

**The Effectiveness of Greenbelts as Growth Management
Strategies: A Study of Two Recently Implemented Projects in
Ann Arbor, Michigan and Lexington, Kentucky**

by

Alexandra Oster

An Honors Thesis Submitted
in partial fulfillment of the requirements
for the Honors Scholar Program
Concentration in Program in the Environment

University of Michigan

April 2006

Abstract

Rapid growth in the rural areas surrounding many metropolitan areas is consuming farmland and open space at an alarming rate. In efforts to control and direct this sprawl local and state governments have employed various growth management techniques, including Urban Growth Boundaries, agricultural zoning, Transfer of Development Rights (TDR) programs, Purchase of Development Rights (PDR) programs and greenbelt projects. Most of the current research has failed to determine the overall effectiveness of these different growth management strategies. In particular, there have been a limited number of studies on greenbelts and their success in controlling sprawl at the urban fringe of metropolitan areas. Therefore, the overall aim of this study is to determine the effectiveness of greenbelts as growth management techniques and the possible benefits and drawbacks to using this strategy. Specifically, this study focuses on two recently implemented greenbelts in Ann Arbor, Michigan and Lexington, Kentucky. Data from this study was collected from numerous interviews with individuals involved in the creation and development of the Ann Arbor and Lexington greenbelts.

Acknowledgements

First and foremost I would like to thank my thesis advisor, Professor Larissa Larsen, for her continual support. I would like to thank her especially for all the time and effort she put into helping me revise and improve my paper. I would also like to thank my thesis reader, Professor Barry Rabe, for providing countless recommendations which drastically improved my paper. Finally I would also like to thank all of the people I interviewed from both Ann Arbor and Lexington. My paper would have not been possible without their informative responses and their constant assistance.

Introduction

Over the past century, there has been rapid growth in the suburban regions outlying many American metropolitan areas. Defined as urban sprawl, this growth has sparked increasing concern among environmentalists and politicians, especially in regards to the development of open space and agricultural land and the consumption of natural resources. In fact, sprawl has numerous other environmental impacts in addition to loss of farmland and reduced regional open space. These impacts include greater air pollution, higher energy consumption, reduced biodiversity, increased runoff, increased risk of flooding, excessive loss of native vegetation and ecosystem fragmentation (Johnson 2001). In an effort to contain and direct sprawl and preserve environmental resources, many cities have developed growth management or smart growth plans along with numerous medium. In particular, various cities have employed numerous strategies to manage growth including greenbelt projects and other Purchase of Development Rights (PDR) programs, Transfer of Development Rights (TDR) programs and Urban Growth Boundaries (UGB) (Gillham 2002). In fact, in a recent report, 210 U.S. mayors agreed to adopt or further develop smart growth initiatives for their respective cities (Baker 2006).

The focus of this study is to evaluate the effectiveness of greenbelt projects and understand the antecedents to successful greenbelt implementation by comparing and contrasting these plans. In particular this paper will analyze two recently created greenbelt programs in Ann Arbor, Michigan and Lexington, Kentucky. The city of Ann Arbor was selected as one of the case studies primarily due to the fact that I was involved in garnering student support for the greenbelt in the 2003 election. After conducting

some preliminary research on Ann Arbor and through various informal discussions with city officials, it was clear that the Ann Arbor program had drawn upon the PDR initiative in Lexington for guidance on how to develop and implement a similar project. Thus, Lexington appeared to be the logical choice for a comparative study. In addition, Ann Arbor and Lexington have numerous similarities in terms of demographics, geography, land use, etc. In fact, Ann Arbor and Lexington are both small cities of similar size and population and have a considerable amount of farmland in their urban fringes which is being threatened by encroaching suburban development.

Background and History of Greenbelts and Purchase of Development Rights (PDR) Programs

While both Ann Arbor and Lexington have greenbelt programs, Lexington refers to their program as a Purchase of Development Rights (PDR) project. Essentially greenbelt projects are the same as PDR programs in that they both use public money to purchase the development rights to privately held land (Daniels 1991). The goal of most PDR programs is to keep land available for agriculture and to maintain open space or agricultural land in the form of large, continuous tracts, often referred to as greenbelts. The value of the development rights is usually purchased by a government agency or other organization, such as a land trust. Participants of the program still retain ownership of their property and all of the other property rights. In essence they still have the ability to live on the property, farm, sell, or transfer the property as long as the land remains undeveloped under the terms of the agreement, otherwise known as a conservation easement (Boone County Planning Commission 2001).

History of PDR Programs

Date	Event
1930s	Widespread use of PDRs to protect open space and natural resources Federal government uses PDRs to purchase land near the Blue Ridge and Natchez Trace Parkways
1974	In Suffolk, New York the first PDR program to preserve farmland is created
1980	Only four states have PDR programs, Connecticut, Maryland, Massachusetts and New Hampshire
1990	Nine states including New Jersey and Pennsylvania have enacted PDR programs
Mid-1990s	PDR programs finally created in the Midwest in Ohio and Wisconsin
2005	27 states have established state-level PDR programs At least 50 PDR programs have been developed by counties, townships, and municipalities in 16 states

Purchase of development rights has occurred for well over a century in the United States (see History of PDR Programs Table above). Widespread use of purchased easements began as early as the 1930s when the federal government purchased land space near the Blue Ridge and Natchez Trace Parkways to preserve scenic open space. Starting in the 1930s and continuing through the 1980s the use of PDRs was primarily to protect open space and natural resources and was not yet used to protect agricultural land (Wright 1993).

It was not until 1974 that the first PDR program was developed to preserve farmland as well as open space. This program was created in Suffolk County, New York and sparked the creation of similar programs in various other localities in the northeastern part of the United States. In recent years, the purchase of development rights has risen significantly as local land trusts and national organizations such as The Nature Conservancy, the Trust for Public Land and the American Farmland Trust have become involved in the acquisition of private land to control development (Boone County

Planning Commission 2001). These groups have helped numerous state and local PDR programs by identifying and raising funds as well as negotiating land transactions and sharing valuable knowledge and research on land conservation issues and initiatives.

In addition, a number of state government planning and open space programs have created PDR programs and greenbelts to protect parkland, open space and farmland (Wright 1993). In fact, in 1980 only four states had enacted PDR programs, Connecticut, Maryland, Massachusetts and New Hampshire. By 1990, however, this number had grown to nine states including numerous New England states, New Jersey and Pennsylvania (Daniels 1991). As of June 2005, 27 states had established state-level PDR programs (see Table 2 for list of state programs) (American Farmland Trust 2005b). The most successful state PDR programs are in Pennsylvania and Maryland, having preserved more acres of farmland and open space than all other states. Pennsylvania has protected over 186,000 acres and Maryland has protected almost as many acres. Furthermore, New Jersey, Vermont, Colorado, Massachusetts, Delaware and Connecticut have each individually preserved tens of thousands of acres. In the Midwest, however, comprehensive, fully functional PDR programs did not emerge until the mid-1990s and many are still very much in their infancy primarily due to funding difficulties. In Michigan, in fact, the state level PDR program did not make its first purchase until 1994 even though the program was first created in 1974. This delay is largely attributed to limited funding and state resources. In addition to the state level programs, at least 50 PDR programs have been developed by counties, townships, and municipalities in 16 states (see Table 3 for list of programs) (American Farmland Trust 2005a).

Ann Arbor Background

Citizens of Ann Arbor approved the Parks and Greenbelt Ballot Proposal in November of 2003. The primary purpose of this proposal was to acquire the necessary funds to preserve open space, natural habitats and the city's source waters. Voters agreed to a .5 mill tax for 30 years of which two-thirds would go towards purchasing land or the development rights to farmland outside the city limits. This tax replaces the already existing Land Acquisition Millage, which was used to purchase and develop parkland inside the city. In order to obtain enough money to purchase the projected goal of more than 7,000 acres of open space and farmland, Ann Arbor will also rely on state and federal grants (City of Ann Arbor, 2005, Berman 2003 and George 2003). So far the city has only purchased the development rights of one farm and has approved the purchase of only two other farms, but it is looking to buy conservation easements for five to ten more farms within the next year.

In May of 2004, the Ann Arbor City Council adopted Chapter 42, 'Open Space Parkland Preservation' of the Ann Arbor City Code. This chapter sets out the guidelines for the purchase of development rights of land outside the city. In particular, these guidelines specify that land can only be purchased if it is voluntarily offered by the owner. In addition, the chapter states that the millage revenues may be used for bond payments of land rights purchases. Also, it is noted in this chapter that purchases of land and land rights should use all available funding including joint purchase agreements with other cities and townships as well as land conservancies and state and federal grants (City of Ann Arbor 2005).

Furthermore, these guidelines define specific criteria for which land acquisitions will be preferred. According to these criteria, purchases of development rights are preferred to outright acquisitions as they are far less expensive and they keep the land in private ownership. In addition, greenbelt acquisitions should be bought according to their proximity to the city, their size, their proximity to other protected lands and their natural qualities including species diversity, presence of streams and wetlands and overall beauty. Along with these guidelines and criteria Chapter 42 also established a nine person Greenbelt Advisory Commission. This Commission has the power to decide what lands and development rights to purchase and how to go about purchasing these areas (City of Ann Arbor 2005).

Lexington Background

The Lexington area is one of the fastest growing areas in the state of Kentucky and as a result has been forced to be very proactive in managing growth. Starting in 1958 the Lexington urban county government created an Urban Service Boundary (USB) in order to limit development to urban areas served by sanitary sewers. This boundary divided the land in and around Lexington into two distinct areas, the Urban Service Area and the Rural Service Area. In 1964 the government created a 10 Acre Rule for lots in the Rural Service area to curb the development of subdivisions on lots of 10 acres or less. Despite the creation of these two important growth management techniques, farmland and open space continued to be lost to development at an ever increasing rate. As a result in 1990 the City Council established the Greenspace Commission for the purpose of preserving, protecting and enhancing open space in Fayette County. Later in 1998, the 10 acre zoning rule was extended to 40 acres and a temporary moratorium was placed on

new subdivision developments. Following this decision an ordinance was passed in 2000 to create the Rural Service Land Management Plan and the Lexington PDR program (Boone County Planning Commission 2001 and Lexington-Fayette Urban County Government 1999 and 2000).

The main purpose of the Lexington-Fayette County PDR program is to protect the agricultural land surrounding the city. The goal of this greenbelt project is to purchase development rights to 50,000 of the 128,000 acres of agricultural and open space land in the Rural Service Area by 2020. To fund this plan a 25 million dollar bond was approved in 2000 and the program also received a 15 million grant from the Kentucky Agricultural Development Board. The program is administered by a 13 person Fayette County Rural Land Management Board who review applications and decide what land to acquire. To rank applications the Board has developed specific criteria with an assigned point system.

The criteria include size of parcel, length of public road frontage, proximity and/or joint application, quality of soils, farm activity, agricultural improvements, environmentally sensitive areas, designated rural greenway, designated focus areas, natural protection areas, linkages, historical and cultural resources, scenic resources and numerous others. Parcels of land receiving the highest point totals typically are large farms (over 350 acres) that are adjacent to public roads and other farms and have high quality soil (Lexington-Fayette Urban County Government 2000). Since enacting this program, 15,299 acres of rural farmland have been preserved to protect the agricultural and equine lands of Lexington and the surrounding area (Lexington-Fayette Urban County Government 2005).

Literature Review

To better understand the reasons for implementing greenbelt and PDR projects and analyzing their effectiveness as growth management strategies, it is important to review relevant studies and literature concerning the loss of farmland in the United States, particularly in the states of Michigan and Kentucky. In addition, by evaluating papers on various other forms of growth management programs, including Urban Growth Boundaries, agricultural zoning and Transfer of Development Rights (TDR) projects, it is easier to understand why greenbelts are used in certain contexts as well as the possible advantages and disadvantages to using greenbelts as opposed to other techniques for controlling and directing growth. In the following subsections, studies of farmland loss, growth management strategies and PDR programs are evaluated. Moreover, literature investigating the accomplishments and drawbacks of growth management in the cities of Boulder, Colorado and Portland, Oregon are highlighted. Drawing upon these reports, the literature review concludes with an overview of the current study, examining the purpose of a comparative analysis between Ann Arbor and Lexington.

Studies on the Loss of Farmland

The concern over the conversion of farmland to non-farm uses has inspired the development of many studies regarding farmland loss and development. According to a recent report conducted by the American Farmland Trust (1997), from 1992-1997, more than six million acres of U.S. agricultural land were lost to development. In addition, in this same article, Michigan ranks 9th and Kentucky ranks 18th among the top twenty states losing farmland (see Table 1). Between 1992 and 1997 Michigan and Kentucky lost 121,400 acres of prime farmland out of roughly 10 million acres of total state farmland

and 80,000 acres out of roughly 14 million acres of total state farmland respectively (see Maps 1 and 2). Another study determined that approximately 1.8 million out of the 10 million acres of farmland in Michigan is at risk of conversion to non-agricultural uses by 2040. The majority of these threatened farmland acres are located near population centers such as Detroit and its outlying areas, including the city of Ann Arbor (Adelaja 2005).

Further research involving Kentucky's loss of farmland was published by the National Resources Conservation Service in 2001. This study determined 130 acres per day of Kentucky farmland is being developed. At this rate Kentucky will lose another 10 percent of farmland within the next 15 years. Areas of greatest threat to development are surrounding the major metropolitan areas of Louisville, Lexington and Bowling Green. In fact over half of all the state's farmland that is lost to development is outside of these cities (National Resources Conservation Service 2001). Despite the overwhelming data illustrating the demise of farmlands in Michigan and Kentucky there have been few studies on the implementation and effectiveness of growth management strategies in these states to combat and control urban growth.

Studies on Growth Management Techniques

Throughout the country a variety of growth management techniques have been utilized at the local and state level to contain and direct growth. These techniques include Urban Growth Boundaries (UGBs), agricultural zoning and Transfer of Development Rights (TDR) programs.

Urban Growth Boundaries

The majority of papers dealing with growth management strategies have focused on UGBs, which are also called urban service districts or areas, urban service boundaries

or general service districts. UGBs allow a unit of government to declare that a specific region surrounding a city will be an area for urban growth and areas outside of that region will not be supported with public infrastructure services. These boundaries are typically based on twenty years of projected development and are intended to encourage more compact development and the preservation of open space and natural resources in rural areas (Kolakowski, Macheimer, Thomas and Hamlin 2000). With regards to the effectiveness of UGBs, one study by Nelson and Sanchez (2005) found that urban containment policies, such as urban growth boundaries or urban service areas, which are rigorous in managing growth outside development boundaries, are effective in restraining sprawl outside of metropolitan areas. One key example of a successful urban growth boundary that Nelson and Sanchez cite is the containment zone in Portland, Oregon. Nelson and Sanchez (2005) also discovered that urban containment caused by natural constraints, such as mountain ranges and bodies of water, was also effective in slowing sprawl but to a lesser extent than UGBs.

Another study by Bolan, Luce and Lam (1997), analyze one specific UGB, the Metropolitan Urban Services Area (MUSA) of the Twin Cities metropolitan region. The data from this study reveal that the MUSA sharply curtailed growth in the region outside of the urban service boundary directing growth to the serviced areas within the city. Despite these results, Bolan, Luce and Lam (1997) are cautious to state that urban growth boundaries are effective in managing growth. In fact, they state that a growth boundary is only a partial planning and management tool and that it has only proven effective in this specific instance. They go on further to state that it is not clear that it will continue to be an effective tool in the near future as leapfrog growth continues to be an ever

increasing problem and thus cities must find additional growth management tools to employ in order to redirect and contain growth.

Agricultural Zoning Systems

In addition to Urban Growth Boundaries many municipalities have developed agricultural zoning systems to contain sprawl. Agricultural zoning refers to county and city zoning regulations that support and protect farmland by stabilizing the agricultural land base. Using soil quality data and geographical factors, this type of zoning designates areas where farming is the desired land use (American Farmland Trust 1998). According to Daniels and Bower (1997) agricultural zoning is the most common land use tool used to combat the conversion of farmland because it is easily implemented and controlled by the local government and it is very inexpensive. An important study evaluating the effectiveness of agricultural zoning was conducted by Diaz and Green (2001). This study analyzed data from every town, city and village in Wisconsin concerning the use of agricultural zoning as a growth management tool. The findings of this study were that exclusive agricultural zoning in Wisconsin is marginally effective in limiting farmland conversion in towns and ineffective in cities and villages as there appeared to be a strong relationship between fiscal characteristics, population growth and subsequent loss of farmland. Diaz and Green attribute the differences in effectiveness between cities and towns to the fact that towns have less development pressure on their farmland than cities.

Transfer of Development Rights (TDR) Programs

Similar to Purchase of Development Rights (PDR) programs, many cities and states have developed Transferable Development Rights (TDR) programs to control and manage growth. TDRs are property use rights that can be transferred from a sending

zone to a receiving zone by government created programs. The main purpose of this growth management tool is to preserve historical areas, and environmentally sensitive areas such as open space and farmland (Danner 1997). Even though TDR programs are typically set up and managed by local or state government agencies, the development rights of a property are bought and sold on the open market. As a direct result the value of development rights is partly a function of the local real estate market (Boone Country Planning Commission 2001).

The Lincoln Institute and Regional Plan Association sponsored a two day conference in 1997 to analyze the benefits and drawbacks of TDR programs. The results of that conference were incorporated into a study by Lane (1998). Lane explained that despite the success of programs in Montgomery County, Maryland and in the New Jersey Pinelands, the main conclusion of the conference was that TDRs work effectively only if they are part of a larger, long term land use plan that is fully supported by the local government and the community. Lane (1998) also discussed how there are possible legal issues with TDRs in that they may be in direct violation of local regulations. Since most TDR programs were not initiated until the late 1970s and 1980s, there are relatively few other articles pertaining to the effectiveness of TDR projects in preserving farmland and open space and containing urban sprawl (Danner 1997).

Studies on Purchase of Development Rights Programs

Other than papers explaining the history of PDRs and the process of creating and implementing a PDR program, there are a limited number of studies available that assess the effectiveness of PDR programs in curtailing sprawl. Daniels (1991), while providing mostly a history of PDR programs and an overview of how to administer a PDR program,

establishes that PDR initiatives provide more permanent farmland protection than zoning or property tax breaks. Daniels (1991) goes on further to state that despite the fact that PDR programs are relatively new, they hold the potential to influence the location, rate and timing of development and have the ability to manage and direct the spread of growth.

Studies on the Boulder and Portland Greenbelts

Both Boulder, Colorado and Portland, Oregon are known throughout the country for effectively developing and implementing urban growth boundaries and greenbelt programs. Due to the success of these projects there has been much growth management literature describing the policy instruments and execution of these management techniques. However, there have been few evaluations of the effectiveness and impacts of the Boulder and Portland greenbelts as the majority of studies have been preoccupied with the effect of urban growth boundaries on housing prices and affordable housing. Staley and Mildner (1999) carried out a study on the housing affordability in Portland and found that Portland now ranks among the least affordable housing markets in the nation. In addition, more than 80,000 single-family homes were found to be unaffordable to Portland residents as a direct result of housing-price inflation.

Another study developed by Staley, Edgens, and Mildner (1999) determined that in both Portland and Boulder housing prices have been directly affected by the urban growth boundaries in these areas. At the current rate, without an expansion of the urban growth boundary, the Portland metropolitan area is projected to have a 42,060 housing unit deficit by the year 2017. In Boulder, housing prices have not increased as rapidly as in Portland. However, in Boulder County housing prices are 13.2 percent higher than

Denver and 23.9 percent higher than Fort Collins. In addition, if the Boulder growth boundary is not expanded, the county will face a deficit of over 20,000 housing units by 2010 and experience a dramatic increase in housing prices. While this study focused on urban growth boundaries, it did not address whether the development and implementation of greenbelts in both of these cities also had an influence on housing prices.

In contrast to the studies conducted by Staley and Mildner (1999) and Staley, Edgens and Mildner (1999), a study published in June of 2000 by Phillips and Goodstein determined that while the UGB in Portland has created an upward pressure on housing prices the overall effect was relatively small. Phillips and Goodstein (2000), in fact, state that the housing crisis in Portland was probably not due to the UGB and that the rising housing prices likely reflect a conventional housing market dynamic.

While it is still unclear as to the real effect of urban service boundaries on housing prices and housing availability, it is apparent that housing affordability is a key issue in the debate over what growth management techniques to employ in cities and towns.

Overview of the Current Study

Examining the information that has been developed regarding growth management it is clear that there is a lack of information regarding the effectiveness of PDR programs, especially greenbelts. In particular, studies regarding growth management projects have predominately focused on the programs developed in Portland, Oregon and Boulder, Colorado and have overwhelmingly dealt with the effect of urban growth boundaries on housing prices and affordable housing availability. While these two cities are key examples of greenbelt initiatives, the primary goal of these two projects was to preserve open space and scenic areas outside of the city limits. In

contrast, my study concentrates on greenbelts in small Midwestern cities where farmland protection is the main objective.

Despite the fact that both Michigan and Kentucky are listed as being two of the top twenty states losing farmland in the United States, there is little research on growth management initiatives in Michigan and Kentucky aimed at preserving farmland. In Michigan, in fact only one group, the Michigan Land Use Institute, has really focused on ways to combat suburban growth and grow sustainably (Michigan Land Use Institute 2004). This group, however, was founded only in 1995 and has primarily concentrated on farmland studies and initiatives to buy locally produced goods. As a result of the findings from this literature review, this paper seeks to discover and disclose more information on the effectiveness of greenbelt programs in preserving land in states experiencing significant farmland loss. In addition, given the profound emphasis on housing affordability and availability, this study will attempt to determine the impact of greenbelt measures on housing prices in small cities.

Methods

In order to analyze the effectiveness of greenbelts, I interviewed numerous political and environmental members of the Ann Arbor and Lexington communities. In particular, I interviewed officials involved in the development and the implementation of the greenbelt projects as well as both Mayor Heiftje, the mayor of Ann Arbor and Mayor Isaac, the mayor of Lexington. Overall I conducted private, in-depth interviews between a half hour and hour in length with five individuals from Ann Arbor and five individuals from Lexington. The Ann Arbor participants were interviewed in person, while the Lexington participants were interviewed over the telephone.

I asked these individuals 15 open ended questions regarding their involvement in creation and implementation of the greenbelt projects as well as questions regarding the progress of these initiatives. In addition, I asked specific questions about sprawl issues in their cities and the potential of these greenbelts to manage growth (See Appendices 1 and 2). These questions were generated using information obtained through preliminary research on greenbelts and Purchase of Development Rights (PDR) programs. All of these interviews were tape recorded and transcribed.

Using criteria developed by Ambrose and Gonas (2003) I will use information gathered from interviews with various local officials in Ann Arbor and Lexington to analyze the effectiveness of greenbelt programs in managing growth. According to Ambrose and Gonas (2003) successful and effective growth management initiatives, such as PDRs and UGBs, must preserve farmland and open space, but must also create a more compact urban design through increased density and infill development and provide a greater choice in housing options. Therefore my analysis of the effectiveness of these

plans will include information regarding farmland and open space preservation, density and infill development initiatives and affordable housing availability and possible impact on housing prices.

Results

In order to easily compile the information I gathered through the interview process a matrix was created to compare Ann Arbor and Lexington based on various characteristics including goal, acreage goal, acquisition strategy, implementation date, etc.

Characteristic	Ann Arbor	Lexington
Goal	To preserve open space, natural habitats and the city's source waters	To protect the agricultural land surrounding the city
Acreage Goal	7,000 acres	50,000 acres by 2020
Implementation Date	2003	2000
Acquisition Strategy	Completely Voluntary	Completely Voluntary
Scoring System	Open Space Land Criteria	LESA
Funding Source	.5 mill tax for 30 years and state and federal grants	25 million dollar bond and a 15 million grant from the Kentucky Agricultural Development Board
Primary Type of Farming	Mixed Agricultural	Horse Farms
Board	Greenbelt Advisory Commission	Rural Land Management Board
Infill Development, Density	Has no impact on infill development or density	Encourages Infill and Redevelopment
Impact on Housing Prices	No impact so far	Increase
Average Per Acre Price	\$11,239-19,368	\$2500
Type of Government	City government	Merged city-county government
Major Initiators	Environmental groups, Mayor Hieftje, Mike Garfield	Citizen groups
Total Acreage Preserved	308 acres	Over 15,000 acres 16,044 to be exact
Presence of Urban Service Area or Boundary	No	Yes- created in 1958
Involvement of Outside Groups and Cities	Lexington, Boulder, Traverse City	American Farmland Trust
Leapfrog Development	Yes	No
Home Rule or Dillon's Rule	Dillon's Rule	Dillon's Rule
Median Household	\$46,299	\$39,813

Income		
Population	113, 567 for city and 339,191 for county	266,358 for county
Budget	\$313 Million	\$411,515,420
Political Comparison	Michigan and Ann Arbor- Democrat majority	Kentucky and Lexington- Republican majority

Goal

The overall goal of the Lexington Rural Land Management Program and Purchase of Development Rights program is to protect agricultural land surrounding the city. According to Maner Ferguson (Personal Interview 2005), the Program Manager of the Lexington PDR program, the ultimate aim of the PDR program is to preserve the 300 million dollar agriculture industry and the 800 million dollar tourist industry in Fayette County. In addition this program is also considered by many to be a smart growth planning tool which will allow for planned growth while managing unwanted rural development (Van Pelt 2005 and Robinson 2006).

Like Lexington, the Ann Arbor Greenbelt Initiative was brought about to preserve agricultural land; however, this plan was also created to protect open space, natural habitats, the city’s source waters and parkland inside the city limits (Kelly 2005). This preservation tool was seen as essential to prevent the conversion of farmland and open space to real estate and commercial properties (Hieftje 2005). Therefore, putting land into conservation easements appeared to be the most effective and efficient way to manage rural development and sprawl (Johnson 2006).

Acreage Goal

The overall total acreage goal of the Lexington PDR program is to put 50,000 acres under conservation easement by 2020 out of the 128,000 acres in the rural service area (Isaac 2005 and King 2006). Thus, in order to stay on schedule, Lexington must

acquire 2300-2400 acres per year (Van Pelt 2005). In comparison, in Ann Arbor there is a much smaller acreage goal of 7,000 acres (Hieftje 2005).

Implementation Date

Although the Lexington PDR program was not implemented until 2000, Lexington has a long history of utilizing growth management tools and strategies to protect the agricultural land outside the city. In fact, Lexington was the first city in the United States to develop an urban service boundary. This boundary, which was created in 1958, was very successful in managing rural development as it was cost prohibitive for most people to purchase land outside the urban boundary. In addition, residential building in the rural service area required a minimum of 10 acres, discouraging many individuals from buying land outside the city (Ferguson 2005). In the 1990s, however, this 10 acre minimum no longer proved to be effective in preserving farmland as 4700 acres were converted to 10 acre tracts providing merely 429 residential units (King 2006 and Robinson 2006). According to Chris King (Personal Interview 2006), the Director of Planning in Lexington, this threat of 10 acre lot developments was a light bulb moment for most people in community as it was clear that the 10 acre minimum was no longer protective of farms. As a result, in 1998, the 10 acre rule was extended to 40 acres and in 2000 an ordinance was passed to create the Rural Service Land Management Plan and the Lexington PDR program (King 2006 and Robinson 2006).

Although Ann Arbor does not have the same extensive planning history as Lexington, it has made a lot of progress in the last ten years to protect open space and agriculture. Since 1998 there have been 7 millage proposals for land preservation in county. The first proposal in 1998 proposed to raise funds through a property tax to

preserve land; however, this initiative lost at the polls as The Homebuilder's Association invested substantial funds in encouraging citizens to oppose the millage. In 1999 a petition drive to purchase the best natural areas in city of Ann Arbor was passed by a two to one margin. Following this success in 2000 this proposal was extended to all of Washtenaw County and also passed by a wide margin. Realizing that farmland was the only remaining unprotected land, various Ann Arbor environmentalists and city officials drafted a proposal to tax Ann Arbor residents in order to purchase farmland and open space outside city. This proposal known as the Parks and Greenbelt Proposal was passed in 2003 by a two to one margin and led to the development of similar proposals in Ann Arbor Township, Scio Township and Webster Township all of which passed easily at the polls (Berman 2003, Garfield 2005 and Hieftje 2005).

Acquisition Strategy

Both the Lexington and Ann Arbor PDR programs were set up as voluntary programs allowing any farm owner to apply to sell the development rights to his/her property (King 2006). In Lexington the PDR program has a continuous application process with a deadline every year on January 31st (Van Pelt 2005). Applications go through a cycle of review and prioritization using the Land Evaluation Site Assessment (LESA) ranking system (King 2006). Once the farms are prioritized and as long as funds are available the Rural Land Management Board makes offers to purchase development rights in rank order. If funds are not available purchases of development rights must be postponed until the budget is approved in July (Van Pelt 2005).

In Ann Arbor, however, despite having a Greenbelt Commission, the Mayor and various city leaders decided it would be more efficient to hire an outside consultant for

the acquisition process. As a result the Conservation Fund, a nonprofit, is responsible for purchasing agriculture and open space surrounding the city. In terms of the application process, at the beginning of each year the Conservation Fund places advertisements in local newspapers and on the radio to inform and encourage farmers to apply to sell their development rights. In addition, the Conservation Fund has arranged and hosted numerous open houses so farmers can learn more about the Greenbelt Initiative and the application process. After applications are received the Conservation Fund ranks properties using the Open Space land criteria and then attempts to purchase the development rights to these lands in sequential order (Kelly 2005).

Scoring System

Both Lexington and Ann Arbor have distinct scoring systems that rank applications according to specific criteria. In Lexington the Rural Land Management Board uses the Land Evaluation Site Assessment (LESA) scoring system to prioritize acquisitions (see Appendix 3 for full scoring criteria). The criteria include size of parcel, length of public road frontage, proximity and/or joint application, quality of soils, farm activity, agricultural improvements, environmentally sensitive areas, designated rural greenway, designated focus areas, natural protection areas, linkages, historical and cultural resources, scenic resources and numerous others (King 2006). Primarily this system focuses on soils assigning up to 30 points to farms that have what is considered to be prime farming soils. The second important criterion according to total points is the size of the parcel. For this category farms can receive up to 12 possible points along with 8 potential bonus points. Farms over 350 acres receive 12 points while farms under 350 receive lesser values. Additional points can be assigned, however, to parcels over 80

acres in which the landowner agrees not to subdivide the parcel and build residences. In addition to allocating positive points for having specific attributes, the LESA point system also assigns negative points to farms that are close to urban service boundary or are located in areas where there is urban development. In total a farm can lose up to 15 points for being near the urban service boundary and up to 30 points depending on its distance from urban development. Once a value has been assigned for all the criteria, farms are ranked based on their total value (Lexington-Fayette Urban County Government 2000).

In Ann Arbor the Conservation Fund uses the Open Space Land Criteria to determine which farms to acquire under conservation easements (see Appendix 4 for complete full scoring criteria). The Conservation Fund looks at 15-18 criteria such as size of property, property location, adjacency to protected land and distance to waterways to rank applications (Kelly 2005). Like Lexington, Ann Arbor also assigns a considerable amount of points to farmland which has a high percentage of prime or unique soil types. Other characteristics with high point allocations are size of parcel, presence of natural features, sources of matching funds, presence of mature trees or rare species and proximity to water resources frontage (City of Ann Arbor 2003).

Funding Source

Funding for the Lexington PDR program primarily comes from a 25 million dollar bond and a 15 million grant from the Kentucky Agricultural Development Board. In addition, the Mayor of Lexington promised when she was elected to dedicate 2 million dollars from general fund every year to the PDR program. Lexington also relies on

matching funds from state and federal sources which have helped Lexington buy up conservation rights at a very quick pace (Isaac 2005 and Robinson 2006).

In comparison, Ann Arbor receives money from a .5 mill tax for 30 years and also obtains state and federal grants resulting in roughly 80 million dollars to spend on parkland and farmland preservation (Garfield 2005). However, Ann Arbor has had trouble getting matching funds through the federal government as oftentimes federal funds come with strings attached. As a result, it took a considerable amount of time for Ann Arbor to make its first purchase relying on federal funds to buy the property (Kelly 2005).

Type of Farming

Although both the Lexington and Ann Arbor PDR programs aim to preserve farmland outside the city, these cities protect very different agricultural land. Lexington primarily preserves horse farms while Ann Arbor protects mixed agricultural areas. In fact, according to many city officials, including the Mayor of Lexington, Lexington is considered to be the horse capital of the world. This equine industry is very important to the Lexington economy and tourist trade and as a result most of the Lexington community has been supportive of the PDR program (Van Pelt 2005, King 2006 and Robinson 2006). Since the horse farms draw businesses and high paying jobs as well as contribute to a high standard of living, many residents of Lexington consider the equine industry to be a huge part of the community identity (Van Pelt 2005 and Robinson 2006).

In contrast to Lexington, Ann Arbor has primarily mixed agricultural farmland which is not a major sector of the Washtenaw County economy, generating only 54.6 million dollars in annual revenue in 2002 (USDA 2002). In contrast the manufacturing

sector of Washtenaw County had a total annual revenue of approximately 7.6 billion dollars and retail trade had a total of 4 billion dollars (U.S. Census Bureau 2002). Although farmland in Ann Arbor is not considered as important an industry as in Lexington, many residents acknowledge the importance of preserving farmland and protecting local producers. According to Mayor Hieftje (Personal Interview 2005), it is clear that energy is going to continue to get more expensive and as a result the fuel to transport produce will make it more economically efficient to buy locally grown goods. As a result, it is extremely important to protect these local farms and ensure they will continue to exist as fossil fuels become more expensive.

Board

In Lexington the 13 person Fayette County Rural Land Management is responsible for running the PDR program and the farmland acquisition process. This board is made up of a cross section of the community including representatives from the realtors association, the chamber of commerce, the environmental non-profit sector, neighborhood councils and various members from development groups (Van Pelt 2005). These members are directly appointed by the Mayor and must be confirmed by a majority of the City Council. By including these groups in the Rural Land Management Board, the government of Lexington aimed to illustrate that having a unique and preserved landscape and agricultural industry helps the private sector and ultimately provides economic benefits to these businesses as well (Lexington-Fayette Urban County Government 2000).

Ann Arbor has a nine person Greenbelt Advisory Commission. This Commission has the power to decide what lands and development rights to purchase and how to go

about purchasing these areas. The members of the Commission were nominated and approved by the City Council. According to the rules set out in the Chapter 42 of the Ann Arbor City Code two members of the Commission must be representatives of environmental and/or conservation groups. In addition, one member must be an agricultural landowner or operate an agricultural business, one member must be a real estate development professional and one member must be a plant or animal biologist. Out of the final four members, three must come from the public at large and one must be a member of the Ann Arbor City Council (Clark 2005).

Presence of Urban Service Boundary

Lexington, Kentucky was one of the first communities in the United States to develop an urban service boundary. This boundary was created in 1958 to keep city services and residential development inside the city core while protecting the natural areas and farmland outside the city (Isaac 2005). This boundary has been expanded several times, most recently in 1996 when 5400 acres were added to the urban service area (King 2006 and Robinson 2006). This expansion led to extensive study of the rural service area and eventually triggered the development of the Rural Land Management Program and the Purchase of Development Rights initiative. Unlike Lexington, Ann Arbor does not have an urban service boundary and never planned on implementing one (Hieftje 2005).

Infill and Redevelopment

In Lexington infill and redevelopment are considered to be vital factors in whether the PDR program will be successful. By encouraging development to remain in the urban core, helps protect horse farms in the rural service area. According to Chris

King (Personal Interview 2006), the Director of Planning in Lexington, an infill and redevelopment study was conducted in 2001. Due to this study major changes were made in city zoning ordinances that allowed infill and redevelopment to be more compatible with older neighborhoods. In addition, regulatory barriers to infill and redevelopment were removed and outdated zoning codes were revised (King 2006). As a result of these dramatic changes, within the last three years there has been a boom of dense development in the urban core as brownfield sites and abandoned tobacco warehouses have been converted into businesses, condominiums and mixed use properties (Isaac 2005, Ferguson 2005 and Robinson 2006).

In Ann Arbor, city officials have also sought to increase infill and redevelopment in hopes of relieving development pressures on valuable open space and farmland. In fact, in October 2003 the City Council approved a “Resolution Establishing a City Taskforce to Foster New Downtown Residential Development” and directed a taskforce to discover barriers to residential development and provide recommendations on how to encourage infill and redevelopment within the city. This plan, however, will only provide a few thousand residences over the next twenty years (City of Ann Arbor: Downtown Development Strategies Project). Another project which was recently approved by City Council is the development of three tall building projects between nine and 14 floors (Ann Arbor News). City officials hope that this project will increase density within the city and encourage more initiatives relating to infill and redevelopment.

Type of Government

A major difference between Lexington and Ann Arbor is that they have two different types of government. Lexington has had a merged city-county government, known as the Lexington-Fayette Urban County Government, since 1973 (Robinson 2006). This merger was instituted to reduce redundant offices, laws and regulations and to make possible more comprehensive planning and zoning. In addition, this consolidated government was created to save money and conserve resources. In stark contrast, Ann Arbor is solely a city government and thus does not have quite the overarching power over the surrounding townships that Lexington possesses.

In fact, the Mayor of Lexington, Teresa Isaac (Personal Interview 2005), attributes the merged city-county government with making it easier to bring government officials, stakeholders and concerned citizens together to discuss programs such as the PDR initiative and the Rural Service Land Management Plan. By eliminating the redundancy regarding government positions there are far fewer individuals to correspond with for planning initiatives. As a result, there is less time invested in contacting local officials, allowing more time to be allocated to collaborating with interested groups and citizens. In Ann Arbor, however, there has had to be considerable time dedicated to communicating and negotiating with various government officials and citizens from surrounding townships.

Total Acreage

Although Lexington did not close on its first easement until 2001, the Lexington PDR program now owns development rights to 142 farms amounting to roughly 16,000

acres. Lexington has also accepted 15 donated easements (Van Pelt 2005 and Isaac 2005).

In comparison, Ann Arbor has thus far only purchased development rights to one farm. In late 2005 Ann Arbor made its first agricultural purchase buying development rights to a 152 acre farm in Webster Township, an area northwest of Ann Arbor. The process for this first purchase took about 8 months and moved slower than expected as Ann Arbor waited for matching funds from external sources. Currently Ann Arbor has just approved the purchase of two more farms. These two farms have the same owners and are located in Superior Township and Salem Township, having 115 and 41 acres respectively (Kelly 2005 and Hieftje 2005).

Major Initiators

Prior to the development of the Rural Land Management Plan in 1999, a cross section of the community started meeting informally to discuss a PDR and rural management plan. This coalition was primarily citizen based but also involved members of farming organizations as well as some members of the development and real estate communities (Isaac 2005 and Van Pelt 2005).

While the Ann Arbor initiative was also to a certain extent driven by local citizens, it was primarily backed by local environmentalists, farm groups and public officials. In fact, starting in the mid-1990s a coalition of environmental and farm groups including the Ecology Center, the Washtenaw County Farm Bureau and the Sierra Club came together to protect farmland and open space and were involved in all 7 ballot initiatives which were discussed earlier in the implementation date section. For the greenbelt ballot initiative the Mayor worked with various local environmentalists, such as

Mike Garfield from the Ecology Center, to draft up the proposal and publicize the campaign (Garfield 2005 and Hieftje 2005).

Involvement of Outside Groups and Cities

While Lexington looked at other cities for examples of development rights initiatives, it primarily worked with the American Farmland Trust to develop the RLMP and the PDR program. Not only did the American Farmland Trust provide ample information concerning preservation of farmland, it also was able to recommend other cities to consult. In addition, the American Farmland Trust has been pivotal in providing cities interested in PDR programs about the successes of the Lexington program (Isaac 2005).

Observing the early success of the PDR program in Lexington, Ann Arbor coordinated with various governmental officials from Lexington, including the director of the PDR program, to develop the Greenbelt Initiative. Ann Arbor also looked at other cities including Boulder, Colorado and the area around Traverse City in Michigan for ideals on how to successfully implement a conservation easement program (Hieftje 2005).

Impact on Housing Prices

In Lexington the cost of land is very high due to the fact that the urban service boundary only allows for certain land to be developed. As a result housing prices are considerably higher than the surrounding areas in Kentucky, having a median household value of \$110,800 in 2000 (Isaac 2005 and U.S. Census Bureau 2006b). According to Chris King (Personal Interview 2006, the Director of Planning in Lexington, however, housing prices in Lexington are very reasonable compared to other metropolitan areas

and are below the national average. Don Robinson (Personal Interview 2006), a member of the Rural Land Management Board, added that housing and land prices are typically going to be more expensive when you have better city planning. In terms of the effect of the PDR program on housing prices, it is still unclear as to whether this specific program has contributed to the increase of land value within the urban service area.

Similar to Lexington, Ann Arbor also has high property values in comparison to surrounding townships and localities. According to the 2000 U.S. Census, Ann Arbor had a median household value of \$181,400, roughly \$70,000 higher than Lexington (U.S. Census Bureau 2006a). A current estimate from Mayor Hieftje places the median household value at around \$240,000. While this number may seem high, in comparison to Boulder, Colorado, a city of similar size and population, this value is actually fairly low for a medium size city. Boulder recently past the \$500,000 mark for median household price (Hieftje 2005). In relation to the greenbelt, like Lexington, it is uncertain thus far whether the Ann Arbor greenbelt has had or will have an impact on housing prices (Hieftje 2005 and Kelly 2005).

Average per Acre Price

Another significant difference between Ann Arbor and Lexington is the average per acre price for the land purchased by each PDR program. In Lexington the average is approximately \$2,500 (Van Pelt 2005). In Ann Arbor the average per acre price is significantly larger being roughly \$15,836 (Clark 2005).

Leapfrog

According to various officials from Lexington, including the Mayor and the Director of Planning, leapfrog growth is not a problem in the area surrounding Lexington.

This is due to the urban service boundary which has kept the city relatively compact and has restricted development in the rural service area (Isaac 2005 and King 2006). The real threat of leapfrog development is the counties surrounding Fayette County. This development, however, has been hard to contain as a regional smart growth plan has yet to be developed (Robinson 2006).

Ann Arbor, in contrast to Lexington, has experienced some leapfrog development. Not having an urban service boundary and lacking adequate resources to effectively deal with leapfrog issues, Ann Arbor has not been able to curb leapfrog development in areas outside the city. The Greenbelt Initiative is not considered a contributor to leapfrog development as this program only has 152 acres under conservation easement and thus only protects a limited amount of land from development (Hieftje 2005).

Home Rule or Dillon's Rule

Along with thirty six other states, Kentucky employs Dillon's Rule to define the power of local governments. Dillon's Rule is regarded as a strict interpretation of state laws which only allows localities to have specific powers delegated to them by state law. In comparison, Michigan is a home rule state. Home rule refers to a state legislative provision which gives a city or a county government greater self-government powers. In recent years there has been much debate as to whether Dillon's Rule states can encourage and support local growth management strategies. However, according to an in-depth study published by the Brookings Institution which evaluated all fifty states, a state's commitment to Dillon's Rule in no way inhibits effective development and implementation of growth management schemes (Richardson, Gough, and Puentes 2003).

In fact Dillon's Rule states such as Colorado and Pennsylvania have successfully employed growth management strategies at the both regional and local level.

Median Household Income

Taking data from the 2000 U.S. Census, Ann Arbor and Lexington have fairly close values in terms of median household income. In Ann Arbor the median household income was \$46,299 and for Lexington it was \$39,813. Both of the cities also had higher median household incomes than the averages for their respective states (U.S. Census Bureau 2006a and 2006b).

Population

Since Lexington is part of a merged city county government, the U.S. Census Bureau only reports population results for Fayette County. Their estimate for 2003 was 266,798 people. In comparison, Washtenaw County which includes the City of Ann Arbor had a 2004 estimate of approximately 339,191 people with 114,498 living within Ann Arbor city boundaries (U.S. Census Bureau 2006a and 2006b).

Political Comparison

Another interesting contrast between Ann Arbor and Lexington is the profound difference in the political makeup of these two cities. In the 2004 presidential elections, citizens of Washtenaw County voted overwhelmingly in favor of the democratic candidate John Kerry. In fact, John Kerry won in Washtenaw with a total of 109,872 votes, while President Bush only received 61,425 votes. In addition, Kerry won the state of Michigan receiving 51% of the vote (Cable News Network 2005b and 205d). In Lexington and Kentucky the results were the complete opposite. In Fayette County President Bush won with 66,399 votes as Kerry only collected 57,989 votes. Statewide

Bush also won by a considerable margin taking 60% of the votes (Cable News Network 2005a and 2005c).

City Budget

In regards to city budget Ann Arbor and Lexington differ by about 100 million dollars. For the 2005/06 fiscal year Ann Arbor had a total approved budget of roughly 313 million dollars (City of Ann Arbor 2006). In contrast for the same fiscal year Lexington had a budget of over 411 million dollars (Lexington-Fayette Urban County Government 2006).

Conclusion

Main Trends

The results from the interviews and extra background research have yielded some interesting trends. While both programs in Ann Arbor and Lexington had similar overall characteristics such as overall goal, acquisition strategy and scoring system, there were some very intriguing differences between these two programs that may account for the varying level of success of each program. The first significant difference was funding sources. While Lexington has had ample funding from local and federal sources, Ann Arbor has had difficulty obtaining matching funds and as a result has been slow in purchasing development rights. Primarily Ann Arbor has experienced delays due to federal funds having various strings attached. Moreover, Ann Arbor has received far less state funding than Lexington. Finally, Robert Johnson (2006), an Ann Arbor City Councilman, noted in our interview that “the amount of revenue raised by the Greenbelt millage is actually rather small and therefore its effect will be limited”.

Another interesting difference was type of farming. In Lexington horse farms are the most common type. These farms have been a staple of the Lexington area community for over a century and are a major part of the economy. In addition these farms are world-renown and draw tourists from all over the world. The importance of the farm community to Lexington was well articulated by Don Robinson (2006), the Vice Chair of Rural Land Management Board, when he stated, “The farms are our identity. We are talking about a really precious and valuable commodity. We are more than a greenbelt and that is how we have swayed the community”. In sharp contrast, Ann Arbor has mixed farming. These farms are not a major part of the local economy and are not very

much ingrained in the history and development of Ann Arbor. With the continuing downfall of the Michigan economy, there has been more of focus on rejuvenating and preserving the sectors that generate the most revenue. The agricultural sector has far less total annual revenue than the manufacturing and service industries and thus farmland preservation is not considered to be a high priority. Instead there appears to be more of a focus and urgency on retaining manufacturing and service area businesses and jobs.

Other major differences between Ann Arbor and Lexington concerned the presence of an urban growth boundary, type of government, budget and per acre price. Lexington has had an urban growth boundary since the 1950s. This boundary has kept the city of Lexington fairly compact and has restricted development in the rural areas surrounding the city. In comparison, Ann Arbor does not have an urban service boundary. As a result there is not a definitive line designating urban development from rural development and thus there has been a significant amount of commercial and residential development in the outskirts of the city. Another interesting difference between Lexington and Ann Arbor is their type of government. Lexington is a merged city-county government whereas Ann Arbor is solely a city government. The merged city-county government has made it easier for Lexington to bring stakeholders and concerned citizens together to discuss the PDR initiative. Not having authority over local townships, Ann Arbor has found it difficult to garner support from nearby localities regarding the Greenbelt Initiative. Policies at the Washtenaw County level, however, have had a reasonable amount of success in preserving natural areas and open space.

Yet one more difference between Lexington and Ann Arbor is the annual budget. Lexington receives almost 100 million dollars more than Ann Arbor, allowing it to put

more funding into initiatives such as the PDR program and the RLMP. Finally one of the most profound differences between Lexington and Ann Arbor is the average price per acre of land bought using the two PDR programs. Lexington had a much smaller average than Ann Arbor reflecting the difference in development pressure in the two cities. In fact, in an interview with Mike Kelly (2005) from the Conservation Fund, he mentioned that development pressure has definitely had an impact on the average price per acre of land outside of the city and it has forced the Conservation Fund to pay a considerable amount of money for conservation easements. This difference may explain why the Lexington plan has been able to buy up more conservation easements and also why Ann Arbor has had such a difficult time purchasing development rights. Overall, these important differences between Ann Arbor and Lexington appear to account for the discrepancy in the success and effectiveness of these two PDR programs.

Analysis

As previously stated in my introduction, the aim of this study is to analyze the effectiveness of greenbelt programs in managing growth. Based on the findings from Ambrose and Gonas (2003) successful and effective growth management initiatives include preservation of farmland and open space, increased density and infill development and affordable housing options. Therefore using the results from my interviews and additional background research it is clear that by Ambrose's and Gonas's description Lexington has a very successful and effective PDR program while Ann Arbor has only achieved moderate success.

In terms of preservation of farmland, Lexington is progressing at a faster rate than is needed to accomplish its total acreage goal. In fact, the success of preserving over

15,000 acres in such a short period of time has inspired Don Robinson (2006), Vice Chair of the Rural Land Management Board, to proclaim “we have the most successful rural preservation plan in the country”. In contrast, Ann Arbor has been slow to purchase development rights to farmland and it is unclear whether the goal of 7,000 acres will be achieved. In the majority of interviews conducted with Ann Arbor officials, it was clear that Ann Arbor initiative is progressing at a slower pace than initially expected. However, all of those interviewed agreed that the goal of 7,000 acres is still very much attainable.

In addition, Lexington has coupled the preservation of farmland with infill and redevelopment projects. According to Chris King (2006), the Director of the Planning Department in Lexington, the Lexington-Fayette government “has successfully gotten the community to understand that rural preservation and sensitive maximization of infill and redevelopment opportunities inside the urban service area are two sides of the same coin”. These infill and redevelopment projects have brought hundreds of commercial and residential units into the city and have contributed to increased density within the city. In Ann Arbor infill and redevelopment schemes have also been created, however, these programs have only recently been developed and approved and will take years to actually have an effect on density and spur infill development. Moreover, these schemes have not been at all associated with the Greenbelt Initiative and the majority of the Ann Arbor officials who were interviewed failed to mention downtown development or increased density measures and their possible impact on sprawl reduction.

The final Ambrose and Gonas characteristic required for a successful and effective growth management plan is affordable housing options. In both Lexington and

Ann Arbor housing prices are higher than the surrounding areas and have steadily increased in the last ten years. However, these increases in housing prices are not attributed to the development of PDR programs in Lexington or Ann Arbor. Instead, increased prices have been linked with the urban growth boundary in Lexington and are associated with high demand for housing in Ann Arbor. In addition, both of these cities have attempted to make the city more affordable through various housing initiatives and development projects. In Lexington the redevelopment of the tobacco warehouses has provided more affordable housing units in the form of townhouses and apartment buildings. The Mayor of Lexington (2005) has attributed this increase in affordable housing with attracting a number of young professionals to stay and live in Lexington after they graduate from the University of Kentucky. This retention of young professionals in turn has sparked the creation of a multitude of new businesses and industries in downtown Lexington.

Ann Arbor has also tried to implement more affordable housing options, such as the recently approved Calthorpe plan. In May of 2005 the City of Ann Arbor selected Calthorpe Associates, a nationally recognized environmentally friendly firm, to conduct an extensive review and revision of downtown zoning in order to promote residential development. However, the Calthorpe plan only intends to add a few thousand units and thus will have a limited impact on increasing density and reducing sprawl. In fact, Councilman Robert Johnson (2006) definitively stated that “The amount of housing envisaged in the Calthorpe plan is a few thousand residences over the next twenty years. This will have no impact on the surrounding townships, which are growing at a rate of thousands every year”.

Therefore, overall, when using the characteristics described by Ambrose and Gonas it is apparent that the Lexington PDR program is both successful and effective. In contrast, Ann Arbor has had limited success in terms of farmland preservation, infill and redevelopment and affordable housing options.

Possibilities for Future Research

Although the current study has made some key findings in terms of the effectiveness of PDR programs in managing growth, there is much more that can be done in this area of research. In order to have more concrete results I would recommend that the progress of both the Ann Arbor and Lexington PDR programs be followed for the next five years. Since the Ann Arbor initiative was implemented only three years ago, this extra research would allow enough time for Ann Arbor to move past the initial stages of conservation easement purchases. In addition, this extra time would allow researchers to have more definitive results in terms of farmland preservation, infill and redevelopment and affordable housing options.

Resources

- Adelaja, S. 2005. *Preserving Farmland and Achieving Agricultural Viability in the State of Michigan*. East Lansing, MI: Michigan State University.
- American Farmland Trust. 1997. *Farming on the Edge: Sprawling Development Threatens America's Best Farmland*. Washington, D.C.: American Farmland Trust.
- American Farmland Trust. 1998. "Fact Sheet: Agricultural Protective Zoning". Washington D.C.: American Farmland Trust.
- American Farmland Trust. 2005a. "Fact Sheet: Status of Local PACE Programs". Washington, D.C.: American Farmland Trust.
- American Farmland Trust 2005b. "Fact Sheet: Status of State PACE Programs". Washington, D.C.: American Farmland Trust.
- Ambrose, B.W. and J. Gonas. 2003. *Urban Growth Controls and Affordable Housing: The Case of Lexington, Kentucky*. Lexington, Kentucky: University of Kentucky.
- Baker, B. 2006. "US cities to Try Smart Growth to Conform to Kyoto Protocol", http://www.citymayors.com/environment/smartgrowth_us.html (accessed April 4, 2006)
- Berman, L. 2003, November 6. "Ann Arbor's Voters Strike Blow Against Urban Sprawl". *The Detroit News*. Retrieved October 5, 2005, from NewsBank.
- Bolan, R., T. Luce and H. K. Lam. 1997. "Can Urban Growth Be Contained". *American Planning Association Annual Conference Proceedings*. Washington D.C.: American Planning Association.
- Boone County Planning Commission. 2001. "A Study of PDR and TDR for Boone County, Kentucky", www.boonecountky.org/pc/PDR_TDR.pdf (accessed November 2, 2005).
- Cable News Network. 2005a. "Election Results: Kentucky", <http://www.cnn.com/ELECTION/2004/pages/results/states/KY/>, (accessed February 20, 2006).
- Cable News Network. 2005b. "Election Results: Michigan", <http://www.cnn.com/ELECTION/2004/pages/results/states/MI/index.html> (accessed February 20, 2006).
- Cable News Network. 2005c. "Election Results: U.S. President/Kentucky/County Results", <http://www.cnn.com/ELECTION/2004/pages/results/states/KY/P/00/county.001.html> (accessed February 20, 2006).

- Cable News Network. 2005d. "Election Results: U.S. President/Michigan/County Results", <http://www.cnn.com/ELECTION/2004//pages/results/states/MI/P/00/county.003.html> (accessed February 20, 2006).
- City of Ann Arbor. 2004. City of Ann Arbor Greenbelt Program: Screening and Scoring Systems for Review of Potential Acquisitions. Ann Arbor, Michigan: City of Ann Arbor.
- City of Ann Arbor. 2005. "Open Space and Parkland Preservation Millage-Background," <http://www.ci.ann-arbor.mi.us/greenbelt/OSPP%20Background.pdf> (accessed October 8, 2005).
- City of Ann Arbor. 2006. "2005-06 Adopted Budget and Fiscal Plan", <http://www.ci.ann-arbor.mi.us/FinancialAdminServices/Accounting/accounting.html> (accessed February 20, 2006).
- Clark, G. Personal Interview. 7 November 2005.
- Daniels, T. 1991. "The Purchase of Development Rights: Preserving Agricultural Land and Open Space". *Journal of the American Planning Association* 57(4): 421-431.
- Daniels, T. and D. Bowers. 1997. *Holding Our Ground: Protecting America's Farms and Farmland*. Washington, D.C.: Island Press.
- Danner, J. 1997. "TDRs: Great Idea But Questionable Value". *The Appraisal Journal* 65(2): 133-142.
- Diaz, D. and G. P. Green. 2001. "Growth Management and Agriculture: An Examination of Local Efforts to Manage Growth and Preserve Farmland in Wisconsin Cities, Village and Towns". *Rural Sociology* 66(3): 317-341.
- Ferguson, M. Personal Interview. 14 November 2005.
- Fodor, E. 1999. *Better Not Bigger: How to Take Control of Urban Growth and Improve Your Community*. St. Paul, Minnesota: New Society Publishers.
- Garfield, M. Personal Interview. 15 December 2005.
- George, M. 2003, November 5. "Voters Ok Tax to Buy Open Land For Preservation-0.5 Mill Request Draws Large Turnout, Wins Big". *Detroit Free Press*. Retrieved October 5, 2005, from NewsBank.
- Gillham, O. 2002. *The Limitless City: A Primer on the Urban Sprawl Debate*. Washington, D.C.: Island Press.

- Hieftje, J. Personal Interview. 2 December 2005.
- Isaac, T. Personal Interview. 29 November 2005.
- Johnson, M.P. 2001. "Environmental Impacts of Urban Sprawl: A Survey of the Literature and Proposed Research Agenda". *Environment and Planning* 33(4): 717-735.
- Johnson, R. Personal Interview. 6 February 2006.
- Kaplan, M., T. Steelman and A. Wallis. 1999. *Sprawl and Growth Management: Problems, Experience and Opportunity*. Denver, Colorado: Institute for Policy Research and Implementation.
- Kelly, M. Personal Interview. 14 November 2005.
- King, C. Personal Interview. 23 January 2006.
- Kolakowski, K., P.L. Macheimer, J. Thomas and R. Hamlin. 2000. *Urban Growth Boundaries*. East Lansing, Michigan: Michigan State University.
- Lane, R. 1998, March. "Transfer of Development Rights for Balanced Development". *Land Lines* 10(2): 6-7.
- Lexington-Fayette Urban County Government. 1999. "Rural Service Area Land Management Plan: Our Rural Heritage in the Next Century", <http://www.lfucg.com/PlanDiv/RSALandManage.asp> (accessed November 3, 2005).
- Lexington-Fayette Urban County Government. 2000. "PDR Ordinance", <http://www.lfucg.com/administrativeservices/pdr/> (accessed November 3, 2005).
- Lexington-Fayette Urban County Government. 2005. "PDR Update", <http://www.lfucg.com/administrativeservices/pdr/> (accessed November 3, 2005).
- Lexington-Fayette Urban County Government. 2006. "2005-2006 Budget in Brief", <http://www.lfucg.com/AdminSvcs/Budgeting/> (accessed February 20, 2006).
- Michigan Land Use Institute. 2004. "A New Grassroots Movement", <http://www.mlui.org/about.asp> (accessed January 15, 2006).
- National Resources Conservation Service. 2001. *Farmland Protection Program: Kentucky Summary*. Washington, D.C.: National Resources Conservation Service.

- Nelson, A. C. and T. W. Sanchez. 2005. *The Effectiveness of Urban Containment Regimes In Reducing Exurban Sprawl*. Alexandria, Virginia: Metropolitan Institute at Virginia Tech.
- Nivola, P.S. 1999. *Laws of the Landscape: How Policies Shape Cities in Europe and America*. Washington, D.C.: Brookings Institution.
- Phillips, J. and E. Goodstein. 2000. "Growth Management and Housing Prices: The Case of Portland, Oregon". *Contemporary Economic Policy* 18(3): 334-344.
- Richardson, J. J., M. Z. Gough, and R. Puentes. 2003. "Is Home Rule The Answer? Clarifying The Influence Of Dillon's Rule On Growth Management", <http://www.brookings.edu/metro/publications/dillonsrule.htm> (accessed February 20, 2006)
- Robinson, D. Personal Interview. 4 January 2006.
- Squires, G.D. (ed.). 2002. *Urban Sprawl: Causes, Consequences & Policy Responses*. Washington, D.C.: The Urban Institute Press.
- Staley, S.R. and G.C.S. Mildner. 1999. *Urban-Growth Boundaries and Housing Affordability: Lessons from Portland*. Los Angeles, California: Reason Public Policy Institute.
- Staley, S.R., J.G. Edgens and G.C.S. Mildner. 1999. "A Line in the Land: Urban-growth Boundaries, Smart Growth, and Housing Affordability", <http://www.rppi.org/urban/ps263.html> (accessed October 10, 2005).
- United States Census Bureau. 2002. "2002 Economic Census: Summary Statistics by 2002 NAICS, Washtenaw County, MI", <http://www.census.gov/econ/census02/data/mi/MI161.HTM>
- United States Census Bureau. 2006a. "State and County QuickFacts: Ann Arbor (City), Michigan", <http://quickfacts.census.gov/qfd/states/26/2603000.html> (accessed February 20, 2006).
- United States Census Bureau. 2006b. "State and County QuickFacts: Lexington-Fayette, Kentucky", <http://quickfacts.census.gov/qfd/states/21/2146027.html> (accessed February 20, 2006).
- United States Department of Agriculture. 2002. "2002 Census of Agriculture County Profile: Washtenaw, Michigan, <http://www.nass.usda.gov/census/census02/profiles/mi/cp26161.PDF>
- Van Pelt, B. Personal Interview. 18 November 2005.

Wagner, F.W., T.E. Joder, A.J. Mumphrey Jr., K.M. Akundi and A.F.J. Artibise (eds.).
2005. *Revitalizing the City: Strategies to Contain Sprawl and Revive the Core*.
Armonk, New York: M.E. Sharpe, Inc.

Williams, D.C. 2000. *Urban Sprawl*. Santa Barbara, California: ABC-CLIO, Inc.

Wright, J.B. 1993. "Conservation Easements: An Analysis of Donated Development
Rights". *Journal of the American Planning Association* 59(4): 487-493.

Appendix 1: Ann Arbor Survey

How did you get involved in the greenbelt initiative in Ann Arbor? What was your role in this initiative?

How did this initiative come about? Was it based on other greenbelt or urban growth boundary initiatives in other cities?

What do you see as the benefits of having a greenbelt as a way of curbing sprawl?

What are the potential drawbacks of having a greenbelt as a way of curbing sprawl? Have you observed these problems in Ann Arbor?

Do you think there need to be other steps made in terms of transportation, housing, density, etc. in order to fully prevent sprawl or do you think a greenbelt is effective enough? If you think there are other steps that need to be taken please list in order of importance what else needs to be done.

Other than developing a greenbelt, what else has Ann Arbor done to prevent urban growth?

How effective has the greenbelt been in containing leapfrog development?

What suggestions and/or comments do you have for other cities that are considering developing greenbelts?

What progress has been made with the Greenbelt Initiative?

What are your goals for the next year in regards to preserving open space and buying property rights? If possible please include a timeline.

Do you think the implementation of this initiative is moving along at a regular pace or is proceeding slower than expected? If slower, what needs to be done to make things progress faster?

Appendix 2: Lexington Survey

How did you get involved in the Rural Service Land Management Plan in Lexington?
What was your role in this initiative?

How did this initiative come about? Was it based on other greenbelt or urban growth boundary initiatives in other cities?

What do you see as the benefits of having a Rural Land Management Program as a way of curbing sprawl?

What are the potential drawbacks of having a greenbelt as a way of curbing sprawl?
Have you observed these problems in Lexington?

Do you think there need to be other steps made in terms of transportation, housing, density, etc. in order to fully prevent sprawl or do you think a Rural Land Management Program or a greenbelt is effective enough? If you think there are other steps that need to be taken please list in order of importance what else needs to be done.

Other than developing this plan, what else has Lexington done to prevent urban growth?

How effective has your plan been in containing leapfrog development?

What suggestions and/or comments do you have for other cities that are considering developing similar plans?

What progress has been made with the Rural Land Management Program?
What are your goals for the next year in regards to preserving open space and buying property rights? If possible please include a timeline.

Do you think the implementation of this initiative is moving along at a regular pace or is proceeding slower than expected? If slower, what needs to be done to make things progress faster?

Appendix 3: LESA

(1) SIZE OF PARCEL-(12 Possible Points plus 8 potential bonus points)

The purpose of this criterion is to assist in building a critical mass of agricultural land. These points shall be calculated as follows:

(a) Basic: Over 350 acres	12 points
251-350 acres	10 points
121-250 acres	8 points
41-120 acres	6 points
20-40 acres	2 points

(b) Bonus: Additional points will be assigned to parcels of eighty (80) or more acres if the landowner agrees not to subdivide the parcel and build residences on those parcels. The property owner shall receive one (1) bonus point for each right to develop a forty (40) acre tract which is extinguished up to a maximum of eight (8) bonus points.

(2) LENGTH OF PUBLIC ROAD FRONTAGE (5 Possible Points)

The purpose of this criterion is to encourage the preservation of parcels with significant road frontage. These points shall be calculated as follows:

1001 feet	+ 5 points
501 feet-1000 feet	3 points
350 feet-500 feet	1 point

(3) PROXIMITY AND/OR "BATCH" APPLICATION (15 Possible Points)

The purpose of this criterion is to encourage the protection of large contiguous blocks of rural land. Distances shall be measured from the parcel's boundary lines and the points from Part B (part of "batch application") are in addition to any points from Part A (proximity to another property protected with Conservation Easement). These points shall be calculated as follows:

(a) Proximity: Adjacent	10 points
Within 1/2 Mile	5 points
Within 1 Mile	3 points
More than 1 Mile	0 points

(b) Batch application:

The purpose of this criterion is to encourage landowners of contiguous parcels to apply to the program as a joint batch of Applications. A "batch" of Applications is defined as two (2) or more Applications submitted by two (2) or more property owners of contiguous parcels with a total acreage of at least 120 acres. Each Application submitted as a "batch" Application will be individually evaluated and the batch will be given five (5) additional points for being part of a batch Application.

(4) QUALITY OF SOILS (30 Possible Points)

The purpose of this criterion is to examine the quality of soils on the property for agriculture. Soil information will be provided by the landowner in the Application and verified by the Rural Land Staff with the assistance of the Natural Resources Conservation Service (NRCS). The NRCS maps will be the basis to decide this question. These points shall be calculated as follows:

At Least 80% Prime Farmland	30 points
At Least 70% Prime Farmland	25 points
At Least 60% Prime Farmland	20 points
At Least 50% Prime Farmland	15 points
At Least 50% Statewide Important	10 points
At Least 25% Prime Farmland & Less than 50% Statewide Important	5 points

(5) FARM ACTIVITY (5 possible points)

The purpose of this criterion is to evaluate whether the parcel is actively farmed. In evaluating whether the parcel is actively farmed, consideration will be given to the percentage of cropland and/or pasture and the tobacco base of the property. These points shall be calculated as follows:

Actively farmed more than five of last ten years	5 points
Not actively farmed more than five of last ten years	0 points
Potential to be farmed	1 point

(6) AGRICULTURAL IMPROVEMENTS (5 Possible Points)

The purpose of this criterion is to evaluate the owner's long term commitment to agriculture. It should be noted that the type and amount of on-farm investments will vary depending on the type of agriculture practiced. Each parcel shall be evaluated based on the type of agriculture involved on that particular parcel. There shall be no preference for one type of agricultural operation over another. Factors to be considered would include the presence of substantial and well-maintained on-farm investments such as barns, other agricultural buildings and equipment, fencing, waterways or other conservation measures, and similar items. These points shall be calculated as follows:

High amount of on-farm investment (multiple permanent agricultural and agricultural related structures & equipment)	5 points
Moderate amount of on-farm investment (at least some agricultural structures & equipment)	2 points
No on-farm investment (zero improvements or equipment)	0 point

(7) ENVIRONMENTALLY SENSITIVE AREAS (5 Possible Points)

The purpose of this criterion is to protect environmentally sensitive areas. If the parcel includes environmentally sensitive areas (ESA) as determined by the Rural Service Area

Land Management Plan, it will receive up to five points. These points shall be calculated as follows:

At least 50% environmentally sensitive areas	5 points
Some but under 50% environmentally sensitive areas	2 points
No environmentally sensitive areas	0 points

(8) DESIGNATED RURAL GREENWAY (5 Possible Points)

The purpose of this criterion is to protect designated rural greenways. If any part of the parcel is located within one of the rural greenways, as determined by the Rural Service Area Land Management Plan, it will receive five (5) points.

(9) DESIGNATED FOCUS AREAS (10 Possible Points)

The purpose of this criterion is to protect the designated focus areas, as determined by the Rural Service Area Land Management Plan. If any part of the parcel is located within one of the focus areas, the application receives ten (10) points.

(10) NATURAL PROTECTION AREAS (5 Possible Points)

The purpose of this criterion is to protect the special natural protection areas. These points shall be calculated as follows:

Parcel is included in "A" list of special natural protection areas in the Rural Service Area Land Management Plan	5 points
Parcel is included in "B" list special natural protection areas in the Rural Service Area Land Management Plan	2 points

Alternatively, applicants will be eligible to demonstrate the parcel contains special natural protection areas not identified in the Rural Service Area Land Management Plan. The landowner who indicates on his or its Application that the property includes rare or unusual flora or fauna, special indigenous plant sites, wildlife habitat or provides wildlife ecosystem linkages necessary to ensure biodiversity will need to provide background information relating to the existence of these resources on the property. The existence of these items should be independently verified by the Rural Land Staff or an independent non-profit conservation organization such as The Nature Conservancy. If the landowner can document that the parcel includes special natural protection areas not identified in the Rural Land Management Plan, the Application would receive not to exceed five (5) points.

(11) LINKAGES (4 Possible Points)

The purpose of this criterion is to protect linkages within the rural areas. This criterion examines whether the parcel is located near or has the ability to be linked to parks, nature preserves, nature sanctuaries, historic sites or other lands that have been specifically designated for long term natural resource use, conservation or preservation purposes. Distance is measured from parcel boundaries. These points shall be calculated as follows:

Contiguous or provide direct linkage	4 points
Within 1/2 mile or provide a buffer	2 points
Within 1 mile	1 point

(12) HISTORIC/CULTURAL RESOURCES (11 Possible Points)

The purpose of this criterion is to protect the historic/cultural resources of the rural area. Points in subsections (c) through (e) are in addition to any points accumulated from subsection (a) or (b), and shall be calculated as follows:

(a) If any part of the property is listed in the National Register of Historic Places, or is designated a local Historic Landmark (H-1), it would receive three (3) points, or if the property is determined eligible for the National Register it would receive two (2) points.

(b) If any part of the property is located in a National Register Historic District, or is located in a locally designated historic district, it would receive two (2) additional points.

(c) If the property includes stone fences including, but not limited to those stone fences documented in the Stone Fences of Fayette County (1990), the property would receive two (2) additional points. A minimum of 100 linear feet of stone fence is necessary.

(d) If any part of the property is designated as a national Historic Landmark, it would receive two (2) additional points.

(e) If the property contains any registered or significant archaeological sites, it would receive two (2) additional points.

(13) SCENIC RESOURCES (11 Possible Maximum Points)

The purpose of this criterion is to protect the scenic resources of the rural area. Points in subsections (d) through (f) are in addition to any points accumulated from subsections (a), (b) or (c).

(a) If the property is located on one of the scenic rural roads identified in Rural Service Area Land Management Plan, the property would receive two (2) points; or

(b) If the property is located on a local/state designated scenic or historic byway or highway, it would receive three (3) points, or;

(c) If the property is located on a federally designated scenic or historic byway or highway, it would receive five (5) points.

(d) If the property is adjacent to I-64 or I-75 and/or is part of the scenic viewshed visible from I-64 or I-75, it would receive two (2) additional points.

(e) If the property is part of the scenic viewshed visible from publicly owned land such as parks, nature preserves, sanctuaries, historic sites, the property would receive two (2) additional points.

(f) If the property contains other scenic features, such as tree-lined canopy, or significant viewsheds, it would receive two (2) additional points. The scenic features of the property must be documented and independently verified.

(14) ELIMINATION OF UNDEVELOPED NONCONFORMING TRACTS
(10 Possible Points)

The purpose of this criterion is to encourage consolidation/elimination of nonconforming tracts of less than twenty (20) acres. Such tracts may be part of a platted property or part of a larger parcel. For each nonconforming tract of less than twenty (20) acres which is consolidated/eliminated, add one (1) point up to maximum of 10 points.

(15) URBAN SERVICE AREA BOUNDARY (Subtract 15 total possible points)

The following point reductions shall be applied except for (a) rare cases of overwhelming importance as a community icon; (b) location of the site within one of the five (5) designated focus areas; or (c) location of the site within a wellhead protection area. The Rural Land Board shall define what is a community icon, recognizing that community-icons will change over time. A community icon should be a recognized symbol of Lexington-Fayette County, including but not limited to, National Register properties and local, state or federal landmarks. The Rural Land Board shall retain the discretion to determine whether a particular parcel is a community icon.

1. If the property is contiguous to the existing urban service area boundary, subtract fifteen (15) points unless the property is important as a community icon, within a well head protection area or is located in one of the designated focus areas.

2. If the property is within 1/2 mile of the existing urban service area boundary, subtract ten (10) points unless the property is important as a community icon, within a wellhead protection area or is located in one of the designated focus areas.

3. If the property is within 1 mile of existing urban service area boundary, subtract five (5) points unless the property is important as a community icon, within a wellhead protection area or is located in one of the designated focus areas.

(16) URBAN DEVELOPMENT (subtract 30 total possible points)

Any points from subsections (c) through (e) are in addition to any points accumulated in subsection (a) or (b):

(a) If the property is located within Sewerability Categories I, II or III as shown in the Rural Service Area Land Management Plan, deduct twenty (20) points, unless the property is within a designated focus area, is considered a community icon, or is within a wellhead protection area.

(b) If the property is located within Sewerability Category IV as shown in the Rural Service Area Land Management Plan, deduct fifteen (15) points, unless the property is within a designated focus area, is considered a community icon, or is within a wellhead protection area.

(c) If the property is located within Sewerability Categories I, II, III or IV as defined above and adjacent to or within 1 mile of an Interstate interchange, deduct ten (10) points, unless the property is within a designated focus area, is considered a community icon, or is within a wellhead protection area.

(d) If the property is located within Sewerability Categories I, II, III or IV as defined above and adjacent to or within 1/2 mile of a Federal Highway, deduct eight (8) points, unless the property is within a designated focus area, is considered a community icon, is within a wellhead protection area or located on a state designated scenic byway.

(e) If the property is located within Sewerability Categories I, II, III or IV as defined above and adjacent to or within 1/2 mile of a roadway with a functional classification of an arterial highway, deduct six (6) points, unless the property is within a designated focus area, is considered a community icon, is within a wellhead protection area or located on a state designated scenic byway.

Source: Lexington-Fayette Urban County Government PDR Ordinance

Appendix 4: Ann Arbor Scoring Criteria

CITY OF ANN ARBOR GREENBELT PROGRAM SCREENING AND SCORING SYSTEMS FOR REVIEW OF POTENTIAL ACQUISITIONS

The screening and scoring system for review of potential land and easement acquisitions consists of two land types, each with three major categories. The system is intended to identify high quality agricultural and open space lands that are appropriate for protection through the Greenbelt Program.

SUMMARY OF CATEGORIES

- A. Agricultural Land
 - 1. Characteristics of the Land
 - 2. Context
 - 3. Acquisition Considerations
- B. Open Space Land
 - 1. Characteristics of the Land
 - 2. Context
 - 3. Acquisition Considerations

SCREENING /REVIEW CRITERIA

- A. Agricultural Land
 - 1. Characteristics of the Land
 - a. *Type of Agricultural Land.* Percent of the property with prime or unique soil types.

<60%	low
60-80%	medium
>80%	high

For scoring, divide number of acres of quality soils by total acres nominated to gain a percentage and then multiply that by 13 to produce the score.

- b. *Parcel Size.*

<40 acres	low	2
40-80 acres	medium	10
>80 acres	high	15
- c. *Road Frontage.*

<500 feet	low	0
500-1,000 feet	medium	1
>1,000 feet	high	2
- d. *Wetlands and/or Floodplain.*

Percent of the property with those features.

>20%	low	2
10-20%	medium	5
<10%	high	8

e. *Groundwater Recharge.*

Percent of property serving as groundwater recharge.

<50%	low	2
50-75%	medium	4
>75%	high	5.5

f. *Natural Features.*

Are stream corridors, woodlots or rare species present, or is the property enrolled in or eligible for governmental conservation programs?

0 features	low	0
1-2 features	medium	7
3 or 4 features	high	15

2. Context

a. *Distance to City Limit.*

Is the property located within one mile of the Ann Arbor city limit?

1 Yes 0 No

b. *Adjacent Zoning Classification.*

Percent of the property's perimeter in agricultural or open space zoning.

<50%	low	1
50-89%	medium	2
90% or more	high	4

c. *Adjacent Land Use.*

Percent of the property's perimeter in an open space use.

<50%	low	2
50-89%	medium	4
90% or more	high	6.5

d. *Proximity to Protected Land—Natural Area or Farmland with easement.*

>1 mile	low	0
1 mile or less	medium	5
adjacent	high	9.5

e. *Scenic and/or historical value.*

Does the site provide a broad, sweeping view from publicly accessible sites, or does it have unique or historical features?

0 features	low	0
1 feature	medium	5
2 or more features	high	8

f. Located within Farmland Complex

a. Yes 10

b. No 0

- g. Contains Huron River Tributary or is along the Huron River
 - a. Yes 10
 - b. No 0

- h. There are 5 or more residential homes within ½ mile radius
 - a. Yes 10
 - b. No 0

3. Acquisition Considerations.

a. *Matching Funds.*

Number of possible sources of matching funds the property will qualify for—
Township, State and / or Federal programs.

No matching funds	0
1 possible source	5
2 possible sources	10
3 or more possible sources	14

b. *Landowner Contribution.*

Percent of the appraised value of development rights the landowner is willing to donate.

No contribution		0
<10%	low	5
10-20%	medium	8
>20%	high	11.5

c. *Recreation Potential.*

With the owners' permission, will the property provide access to public waters or trails, or protect a trail corridor?

6 Yes 0 No

4. Other factors – 30 points total

B. Open Space Land

1. Characteristics of the Land

a. *Mature Trees or Rare Species*

early successional plant communities	low	5
mature native forest or grassland elements	medium	10
species or habitats of special concern present	high	14

b. *Parcel Size.*

<20 acres	low	2
20-40 acres	medium	3
>40 acres	high	4.5

c. Road Frontage.

No frontage		0
<500 feet	low	1
500-1,000 feet	medium	2
>1,000 feet	high	3

d. Wetlands and/or Floodplain.

Percent of the property with those features.

No features		0
<10%	low	3
10-20%	medium	7
>20%	high	11

e. Groundwater Recharge.

Percent of property serving as groundwater recharge.

<50%	low	2
50-75%	medium	4
>75%	high	6

2. Context

a. Distance to City Limit.

Is the property located within one mile of the Ann Arbor city limit?

2 Yes 0 No

b. Adjacent Land Use.

Percent of the property's perimeter in an open space use.

None		0
<50%	low	3
50-89%	medium	4
90% or more	high	5.5

c. Proximity to Protected Land—Natural Area or Farmland with easement.

>1 mile	low	0
1 mile or less	medium	5
adjacent	high	9.5

d. Proximity to Water Resources Frontage.

Amount of frontage on open water or a perennial stream.

No frontage		0
<100 feet	low	5
100-500 feet	medium	10
>500 feet	high	14

e. Scenic and/or historical value.

Does the site provide a broad, sweeping view from publicly accessible sites, or does it have unique or historical features?

0 features	low	0
1 feature	medium	5
2 or more features	high	9.5

f. *Number of Vehicle Trips per Day.*

On which kind of public road does the property have frontage? (National Functional Classification)

Local	low	0
Collector	medium	0.5
Minor arterial	high	1

g. Located within Strategic plan Farmland Complex

Yes 10
No 0

h. Contains Huron River Tributary or is along the Huron River

Yes 10
No 0

3. Acquisition Considerations.

a. *Matching Funds.*

Number of possible sources of matching funds the property is eligible for—Washtenaw County, State, Federal, or Township programs.

No possible matching funds	0
1 possible source	4
2 possible sources	8
3 or more possible sources	11

b. *Landowner Contribution.*

Percent of the appraised value of development rights the landowner is willing to donate.

No contribution	0
<10%	low 2
10-20%	medium 4
>20%	high 6.5

c. *Recreation Potential.* Can or will the property provide access to public waters or trails, or protect a trail corridor?

10 Yes 0 No

4. Other factors – 26 points

Table 1

STATES LOSING THE MOST PRIME FARMLAND 1992-1997		
State	Prime Acres Lost	Increase in Rate of Loss Over Previous 5 Years
TX	332,800	42%
OH	212,200	45%
GA	184,000	66%
NC	168,300	1%
IL	160,900	137%
PA	134,900	23%
IN	124,200	65%
TN	124,000	42%
MI	121,400	67%
AL	113,800	127%
VA	105,000	76%
WI	91,900	70%
NY	89,100	141%
SC	86,200	64%
CA	85,200	15%
MS	84,800	117%
LA	83,700	13%
KY	80,000	58%
AR	71,600	254%
MN	71,600	32%

Source: 1997 National Resources Inventory

Table 2

State	Program(s)	Year of Inception	Acres Protected
California	California Farmland Conservancy Program	1995	24,000
Colorado	Great Outdoors Colorado	1992	226,549
Connecticut	Connecticut Farmland Preservation Program	1978	30,087
Delaware	Delaware Agricultural Lands Preservation	1991	79,649
Kentucky	Division of Agricultural Education and Farmland Preservation	1994	20,649
Maine	Farmland Preservation Program	1999	4,275
Maryland	Maryland Agricultural Land Preservation Foundation	1977	281,545
	Rural Legacy	1997	
Massachusetts	Massachusetts Agricultural Preservation Restriction Program	1977	55,516
Michigan	The Farmland and Open Space Preservation Program	1974	15,834
New Hampshire	Agricultural Lands Preservation Program	1979	10,938
	Land Conservation Investment Program	1987	
	Land & Community Heritage Investment Program	2000	
New Jersey	The New Jersey Farmland Preservation Program	1983	133,733
New York	Agricultural and Farmland Protection Program	1996	14,140
North Carolina	Conservation Trust for North Carolina	1986	4,412
Ohio	Ohio Agricultural Easement Programs	1999	15,410
	Southern Ohio Tobacco Agricultural		

	Easement Purchase Program	2002	
Pennsylvania	Bureau of Farmland Preservation	1988	295,447
Rhode Island	Rhode Island Division of Agriculture	1981	4,382
South Carolina	South Carolina Conservation Bank	2002	0
Utah	Critical Agricultural Land Conservation Fund	1999	26,157
	LeRay McAllister Critical Lands Conservation Fund	1999	
Vermont	Vermont Housing and Conservation Board	1987	108,945

The other eight states include Arizona, Florida, Georgia, Hawaii, Texas, Virginia, Washington and West Virginia.

Source: American Farmland Trust

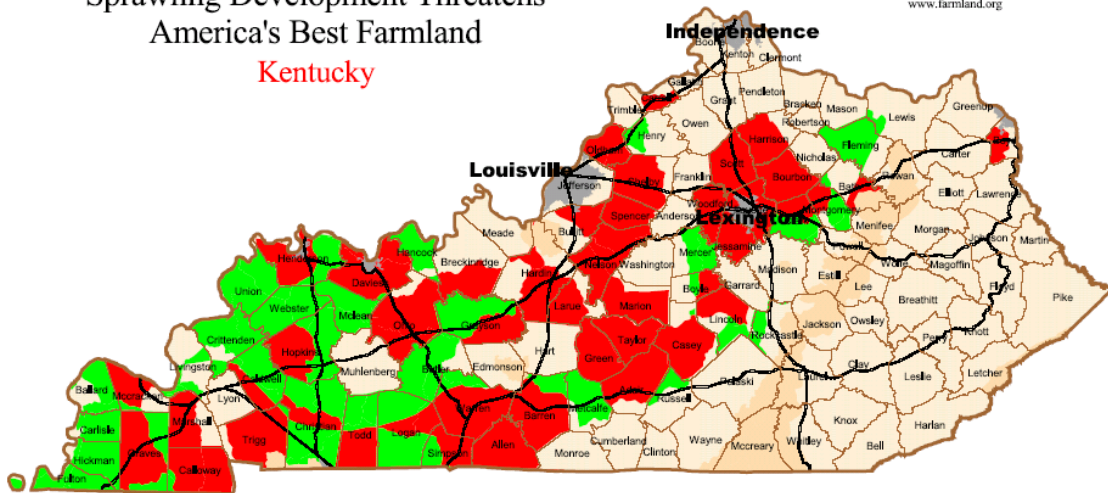
Table 3

State	Key Program(s) Developed by Counties, Townships and Municipalities
California	City of Davis and Alameda, Marin and Sonoma Counties
Colorado	City of Boulder and Douglas and Routt Counties
Georgia	Carroll County
Illinois	Kane County
Kentucky	Fayette County
Maryland	Ann Arundel, Baltimore, Calvert, Carroll, Frederick, Harford, Howard, Montgomery and Washington Counties
Michigan	City of Ann Arbor, Peninsula Township
Montana	Gallatin County
New Hampshire	City of Londonderry
New Jersey	Morris County
New York	The Towns of East Hampton, Pittsford, Southampton, Southold, Warwick and Suffolk County
North Carolina	Currituck, Forsyth, Orange and Rowan Counties
Pennsylvania	Buckingham, Plumstead and Solebury Townships and Bucks, Chester and Lancaster Counties
Virginia	The Cities of Chesapeake and Virginia Beach and Albemarle, Fauquier, James City and Loudoun Counties
Washington	King, San Juan, Skagit and Thurston Counties
Wisconsin	The Towns of Bayfield and Dunn

Source: American Farmland Trust

Map 1

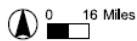
FARMING ON THE EDGE Sprawling Development Threatens America's Best Farmland Kentucky



Legend:

- High-Quality Farmland & High Development
- High-Quality Farmland & Low Development
- Federal & Indian Lands
- Urban Areas
- Other Lands

High-quality farmland areas have relatively large amounts of prime or unique farmland. High-development areas have relatively rapid loss of high-quality farmland to development. Other areas do not meet the two threshold tests. The relative measures compare sub-county areas against their respective statewide averages.



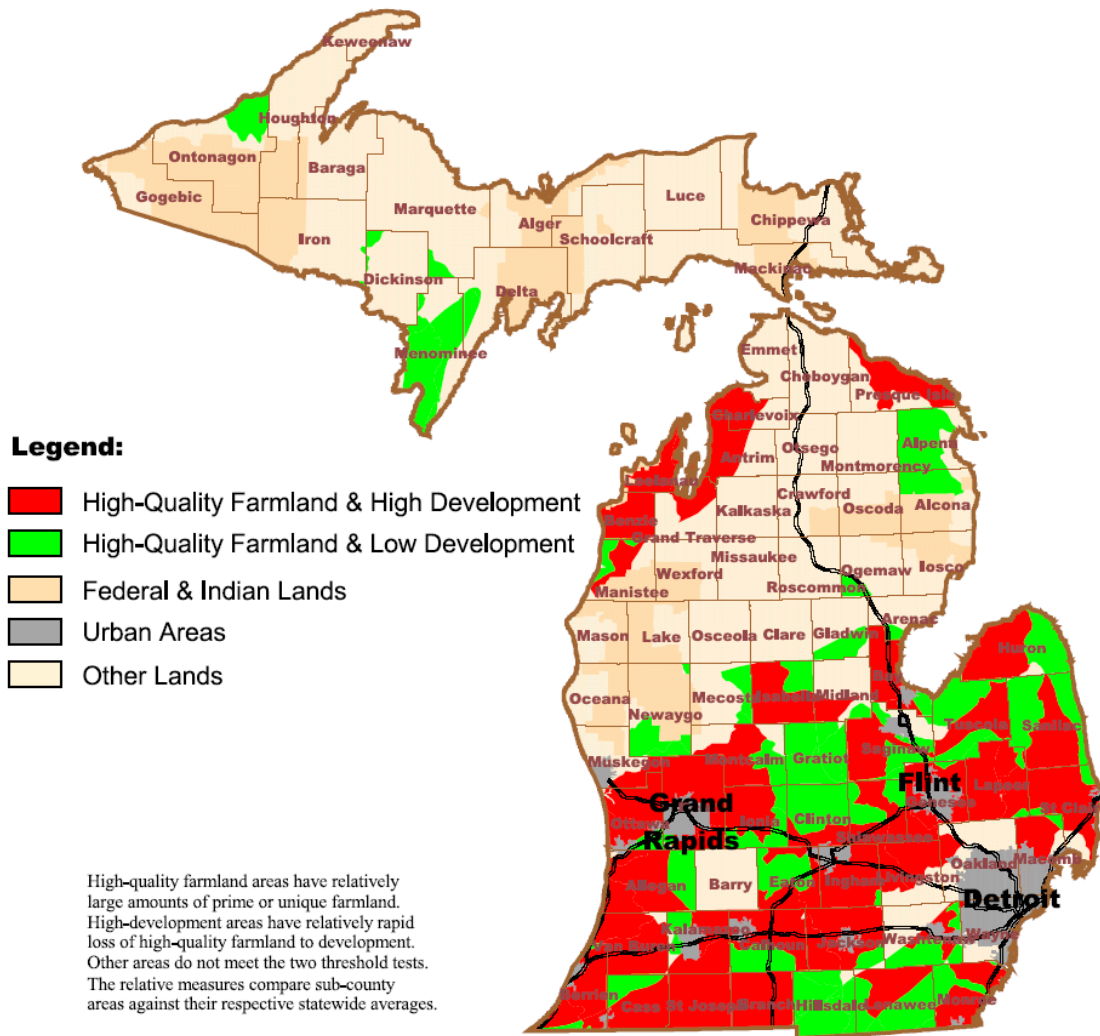
09/19/02

Map 2

FARMING ON THE EDGE

Sprawling Development Threatens America's Best Farmland

Michigan



American Farmland Trust
www.farmland.org

03/04/03