portland, Oregon. The effects, as in Portland, will be felt in two ways. First, urban-growth boundaries reduce the amount of land available for development by design. Usually, this land is the cheapest land available for new construction and is outside central-city urban areas.¹¹³ Second, new-home construction will be forced onto higher-cost urban land (through infill) or will require redeveloping existing land. Thus, new housing development will potentially have to incur the costs of higher market prices for land or demolition of existing buildings.

Napa County provides some limited insight into the potential impacts on the housing market, although the case is a hybrid. The City of Napa adopted a rural-urban limit (RUL) line in 1975 after a plebiscite indicated that community residents did not want to grow larger than about 75,000 people.¹¹⁴ Before the RUL was adopted, Napa’s general plan anticipated growing to 150,000 people by 1990.¹¹⁵ The primary purposes of the limit line were to protect open space, establish a clear urban limit to development, and keep the city from growing too

¹⁰⁷ Fulton, “Rapidly Growing Contra Costa Considers Tighter Urban Limit Line,” p. 1.

¹⁰⁸ Proposition 13 capped residential property taxes in 1979. The result has been that local governments encourage commercial and residential development to generate sales tax and nonresidential property tax revenues. Fulton, “Sliced on the Cutting Edge,” pp. 118-119.

¹⁰⁹ William Fulton, “Twenty Years of Proposition 13: Tax-Cutting Initiative Shaped Planning and Development in State,” *California Planning and Development Report*, vol 13, no. 6 (June 1998), p. 9.

¹¹⁰ *Ibid.*

¹¹¹ Robert Cervero, “Jobs-Housing Balance Revisited: Trends and Impacts in the San Francisco Bay Area,” *Journal of the American Planning Association*, vol. 62, no. 4 (Autumn 1996), p. 498.

¹¹² Cervero, “Jobs-Housing Balance Revisited,” p. 508.

¹¹³ Extending infrastructure to these sites would likely increase the costs of development in nonurban areas. The impact on development costs would depend on the way the local government prices the service. In California, local governments have attempted to recover public-services and other government costs by imposing impact fees.

¹¹⁴ John Yost, Planning Director, City of Napa, interview with authors, May 14, 1999.

¹¹⁵ *Ibid.*

large.¹¹⁶ The other goals were not a significant element of the political support for the limit line. Napa's relative inaccessibility to other portions of the Bay Area (e.g., proximity to limited-access, divided highways) has kept the region from growing rapidly until recently. Thus, as late as 1990, building permits were below projections when the RUL was established and later updated in the 1980s.¹¹⁷

In the early 1990s, under political pressure to control growth in rural areas, Napa County dramatically restricted growth by imposing a moratorium and then cap on building permits.¹¹⁸ During the same period (the early 1990s), the county adopted new subdivision regulations that dramatically reduced land development outside of urbanized areas.¹¹⁹

The combined effect of these two policies—the growth boundary around the City of Napa and highly restrictive policies by the county—created an effective regional-growth boundary where new growth could only go into existing developable areas of the City of Napa or into other cities within the county without growth boundaries. Whether these policies significantly reduced housing construction or impacted housing prices can be examined empirically using building-permit data.¹²⁰

A review of housing construction in Napa County suggests the twin policies of a growth boundary around the City of Napa and restrictive subdivision regulations in the county impacted housing production. Countywide, building permits for single-family homes increased 158.5 percent from 1985 to 1989, the five years prior to the establishment of the city boundary and county growth controls (Figure 8). After 1990, single-family home construction plummeted, falling 74.2 percent from 1989 to 1996.¹²¹ Single-family building permits increased to 439 during the first 11 months of 1998, but building permits remain at half the levels that existed before the growth controls were implemented.

Over the long run, the City of Napa does not appear to have benefited significantly from the growth boundary or county controls, despite lower levels of home construction in unincorporated areas of the county.¹²² Napa city's share of total county building permits increased from 31.9 percent to 53.1 percent from 1989 to 1998, although the number of permits issued fell from 282 to 118. The share of building permits in the unincorporated areas of the county also fell from 59.8 percent to 26.9 percent.¹²³ These trends for residential-building permits suggest that the imposition of growth controls at the county level reduced building activity in the unincorporated areas, but the

¹¹⁶ Ibid. Whether the 75,000 threshold is a limit or target has been the subject of significant discussion and no consensus apparently exists in the community.

¹¹⁷ Ibid., interview with authors, May 17, 1999.

¹¹⁸ Ed Colby, Planner, Conservation and Planning Department, Napa County, interview with authors, March 2, 1999.

¹¹⁹ Ibid.

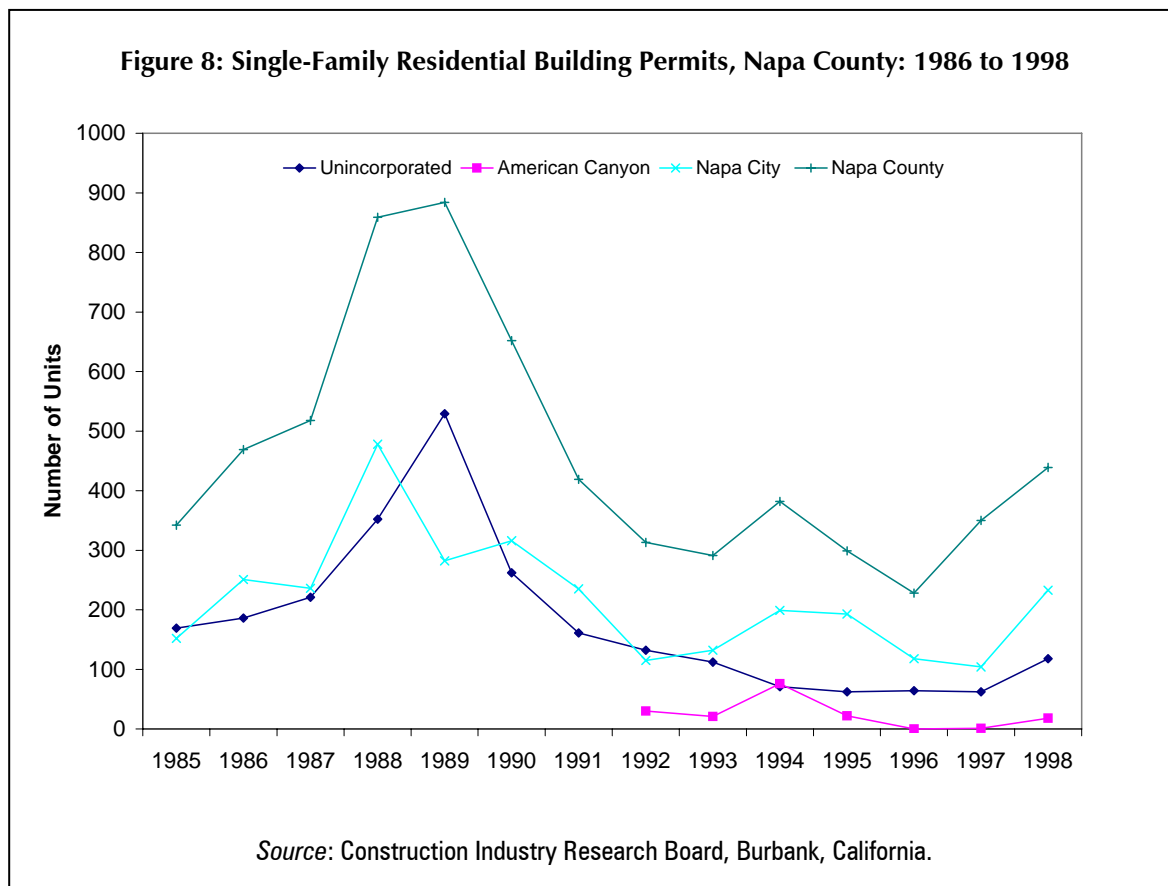
¹²⁰ Building permits actually track construction activity. Thus, they are excellent barometers of the flow of construction activity. Since building-permit data are collected monthly, they can be used to evaluate major changes in regulatory policy (e.g., the establishment of growth boundaries) on the local level.

¹²¹ Housing construction rebounded slightly in 1994.

¹²² The growth controls appear to have benefited Napa City early in the 1990s. Building permits fell from 478 to 115 between 1988 and 1992, but rebounded to almost 200 per year in the mid-1990s. This recovery was not sustained: building permits declined in 1996 and 1997 before rebounding in 1998. Meanwhile, in the unincorporated areas of the county, building-permit activity declined precipitously as the moratorium took hold.

¹²³ Of course, part of the drop in the unincorporated area's share of development may be attributed to the incorporation of American Canyon. Unfortunately, building permit data for the American Canyon portion of the unincorporated areas in Napa County are not available.

limit line did not clearly boost construction levels in Napa City.¹²⁴ The effects of the restrictive land policies, however, appeared to correlate with a general reduction in residential construction in the county.



This interpretation is not definitive. The Bay Area experienced a real-estate recession during the early 1990s. Thus, Napa County's building-permit data may reflect trends in the broader regional economy.¹²⁵ To more adequately assess the potential impact of the real-estate recession, Napa County was compared to two other counties in the Bay Area: Sonoma County and Santa Clara County. Sonoma County is adjacent to Napa County north of San Francisco. Santa Clara County includes San Jose, California's third-largest city and the region widely known as Silicon Valley. Silicon Valley is also the hub of the Bay Area's employment growth.

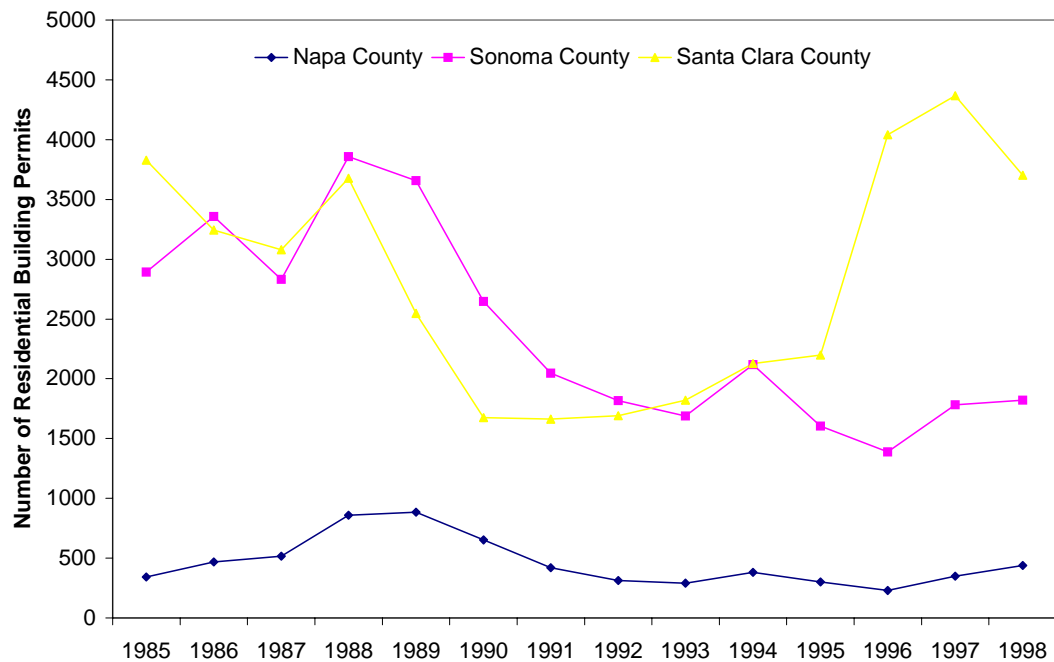
All three counties experienced similar trends in building-permit activity during the early 1990s, the period of the real-estate recession (Figure 9). After 1994, however, the real-estate market rebounded significantly in Santa Clara County. Building permits exceeded 1988 peak levels in 1996 and 1997. Sonoma County, on the other hand, experienced a more-volatile real-estate market. Permits increased from 1993 to 1994, then dropped through 1996, turning up again in 1997 and 1998. Notably, three cities in Sonoma County adopted growth boundaries in 1996,

¹²⁴ The city, however, expects increased development pressure as the county continues to develop property for commercial purposes around the airport (about 6,000 jobs), and the county continues to restrict residential development.

¹²⁵ Local building officials have been known to boost the value of construction to generate revenues through higher fees that offset lower building activity. Interviews with local planners, however, confirmed that neither the fee schedule nor the method for valuing new construction changed during this period. In Napa County, the local building department uses estimates of value provided by the builder.

including the county's largest city of Santa Rosa. Napa County's residential market did not rebound significantly from the real-estate recession until 1997 and 1998.

Figure 9: Changes in Total Building Permits for Napa, Santa Clara, and Sonoma Counties: 1986 to 1998



Source: Construction Industry Research Board, Burbank, California.

C. Conclusion

While preliminary, these data have potentially important implications. California cities include some of the most-expensive housing areas in the nation. Data for 186 metropolitan areas compiled by the National Association of Home Builders rank San Francisco as the most-expensive city in the nation (Table 7). San Jose (Santa Clara County) and Santa Rosa (Sonoma County) are also among the least-affordable urbanized areas, ranking among the top 5 percent in housing costs nationally. Even Ventura County, a relatively mid-cost region in California, ranks among the top 15 percent in housing costs. Growth-management policies that reduce housing construction are likely to exacerbate housing affordability issues.

Moreover, in Napa County, highly restrictive growth-management policies do not seem to have directly benefited Napa city. In fact, growth, while rebounding somewhat countywide, appears to have been directed into other cities in the county rather than the City of Napa. Thus, growth boundaries seem to have had little substantive impact on housing construction and value trends in existing urban areas.

Table 7: Housing Affordability Index and Cities Adopting Urban-growth Boundaries						
City/MSA	County	Affordability Index	Nation (N=186)		Western States (N=48)	
			National Rank	Percentile Rank	Regional Rank	Percentile Rank
San Francisco • Novato (Nov. 1997)	San Francisco	19.9	186	100.0%	48	100.0%
Santa Cruz	Santa Cruz	32.0	184	98.9%	46	95.8%
Salinas		38.7	180	96.8%	43	89.6%
San Jose • Cupertino (Apr. 1997) • Los Gatos (Dec. 1997) • Milpitas (Nov. 1998) • Monte Sereno (Nov. 1997) • Morgan Hill (Sept. 1996) • San Jose (Nov. 1996)	Santa Clara	38.8	179	96.2%	42	87.5%
Santa Rosa • Cotati (Nov. 1998) • Healdsburg (Nov. 1996) • Petaluma (Nov. 1998) • Sebastopol (Nov. 1996) • Santa Rosa (Nov. 1996) • Windsor (Jan. 1998)	Sonoma	42.6	177	95.2%	40	83.3%
San Diego	San Diego	43.9	175	94.1%	38	79.2%
Oakland • Pleasanton (Nov. 1996)	Alameda	47.8	171	91.9%	35	72.9%
Los Angeles	Los Angeles	50.0	165	88.7%	31	64.6%
Orange Co.	Orange	50.8	163	87.6%	30	62.5%
Ventura • Camarillo (Nov. 1998) • Simi Valley (Nov. 1998) • Thousand Oaks (Nov. 1998)	Ventura	54.3	161	86.6%	28	58.3%
Fairfield/Napa	Solano	57.8	153	82.3%	26	54.2%
Stockton	San Joaquin	58.1	152	81.7%	25	52.1%
Sacramento	Sacramento	68.8	112	60.2%	10	20.8%
San Bernardino	San Bernardino	71.7	92	49.5%	6	12.5%
Modesto	Stanislaus	75.6	63	33.9%	3	6.3%

Source: National Association of Home Builders, [http.nahb.com](http://nahb.com). Lower HAI represent less affordable areas, 1 = most affordable. Cities with growth boundaries, and the dates they adopted them, are bulleted.

Part 7

Policy Implications

While the cases examined in this policy study differ significantly in the design and implementation of their growth boundaries, each has consciously pursued a policy of urban containment where restrictive land-use regulation served as the principal strategy. Portland and Lancaster County were the only regions with a pure urban-growth boundary, a regional-limit line integrated into a regional or countywide plan that intended to hem in urban development. Both areas adopted a growth boundary to clearly demarcate urban and rural areas and aggressively pursue rural-land preservation. In Portland, open-space preservation was accomplished mainly through regulation. In Lancaster County, regulation was supplemented by programs that purchased development rights on farmland to prevent its future development.

In Boulder and Napa Counties, city-based growth boundaries or service areas were supplemented by highly restrictive county land-use regulation that complemented the urban-containment policies of individual cities to create an urban-growth boundary. Boulder and Napa Counties are thus hybrids. Even though the boundaries were not regional in scope and implemented by one agency, they became effective regional-limit lines when complemented by county-level policies.

A. Effectiveness of Growth Boundaries

Evaluating the effectiveness of growth-boundary policies requires examining how well these policies met their primary goals and the consequences of their implementation. The experiences of Oregon, California, Boulder County, and Lancaster County suggest that growth boundaries are not a panacea for containing suburbanization or development on the urban fringe or revitalizing cities. Ironically, if growth boundaries are successful, they may well have important, negative side effects. Growth boundaries appear to significantly and consistently impact two policy goals: protecting open space and increasing residential densities (Table 8).

Boulder County, Portland, and Napa County have been successful in preventing farmland and open space from being developed, although the magnitude of this impact is not clear. In Portland, farmland-loss rates declined, but the lack of reliable data before the growth boundary was established make estimations of the magnitude difficult. While the cities of Portland and Boulder have experienced strong growth, the growth may or may not be attributable to the growth boundary; both cities experienced substantial growth along with their metropolitan areas. Moreover, the city of Boulder includes a substantial amount of vacant land. In Portland, the growth boundary's impact on the supply of land was not fully felt until the 1990s, after the revival of the center city had begun. More importantly, building permit and population data show that the cities of Napa and Lancaster have not benefited significantly from urban-growth boundaries.

Similarly, growth boundaries appear to increase residential densities. Densities increase by restricting the supply of land and discouraging single-family detached home construction. In this respect, growth boundaries appear to ignore important tradeoffs about land and housing as a component of the real-estate market. Growth boundaries also appear to be implemented without significant attention to potential impacts on housing-price appreciation and affordability, particularly for low-income households.

In Lancaster County, where the goals of preserving community character and farmland are perhaps the most explicit and overt, development continues outside urban areas at very low densities. Implementation of the county's growth-management strategy is complicated by the lack of plan coordination that continues to extend infrastructure services to outlying areas. Any beneficial impacts on the central city have been negligible. The deficiencies of the county's growth-management strategy, including growth boundaries, have prompted calls for even more-centralized control over land development and real-estate markets.

	Preserve Open Space and Farmland	Revitalize Urban Areas	Increase Residential Densities	Efficient Infrastructure Provision	Orderly Transition for Land Use
Boulder Co.	+	+/-	+	N/Ap*	-
Portland	+	+/-	+	+/-	-
Napa	+	**	+	N/Av	-
Lancaster	-	-	-	-	-

Key: (+) indicates success or progress toward goal, (+/-) no clear outcome, (-) little or no progress toward goal, (N/Ap) not applicable, (N/Av) not available.

*Infrastructure is provided by individual cities in Boulder County.

**Urban revitalization was not considered an important goal when the City of Napa adopted its growth boundary.

While Portland's reputation as a successful application of the growth-boundary concept is supported by the analysis, the growth boundary has not achieved several of its goals, and the area is experiencing unintended consequences. Land development in Portland has not attained the densities planners expected, prompting even stronger planning provisions and mandates for higher densities. Metro, for example, is now setting minimum-density targets for specific communities. Metro also appears to be moving away from the use of the boundary as a land-management tool to one that is a growth-control tool. Metro policymakers are resisting attempts to expand the boundary, and substantial evidence suggests that the regional boundary's constraint on the supply of land is contributing to housing-price increases. Thus, the goal of providing an orderly transition from rural to urban uses is giving way to a new goal of slowing (even stopping) expansion of the boundary or ensuring new land will be available for development.

Portland exemplifies the dilemma of the urban-growth boundary. If growth boundaries are successful, they will force development to occur at higher densities on relatively high-cost land near or within existing urban areas. Households will pay more for homes with fewer amenities. Thus, higher-density urban living is achieved by producing lower-quality housing and amenities. These effects will be mitigated if the growth boundary expands.¹²⁶ The politics of growth-boundary expansion in Portland and elsewhere suggest this is unlikely to happen at rates that will accommodate market demand, putting upward pressure on housing prices.

¹²⁶ In essence, this would require local governments to successfully expand the growth boundary to meet new housing demand consistent with an "inventory control" approach to growth management. See the discussion in Knaap, Hopkins, and Ding, *The Inventory Approach to Urban Growth Management*.

In sum, growth boundaries have not achieved many of their supporters' objectives. Growth-boundary implementation has been limited by:

- Persistent preferences for single-family housing with a private yard by prospective home buyers, reducing the ability of growth controls and boundaries to slow the pace of suburban sprawl;
- Poor coordination among local public agencies, creating mismatches between planning goals and actual investments in infrastructure such as roads, sewer, and water;
- Housing-price increases; and
- Political manipulation by antigrowth interest groups, converting a tool intended to manage growth into a vehicle for stopping growth.

In addition, growth-boundary implementation has ignored important tradeoffs about housing choice and diversity. The pursuit of public open space is at the expense of private open space. Given the long-term nature of growth boundaries, values and concerns also change. Growth boundaries, in a regional-planning context, often limit the flexibility of real-estate markets to spontaneously and fluidly meet the new and evolving needs of new households and existing residents. The experience of growth boundaries, however, can be used to inform an alternative policy approach that can work toward many of the same goals but in a more flexible and adaptable way, thus preserving housing choice and diversity.

B. Market-based Alternatives

Urban-growth boundaries may fall short of their goals because they try to do too much and generate many unintended negative consequences. A line around an urban area, demarcating urban from rural uses, suffers from many of the same problems other public policies experience. It assumes land is the same regardless of where it is or what it is used for. In short, an urban-limit line adopts a one-size-fits-all approach to land development: farmland is just as useful, socially and economically, as land for housing, and one acre of land in one place is assumed to be virtually identical to an acre somewhere else.

The development process is complex, and growth boundaries attempt to use a simple tool—a line in the land—to achieve multiple, sometimes contradictory goals. Growth boundaries, for example, are expected to protect farmland from market forces near urban areas but embrace the dynamism of the real-estate market and expand when land supplies become too constrained. They are expected to meet housing needs through high-cost infill and compact development but keep housing affordable.

In addition, urban-growth boundaries may be poor tools for lowering infrastructure costs. The benefits of lower infrastructure costs in Portland are the result of better coordination of investments and superior management of the water system, not necessarily higher-density land use (which is a principal objective of a growth boundary).¹²⁷ Lancaster County's experience also suggests that the adoption of urban-growth boundaries does not in itself improve coordination, even when the intent is to provide a regional vision for development. More importantly perhaps, even if compact development could reduce average costs, infrastructure-pricing policies are likely to continue creating inefficiencies by subsidizing certain types of development.

¹²⁷ In fact, density may pay for itself over time. See, for example, the discussion and debate in Reid Ewing, "Is Los Angeles-Style Sprawl Desirable?" *Journal of the American Planning Association*, vol. 63, no. 1 (Winter 1997), pp. 115-116, and Peter Gordon and Harry W. Richardson, "Are Compact Cities a Desirable Planning Goal," *Journal of the American Planning Association*, vol. 63, no. 1 (Winter 1997), p. 99.

An alternative approach would be to determine how markets can be used to achieve these goals without restricting the property rights and housing choices of local residents. This approach capitalizes on the advantages of the marketplace instead of restricting land development through centralized land-use planning. Real-estate markets capture the knowledge of the particular—the actual preferences of families and individuals revealed through their purchases of homes. They also implicitly reveal information about the supply-side of the real-estate market—what kinds of houses builders and developers are willing to provide given the costs of building the homes, acquiring the land, and risk inherent in the real-estate market. In contrast, growth-management initiatives such as urban-growth boundaries tend to substitute general planning principles for the decisions of individual property owners and homebuyers. By placing large swaths of land off limits to development, irrespective of its suitability for farming or other uses such as housing, growth boundaries run the risk of reducing the quality of life for many people. Real-estate markets operate based on information on the “margin”: the actual preferences and decisions of individual families and builders. Policymakers determine land-uses based on a perceived “average”: the estimated preference of current homeowners and voters. Few public policies exemplify this dichotomy more than urban-growth boundaries. Urban-growth boundaries attempt to achieve very specific goals, such as protecting farmland and open space, using the broad brush of public policy such as placing a certain amount of land off limits to development.

A preferable alternative would be to use market-based approaches that retain the dynamism and flexibility of property markets while allowing property owners and prospective homebuyers to exercise housing choice. While some policy areas are beyond the control of local governments—interest rates, state and federal tax deductions, residential migration—other areas are within their purview. Many of these tools are already in use.

- **Purchase of development rights (PDR) programs** allow property owners and land trusts to permanently acquire land for open space. More than 1,100 private land trusts already exist in 48 states and protect nearly seven million acres of land including several thousand acres in Lancaster County.¹²⁸ Among the virtues of private land trusts are their flexibility and voluntary nature. They can often accommodate limited development on land and adjust their policies and land holdings more easily to meet changing land-use patterns. These trusts can be strengthened and encouraged. An additional benefit of PDR programs is their strategic nature: rather than indiscriminately placing land off limits to development, they can use funds strategically to preserve open space within the context of broader market trends and preferences.
- **Full-cost pricing for on-site infrastructure** requires property owners and developers to pay for the actual costs of installing roads, sewers, and stormwater systems directly on the site. Impact fees, when structured properly, can achieve the balance between full-cost pricing and public-service delivery. Unfortunately, local governments are increasingly using impact fees as a source of general revenues rather than as a way to pay for specific services. As a result, impact fees are used to charge premium prices on new houses in order to subsidize services to existing residences or fund projects with little site-specific impact (see box on page 52). One preferred alternative is full-cost pricing that builds operating costs, capital investment, debt servicing, and ongoing maintenance costs into a monthly service charge. This pricing strategy is already in use for water and sewer services provided by private companies and has been recommended for publicly owned and operated utilities as well.¹²⁹ In fact, new accounting standards issued by the Government Accounting Standards Board should greatly facilitate full-cost pricing in the public sector.¹³⁰ Since private companies

¹²⁸ Daniels and Bowers, *Holding Our Ground*, p. 193.

¹²⁹ Richard H. Carson, *Paying for Our Growth in Oregon* (Beaverton, Oregon: New Oregon Meridian Press, 1998), <http://members.aol.com/odumonarch/pogo-rpt.htm>.

¹³⁰ The new standards require state and local governments to use accrual accounting and to include all assets and liabilities. See Adrian Moore, “Kiss Your Balanced Budget Goodbye,” *Intellectual Ammunition* (July/August 1999), p. 10; and Ian Ball, Tony Dale, William D. Eggers, and John Sacco, *Reforming Financial Management in the Public Sector: Lessons U.S. Officials Can Learn from New Zealand*, Policy Study No. 258 (Los Angeles: Reason Public Policy Institute, May 1999).

cannot afford to systematically subsidize their customers, privatization of these public services would immediately rationalize pricing strategies. In addition, local communities should ensure that land developers have the option to install their own infrastructure using the methods and performance levels most appropriate for the particular site. Finally, local policymakers should ensure that impact fees and other infrastructure charges are, in fact, tied directly to the cost of providing on-site infrastructure. California, in fact, has codified this stipulation.

- **Deregulating the real-estate market** would allow land developers to build at market-determined densities and cluster housing to preserve open space. In this case, local zoning codes should be revised to accommodate the diversity of the real-estate market. In many cases, such as cluster housing, low average densities can be maintained while allowing for more open space. Portland and Lancaster County's experiences bolster the case for relaxing density restrictions for communities that fear high-density residential development. While densities increased, they were still well below targeted densities. Thus, real-estate markets provide a moderating influence in land development, resulting in land development only at moderately higher densities.

Market-based approaches allow land to be valued and developed based on its unique qualities and market value.

These market-based policy options address important weaknesses in urban-growth boundaries as a growth-management strategy while avoiding many of their unintended consequences and costs (see Table 9). The chief benefit of a market-based strategy is its flexibility toward land use. Rather than adopting general rules about what land will be developed and what land will remain open space (or farmland), market-based approaches allow land to be valued and developed based on its unique qualities and market value. Land can be selectively preserved as open space or farm land without limiting the capability of developing other parcels for other uses. In addition, market-based strategies recognize that central-city decline must be addressed by focusing on competitiveness. Urban cores are declining and losing population because they no longer provide the kinds of benefits, business opportunities, and living environments that people want (when given a choice). Revitalizing cities will require restoring the competitiveness of the city by improving educational opportunities, improving the quality of the housing stock, and lowering the overall tax burden relative to outlying areas.

C. Conclusion

A market-oriented approach to growth management does not necessarily imply a passive role for government. Local governments impact development and land-use patterns through their infrastructure decisions, local and regional planning, and public-service pricing strategies. In many cases, low-density development is encouraged through maximum-density zoning regulations, subsidized public services, and suburban-style performance standards for roads and landscaping. While local policymakers should take care to avoid subsidizing low-density development, they must also be careful to avoid subsidizing higher-density development. The policy goals should be to provide the kind of housing and communities people want when their full costs and benefits are recognized and valued.

Impact fees, Infrastructure Costs, and Housing Prices

Impact fees are one mechanism local governments use to ensure new development fully “pays its way.” Impact fees are financial requirements imposed by local governments as a condition for issuing permits or granting development permission.¹ In principle, the impact fee covers the upfront and initial capital costs of extending roads, sewer, or other public services to the development site. Monthly charges or user fees would be used to cover operating costs and ongoing maintenance (although in practice many local governments subsidize utilities through general revenues). Traditionally, impact fees have been tied to specific services and benefits received from public services provided to the site, but they have become increasingly popular as new ways to raise general revenues without raising taxes.²

Impact fees can potentially speed-up land development. The development agreements negotiated between the city and the developer can reduce uncertainties about the timing and placement of key infrastructure such as roads and sewers while ensuring that revenues exist to provide infrastructure when it’s needed.³ One study found a positive impact between impact fees and land development because the fees created a “contract” between developers and local governments that ensured certain facilities would be provided.⁴ “Impact fees improve certainty of land development proposals,” concluded the authors, and “generate revenue to extend facilities that in effect benefit the very developers who pay the fees, eliminate much of the ad hoc process of exaction negotiation, and treat similar development proposals similarly.”⁵



Promoting infill development is an explicit goal of growth boundary advocates even though higher home prices are necessary to justify building on less efficient and odd-size parcels of land in urban areas.

Impact fees can also be used to force new residents to subsidize existing residents to pay for citywide services. While the U.S. Supreme Court requires cities and local governments to ensure a “rational nexus” exists between the impact fees and services provided,⁶ and some states such as California have codified this principle into law, state courts tend to interpret this requirement loosely. In California, for example, state courts allow school districts to impose fees above statutory caps and cities to impose new taxes on construction.⁷ Another study identified more than 22 categories of facilities and

activities that can legally be financed through impact fees.⁸ Most reflect political goals—public art, low-

Impact fees, Infrastructure Costs, and Housing Prices (continued)

income housing, mass transit, historic preservation, day-care facilities—rather than traditional site-based infrastructure such as roads, sewers, public schools. San Francisco, for example, requires large commercial developments to build new low-income housing in the city or contribute financially to a low-income housing fund.⁹

An analysis of impact fees in Contra Cost County in California found that the state of the economy determined whether or not fees impacted housing prices.¹⁰ When real-estate markets were depressed, housing prices fell and developers bore most of the burden of the fees.¹¹ When the economy picked up, developers were able to pass the cost of the fees onto homebuyers.¹² In fact, in the western part of Contra Cost County, a \$1 increase in fees was associated with a \$1.88 increase in a home's price (after controlling for other factors such as lot size, number of bedrooms, number of bathrooms, etc.).¹³

If impact fees are paying for services and other home characteristics that consumers want, the rising home price reflects an increase in the value of the home. If, on the other hand, impact fees are levied to finance public services and facilities that do not enhance the value of the home, the effects would be primarily redistributive and would not necessarily reflect an improvement in the quality of housing or the community. The case study of Contra Costa County, for example, found that public investments in public facilities did not necessarily affect home prices because most new homeowners would not receive benefits from the investment.¹⁴ The persistence of impact fees to subsidize general government spending will ultimately reduce housing output. The impact fees increase the costs of providing housing without a balance in revenues.

Notes:

¹ Alan A. Altshuler and Jose A. Gomez-Ibanez, *Regulation for Revenue: The Political Economy of Land Use Exactions* (Washington, D.C.: Brookings Institution and Lincoln Institute of Land Policy 1993), p. 3.

² Altshuler and Gomez-Ibanez, *Regulation for Revenue*, pp. 39-41.

³ John J. Delaney, "Development Agreements: The Road from Prohibition to 'Let's Make a Deal'" *The Urban Lawyer*, vol. 25, no. 1, (Winter 1993), pp. 49-67.

⁴ Arthur C. Nelson, James E. Frank, and James C. Nicholas, "Positive Influence of Impact-Fee in Urban Planning and Development," *Journal of Urban Planning and Development*, vol. 118, no. 2 (June 1992), pp. 59-64.

⁵ *Ibid.*, p. 64.

⁶ *Nolan v. California Coastal Commission* (1987) and *Dolan v. City of Tigard* (1994).

⁷ Marla Dresch and Steven M. Sheffrin, *Who Pays for Development Fees and Exactions?* (San Francisco, California: Public Policy Institute of California, 1997), pp. 11-14. The court cases cited by the authors including *Mira Development v. City of San Diego*, *William S. Hart Union High School District v. Regional Planning Commission*, and *Murrieta, Western/California Ltd. Et al. v. Dry Creek Joint Elementary District*, and *Centex Real Estate Corp. v. Vallejo*.

⁸ Dennis H. Ross and Scott Ian Thorpe, "Impact Fees: Practical Guide for Calculation and Implementation," *Journal of Urban Planning and Development*, vol. 18, no. 3 (September 1992), pp. 106-118.

⁹ Developers were required to either build new units or contributed funds to projects. John M. Levy, *Contemporary Urban Planning*, 2nd Ed. (Englewood Cliffs, New Jersey: Prentice-Hall, 1991) p. 126.

¹⁰ Dresch and Sheffrin, *Who Pays for Development Fees and Exactions?*, pp. 64-71.

¹¹ *Ibid.*, p. 75.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*, pp. 65-66.

Table 9: Urban-growth Boundary Weaknesses and Consumer-oriented Alternatives		
	Weakness of Urban-growth Boundary	Consumer-oriented Solution
Preserve open space and farmland	One-size-fits-all; Restricts property rights	Strategic preservation of open space <ul style="list-style-type: none"> ▪ Purchase of development rights ▪ Conservation easements
Revitalize urban areas	Cities continue to decline; Housing output falls because development is forced onto higher-cost land through infill and refill.	Increase competitiveness of cities <ul style="list-style-type: none"> ▪ Improve educational choice and quality ▪ Upgrade housing stock ▪ Competitive fiscal policies ▪ Brownfield development
Increase residential densities	Lower neighborhood amenities such as reduced lot size, less private open space, and other housing characteristics	Relax density restrictions to allow market-determined densities
Efficient infrastructure provision	Uncoordinated development and poorly planned infrastructure investments	Full-cost pricing for on-site, infrastructure to align consumer preferences with actual costs of development without subsidized offsite residents.
Orderly transition from rural to urban use	Land restrictive; Politically reactionary & conservative	Full-cost pricing for on-site infrastructure

Local policymakers need to recognize the political, economic, and social tradeoffs implicit in adopting restrictive land-use policies. Rising housing costs without a corresponding increase in benefits and income may be an unintended side-effect of a successful urban-growth boundary. Growth boundaries attempt to channel growth into specific areas of a community, increasing competition for land in those areas. This process bids up land prices. In a growing real-state market, home prices increase as well. Higher-housing prices are also necessary to justify significant infill and redevelopment in existing urban centers. Thus, a consequence of attempting to change urban form and channel development into politically acceptable areas is more expensive housing. Market-based strategies may be able to achieve the same goals while capitalizing on the efficiencies of the real-estate market and avoiding rising home prices.

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Acknowledgements

The authors gratefully acknowledge the comments and insight, despite our disagreements, provided by reviewers of early drafts of the manuscripts, especially Tim Coyle, John Charles, Bill Fischel, Steve Hayward, Gerrit Knaap, Bruce Race, and Charles Rubin. We would also like to acknowledge the assistance of John Yost, Ed Colby, Dale Case, Karen Larson, Sonny Conder, and Elaine Wilkerson, in helping us track down difficult to find information. Their willingness to critique and question the analysis and data objectively greatly improved the study's quality. The authors, of course, remain solely responsible for the analysis, conclusions, and any errors that remain.

Other RPPI Studies

Repairing the Ladder: Toward a New Housing Policy. By Howard Husock. Policy Study No. 207.

Market-Oriented Planning: Principles and Tools. By Samuel Staley and Lynn Scarlett. Policy Study No. 236.

Myths of Light Rail Transit. By James DeLong. Policy Study No. 244.

Urban Transit Myths: Misperceptions About Transit and American Mobility. By Randal O'Toole. Policy Study No. 245.

How to "Build Our Way Out of Congestion": Innovative Approaches to Expanding Urban Highway Capacity. By Peter Samuel. Policy Study. No. 250.

The Sprawling of America: In Defense of the Dynamic City. By Samuel Staley. Policy Study No. 251.

Reforming Financial Management in the Public Sector: Lessons U.S. Officials Can Learn from New Zealand. By Ian Ball, Tony Dale, William D. Eggers, and John Sacco. Policy Study No. 258.

Appendix A

Vacant Land, Developable Land, and Redevelopment

Portland’s housing market appears to be less responsive to changes in housing demand than other cities based on housing price trends (rapidly increasing housing supply would mitigate housing price trends). This sluggish response to high housing demand is likely due to the need for local developers to retool and redevelop housing plans to meet the high-priced and new regulatory climate, a problem developers in other cities attempting to encourage higher densities will also face.

As the amount of vacant land declines inside the growth boundary, the remaining lots are more likely to be in poor locations, difficult to access, have steep slopes, experience poor drainage, have odd and relatively small shapes and sizes. These lots will be less productive than earlier lots developed when land of all types was more common, and firms will have to use more costly production methods to build similar types of housing. Finally, as land becomes less and less available inside the growth boundary, land owners will be able to charge higher prices for their property when housing demand is strong since they will have less competition.

Of the 47,668 vacant acres in the urban-growth boundary in 1997, for example, Metro considers 12,000 to 17,000 acres unusable, either too steep, too wet, or environmentally sensitive.¹³¹ Another 11,500 to 13,500 acres are considered necessary for schools, streets, and parks.¹³² Approximately 1,000 vacant acres are zoned for exclusive farm use and would require rezoning to be usable.¹³³ Thus, only between 16,000 and 23,000 acres—between 33.6 and 48.2 percent of the total estimated vacant land and about 7 and 10 percent of the land area within the growth boundary—are realistically available for development to meet the region’s increased housing needs. Therefore, the reduction in vacant land is even more significant and binding than first appears because of environmental constraints and prior claims on their use.

Not surprisingly, an important policy goal of metro is “refill”—the redevelopment of existing property to higher densities and development of existing vacant land (infill). A recent study of refill rates by Portland Metro found that the rate of residential redevelopment and infill is negatively related to total residential construction.¹³⁴ Overall, Metro estimated that the Portland area’s refill rate was 25.4 percent, and the urban-

¹³¹ Portland Metro, *Urban Growth Report Addendum*, Tables 1 and 3A, p. 30-31, 45.

¹³² *Ibid.*, Table 4A, pp. 33, 47.

¹³³ *Ibid.*, Table 4B, pp. 34, 48.

¹³⁴ Conder, *Residential Refill Study*.

growth boundary captured about 70 percent of total residential development.¹³⁵ High refill rates, however, require high home prices to justify development of more-expensive parcels of land.¹³⁶ The Portland housing market study observes that three factors can increase the refill rate: increasing residential densities, reducing the supply of land, and relatively high real-estate prices. Currently, Metro policy is to increase residential densities, although refill is also encouraged by relatively high home-price appreciation and political resistance to expanding the growth boundary.



Support for urban-growth boundaries often rests on their potential for preserving farmland and open space, but they may have unintended consequences, such as creating open-space preserves for wealthier families.

¹³⁵ Ibid.

¹³⁶ Ibid.

Appendix B

Building Activity and Home Values in the Bay Area

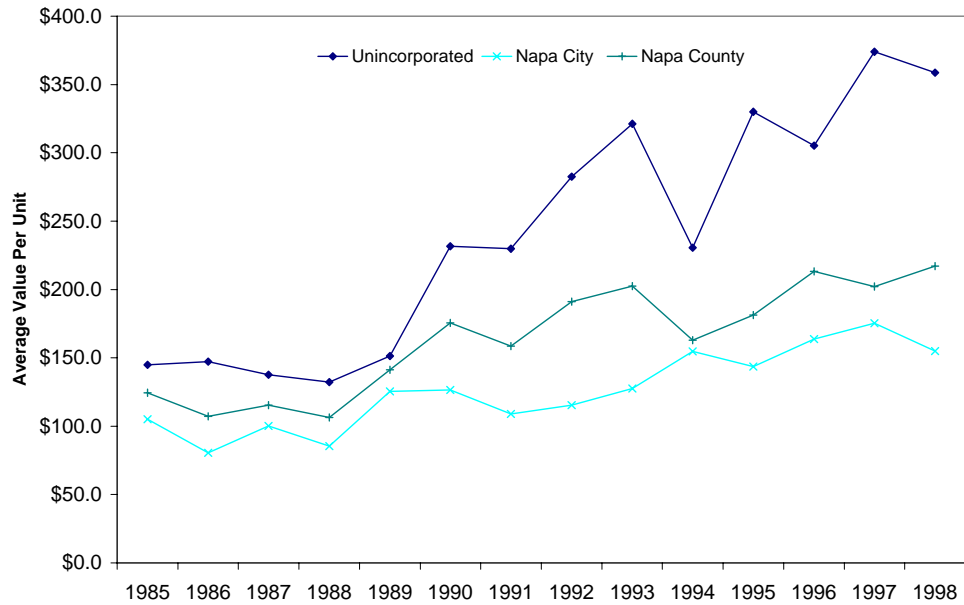
Building permits say little about housing prices, a key issue in the policy debate over growth controls and growth management. Insight into the housing-price effects of lower building activity in Napa County can be gleaned from local-government reports on the value of home construction, which provides a general indicator of how the quality of homes may have changed over time. The average value of a single-family home in Napa County—based on the construction value reported when the permits were issued—climbed 74.5 percent to \$202,300 between 1985 to 1997 (Figure B1). The value of single-family homes in Napa City did not appreciate as quickly, climbing from \$105,000 per unit in 1985 to \$175,200 per unit in 1997, an increase of 66.8 percent. The value of single-family homes in the unincorporated sections of the county, however, increased from \$144,800 to \$373,800 during the same period (an increase of 158.1 percent). While the number of housing units built in the unincorporated parts of the county fell dramatically during this period, the housing price “premium” for homes outside the more densely urbanized areas of the county increased from 16.3 percent to 84.8 percent over the county average.

To put this in context, a household income of \$50,000 could have purchased the average home in unincorporated areas of Napa County in 1985.¹³⁷ By 1997, the average family’s income would have had to increase by 150 percent to about \$125,000 to afford the average home outside the principal cities and municipalities of the county. The average home built in Napa City could have been purchased by a family with a household income of \$35,000 in 1985 and \$58,400 in 1997, a 66.9 percent increase. Thus, in Napa County, the value of a new home is appreciating faster in the unincorporated areas, broadening the affordability gap between rural and urban areas.

When Napa County is compared to Sonoma and Santa Clara counties, housing values rose steadily throughout the 1990s in all three counties. The impact of the recession is not clearly evident although prices in Santa Clara County increased more rapidly in the late 1990s (Figure B2). Housing valuations in Santa Clara and Sonoma counties followed parallel paths. The average value of a new home built in Napa County increased from below the average in Santa Clara County to above the average beginning soon after it adopted its restrictive-growth policies. The gap between the average home built in Napa and Sonoma counties narrowed until 1988 when the average Napa County new home was just 6.6 percent higher than the average new home in Sonoma County. Then, the gap widened to 23.8 percent in 1998, suggesting that the quality and size of the new homes built in Napa County increased during this period relative to Sonoma County.

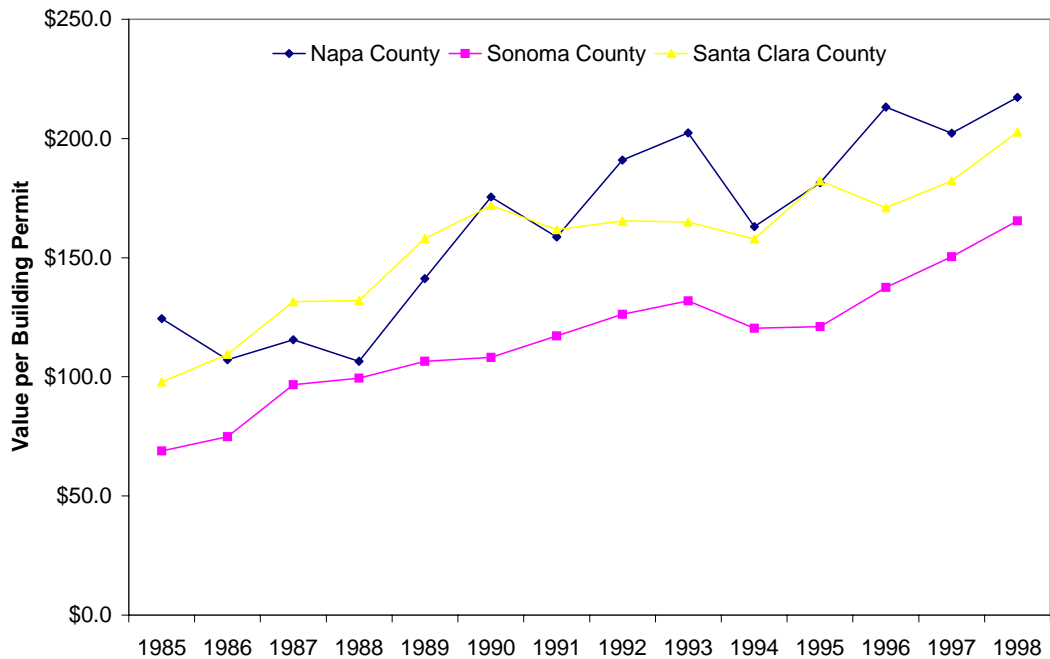
¹³⁷ Based on the rule-of-thumb that the average family can support a mortgage three times its annual income. This excludes the cost of land, which typically adds about 25 to 30 percent to the price of a home. In essence, this estimate presumes that the family would be able to provide a downpayment equivalent to the cost of land through either cash or equity from other investments (such as an existing home).

Figure B1: Value of Single-family Building Permits in Napa County: 1986 to 1998.



Source: Construction Industry Research Board, Burbank, California.

Figure B2: Value of Residential Units in Napa, Santa Clara, and Sonoma Counties, 1986-98.



Source: Construction Industry Research Board, Burbank, California.

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