Policy implications for urban growth boundaries

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May 22, 2008

Abstract

Urban growth boundaries are a type of government land use containment regulation and therefore may limit certain types of development while encouraging other types of development. Two central objectives of urban growth boundaries are to limit urban sprawl and protect green space in and around cities. Although urban growth boundaries have been around as a land use policy since 1956, they gained considerable popularity in the 1970s and are increasing in use today in connection to the new "smart growth" movement (Kolakowski, Machemer, et. al 2000). Despite their popularity in some realms, there still exist strong voices opposing the use of government regulation on land use. This study is set-up to examine how urban growth boundaries impact urban development. The largest 50 metropolitan areas are studied—both those that have and have not implemented urban growth boundaries.

Introduction

Los Angeles, California stands out as a prime example of the type of urban development many cities want to avoid. The city is sprawled out, but defined by a perpetual layer of smog that hides the mountains. Some of the central city areas are run-down, where drugs and gangs are prevalent. Public transport, until recently, was basically non-existent. Residents deal with traffic congestion on a day-to-day, hour-to-hour basis. Therefore, in reaction to the cities like Los Angeles, urban planners, environmentalists, politicians, and communities are trying to actively plan and influence how their cities develop.

One such method for planning is developing urban growth boundaries. The objectives of an urban growth boundary may vary based on the goals of a city, but in general urban growth

boundaries are designed to limit sprawl, revitalize central cities, reduce driving times, increase use of public transport, and protect "green space" in and around cities (Greenbelt Alliance).

Urban growth boundaries have received a lot of support and have been instituted in over 100 cities in the U.S.; however, the impact of this land use policy has not been fully investigated. A few individual city case studies have been conducted, but comprehensive research is lacking. Land use policies regulate what options residents have and how they live their lives (Pendall, Puentes, Martin 2006). This research hopes to explore the impact of urban growth boundaries on the cities that have and have not instituted them to examine whether they are meeting their objectives, what the negative side effects may be, and if any best practices can be drawn from different city's experiences since policies vary slightly from state to state.

Research question

How do urban growth boundaries impact urban development? A comparison of cities that have and have not implemented growth boundaries.

Literature Review

Urban growth boundaries are a land use policy used to control and contain urban growth by encouraging high-density urban growth inside the boundary and restricting the area outside the boundary for low density, rural development (Greenbelt Alliance). Land use policies are significant regulatory tools because they dictate how people live their lives, where they settle, potential health consequences, quality of life issues, environmental planning, etc. A main land use policy framework used throughout the United States is zoning. Zoning specifies certain land for a certain purpose, therefore limiting or allowing some activities like farming, mobile homes, and size lots that can be bought and sold (Pendall, Puentes, Martin 2006).

Land use policy especially as it relates to environmental regulations is very complex. Land use policies are under the direction of local government, although state government may become involved to a limited degree. Intergovernmental coordination is very important for land use policy in relation to the environment because of externalities. Land use policy for one community may allow for industrial use, however, a neighboring community may bear the costs of the policy through air, water, or noise pollution. Land use policies can be used to reduce negative externalities (such as pollution and traffic congestion) and to increase positive externalities (such as green space and urban renewal).

Instituting urban growth boundaries raised a common debate regarding the degree that government should regulate our lives. Both sides of the controversy provide important insights about the believed impacts of urban growth boundaries. In general urban planners, environmentalists, and groups that want to shape the development of their community are in favor of urban growth boundaries. A main motivation for implementing an urban growth boundary is to protect open space inside the city boundary and outside. In addition supporters want to revitalize the urban centers through incentive programs coupled with the boundary. By implementing the boundary and allowing for higher density development inside the boundary, proponents assert that sprawl can be limited and resources can be better utilized within the cities, such as public transport. If people live closer to their workplaces and have access to good public transport, supporters suggest that there will be fewer cars on the road, less congestion, and less pollution (Stone, Mednick, Holloway, et.al 2007). The proponents of urban growth boundary see it as a necessary tool to create social change and protect the environment.

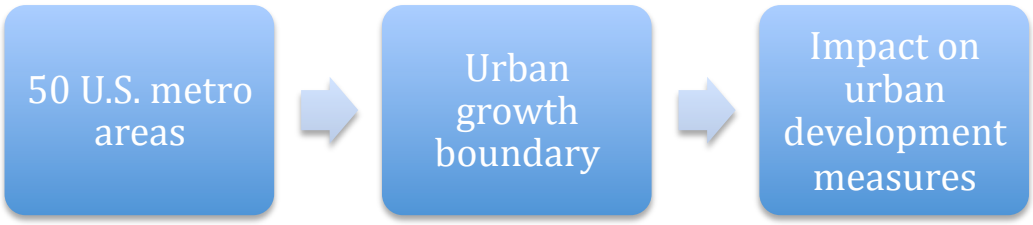
The opponents to urban growth boundaries are generally economists and supporters of market solutions. These groups argue that containment policies, like urban growth boundaries,

manipulate the market by restricting the supply of housing, which causes high housing costs. Housing is restricted to areas within the boundary rather than allowing individuals to choose where they want to live. According to Gordon and Richardson (2001), "no planner can anticipate changes, but markets sort them out efficiently. New spatial arrangements then breed the innovations (both social and technological) that enable society to grow and prosper" (Gordon & Richardson 2001, 138). Opponents argue that urban growth boundaries are an unnecessary government regulation that reduces opportunities and increases the cost of living. O'Toole states that high-density living will not bring about the objectives that proponents of urban growth boundaries assert. He sites a study conducted by the National Association of Home Builders that 82% of Americans prefer a single-family home in the suburbs and only 18% want a home in the city, close to work, etc. (O'Toole 2007, 95). O'Toole argues that smart growth policies, like urban growth boundaries, are "based on the design fallacy that urban design shapes human behavior" (O'Toole 2007, 93).

There are a few researchers who advocate a middle ground of cautious use of containment policies. The main assertion presented is for cities to carefully evaluate the needs and objectives of their communities and determine whether an urban growth boundary will have sufficient advantages to outweigh the potential costs of the policy. Knapp and Hopkins (2001) advocate for a mixed approach where market factors are incorporated to influence the size of urban growth boundaries.

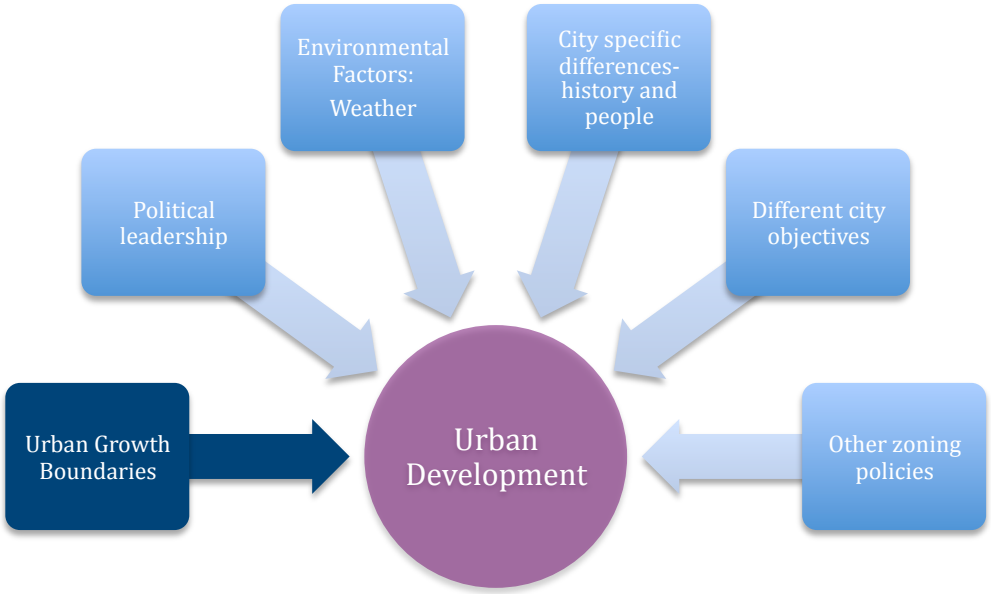
These three perspectives provide insight into the existing research on land use policy in relation to urban growth boundaries. The information gathered from prior research helped to form the schematic model, draw a hypothesis, and operationalize the independent and dependent variables.

Conceptual Framework



Schematic model

Below is the schematic model of potential influencing factors that must be controlled to understand the potential correlation between urban growth boundaries and urban development.



Hypotheses

The null hypothesis is that urban growth boundaries do not affect urban development and rather it is the other variables in the schematic model that are the main influences on urban development.

The alternative hypothesis below indicates that in spite of the other variables that could impact urban development, the implementation of urban growth boundaries will have an impact on urban development factors.

Alternative hypothesis

Cities who have implemented urban growth boundaries have:

1) experienced higher population density than cities that have not implemented urban growth boundaries;

2) have more extensive transportation systems;

3) have more green space areas in city vicinity;

4) have a higher cost of living.

Operational measurements

Independent variable: Urban growth boundary

For this research, an urban growth boundary is defined as an urban land use containment policy that establishes a boundary to designate types land use. Since urban growth boundaries vary depending on how restrictive the policy is, each city's policy will be evaluated based on the scale of containment- low, medium, and highly restrictive.

Dependent variables: Urban development

Urban development will be measured according to four main factors taken from the literature review. The first three factors directly relate to the objectives of urban growth boundaries: increasing population density inside the boundary, increasing the use of transport, and protecting green space areas inside and surrounding the boundary. The last factor is one of the top easily measurable characteristics that opponents of urban growth boundaries site as a problem with the policy. These four factors are key variables involvement in urban development and therefore will provide a gauge of impact in relation to the implementation of urban growth boundaries.

1. Population density (population/square mile)
2. Use of transport in urban area (ridership/population)
3. Green space (reserved green space/square mile)
4. Cost of living (dollars)

Research design

The research design is categorized as a non-experimental, non-equivalent groups posttest only. The sampling frame and the study population are largest 50 U.S. cities; therefore the cities examined are not random and instead are chosen based on their size in the U.S.

Unit of analysis: U.S. metro areas

Design: non-experimental, nonequivalent groups posttest only

Sampling frame and study population: 50 largest U.S. metro areas

Data collection strategy

Data will be collected based on two methods. The first method is a panel data analysis of the largest 50 U.S. metro areas. The four operational measurements of urban development (as defined on page 5) will be collected through secondary data for all 50 identified U.S. metro areas for the years 1990, 1995, and 2000.

The second method of data collection will be three case studies. The case studies will be conducted based a non-probability, purposive sample method to ascertain expert knowledge on the use of urban growth boundaries as a land use policy. All three targeted cities must be of comparable characteristics. The case studies cities will be identified based on the results from the panel data analysis. One case study will be conducted on a city that has implemented an

urban growth boundary as a result of a state mandate. The second case study will be conducted on a city that implemented an urban growth boundary without a mandate. The third case study will be conducted on a city that has not implemented an urban growth boundary.

Panel data analysis: cross-sectional for 1990, 1995, and 2000 for 50 metro areas

Case studies (3): (1) state mandated urban growth boundary; (2) city initiated urban growth boundary; (3) no urban growth boundary

Proposed analysis

After compiling the panel data, a trend analysis will be conducted to determine if a correlation can be found between the urban growth boundaries and the urban development operational measurements. Information from the panel data analysis will be used to choose the three cities for in-depth case study analysis. After choosing the cities based on the criteria outlined above, experts (such as urban planners or city officials) involved in decisions on implementing an urban growth boundary will be contacted to arrange for interviews to gain further information about each of the three case cities.

Limitations

There are both internal and external validity limitations to the proposed research. The main internal validity issue is in regard to *historical events*. The panel data collected will examine the urban development measurements in three different years (1990, 1995, 2000). If an event occurred prior to one of those dates, the results may be reflective of the event rather than the urban growth boundary. In regard to external validity, urban growth boundaries are not exactly

the same in each city, so there may be an issue of unique program features. Some cities may institute a boundary because of primarily land preservation reasons, while another may decide on a boundary more based on urban renewal. Therefore, these differences may limit the degree that the results can be generalized to illustrate an impact of urban growth boundaries on urban development. Lastly, effects of location may also limit the external validity of the study. Since not all cities are the same or confront the same social or development problems, the results may not be easily generalized to other cities.

Conclusion

Although there are some validity limitations, the main objective of the research is to gain an understanding of impact trends of urban growth boundary containment policies on urban development. Examining these trends hopefully will provide insight into whether the urban growth boundaries are having an impact on the cities that implement them and if the boundaries are meeting the desired objectives. The results may provide information on best practices that could be used in other cities considering urban growth boundaries. Conversely, the results may provide opponents of urban growth boundaries sufficient evidence to oppose or rescind policies for containment implementation.

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Web-based survey instrument
(optional component if it would be helpful)

Introduction and informed consent

- Overview of the project:

  This study is researching the impact of Growth Containment measures, most specifically Urban Growth Boundaries, on cities that have implemented them. The objective of our research is to evaluate whether Urban Growth Boundaries are having the desired effect on the cities that adopt them.

- Informed consent issues:

  "This survey is completely optional and voluntary. You can decide to stop the survey at any time or decline to answer any of the questions. Your participation in the survey is the sign of your consent."

Individual Identifiers

1. What is your position?
   a. Planning Director
   b. City Manager
   c. Mayor
   d. Other (please specify _____)

2. How are you involved in urban planning efforts in your city/metro area?
   Open Question (*provide text box up to 100 word response*)

Growth containment measures

3. Does your city have growth containment measures, such as an urban growth boundary, growth areas, service areas, service boundaries, and/or greenbelts?
   (Yes/No)

If yes:

4. Which type of growth containment measure do you have? (*may choose only one*)
   a. Service Areas
   b. Service Boundaries
   c. Growth Areas
   d. Growth Boundaries
   e. Greenbelts
   f. Other (please specify _____)

5. When was the first one set?
   (*provide textbox of up to 10 characters long*)

6. How many times has the containment measure changed since the first one was instituted?
   (*provide textbox up to 10 characters long*)

7. What were the main factors for why the growth containment measure was set?

(*may choose more than one*)
a. Population growth control
b. Protecting green space
c. Other (please specify _____)

8. Does your city use other land use regulations? (Yes/No)
   If yes, what type?
   a. Zoning
   b. Comprehensive Planning
   c. Infrastructure regulations- impact fees, APFO
   d. Growth control- permit cap, moratoria
   e. Other (please specify _____)

9. What are the main ways your city has been impacted by the containment measure?
   (*Open question- provide 200 word textbox)*

If no:

4. Has the city tried to institute a growth containment measures? (yes/no)
5. Why or why not? (*provide textbox*)
6. What were the main reasons that it didn't get passed? (*provide textbox*)
7. Does your city use other land use regulations? (Yes/No)
   If yes, what type?
   a. Zoning
   b. Comprehensive Planning
   c. Infrastructure regulations- impact fees, APFO
   d. Growth control- permit cap, moratoria
   e. Other (please specify _____)

<u>Statistics (continued for all respondents- for some it will start at Q #10 others Q #8</u>

(provide estimate levels- currently I do not know what levels I would provide)

10. What is the city's change in population growth over the last 5 years?
11. What is the city's change in transportation network growth over the last 5 years?
12. What is the city's change in green space over the last 5 years?
13. What is the city's change in population density over the last 5 years?
14. What is the city's change in cost of living over the last 5 years?

<u>Sense of stakeholder interests:</u>

Please indicate the degree to which to agree/disagree with these statements.

15. The general population views an urban growth boundary as having a significant impact (either positive or negative) on their lives.
    Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree/ Not sure

16. The population generally views the impact as: (negative/ positive/ not sure)

17. Businesses view an urban growth boundary as having a significant impact (either positive or negative) on their lives. (Agree, disagree, etc.)

Strongly agree/ Agree/ Neutral/ Disagree/ Strongly disagree/ Not sure

18. The population generally views the impact as: (negative/ positive/ not sure)

IV. Table of variables

	Operational Measures	**Levels of measurement**
City	Based on size	Over 10,000 people (the list will be taken from the Brookings Institute research)
Population	Current population statistic	
Containment Measure	Type of containment measures	Scale (taken from the Brooking Institute Report) depending on the restrictiveness of the containment measure
Population Growth	Percentage change	Percentage change over 5 years
Transportation Growth	Percentage change	Percentage change over 5 years
Green space	Percentage change	An increase/decrease in percentage of total metro area
Population Density	Percentage change	Percentage change over 5 years
Cost of living	Percentage change	Percentage change over 5 years