Protecting Farmland At The Fringe: 
Do Regulations Work? 
Strengthening The Research Agenda 

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There are farmland retention programs underway in all states and many localities across the U.S. Approaches vary from farmland tax incentives, to voluntary agricultural districts, to strict growth controls, to exclusive agricultural zoning. All states have “right to farm” laws that protect farmers using generally accepted farm practices from most nuisance suits by the neighbors. The policy mix in any place reflects both the perceived urgency of “the farmland problem” and what changes in land market rules are politically acceptable. What works in Florida may not pass muster in Illinois.

This conference focuses on one category of policy tools – regulations. Speakers are policy researchers and agency leaders. Conference participants are national, state and local land use policy people, leaders of groups supporting farmland protection and growth management, planners, analysts, and educators.

We highlight regulations at this conference because those are the tools most available to communities across the country trying to guide development and protect open space. Rural land use zoning has been around for over 70 years. Comprehensive growth controls are more recent. This emphasis on regulation follows more comprehensive examination of farmland policy at a 1998 conference “The Performance of State Programs for Farmland Protection” held in Columbus, Ohio. Proceedings of that conference are available.

The conference begins with an overview of farmland protection by Paul Barkley. He asks why we are worrying about farmland at all, and considers how this has become a policy topic.

Deborah Bowers and Mark Cordes analyze agricultural zoning in separate papers. Bowers considers how regulations complement purchase of development rights in the Maryland experience. Cordes documents the legal integrity of agricultural zoning from recent Supreme Court cases.

Ralph Grossi, President of the American Farmland Trust, presents the case for a strong federal role in farmland retention through the 2002 Farm Bill, and other ways.

“Right to Farm” is the next policy examined. John Becker, Professor of Agricultural Economics and Law at Penn State, considers the various checks and balances inherent in any state right to farm ordinance. He reviews the legal challenges and legislative adjustments.

Stuart Meck deals with the links between farmland protection and growth management. He reviews development of model ordinances by the American Planning Association.

Ralph Heimlich raises the key “so what” questions in his analysis of farmland protection efforts nationwide. He examines the evidence on how such policy affects land values and land use patterns.

The political and property rights issues surrounding agricultural zoning are discussed in separate papers by Dick Esseks and Lela Long, Northern Illinois University, and Peggy Hall, a specialist in agricultural and rural law at Ohio State. Esseks and Long review the evidence on whether people generally support zoning as a way to keep land in farms. Hall considers how the boundaries between public and private rights adjust with the policy environment and general perceptions of fairness.

Then two cases are presented. Each considers how things have gone with regulation in a particular setting.

- Harriet Tregoning, Maryland’s Secretary for Smart Growth, discusses the various elements of that state’s path-breaking program.
- Clyde Myers and Cheryl Auchenbach detail the experience in Berks County, Pennsylvania. A model zoning framework has been followed by eight townships and is making a difference in that county.

An important goal for this conference, supported in part by a National Research Initiative conference grant from USDA, is presentation of a research agenda. The final session, facilitated by Charles Abdalla, Penn State University, draws ideas from all participants in proposing an agenda for social science research.
Why Save Land, Farms, and Agriculture?

Paul W. Barkley
Washington State University

The literature relating to the disappearance of farm land in the United States has grown rapidly during the last decade. This outpouring has created its own mirror image: a similar literature relating to the need to preserve the nation’s farm land. Both dimensions of the literature have been produced by an odd collection and collaboration among economists, planners, lawyers, environmentalists, and public officials. The writings have been accompanied by scores of meetings, conventions, seminars, and research contracts. In many governmental jurisdictions the concern about the possible disappearance of land in farms has led to legislative efforts to “protect” or to “save” this class of land that is disappearing. The legislative efforts have given rise to even more literature as lawyers and elected officials have added their opinions to the written word. The extensive writing is concentrated in the decade of the 1990s, although some seminal pieces appeared much earlier. If a term has to be chosen to describe the recent writings, that term is “highly repetitive.”

With all that has gone before, the question arises, “What is left to be said?” Much remains because confusion abounds, and we are desperate to learn more about the reasons for and the methods used in preserving agricultural land. Constituents at all levels continue to press for answers to questions about what land should be preserved, where it should be preserved, and how it should be preserved. But, preserving agricultural land remains a genuine puzzle. There is no single convincing reason for preserving it, so combinations of purposes must be used to justify the preservation of agricultural land.

Multiple reasons or combinations of goals pose difficult analytical questions in a relatively free and pluralistic society. Economists are left with few tools to use because a single objective for the preservation activity cannot be identified. Worse, the notion of efficiency, a backbone of today’s conservative economics and politics, provides little guidance because the question “Efficient with respect to what?” must go unanswered. The public or democratic (voting) world is somewhat better off, but even it must depend on multi-faceted goals requiring difficult-to-organize and very fragile coalitions. Given this, the remainder of this paper spec-
ing groups, it is time for us to think in terms of getting land and other resources out of agriculture – a proposition contrary to the major focus of this conference. Of course, there are categories of food, some with very high values, whose production and consumption will be threatened if particular land parcels move from agricultural to other uses. However, in a global or even a national context, these are minimal, and substitutes for their product are increasingly available through trade.

Land serves many purposes, and may of them manifest themselves in a growing economy. As incomes rise, people who reside in the suburbs want to spread out. Many are still working, so they don’t want to go too far – just far enough to get away from congested living, but not so far as to make commuting an onerous experience. This means move to the edge of town, buy a small of acreage, and build a dream house that the high income allows.

At the same time, farm operators and the children of farm operators are rushing from the low incomes of agriculture to urban employment and living. Since the inner city and the close-in suburbs are not generally acceptable, they put still more pressure on land at the fringe.

The fall-out from this shift – or even from it’s anticipation – is immense. This mini-migration has caused land values at the fringe to rise, required extension of utility and transportation lines, and destroyed part of local agriculture. In some cases, it has led to failure in the sense that the lifestyle desired by the migrants is no longer available, and the region where settlement occurs takes on many of the attributes similar to those in the areas that were left behind.

The encroachment into agriculture’s space is particularly insidious. The nation has spent its entire existence building an infrastructure that encourages the survival of agriculture. Surveying, helping put railroads in place, providing nearly free land for new settlers, establishing publicly sponsored research activities, and even exempting a large segment of the agricultural supply chain from the threat of anti-trust action each represents one of many very costly parts of agriculture’s infrastructure. When the infrastructure is coupled with the major cultural icons exemplified by the “family farm” and the “agricultural creed,” the result is a society that will blindly and irrationally think well of farming and farms. It does not matter that farm land is redundant. We want to keep it in farming. This forms one of the more complex parts of our collective psyche, and this line of thought is partially responsible for our collective interest in preserving agricultural land.

Beginning in the 1970s, and after the publication and widespread interest in Rachel Carson’s Silent Spring (1962), Aldo Leopold’s Sand County Almanac (1949), and Garrett Hardin’s “The Tragedy of the Commons,” (1968), the U.S. population began to recognize that environmental degradation had become very real. These popular writings helped lead to Earth Day, the People’s Park, the rejuvenation of Lake Erie, and a concern over the sustainability and livability of the earth. The concern trickled down to states, counties, and local areas. Planning, present in the United States since the nation’s beginning and boosted during the 1920s and 1930s, had languished during the 1940s and 1950s. It now took on new meaning. The EPA was born and individual states put together agencies charged with the responsibility of maintaining a semblance of rationality regarding the future of their natural environments.

If urban areas are “unnatural” because they manifest human activity, then they must be stopped or rationalized to make their growth consistent with the needs of a broader and environmentally correct plan. This rationalization of planning is best done at the urban fringe, and on early object of concern must be the conversion or preservation of agricultural land. This provides another avenue for action and policy. The natural heritage must be preserved. Much of it is already gone or violated, but the carnage can be stopped by imposing restrictions on who converts land, where it is converted, and what the conversion will yield.

The conversion issue is somewhat intense in the State of Washington. King County, one of the state’s larger counties and host to the city of Seattle has had a PDR program on the books for many years. The program began to take shape in 1972, but for a variety of complex political and administrative reasons, the first land parcels did not actually transfer their development rights until 1984. The county sold bonds to raise $50 million earmarked for this purpose. The original expectation was that about 35,000 acres could be protected for agricultural use through this mechanism and with this amount of money. By 1986, $53 million had been spent but only 12,573 acres in 187 parcels had been secured. As a practical matter, the King County effort was complete.2

The plan was to form a crescent around Seattle from north to south and encompassing the two major lakes to the east of the city. A map locating the parcels...
from which the development rights have been separated shows a slightly different pattern, but two major corridors and one scenic plateau are protected by the program. With the exception of a handful of rather odd parcels, the program met a critical objective of stopping growth (sprawl) and protecting important visual landscapes in critical parts of the county. The process used by King County makes a useful study.

When World War II ended, Seattle was a sleepy city known mainly as a jumping off place for the Alaska territory. One of the major Boeing assembly plants was in a smaller city close by, and the Smith Tower at 42 stories was by far the only tall building in the city. In 1949, King county had nearly 100,000 acres in crops – berries, cole crops, vegetables, and fruits. There were canneries and freezing plants as well as implement dealers and farmers’ markets. The crown jewel lay at the consumers’ end of the supply chain: Pike Place Market in downtown Seattle—the oldest continually operating farmers’ market in the United States.

By the early 1960s, the city began to spread its wings, building on all available land to the west of the lakes and rapidly consuming productive agricultural lands to the north and south. Farm lands began to disappear and the infrastructure that served agriculture started a footrace with agricultural producers to see who could get out of the county first. The canneries closed, implement dealers left, and farm operators sought other ways to feed their families.

The threat to traditional farming came fast. The county asked prominent people to serve on commissions and committees to determine the best way to save the county’s agriculture. Interestingly, few farm operators or farm land owners were asked to serve, and only a handful of those who were asked actually spent time on the various commissions, committees, and task forces. The studies were urban based and they were devoted to finding ways to save agriculture in an urban county.

After studying several possible means of saving farm land, the study groups narrowed the acceptable choices to two. One was the outright purchase in fee with a lease-back provision; the other was the purchase of development rights. The PDR route was chosen because the county did not want to become involved in farmland management, and it was thought that the money would go farther with a PDR program. The voting to secure the money was curious: Precincts made up of farm operators and very rural voters voted against the proposition that would save their land from development. The owners of the farmland apparently wanted to retain the opportunity to capture some of the appreciated value that the county’s real estate boom was providing. Urbanites, who because of the demographics of the county could always win an election, voted to tax themselves in order to raise the $50 million to protect land that they as individuals might never see. One must conclude in this case that the preservation of agricultural land was urban driven and urban financed. The losers were the farm operators who were denied access to huge speculative gains in the value of their properties.

It is difficult to know what the urbanites wanted or expected. No systematic study of their intentions has been made. The study commissions were blindly seeking a resurgence or at least maintenance of agricultural production within the county. They focused on the desirability of maintaining the production of fresh food and employment in farming, processing, and maintaining the agricultural infrastructure. The average voter likely had in mind open space, lovely vistas, and all manner of environmental goods that defy classification. The point is that agriculture at that time was not a very profitable activity, and people wanted the option of getting out. Even so, 187 of them chose an average payment of about $4182 per acre for the guarantee that their land would not be developed.

Preserving agricultural land should not be about agricultural production or productivity, but it often is. Preserving agricultural land is often an urban-driven activity in which the decision makers have an array of motives that defies serious study. Nonetheless, the nation will continue its efforts to preserve agricultural land, and the fuss about how, when, and where will continue. The process will move forward as follows:

First, there will be a vote, and the ballot measure will ask whether preserving land is an appropriate activity or not. If the vote is no, the activity stops. If the vote is yes, a second question must be answered: Should the preserved acreage be protected by market forces or by regulations? This is a serious question over which reasonable people can disagree. And there is no correct answer.

The market-based solutions are much admired by economists because, if working correctly, they will always transfer resources to the highest and best use. They insure efficiency, and markets always yield unanimous and satisfactory decision for the participants. All buyers and all sellers go away from a transaction.
pleased with the outcome. Those who entered the market unsuccessfully are mostly happy as well. So the buyers and the sellers of the development rights are pleased with the outcome of a voluntary program. The problem with the market solution is that there are many individuals who would like to enter the market to express an opinion, but they are kept from doing so by their lack of either land begging to be preserved or some fungible asset that allows access to the land and the rights that surround it. Of the scores of variations to a market approach, only four are mentioned here:

1. *Purchase in fee.* Purchase is the surest way of getting what is desired, but the question always remains: what should be done with the land that is now owned?

2. *Purchase development rights.* This ordinarily requires establishing upper and lower bounds on prices, and it requires some administrative attention to make sure that the program parcels are not used in an adverse way.

3. *Arranging for transferable development rights.* Many states and counties are moving in this direction. The advantages include, importantly, the use of the development right to direct economic activity. The disadvantages stem from the extremely complex land planning and classification schemes required to make program work.

4. *Gifting to a trust.* Many will fuss because this does not appear to be a true market transaction. It is, but the “seller” has declared the “price” to be zero. Once this is recognized, the land may be treated in the same manner as any fee land.

The serious problem with most market oriented schemes is their great expense. Land for any purpose is expensive. Or, looking at the problem in a different way, if the land is cheap, there is no worry about the need to preserve it. And in still another way, one can presume that in the dawning years of this century, no county will do what King county started to do in the 1970s. The nation has entered an era during which bond issues — for any purpose — simply do not pass and public money is very scarce.

In summary, this conference will not answer all the questions about the preservation of agricultural land nor of open space. Perhaps, though, thinking will be clarified just a bit through the use of some figures that have been in the literature of land economics and land use for decades. The first (Figure 1) shows the decreasing net rents accruing to land as land quality diminishes. Figure 2 shows the familiar production zones pointed out by von Thünen and his contemporaries in the 1840s. Although the labels would be different today, the concept remains useful today. Economic activity changes as distance from a central place increases.

An interesting picture emerges when the two diagrams are superimposed (Figure 3). When the central point from von Thünen coincides with the Y-intercept on the net rent diagram, the concentric circles define a problem that is addressed and often confused by many scholars and policy makers. We think about preserving agricultural lands, and we use current figures on land conversions to conjure up images of losing from agriculture the high rent land lying near the Y-intercept of the net rent margin—the very best agricultural land. In
the real world, the major transfers of land out of agriculture are occurring exactly where one supposes they should occur: near the point where the net rents accruing to agriculture are dropping to zero. Agricultural land is moving from pasture and becoming open space or forest land. Low rent grain land is becoming pasture, and orchard lands are moving into grain production.

So the question remains: Is there a crisis surrounding the availability of farm land? And the answer is, probably not. Should we preserve farm land? Probably some of it. But what part of it? The part that provides environmental services. How should we do this? The literature remains very place-specific on this point, but the following papers offer discussions of several options open to governments and policy makers who must make the difficult choices surrounding farm land retention.


2 The purchase phase ended in 1985, but some acres have been added to the preserved total through bequests and through small sums of money designated for this purpose. The additions to the program are, however, negligible.

3 A study done in 1998 showed that if the farmland owners who joined the program in the early 1980s had invested the money received for relinquishing the development rights, at a modest 6 percent, they would have been essentially as well off as if they had waited and sold in 1998. This affirms that the payment they received – based on the difference between the market value of the land and its use value in agriculture at the time of the sale – was an equitable payment that did not necessarily reduce the landowner’s net worth.

4 The King County story remains fascinating. I have followed it assiduously for fifteen years and continue to marvel at the bits and pieces of information that appear pertaining to the county purchasing these rights.
In the United States, 800,000 acres of farmland have been preserved through the purchase of development rights, known as PDR programs, at a cost to taxpayers of $1.2 billion. Farmers in more than 250 localities nationwide can participate in these programs. Some of the local governments that implement PDR programs have effective agricultural zoning that protects farmland from development, but most do not.

What is “effective” protection when it comes to agricultural zoning? Effective agricultural zoning does two things: 1) it promotes and otherwise helps agriculture be productive and profitable, and, 2) it protects productive lands, the resource upon which agriculture depends, by placing limits on both the type of development and the amount of development that can happen in agricultural areas.

An agricultural protection ordinance will not allow activities that fragment agricultural lands such as airports, golf courses and residential subdivisions. Agricultural zoning recognizes that if too many homes are built in a farming region, a suburban lifestyle will begin to supplant the rural way of life and farming practices will go from being accepted to being resented. In time, all the farmers may sell out.

The aspect of agricultural zoning that I will address is density allowances – that is, how many new homes are allowed to be built on how much land? This is particularly important in localities that are spending significant amounts of public funds on preserving farmland.

Since it is primarily local governments, and not state governments, that govern land use, the focus here is on local governments and the relationship between their PDR programs and their agricultural zoning.

It is apparent to me, after 11 years of reporting on this issue, that some local governments are spending millions of dollars on PDR in an attempt to buy their way out of bad zoning. But an effective farmland preservation program is not defined by the number of dollars spent, or even by the number of acres preserved. It is defined by the combination of techniques used, because over time the strength of one technique can compensate for the weakness of another. For example, a weakness of the purchase of development rights, also known as the purchase of agricultural conservation easements, is that it costs a lot of money. You may never have enough money to protect all the farmland you think is needed to keep your local ag economy strong. That’s why agricultural zoning is needed. It should be used as the first line of defense against conflicts with non-farming neighbors. Agricultural zoning, in fact, makes PDR more affordable and more successful.

Many local governments in the mid-Atlantic states have spent millions in both state and local dollars paying landowners not to develop their land. Amazingly, at the same time, they are inviting developers to build residential subdivisions around these preserved farms. At some point in the not-too-distant future, these localities will have to evaluate their approach to farmland preservation, and they will do one of two things: they will either get together with their landowners and discover that agricultural zoning is not so bad as they thought, or, they will continue their avoidance behavior and face the consequences of having all or most of their preserved farms surrounded by suburban subdivisions in what will ultimately be a failed experiment in land use governance.

Some localities will tell you that agricultural zoning has become impossible because land values have escalated to a point that any level of downzoning would result in unbearable takings claims. But these are assumptions, not facts. It is not necessarily a fact that the fewer homes you can build on your land, the less money you will make when you sell that land. More about that later.

For now, let’s have a quick ag zoning refresher.

First, every state has a zoning enabling act. Nearly every state expressly authorizes localities to use agricultural zoning. About half of all states have at least some localities that have enacted agricultural protection zoning. These states are across the northern half of the nation, but exclude New England and New York.

I am sure most of you understand the relationship between planning and zoning. Agricultural zoning
depends, for its legal standing, on stated public policy goals, in this case, the preservation of agriculture.

An ag zoning ordinance can do a lot of things, such as allow farm-based businesses, provide a nuisance disclaimer that warns new residents about farming practices, establish setbacks from property boundaries for new farm buildings, and determine how many new residential structures can be built on a given amount of acreage.

We are concerning ourselves right now just with the last of those. It deals with lot areas and subdivisions. There are basically two types of what is called non-exclusive agricultural zoning: minimum lot size and area-based allocation.

Under minimum lot size zoning a farm can’t be broken into parcels below a certain number of acres. The idea behind this type of zoning is to make the parcel big enough so that it is unaffordable as just a home site (although this is a big variable depending on your local land market), and minimum lot size zoning helps to keep farmland in blocks large enough to farm profitably. This type of zoning works best in areas where farming is predominant, but localities have to make sure that the size of the lot is related to the average size farm to make it legally safe in the courts.

In area-based allocation, the number of allowed non-farm dwellings depends on the size of the parcel, and lots can be as small as the minimum allowed, usually one to two acres.

There are two types of area-based allocation: fixed area and sliding scale.

Under fixed-area based allocation, the most common here in Maryland, a certain number of new homes are allowed per number of acres, such as one home per 20 acres or portion thereof, as in Carroll County, or, one home per 4.25 acres, as in Howard County.

Under sliding scale, the larger the tract, the fewer number of lots allowed per acre. For example, in Clarke County, Virginia, a 14-acre parcel is allowed one dwelling unit, and a 100-acre parcel is allowed four, not seven as would be the case if one lot was allowed per 14 acres.

Now let’s look at some counties that spend big bucks and make headlines for acres preserved, but hide their zoning in the back room.

Carroll County, Maryland has spent to date $26.7 million of its own money, ranks in the top five of counties nationwide for number of acres preserved, and yet, has base agricultural zoning of 1:20, with opportunities for additional lots that results in an overall density of 1:15 – not enough protection for the commercial agriculture county leaders say they are determined to retain. A clustering provision would allow from three to six lots on every farm, something that can be fully expected to occur over time unless county commissioners take another look at what they’ve done.

The Maryland Department of Planning rates Carroll’s agricultural zoning as “moderately protective.” The only reason it gets this high a rating is that there are counties with worse zoning.

One of those is Harford County, which the Maryland Department of Planning calls “least protective.” Harford has spent or committed a total of $46.5 million of its own funds to operate an innovative PDR program that is more sophisticated and more attractive to farmers than the state’s PDR program. Harford proudly ranks 8th in the nation for number of acres preserved. Yet elected officials think they are protecting the interests of farmers by holding on to one of the most permissive agricultural zones in the nation in terms of density allowance: a preposterous ordinance that allows, first, one building right per 10 acres per deed, then, for those owners whose deeds predate the ordinance, an additional building right for almost every member of the extended family – that is, living parents of each owner, all living brothers and sisters of each owner, and all living children. These relatives don’t have to live there – they merely have to sign affidavits proving they are alive and the owners can subdivide an additional lot in their name. The resulting density works out to about 1:5 or maybe 1:6. Harford County is spending lots of money on farmland preservation, and at the same time is virtually assuring that many, and perhaps most, preserved farms will be surrounded by development, and many of those lands will be developed at densities entirely incompatible with commercial agriculture.

None of this means that PDR should not be going on in these counties. County governments are entirely within their prerogative to pursue any degree of farmland preservation they deem worthwhile. But at some
point it may become evident that preserving farmland for the future of farming is not what happened, and what happened instead was suburban subdivisions interspersed with large, exclusive estates that used to be working farms. If a county is getting close to build-out, it may be impractical to pursue downzoning. But that’s not true for either Carroll or Harford, or, I believe, most counties that have active preservation programs.

We know in the business world that if you don’t clean up your own inefficiencies, circumstances, sooner or later, will compel you to do so. That’s exactly what might happen here in Maryland. The state has been sending money to its counties for PDR since 1977, and is only now beginning to take a look at where its money is going. A task force assigned to examine the state farmland preservation program is strongly advising the General Assembly and the governor to send farmland preservation money only to those counties that protect their PDR investments with adequately restrictive zoning.

Every summer, Farmland Preservation Report surveys all of the leading PDR localities to see where they stand in number of acres preserved. For the past seven years we have named the Top 10 counties, and this year named the Top 12 because some newcomers were so close to the Number 10 spot.

A few years ago I challenged my readers to think about which counties on this list will ultimately be the more successful in protecting farmland and farming. Will it be the ones with the most acres preserved through PDR, or will it be those that have, maybe, not as many acres under easement, but have more restrictive zoning? For example, will Montgomery County, with more than 53,000 acres preserved and 1:25 zoning be more successful at farmland preservation than Marin County, which trails by 20,000 acres but has 1:60 zoning?

So what is effective agricultural zoning? It is zoning that will protect the type of farming that is occurring in a given community. When considering the level of density that should be allowed, look first at your average size farm. If the average size farm is 50 acres, than it needs to be determined whether farming can still take place if one house is built on that 50-acre farm or maybe two homes could be built. That is for the community to decide.

In Lancaster County, Pennsylvania, every township has adopted zoning that restricts non-farm dwellings to one unit per 25 acres.

In Baltimore County, the density allowance in the Resource Conservation District, known as RC-2, is one dwelling per 50 acres.

Many townships in York County, Pennsylvania have 1:25 zoning, including sliding scale zoning. In fact, sliding scale zoning was invented in York County about 25 years ago and first enacted in one of its townships.

Marin County, California, is famous in the PDR world for it’s 1:60 zoning, which it enacted as part of a very determined farmland preservation effort in the early 1970’s.

Montgomery County, Maryland, is well known in the preservation field for its transfer of development rights program, or TDR, and its 90,000-acre agricultural preserve. After TDR, the remaining density allowance is 1:25.

Each of these examples can be considered effective agricultural zoning because, they have stood the test of time, that is, relatively few rezonings have occurred, the zones cover areas large enough to sustain an ag industry, and because in most cases farms can’t be broken up into parcels that are too small to farm, and finally, complaints from non-farm neighbors are minimal or nonexistent.

If your locality does not have agricultural zoning and wants to establish it, I will refer you to the book that I co-authored with Tom Daniels called Holding Our Ground, which contains a good chapter on agricultural zoning and some advice on how to get started.

But today I want to concentrate on the idea that even after a locality has had agricultural zoning, even for many years, it is just as important to revisit that zoning to see how it is working. If the zoning isn’t doing its job well enough, than it needs some adjustments.

Baltimore County is certainly a “Profile in Courage” when it comes to land protection. In 1976 the county downzoned a full half of the county, about 200,000 acres, from an allowed density of one unit per acre (1:1) to two zones of either 1:5 or 1:50. This was not done for farmland preservation, but to protect the water quality of three major reservoirs that provided
drinking water to the Baltimore region. These two zoning densities were mixed, allowing for development into the rural areas, but keeping large contiguous farming regions together with the more restrictive 1:50 zoning.

But as Baltimore County’s farmland and environmental protection programs increased and matured during the 1980s and 1990s, it was felt that further protections were needed to accomplish new preservation goals.

In 1996, during an update to the master plan, the Baltimore County Planning Board proposed downzoning 12,000 additional acres from the 1:5 density to the 1:50 density to protect the county’s prominent farming regions from further encroachment. You may find this hard to believe, but there wasn’t a lot of opposition to this proposal, only a few farmers who wanted the equity issue addressed.

And, so it was addressed in the most direct way, as I am about to explain. The idea that a landowner may lose equity when the density allowance on his or her land is decreased, is a serious issue. It seems to me that ever since zoning was invented it has been assumed that the more homes you can build, the more money you will make, or, the fewer homes you can build the less money you will make.

But, again, this has always been assumed, and maybe it used to be indisputable, but times change and so do land markets. Occasionally, a study has been done on whether decreased density allowances affect profit in land sales, but as far as I can tell, it wasn’t until 1996 that such a study had a direct impact on a downzoning proposal. The Valleys Planning Council of Baltimore County, a nonprofit land use watchdog group was working hard to support the downzoning. The executive director at the time, John Bernstein, now with the Maryland Environmental Trust, took on the job of disproving the lost-equity claim.

Bernstein and his staff studied land sales on 154 parcels of at least 10 acres that were located in preservation areas. They added up all the sales and did the math and found that parcels zoned for 1-50 sold for an average of $7,097 per acre, and parcels zoned for 1-5 sold for an average of $6,282 per acre.

They looked also at larger, developable parcels as a group, separating out those of 60 or more acres. They found the difference in per-acre averages between the lesser density of 1-50 and the greater density of 1-5 was miniscule for these properties: for the 1:5 parcels, the average parcel size sold was 120 acres, with an average cost of $6,255 per acre. In the 1:50 zone, the average parcel size sold was 113 acres and the average cost per acre was $6,335. The difference is just $80, but the important thing is, the assumption that parcels with more restrictive zoning would net less money was proved false, and in fact, the parcels with the more restrictive zoning not only competed with the 1:5 parcels, but actually sold for a little more per acre, on average.

I know that land sales data may be a whole lot different where you are. But the lesson will still ring true: test assumptions. Maybe farmers are right to be concerned about the loss of equity if you propose a downzoning, but maybe they are wrong. Someone just needs to do the math.

Larry Libby asked me to talk about trends I see that have to do with the regulatory side of farmland protection. Well, what John Bernstein did is probably the most exciting thing that I have seen happen in regulatory farmland protection in the last 10 years and I wrote about it in some detail in Farmland Preservation Report. But the story doesn’t end there, because one incident does not a trend make – to call something a trend, you have to have it happen again, preferably somewhere else.

Well, as it happened, I received a lot of phone calls about that story – in fact, if I had to name my Top 10 Stories for the first 10 years of publishing my newsletter, this story would be near the top in terms of reader interest. One subscriber in Calvert County, Maryland – Greg Bowen – read that story about John Bernstein’s data with particular excitement, and called me with some questions about it. Calvert County was about to update its comprehensive plan, and the county was facing tremendous growth pressure from Washington, D.C. that would require major road improvements and at least one new school. The county did a smart thing: a build-out study was conducted that showed the county could expect another 54,000 homes to be constructed under existing zoning. Then, the county did another smart thing. It produced a full-color newspaper-type publication and sent it to all residents, and when people got the news about what Calvert County was going to be like, and how much it was going to cost, they agreed that something had to be done.
At public hearings, residents overwhelmingly told officials they wanted to reduce buildout significantly, avoid new school construction, and avoid major road improvements that had been identified as necessary to accommodate the expected growth.

As part of this effort, Greg Bowen did some figuring of his own, comparing agricultural zoning in Maryland counties with per-acre appraisals within those zones, and could find no correlation between zoning densities and land values. In fact, Bowen’s data showed that counties with more restrictive zoning showed higher, not lower, market value for land.

So just two and half years after the story about the Baltimore County study appeared, I was writing about Calvert County enacting the first countywide downzoning to happen in Maryland in 20 years. It wasn’t as dramatic as Baltimore County’s, going from 1:5 to 1:50, but it was dramatic in terms of its coverage – the entire county decreased its potential density by half, affecting all zoning districts. In Calvert’s agricultural zone, allowed density went from 1:5 to 1:10. Not great, but certainly better.

And the campaign to support this downzoning was effective and systematic: Calvert County officials basically employed a set of build-out scenarios, and asked residents what they preferred. First option: a 25 percent density reduction and a postponement of needed highway improvements. Second option: a 50 percent density reduction and the elimination of the need for major highway improvements and a new high school. At a public hearing on the comprehensive plan, residents said they favored the latter option – the 50% option, and a stronger effort to save farmland and to save money in a big way.

That was in the spring of 1999. In 2000, as I mentioned earlier, Baltimore County, during its most recent master plan update, downzoned an additional 10,000 acres to the 1:50 density. So now that’s three major downzonings in Maryland, so I think we can call that a trend, especially considering that the equity issue was addressed, apparently to the satisfaction of landowners affected.

Add to this the State of Maryland’s Smart Growth policies that are leaning ever harder on counties to rethink regulatory means for protecting farmland, and maybe we can predict that this trend will continue, at least here in Maryland.

But the important thing about the Baltimore and Calvert County stories is that build-out scenarios and land value studies are very transferable, and hopefully, coming to a locality near you.
Agricultural Zoning: Impacts And Future Directions

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Introduction

The United States is converting farmland at substantial rates. Although several factors account for this conversion, the most basic reason for most farmland conversion is simple economics: as the suburbs expand, farmland will often bring in a higher price in alternative, more intensive land uses, such as residential or commercial. Whatever its broader worth to society as farmland, to the immediate parties involved the land is often more valuable converted. This has often included some of America’s best and most productive farmland.

All levels of government have perceived farmland preservation as an important societal goal and have responded with a variety of programs to slow and control the rate of conversion. Some programs might be viewed as voluntary incentives to encourage farmers not to convert farmland, such as special tax incentive programs, recognition of agricultural districts, and right-to-farm laws. Other programs seek to more permanently restrict a landowner’s right to convert by paying for development rights on the property. Most notable are Purchase of Development Rights (PDR) programs in which government purchases the development rights on farmland, paying the landowner the difference between the property’s value if more intensive development is allowed and its value as farmland. Similarly, Transfer of Development Rights (TDR) programs also compensate landowners for lost development rights, but instead of cash landowners are given development rights that can be used elsewhere.

Each of these programs has a role to play in any comprehensive effort to preserve farmland, but in and of themselves are inadequate. Right-to-farm laws are only effective in preventing involuntary conversion against a landowner’s wishes; they do little to protect farmland when an owner desires to convert. Similarly, differential tax programs and agricultural districting can provide temporary relief from conversion pressure, but neither is sufficient to offset the financial incentive of conversion when significant development pressure exists. On the other hand, PDR programs, though effective in preserving farmland when implemented, are necessarily limited in their scope because of the significant costs involved. TDR programs avoid this problem by providing development rights instead of money, but are contingent upon the right mix of development ingredients to succeed, especially appropriate “receiving areas.” As a result, few successful TDR programs have emerged.

For these reasons agricultural zoning has emerged as the foundation of most farmland preservation efforts, reflecting several distinct advantages. On the one hand, agricultural zoning restricts a landowner’s own decision to convert the property to more intensive uses, thus avoiding the limitations of voluntary programs. On the other hand, zoning avoids the financial limitations of PDR programs by placing the cost of preservation on the landowner. It has the added advantage of being a familiar and widely used land use control mechanism, thus assuring its acceptability to the general public.

Despite these strengths, zoning itself is not without its disadvantages. These include frequent legal challenges to restrictions, the perceived unfairness of placing the cost of preservation on affected landowners, and the potential for unanticipated impacts on broader community development. Perhaps most significant, however, is the concern that zoning restrictions are susceptible to change when development pressure arises, making it an unstable and, in the long run, ineffective preservation method. Moreover, if not done right, agricultural zoning can actually exacerbate, rather than limit, sprawl, by spreading development too broadly.

This paper will briefly examine agricultural zoning as a farmland preservation tool. Part one will briefly examine types of agricultural zoning restrictions. Part two, which is the main focus of the paper, will briefly examine the impacts of agricultural zoning from four perspectives: (1) its legal impact; (2) its economic impact; (3) its development impact; and (4) its effectiveness as a farmland preservation tool. Finally, the last section of the paper will give some brief recommendations on the directions agricultural zoning might take.
I. Types of Agricultural Zoning

Agricultural zoning, which began to gain wide acceptance in the 1970s and 1980s, is found today in a large number of counties throughout the country and provides the foundation for most farmland preservation efforts. At least fourteen states currently have statutes which specifically address and authorize particular forms of “agricultural protection zoning” but as a practical matter agricultural zoning should normally fall within local government’s general zoning power, even in the absence of a specific statute. Because it can preclude conversion of farmland even when significant development pressure exists, zoning is a widely and increasingly used farmland preservation technique at the local level.

Agricultural zoning can be generally divided into two basic types: exclusive and nonexclusive agricultural zoning. Exclusive agricultural zoning prohibits any use of the land other than agricultural. Even this type of zoning will permit certain compatible or accessory buildings, such as barns, on the property; fundamentally, however, exclusive agricultural zoning is designed to limit the property to agricultural use only.

The second and more common approach is nonexclusive agricultural zoning, which permits non-farm uses, most notably residential, but in effect establishes agricultural zoning restrictions through severe density limitations. To be effective this requires large minimum lot size restrictions, where the minimum lot size typically would correspond to “the minimum size of commercial farms . . . in the area.” Thus, minimum lot sizes might range from one house per 40 acres to one house per 160 acres. The obvious effect is to limit the property to agricultural use. A minimum lot size restriction might also take the form of a “sliding scale” restriction, which decrease dwellings per acre as acreage goes up. Thus, the ordinance might permit one dwelling for the first ten acres, one for the next twenty, and one for each thirty acres after that. This permits greater residential development for smaller parcels, which are less likely to be devoted to farming, while retaining the essentially agricultural nature of larger units.

Another variation on nonexclusive zoning is cluster zoning, which establishes overall density restrictions on property but permits small lot “clustering” of actual development on the property. For example, an overall density of one unit for ten acres might be established, but actual development is “clustered” together at a greater density, leaving a significant area of land free for farming. This provides an opportunity for greater residential development while at the same time preserving large sections of land for agricultural use.

Whatever its form, if done correctly, agricultural zoning serves the purpose of significantly limiting development on farmland property, thus preserving the property’s farmland status. Importantly, by placing public restrictions on the property the landowner is not free to sell the land for nonagricultural use when development pressure and attendant financial incentives become great. The result is to place the cost of preservation as reflected in diminution in land value on the restricted landowner.

As noted earlier, agricultural zoning is not exclusive of other farmland preservation methods, and often is most effective when combined with other tools. For example, when used, TDRs are typically combined with agricultural zoning as a way to mitigate the economic impact of zoning. Similarly, PDR programs work best with agricultural zoning as a foundation. This not only helps keep purchase prices at a reasonable level, but addresses the reality that PDR programs rarely have the necessary funds to preserve necessary land immediately. Differential tax programs also can serve to mitigate the economic impact imposed by agricultural zoning.

In addition to the more traditional tools, agricultural zoning has also been combined with urban growth boundaries (UGB) in some instances to preserve farmland. An UGB in essence is a line drawn beyond which development will be prohibited, thus directing growth pressure inward instead of sprawling out. Oregon in particular has been a leader in combining UGB with agricultural zoning as a method of preserving substantial areas of farmland, although the results have been somewhat mixed.

Finally, an important component of any zoning scheme, including agricultural zoning, are mechanisms for change. Zoning ordinances typically have three primary ways in which a land use restriction might be changed: variances, special-use designations, and rezoning of the land. As applied to agricultural zoning, the most significant of these is actual rezoning of the property. At bottom, this is simply a mechanism by which a previous restriction on land use can be changed to permit other, and often more intensive land uses. At
their best such change mechanisms provide flexibility to zoning schemes so that they can be sensitive to changing societal and local needs. At their worst they undermine long-term needs in order to bend to short-term political and market expediencies.

Agricultural zoning, in all its variations and partnerships with other tools, is the primary basis for preserving farmland today. The next section of this paper will analyze the impact of agricultural zoning from four perspectives: (1) its legal impact; (2) its economic impact, especially from the landowner's perspective; (3) its development impact; and (4) its effectiveness as a farmland preservation tool.

II. Impacts

A. The Legal Impact: Constitutional Restraints on Agricultural Zoning

An initial impact for analysis is the legal impact of agricultural zoning, and in particular what restraints might exist on its use as a farmland preservation method. There are, of course, various state laws that restrain zoning as a land use control device, including state enabling acts and more specialized doctrines. As a practical matter, however, the primary and most significant limitations on zoning are those found in the Fifth Amendment takings clause to the United States Constitution, which will be the focus of this section. Indeed, because of the significant economic impact that agricultural zoning can have on land values as compared to alternative uses involving development, landowners have frequently argued that agricultural zoning constitutes an unconstitutional taking of property. This section will briefly analyze the constitutional validity of agricultural zoning as a land use device, with special attention given to the effect of the Supreme Court’s recent decision in Palazzolo v. Rhode Island.\(^{15}\)

Current Supreme Court takings doctrine recognizes that in very limited situations the economic impact of a land use regulation might be so severe as to constitute an unconstitutional taking of property. This “regulatory taking” doctrine was first recognized in the seminal decision of Pennsylvania Coal v. Mahon,\(^ {16}\) and over the years has proven to be a source of considerable litigation and confusion. The Court currently applies a two-fold analysis for determining when the economic impact of a land use restriction constitutes a taking. First, as stated in Lucas v. South Carolina Coastal Council,\(^ {17}\) a regulation constitutes a taking if it deprives a landowner of “all economic viability.” The Court did not clarify what this term might mean, but found it was met when a regulation left land “valueless,” as was the case in Lucas.

Second, the Court in Lucas stated that even when a regulation falls short of eliminating all economic viability, the regulation might still constitute a taking under what has become known as the Penn Central factors. Those factors come from Penn Central Transportation Co. v. New York City,\(^ {18}\) in which the Court identified the character of the government action, its economic impact, and the degree of interference with investment-backed expectations as being particularly significant factors in determining whether a restriction was a taking. In that decision the Court held that the challenged restriction on use of air rights did not constitute a taking, both because the restriction still permitted a reasonable return on the land and because the challenged landmark law did not interfere with the original purpose of the property.\(^ {19}\)

The Supreme Court itself has never applied this two-fold takings analysis to an agricultural zoning restriction. However, a significant number of lower courts have addressed takings challenges to agricultural zoning restrictions, with the vast majority of cases holding that the restriction was not a taking.\(^ {20}\) These lower court decisions have taken various approaches in resolving takings claims, in part reflecting unique state standards, but have for the most part approached takings analysis consistent with the above Supreme Court test. Thus, lower courts have frequently stated that agricultural zoning is not a taking as long as the land is suitable for agricultural use and economically viable, which is almost always the case.\(^ {21}\) Moreover, lower courts have frequently emphasized that the restriction did not interfere with a landowner's investment-backed expectations under Penn Central, either because the property was originally acquired for farming\(^ {22}\) or because the restrictions were in place when the land was bought.\(^ {23}\)

On those few occasions where lower courts have found a taking to exist, it is usually because the land was truly unsuitable for farming and thus denied the landowner economically viable use of the land. For example, in Kmiec v. Town of Spider Lake,\(^ {24}\) the Wisconsin Supreme Court found an agricultural zoning restriction invalid where it was admittedly used as a "holding" classification for future use, despite the unsuitability of the land for farming. As a general matter, however, courts have consistently held that agric-
cultural zoning does not constitute an unconstitutional taking where the property can be effectively used for farming purposes, even if it involves a substantial economic burden on the landowner.

These lower court decisions generally upholding agricultural zoning against takings challenges appear to be consistent with what had been the standard view of the Lucas-Penn Central takings analysis. The Supreme Court's most recent regulatory takings case, Palazzolo v. Rhode Island, decided in June of 2001, has the potential of significantly impacting regulatory takings analysis in several important respects. Although Palazzolo itself involved a coastal wetlands restriction, the Court's analysis is applicable to a broad array of land use restrictions, including agricultural zoning. Thus, some attention must be given to how Palazzolo will impact the validity of agricultural zoning restrictions.

In Palazzolo the Supreme Court reviewed a wetlands regulation which had been in place when the claimant acquired the property and had the effect of prohibiting all development except the possible building of a house on several uplands acres. Although several issues were at play in Palazzolo, the most significant was whether notice of a restriction when property is acquired precludes a takings claim. The Rhode Island Supreme Court, following the majority of lower courts, said it did. In a 5-4 decision, the United States Supreme Court reversed, holding that notice of a restriction does not preclude a taking claim. It went on to hold, however, that under the facts Palazzolo had not been denied all economically viable use of the property, since a house could be built on several acres of uplands property attached to the restricted eighteen acres of wetlands, and therefore remanded the case for a determination of whether a taking had occurred under the Penn Central factors.

The immediate impact of Palazzolo on agricultural zoning is twofold. First, and most obvious, is that a takings claim will not be precluded just because the agricultural zoning was in place when the property was acquired. Although this has not been a common scenario in the agricultural zoning cases reported so far, it will likely become more common as time passes. As such, courts will be required to apply the two-fold Lucas/Penn Central analysis to all agricultural zoning restrictions challenged as takings, regardless of when the property was acquired.

Importantly, however, although notice no longer precludes a takings claim, a close reading of Palazzolo indicates that it can still be considered as a factor in analyzing the interference with investment-backed expectations under Penn Central. In a concurring opinion Justice O'Connor stated that, although notice should not preclude a takings claim, neither should it be irrelevant when analyzing the degree of interference with investment-backed expectations under Penn Central. Four other justices agreed with O'Connor on this point, making a majority of the Court. Although it is unclear what weight to give it in any situation, to the extent the owner knew of the restriction, it makes it less likely to be a taking under Penn Central.

The second immediate impact of Palazzolo on agricultural zoning is its affirmation that even minimal economic activity is enough to avoid a categorical taking under Lucas. In this sense Palazzolo is quite supportive of the validity of agricultural zoning. In affirming that the building of a "substantial home" on eighteen acres is economically viable, the Court was indicating that a Lucas categorical taking is limited to only extreme impacts. Indeed, in Palazzolo the landowner had sought $3,130,000 for lost profits from not being able to develop the land, but the Court instead focused on the $200,000 value of the upland property as evidence of economic viability. If anything, this aspect of Palazzolo strengthens lower courts consistent recognition that agriculturally zoned land meets the economically viable threshold as long as the land is suitable for farming.

Where does this leave the validity of agricultural zoning restrictions? Despite the shake-up created by Palazzolo, it is reasonable to predict that the vast majority of agricultural zoning restrictions, if done pursuant to sound planning and ensuring that the property is suitable for farming, should still be constitutional. First, there is little doubt that proper agricultural zoning permits some economically viable use of the property and thereby avoids a categorical finding under Lucas. As noted above, if anything Palazzolo strengthens agricultural zoning under the first part of the test.

The real question, therefore, is how agricultural zoning restrictions will do under the Penn Central analysis, which Palazzolo makes clear must still be applied even when the land remains economically viable. The short answer is that this should not pose a problem in most cases for several reasons. First, although not precluding a takings claim, Palazzolo indicates that knowledge of a restriction can be a factor in analyzing the
degree of interference with investment-backed expectations. Penn Central itself labeled this the most important factor, and it seems to work against a landowner who was aware of the restriction when the property was purchased. Thus, in those instances where the claimant knew of the restriction, it would be very unusual to find a taking under Penn Central.

Therefore, to the extent the Penn Central analysis poses a problem for agricultural zoning, it would be where restrictions are imposed after the claimant acquired the property. Even here, however, Penn Central suggests most agricultural restrictions are valid, even if resulting in substantial diminution in value compared to other, more intensive land use. This is clearest where the original purchase price reflected agricultural use and value, and only later did the value greatly appreciate, probably due to subsequent development nearby. Although downzoning in such a situation clearly has an economic impact on the affected landowner, it would not amount to the degree of investment-backed expectations necessary for a taking contemplated by Penn Central. Indeed, Penn Central itself involved essentially this same scenario, where what had been permitted development was eliminated, resulting in significant economic impact, but not interfering with what had been the original expectation of the owner.33

More difficult is where property is zoned permitting development and is purchased at a price reflecting such development potential, and then is downzoned to agricultural zoning. Although this would appear to be the strongest case for a taking under Penn Central, even here the court has indicated such downzoning can inflict substantial economic losses and still not be a taking. Otherwise, as often noted by the Court, it would be impossible to enact new zoning restrictions and other regulations necessary to address changing societal needs. For that reason the Court has consistently indicated that even newly enacted land use restrictions, which change previous understandings of development opportunities and thereby diminish property values, are still generally constitutional.34 Indeed, the Court in Palazzolo itself took care to affirm this basic point.35

This position is also supported by the notion of regulatory risk, a concept that helps inform the reasonableness of any investment-backed expectations under Penn Central. The Supreme Court recognized this in Lucas, where it stated, "[i]t seems to us that the property owner necessarily expects the use of his property to be restricted, from time to time, by various measures newly enacted by the State in the legitimate exercise of its police power . . . ."36 This builds on statements by the Court in other regulatory contexts, in which it has strongly affirmed the idea that the risk of regulation is part of economic life, which includes the distinct possibility of economic loss.37 Thus, even when landowners have purchased property at prices reflecting permitted development opportunities, which are later subsequently restricted, resulting in economic loss, a taking has not necessarily occurred.

When, therefore, might an agricultural zoning restriction on land suitable for farming constitute a taking under the Penn Central analysis? Although the vagueness of the test makes any predictions speculative, it would seem to require more than either buying property in reliance on current zoning restrictions or significant diminution in property values when zoning occurs. Although both of those facts might be a necessary predicate, it would seem to, in most instances at least, require problems with the third Penn Central factor: character of the government action. In particular, the more the restriction reflects sound planning principles, is pursuant to a comprehensive plan, and does not single-out isolated owners for restrictions,38 the less likely a taking would be found. Conversely, if the zoning is ad hoc and narrowly focused on only a few landowners, together with significant diminution in value, it approaches the type of extreme situation that might constitute a taking under the Penn Central test.

As noted by both the majority and Justice O'Connor's concurrence in Palazzolo, the Penn Central test is necessarily quite flexible, and in the final analysis must be governed by what "fairness and justice" would dictate.39 Therefore, there might be unique circumstances in which even a well-conceived and broadly applicable agricultural zoning restriction will be a taking under Penn Central. Yet, as a general matter, the Court has consistently affirmed that newly enacted restrictions which change previous understandings and result in substantial economic loss are still not unconstitutional takings under Penn Central. Moreover, Palazzolo indicates that to the extent the landowner had notice of the restrictions, that can help inform the reasonableness of any investment-backed expectations, making a taking under Penn Central even less likely.

In summary, if done pursuant to sound planning and restricting only land suitable for farming, agricultural zoning should rarely, if ever, constitute a taking under current Supreme Court jurisprudence. Although the
Court’s recent decision in Palazzolo provides that landowner notice does not preclude a takings claim, eliminating one basis on which courts occasionally upheld agricultural zoning restrictions, agricultural zoning should still fare well under the two-fold Lucas/Penn Central analysis. First, agricultural zoning will almost always permit economically viable use of the land and therefore not constitute a categorical taking under Lucas, a conclusion made even stronger by Palazzolo. Second, most agricultural zonings should be valid under Penn Central, especially if the land had originally been acquired for agricultural purposes.

Although agricultural zoning should generally not be a taking, prudence suggests several basic steps to insulate zoning against even the possibility of a taking. First, the restricted land must be suitable for farming and not just be zoned agricultural as a “holding classification.” Second, the zoning should occur pursuant to sound planning principles and be broadly based, as opposed to targeting only a few properties. Third, to the extent possible, the zoning should identify properties earlier rather than later, when land values have appreciated substantially. Although this last factor is far from fatal, early identification of land to be zoned agricultural provides extra “breathing room” against takings challenges.

B. The Economic Impact: Is Agricultural Zoning Fair to Restricted Landowners?

Perhaps the clearest and most immediate impact of agricultural zoning is on the regulated property owner. The effect of the regulation is to eliminate development opportunities, and to restrict the property to agricultural use. As a consequence, agriculturally zoned land frequently suffers a significant diminution in value as compared to alternative uses involving development. As a practical matter, therefore, the most immediate financial impact of agricultural zoning is to shift the cost of farmland preservation from society as a whole to landowners themselves.

This shifting of preservation costs to landowners has given rise to concerns about the fairness of agricultural zoning. The essence of the fairness argument is that agricultural zoning forces a few landowners to bear the cost of preserving farmland for the benefit of society more generally. The typical rationales for preserving farmland, such as food security and environmental amenities, go to society as a whole rather than the affected landowner. Thus, the argument goes that if most of the benefits from preservation go to society as a whole, then the cost of preservation should go to society as well.

As thus presented, the fairness argument does not necessarily dispute the wisdom of farmland preservation, but instead questions who should pay for it. Whatever the merits of preservation, it is arguably unfair to force a few landowners to bear the burden of bestowing benefits on the rest of society. Thus, the argument is made that if the benefits from preservation go to society as a whole, then society should pay for such benefits in the form of compensation to affected landowners. For this reason alternative preservation schemes involving Purchase of Development Rights or Transferrable Development Rights are viewed as more equitable in that they shift the cost of preservation from the regulated landowner back to society.

This fairness argument, very much a component of current discussions about farmland preservation, has intuitive appeal and needs to be taken seriously. Fundamentally, it raises the question of how the benefits and burdens of land use controls should be distributed across society. In this respect thought should be given to whether a disproportionate burden falls on affected property owners, and how it might be at least partially addressed. Certainly use of PDRs and TDRs can be used to partially address these concerns.

As a practical matter, however, the perceived unfairness of agricultural zoning as applied to affected landowners is overstated for several reasons. First, of course, the impact on regulated owners of farmland is by no means all negative, especially as regards those who prefer to farm rather than convert to other uses. In such cases the restriction must be viewed as part of the broader comprehensive plan and the various reciprocal benefits it bestows on affected landowners. In particular, those intending to farm are insulated from the problems accompanying more intensive uses by similar restrictions on neighboring properties. This provides significant benefits to farmland, thus at least partially offsetting the economic impact.

Second, even for landowners who want to convert the property to more profitable uses, the argument that agricultural zoning is inherently unfair because of its economic impact on property owners remains overstated. First, the fairness argument assumes that the entire profit potential of private property is attributable to the landowner, when in fact a substantial portion of
private property value is often established by government “givings.” Government givings are actions which enhance, rather than diminish, property values. As noted by various commentators, much of the value of farmland is a result of such givings. This might occur with farmland in numerous ways, such as farm subsidy programs and mortgage deductions, both of which indirectly enhance farmland values.

More directly on point, zoning and land use controls themselves enhance land values by minimizing the harms that might otherwise affect landowners, especially those arising from incompatible land uses. Thus, the very scheme of restricting property use adds significant value to neighboring property. Specifically, the increased value of agricultural land in alternative, residential use in part exists because government zoning would protect any residential development from conflicting industrial and commercial use. Any fairness arguments based on diminution in value necessarily reflect property values largely enhanced by protective government regulatory schemes.

Perhaps the most obvious example of government givings in regard to farmland subject to development pressure is basic infrastructure support that makes land developable in the first place. This is particularly relevant with regard to farmland preservation issues, where conversion pressure and enhanced land values typically occur because of government activity that facilitates conversion to other uses. In particular, road and other infrastructure support, which makes land developable in the first instance, are paid primarily by general tax revenues and often result in disproportionate financial benefit to undeveloped land, often farmland, in proximity to development.

This “givings” analysis suggests that the economic impact of agricultural zoning on affected landowners is not nearly as great as it might initially seem. Although agricultural zoning frequently results in a significant diminution in value compared to alternative uses, much of that value was created by government activity in the first place. This is not to minimize the role of private initiative in creating land value, which is certainly important, nor intended to foreclose the inclusion of compensatory schemes, such as PDRs, in preserving farmland. But it suggests that arguments against agricultural zoning because of its significant economic impact on regulated property owners are misplaced.

It is also important to understand that our legal system and our society have long recognized that land is affected by a broader public interest. Although private property rights have been, and remain, an important component of our economy and legal system, they have never been viewed as absolute. Rather, property rights have traditionally been viewed as being subject to public rights. Thus, when zoning restrictions are imposed on farmland to serve a public interest they are not necessarily depriving the owner of pre-existing rights; rather, such a limitation is inherent in the property to begin with. For this reason, a landowner’s reasonable expectations regarding the future use and transfer of property necessarily include the recognition that the property might be subject to restrictions such as zoning to serve a public purpose.

Taken together, the concepts of givings and the nature of private property suggest that agricultural zoning is not inherently unfair to affected landowners, even when the zoning results in a substantial economic impact. As such, agricultural zoning should not be avoided as a farmland preservation tool because of perceived unfairness to landowners, nor should local governments too quickly yield to rezoning requests on fairness grounds. Though affected landowners no doubt carry a disproportionate burden from zoning schemes, from a broader regulatory perspective such burdens are neither unanticipated nor abnormal, and thus, in most instances, should not be viewed as unfair.

That being said, to the extent possible, it makes sense to attempt to mitigate what often appears to be harsh economic impacts on landowners. First, compensatory alternatives such as PDR and TDR programs should be used, to the extent possible, to help offset the impacts of zoning. Not only do such programs help insulate zoning restrictions from change requests, but they arguably more closely align the burdens with the benefits of farmland preservation. In theory the amount of compensation need only be partial, discounting the perceived loss by government givings and regulatory risk. In practice the payment most typically reflects the lost development value of the property.

Second, fairness concerns can also be partially addressed by careful planning that identifies property to be preserved before development pressure arises. By restricting suitable farmland well in advance of development pressures, this provides landowners with the reasonable ability to plan their affairs accordingly.
C. Developmental Impacts: Is Agricultural Zoning Consistent with Other Societal Needs?

A third impact of agricultural zoning is its effect on broader development goals that local and state governments might have. Any effort at preserving farmland must also give substantial attention to growth concerns and how they relate to farmland preservation. Indeed, the need to take regulatory steps to preserve farmland primarily becomes an issue because of the pressure to convert for development purposes. An important question is what effect agricultural zoning has on the growth/sprawl pressures that created the need to preserve in the first place.

The answer in part depends on the type of agricultural zoning method used and its effectiveness in preserving farmland. There is some evidence that some types of large lot zoning results in increased sprawl by simply scattering development further out.\(^48\) Thus, rather than preserving farmland, such zoning arguably takes more away. Moreover, it exacerbates rather than controls, sprawl development, with the consequences of sprawl. This includes increased transportation costs, increased pollution from vehicle miles traveled, increased infrastructure costs, and increased impacts from vehicle response time.

If done correctly, however, agricultural zoning should have the opposite effect, which is to control or limit sprawl. Assuming development pressure remains the same, the effect of restricting large areas to agricultural use is to force development into a more contained area. Indeed, any farmland preservation program must necessarily be integrated as part of a more comprehensive effort to address the problems of sprawl, with each playing off the other. Thus, as efforts to preserve farmland necessarily leads to more compact development, so too do comprehensive efforts to address sprawl necessarily involve preservation of prime farmland as a logical component. As will be discussed in the next subsection, attempts at agricultural zoning without compact growth plans will likely be unsuccessful.

Therefore, perhaps the most immediate consequence of successful agricultural zoning, if done as part of a broader growth management plan, is that existing development pressure will likely be directed to more compact and dense development. This can be done in several ways, but the end result is similar. Housing density increases and is located closer to existing urban or suburban areas. This, in turn, has a number of positive impacts in addition to the preservation of farmland, including lower infrastructure costs, decreased transportation costs, decreased air pollution and energy consumption, and lower response time for delivery of government services.\(^50\) In total, these represent significant social gains by limiting the adverse consequences of sprawl development.

There are, however, several potential social costs to such a compact development alternative. First is the denial of consumer preference by forcing compact development and limiting the possibility of large lot, scattered development. As a practical matter, we have sprawl because that's what a significant number of consumers want. Although the concept of sprawl itself is displeasing to most, the type of development that creates sprawl — large lot, scattered homes — is itself quite pleasing to many.\(^50\) Indeed, the need for agricultural zoning is predicated on the fact that the market, reflecting consumer preferences, is inclined toward sprawl. Thus, effective agricultural zoning, if properly combined with a plan for compact development, arguably results in a denial of consumer preferences.\(^51\)

The basic response to this is that consumer preferences, though arguably reflecting what is best for those engaged in any particular transaction, frequently fail to consider the broader social costs of their actions and thus lead to an inefficient allocation of resources. In particular, the market as reflected in consumer choices fails to consider all the costs and benefits in a transaction — they are external to the decision-making process.\(^52\) As it concerns consumer preferences for scatter development, consumers fail to consider the previously noted societal costs associated with sprawl: increased energy and transportation costs, increased pollution, infrastructure costs, and farmland loss. Beyond that, the preference for scatter development is itself heavily subsidized by government infrastructure costs, especially in terms of roads.\(^53\) Taken together, the subsidized nature of the consumer choice for sprawl, along with the significant external costs imposed on the rest of society, indicates that denial of such consumer preferences is neither inefficient or problematic. Indeed, combating sprawl, of which farmland preservation is one dimension, should result in significant social gains.

A second potential development cost that might result from effective agricultural zoning concerns what effect, if any, it might have on the price of new housing by limiting the supply of land. The preservation of farmland in and of itself would appear to enhance
neighboring property values because of the environmental amenities that it brings. Yet agricultural zoning might potentially raise the cost of new entry level development by limiting the supply of available land for new construction. All else being equal, when the supply of a commodity decreases, and demand remains the same, the price increases.

As is true with many issues surrounding sprawl, there is substantial disagreement on what effect growth management strategies have on housing prices. Studies of Oregon's urban growth boundaries designed to contain growth and preserve farmland, suggest some increase in housing prices resulting from the limited land supply.\textsuperscript{54} This has also been theorized by a number of opponents of growth controls.\textsuperscript{55} Others, however, have suggested that efforts to combat sprawl need not increase housing costs, and, indeed, sprawl itself has a negative impact on affordable housing.\textsuperscript{56}

Despite this disagreement, it would appear that the actual impact of agricultural zoning on the cost of new entry housing prices in part depends on whether there are concomitant plans for more compact growth. To the extent that government decreases the supply of land through agricultural zoning, but fails to pursue compact growth alternatives, then arguably the cost of new housing will increase. This might occur where government maintains low-density residential restrictions, such as half acre lot minimums, while at the same time removing substantial acreage from the market through agricultural zoning. As a consequence, the cost of raw land would go up and likely be passed on to consumers.\textsuperscript{57} This would be particularly problematic with regard to provision of affordable housing for low and moderate income families.

On the other hand, if effective efforts at compact growth accompany agricultural zoning, as they should, the overall effect might well be to decrease entry housing costs. First, by using less land per home, compact housing reduces the percentage of housing costs attributable to raw land.\textsuperscript{58} A recent study indicates that this alone is sufficient to reduce the cost of housing.\textsuperscript{59} Second, the infrastructure costs are generally lower for compact housing, which should reduce its overall costs as well. Taken together, these suggest that agricultural zoning should not have an adverse effect on new housing costs when combined with provisions for greater residential density development.

As a practical matter, of course, the actual cost for new housing will depend on a number of variables, including market demand for various types of housing in the community, the amount of land that is available for residential use, and developer incentives. For that reason, communities must remain sensitive to the potential impact agricultural zoning has on housing prices, and in particular affordable housing for low and moderate income families. At a minimum this should be addressed through separate plan and zoning provisions addressing the need for affordable housing, and sensitive monitoring of any impacts that might occur. Special care should also be given to ensure that sufficient quantities of land are reserved for development, and that zoning restrictions which impede low and moderate income housing are removed.

\section*{D. Preservation Impacts: Is Agricultural Zoning Effective in Preserving Farmland?}

A final, and perhaps the most significant issue, is whether agricultural zoning is effective in actually preserving farmland from conversion to other uses. As noted in the introduction, zoning has several major strengths relative to other preservation methods. It is able to quickly preserve large tracts of contiguous land for farming, creating an assurance of insulation and stability for future decision-making. Moreover, by taking the decision to convert away from property owners, it avoids the problems posed by right-to-farm laws and tax programs. At the same time there is no cost, thus avoiding the significant limitations posed by PDR programs. Finally, zoning is familiar to most people and can fit within a broader comprehensive zoning scheme to which the entire community is subject.

For all these reasons, agricultural zoning is a necessary foundation to any effort to preserve farmland. The question remains, however, whether zoning remains an effective preservation technique by itself. This, in turn, requires some understanding of why conversion of farmland occurs. The primary reason for most farmland conversion is simple economics: as the suburbs expand, farmland will bring in a higher price in alternative, more intensive land uses, such as residential or commercial. Whatever its broader worth to society as farmland, to the immediate parties involved the land is often more valuable converted.

A second reason for conversion, which plays into the first, is that farming the land is no longer a viable alternative for the landowner. This might be due to fac-
tors unrelated to land use issues, such as the general state of the farm economy or the lack of an interested heir to continue farming when the current owner retires. However, it might also result from encroaching development itself undermining the viability of farming, including increasing interferences with non-farm uses and the elimination of a critical mass to sustain a local farm economy. Moreover, it has been hypothesized that at some point an “impermanence syndrome” occurs, in which farmers stop investing in farm enterprises because of the perception that farming will not remain viable. This lack of further investment itself acts to hasten the conversion spiral.

As should be apparent, these two forces mutually reinforce each other in creating conversion pressure. Economic incentives to convert farmland diminish the local farmland base, creating conflicts with new development and undermining farm vitality. Remaining farms thus become even more susceptible to conversion, even for farmers who might otherwise be inclined to remain in farming. Moreover, the case for granting zoning exceptions becomes stronger when farming no longer appears viable. Thus, any effort at farmland preservation must have an eye to both these concerns.

In theory, agricultural zoning would appear to effectively address both these concerns. First, as previously noted, zoning in effect removes the decision to convert from the landowner. Thus, absent a zoning change, the landowner cannot convert the property to more intensive land uses, no matter how great the economic incentives.

Second, zoning would also appear to create a stable environment in which farming can remain a viable economic enterprise, at least to the extent it can be controlled by local government. In particular, by segregating large areas of farmland from other, conflicting land uses, zoning avoids potential conflicts that interfere with farm activities. Zoning can also help ensure the maintenance of a large mass of farmland necessary to preservation of the farm economy. Moreover, in theory zoning should address the “impermanence syndrome” by stabilizing farmland uses against conversion. If farmers perceive stability of farm use that zoning can create, they will continue to invest in their own farming activity.

Despite these theoretical strengths, the conventional wisdom is that zoning is not a particularly effective farmland preservation method. The fundamental concern about the effectiveness of agricultural zoning is the inherent impermanence of any system based on political choice. In particular, numerous commentators have noted that the opportunity to change zoning restrictions through variances and rezonings undermines its effectiveness as a long-term answer to farmland conversion. Especially problematic is what is seen as a lack of political will to withstand requests for change. As a result, what often begins as a strong preservation plan on paper, soon evaporates in a succession of rezonings to accommodate development pressure.

The frequent inability of local government to withstand pressure to change arguably results from several of the previously discussed impacts of zoning. On the one hand, agricultural zoning often results in significant diminution in property value for the affected property owner, at times creating a perception of unfairness that makes the case for change seem more reasonable. On the other hand, substantial development pressure for consumer preferences for larger lots is often evident. Taken together, they create a powerful pressure for rezoning of agricultural land to more intensive uses. This is particularly true if there are no clear alternatives for the inevitable development pressure that builds. Without a clear plan on how to address housing and other needs, the most expedient route is to grant change requests.

This concern that the ease of change undermines the effectiveness of agricultural zoning finds support in studies and anecdotal evidence. For example, in a study of the effect of agricultural zoning on farm preservation in Wisconsin, two researchers found agricultural zoning to have very little effect on preserving farmland. Using data from over 800 towns in Wisconsin, the study examined the rate of farmland loss between 1990 and 1997. After controlling for various other factors that might influence the loss of farmland, the study concluded that there was “no convincing evidence that the presence of an Exclusive Agricultural Zoning ordinance had a strong mediating impact on the rate of farmland loss . . . .”

The authors suggested that the mere presence of agricultural zoning was in and of itself an insignificant factor in preserving farmland. Rather, as frequently observed by others, the critical factor is a local government’s willingness to enforce existing language, and in particular to consistently say no to zoning change requests that would permit development. Communities with strong language but which frequently granted
rezonings lost farmland as rapidly as those with no zoning at all, while communities with modest zoning language but which were resistant to change requests were effective in preserving farmland.64

While recognizing this basic weakness in zoning as a preservation tool, two points should be made in its defense. To the extent zoning is unstable, it is not necessarily a weakness of the tool itself, but rather those implementing it. As noted by scholars, when communities have a strong commitment to preserving farmland, zoning works quite well. Thus, the basic problem is the community's fundamental commitment to preserving farmland to begin with. For those serious about preservation, agricultural zoning is effective.

Second, zoning change mechanisms, the supposed Achilles' heel of zoning when it comes to preserving farmland, are not in and of themselves a weakness of a properly conceived system, but instead a strength. They provide what would otherwise be a static system insensitive to changing local and societal needs with the flexibility to respond to the inevitable changes that occur. In theory these change mechanisms permit zoning to more accurately respond to the correct use of land, granting change when it is in the public's interest and denying it when it is not. This arguably is good, since a truly effective farmland preservation system is not one that preserves farmland at all costs, but one that preserves farmland when the land is more valuable preserved, and converts it when more valuable converted.

The problem, of course, and this brings us closer to the primary weakness of zoning, is that the typical change request tends to focus on the interests of the immediate parties, and tends to shortchange broader and long-term societal interests. This is in part due to incomplete information. In the same way that markets fail because of incomplete information, so too do political and governmental decisions. Thus, what is the correct allocation of land resources is often at best only an estimated guess in any particular situation.65

More significant, political decision-making tends to discount broader, more diffuse, and long-term societal interests, giving greater weight to immediate concerns. By their very nature many of the interests supporting farmland preservation extend beyond the local community and benefit regional and national interests, as well as future generations. This certainly is true of food security, which is a national and very long-term concern. But even some of the environmental amenities often associated with farmland preservation, such as reduced pollution and energy consumption, extend beyond the local community. To the extent that these reflect societal interests beyond the local decision-maker's own immediate constituency, it is not surprising that they are heavily discounted or ignored altogether. This is particularly true when those seeking change from an agricultural zoning restriction present what appear to be immediate concerns, especially when surrounding property has already been developed.66

Thus, for a combination of reasons, including the lack of political will to resist change and the perception, as well as reality, that many of the benefits of preservation extend beyond the local community, agricultural zoning, by itself, is limited in its effectiveness as a preservation method. Efforts to improve agricultural zoning as a preservation technique must therefore address the problem of change, and the underlying environment that gives rise to excessive change. As suggested above, this is in part an uphill battle, given the short-term and immediate focus of political decisionmaking. Yet arguably certain steps can be taken to address at least some of the underlying concerns giving rise to excessive change.

Most fundamentally, there must be a clear sense of, and commitment to, the idea that farmland preservation is an important societal goal. If government is truly resolved to protect farmland, then zoning is a cost-effective way to preserve large tracts of land. At a minimum this requires early and full involvement of all stakeholders in supporting agricultural zoning, especially the farming community itself.67 To the extent farmers see zoning not as a threat, but as a tool designed to protect the local farm economy, their support can be critical in resisting conversion pressure. Moreover, to the extent the perceived purpose of the zoning is to support a strong local farm economy, rather than simply supply environmental amenities, it is more likely to be seen in the community's interest to resist change.

Zoning must also be used in such a way that farming remains a viable economic option, thus avoiding one of the two reasons for conversion. Most importantly, this means resisting unnecessary change in the first instance, since the perception of easy and inevitable change itself undermines the viability of zoning, which in turn leads to even greater change pressure. In addition, the initial zoning designations must provide for a sufficient acreage to ensure continuation of a vital local farming community.
Beyond that, the conditions giving rise to excessive change can be addressed through measures designed to stabilize zoning generally. Perhaps most important is sound planning, ensuring adequate opportunity for development while drawing clear lines where development will be prohibited. Especially critical are adequate provisions to accommodate anticipated growth, most likely in the form of plans for more compact development. Without a clear plan of how to address housing and other needs, the most expedient route is to grant change requests. Thus, to the extent that agricultural zoning removes significant amounts of land from the housing market, there needs to be a clear plan of how housing needs will be addressed without the necessity of rezoning agricultural land.

There are other measures that can be used to support agricultural zoning, including selective use of PDRs and TDRs, as well as urban growth boundaries. These, along with coordination of zoning with compact growth plans, will be examined more closely in the next section of this paper on future directions for agricultural zoning.

III. Future Directions

Agricultural zoning is a necessary component of any comprehensive effort to protect farmland. That will undoubtedly remain true even as efforts are made to identify new, and fine-tune existing, farmland preservation methods. The ability of zoning to restrict substantial amounts of farmland, at minimal cost to government and within existing legal parameters, will continue to make it an attractive, and even indispensable, preservation tool.

At the same time, the role of agricultural zoning in farmland preservation faces several significant challenges, some of which overlap with each other. These include:

- Continued concerns about “ takings.”
- Perceptions of unfairness to restricted property owners.
- Its instability because of the ease with which change is permitted.
- Its effect on affordable housing.
- The necessity of coordinating agricultural zoning with growth management strategies.
- The challenge of accommodating the significant growth many regions face while still preserving farmland.

These concerns will vary from locale to locale, and any use of agricultural zoning must necessarily be sensitive to the particular goals and circumstances of a region. Thus, “one size fits all” prescriptions should be avoided. With these considerations in mind, the following recommendations are made for the future of agricultural zoning as a centerpiece of farmland preservation efforts.

1. Agricultural zoning restrictions must be designed so as to limit use to farming. Agricultural zoning is of little use if it permits a variety of other uses, which is sometimes the case. The best alternative is exclusive agricultural zoning, which prohibits any use unrelated to farming. To the extent large lot zoning is used, minimum lot sizes should conform to the size of the farm in the region and be of sufficient size to avoid the problem of purchase just for residential use. Thus, requirements of one house per five acres will do little good, since the restricted parcel is too small for viable farms and is attractive for residential development. This will actually exacerbate sprawl, rather than control it. Instead, minimum lot sizes need to be substantially larger so as to conform to viable farm sizes.

2. Agricultural zoning needs to preserve a sufficiently large area to ensure maintenance of a viable farm economy. In the long run agricultural zoning will succeed only if the farming community itself is confident that farming will remain viable, thereby encouraging continued investment in farming. Although resistance to unnecessary change is perhaps most important in this respect, the initial designation of a critical mass of land is also important in maintaining a viable farming economy.

3. Agricultural zoning should occur as part of comprehensive planning, identifying suitable land in advance of development pressure. The need for early identification of land to be zoned agriculturally serves several purposes. First, it helps avoid one of the few instances in which a taking might be found. Second, advance planning provides fairness to affected landowners, who can plan both farming and financial activities accordingly. Third, perceptions of unfairness are greatest when highly valuable property is downzoned, a scenario made less likely by early identification and zoning of farmland. Fourth, early identification facilitates optimal use of buffer areas and PDRs, which will make agricultural zoning restrictions more resistant to change.
4. **Agricultural zoning needs to occur in coordination with a realistic plan to accommodate and channel growth.** Agricultural zoning without a plan to accommodate anticipated growth will lead to one of several undesirable outcomes. First, and most likely, there will be substantial pressure to change the agricultural restrictions in order to accommodate the growth, leading to an undermining of the farmland preservation efforts. Second, if the government remains firm in its agricultural restrictions, then potential problems with affordable housing arise. Thus, any attempt to restrict agricultural land, and thereby reduce the available supply of raw land for housing stock, must at the same time know how it will address anticipated housing needs.

What constitutes a realistic plan to accommodate growth will necessarily depend on a number of variables unique to a region. It should, of course, guide development away from prime agricultural land. It should also provide a sufficient amount of land for residential development, depending on what a community’s goals and housing needs are. This might include varying levels of agriculturally restricted property, with less desirable land targeted for eventual development later. This provides a flexible means of accommodating growth pressure while avoiding loss of a region’s best farmland.

In most cases this will also require plans for more compact growth and higher density residential development. Many of the areas facing the greatest loss of farmland also anticipate substantial population growth in the near future. At a minimum this necessitates removal of minimum lot size requirements inconsistent with compact development. It makes little sense, and even invites erosion of agricultural zoning controls, to limit development to two or three houses per acre when facing significant population increases while seeking to preserve farmland. Beyond that, many communities need to affirmatively encourage compact development.

5. **Agricultural zoning needs to work in conjunction with other farmland preservation techniques, and in particular with PDRs and TDRs.** Other farmland preservation programs, though insufficient in and of themselves to preserve farmland, can help to address some potential weaknesses of zoning. Indeed, a substantial amount of academic commentary in recent years has emphasized the need to combine agricultural zoning with other farmland preservation techniques for an effective program. Such multifaceted programs, emphasizing PDRs and TDRs in particular, provide mutually reinforcing controls that address the weaknesses of zoning.

PDRs in particular can be used in a mutually supportive role with agricultural zoning. On the one hand, agricultural zoning can decrease the cost of PDRs by lowering development potential in a region. Moreover, agricultural zoning can insure that PDRs do not inadvertently increase development by attracting people to take advantage of preserved land. At the same time, use of PDRs can support agricultural zoning in several significant ways. First, to the extent used, they help address the perception of unfairness that exists and helps assure acceptance of restrictions. This is true even for those who might not be the immediate recipients of PDRs, if they perceive the availability of PDRs at a later date. Second, it can add to the farming stability of a community, making it less likely that decision-makers will yield to pressure to rezone agriculturally restricted land. Third, PDRs can be used to create an appropriate buffer between development and agriculturally zoned land.

This final point highlights the need for strategic use of PDRs in relation to zoning, balancing several competing concerns. On the one hand, they arguably should not be used too close in, where development might be inevitable. Conversely, use too far out is poor use of the funds. Instead, it makes the most sense to use them near where a growth line should be formed, creating a buffer between more intensive uses and other farmland subject to agricultural zoning. This potentially serves several purposes. First, it insulates the property most subject to development pressure from conversion, thus decreasing conversion pressure on the agricultural zoned property. Second, it helps the perception of farming stability, encouraging investment.

Communities should also consider use of TDRs as a compliment to agricultural zoning, primarily as a means of offsetting the perceived financial hardship on affected landowners that zoning might create. TDRs are a compensatory source for landowners without the fiscal limitations of PDRs, a major advantage. For this reason they have been successfully used as a compliment to agricultural zoning in a few instances, most notably Montgomery County, Maryland, and the Pine-lands in New Jersey. In both cases the TDRs have provided a compensatory basis for zoning, helping ensure its acceptability in the farming community, while also
helping to provide for increased development density within designated growth areas.

As noted earlier, however, TDRs require the right mix of development conditions suitable to absorb transferred development, as well as stability of zoning controls within those areas, a relatively rare occurrence. For that reason few successful TDR programs have emerged, despite their significant popularity in academic literature. Moreover, TDR programs must be carefully coordinated with the need for greater compact and dense development that will normally need to accompany agricultural zoning. On the one hand they seem to provide the perfect solution, since the TDRs are used to increase density and at the same time compensate restricted landowners. Yet for the TDRs to generate sufficient value, receiving areas must initially limit development density. This is arguably at odds with the need for compact growth and increased residential density mentioned above, and might in fact undermine zoning restrictions, especially if the TDR market fails to function properly. Thus, although the use of TDRs as a compliment to zoning should be explored, communities need to be sensitive to how it is coordinated with other components of a successful agricultural zoning system.

6. Finally, where appropriate, use of reasonable Urban Growth Boundaries should accompany agricultural zoning. Use of Urban Growth Boundaries (UGB) have the potential to be highly effective tools to stabilize agricultural zoning, since by their very nature they contain growth within certain limits. This eliminates or minimizes leapfrog development that can slowly erode agricultural zoning schemes. Perhaps most significantly, it provides a solid basis for denial of zoning change requests and at the same time gives farmland located outside the boundary assurance of stability. Experiences with UGBs in Oregon and Lancaster, Pennsylvania, have generally been quite positive in their potential to preserve farmland when used in conjunction with agricultural zoning.

Such boundaries must, of course, be realistic in their expectations and provide for reasonable opportunities for growth. They should also provide for periodic reassessment of the boundaries in response to changing local needs. Finally, in most cases they will need to be coordinated with plans for compact growth, which will likely require affirmative steps to increase housing densities.

Conclusion

Despite its shortcomings, agricultural zoning must remain a core component of farmland preservation efforts. It permits local government to immediately restrict large amounts of land at little or no cost, providing the potential for a stable farming environment and removing the ability of landowners to convert the property to more intensive uses. Even though this might have a significant economic impact on regulated landowners, if done properly it should not constitute an unconstitutional taking nor be viewed as inherently unfair.

At the same time, the effective use of agricultural zoning must recognize its limitations, especially the problem of government too readily granting rezonings and thereby eroding the system of controls. Thus, efforts must be made to address, to the extent possible, conditions that create change pressures, and to integrate zoning into a more comprehensive farmland preservation program. Most fundamentally this means a realistic provision for accommodating growth, which, in many instances, will require more compact and dense development. Equally important is the need to integrate agricultural zoning with other preservation techniques, most notably PDRs, to create a mutually reinforcing set of controls.

Finally, the success of agricultural zoning as a farmland preservation technique needs to be judged not only on its ability to preserve farmland, but also in its compatibility with other societal goals. In particular, the desire for preserving farmland needs to be balanced against the need for reasonable growth within the community, with special sensitivity to ensuring affordable housing opportunities for citizens. Finding an appropriate balance between the legitimate housing needs of citizens and the need to protect prime farmland, is, in the long run, not only necessary for the health of the local community, but will provide a more solid basis for resisting change to the agricultural zoning restrictions themselves.

1 See A. Ann Sorenson et al., American Farmland Trust, Farming on the Edge (1997).

2 All fifty states have some form of tax relief provisions for agricultural land. Most common are preferential-assessment statutes, which assess land at reduced value when used for agriculture, and deferred taxation programs, which provide lower assessment for farmland but require partial or total repayment of tax savings if the land is converted to other uses. For a listing of all fifty state statutes, see Amer-
Agricultural districts involving the voluntary creation of agricultural districts, which typically require that they be used for agricultural purposes for a minimum number of years. In exchange for the requirement that the land stay agricultural, landowners receive various benefits which, depending on the authorizing statute, might include restrictions on special assessments and limitations on the use of eminent domain. See Linda A. Malone, Environmental Regulation of Land Use *6.09 (1998).

4 Right to farm laws, found in all fifty states, protect farms against nuisance actions where development has moved out to agricultural areas and created conflicting uses. For all listing of all fifty states “right to farm” statutes, see American Farmland Trust, State Farmland Protection Statutes by Category (Table), (visited July 23, 2001) at http://www.farmlandinfo.org/fic/laws/fpkeytab.html.

5 For descriptions of PDR programs, see Malone, supra note 3 at §6.11; Tom Daniels and Deborah Bowers, Holding Our Ground: Protecting America’s Farms and Farmlands 145-69 (1997).

6 Various commentators have voiced this concern about voluntary types of programs. See, e.g., Sarah E. Redfield, Vanishing Farmland: A Legal Solution for the States 96-97, 103 (1984); William L. Church, Farmland Conversion: The View from 1986, 1986 U. Ill. L. Rev. 521, 550.


8 See Daniels and Bowers, supra note 5, at 106 (stating that agricultural zoning is currently used in over 500 counties and communities).


Malone, supra note 3 at §6.08[3]. As will be discussed later, more lenient lot size restrictions, such as one house per five acres, do little to preserve farmland and might even exacerbate sprawl.

11 See Malone, supra note 3 at §6.08 [2][c].

12 See Daniels and Bowers, supra note 5 at 121-23.


19 Id. at 136.


21 See, e.g., Christensen, 995 F.2d at 165; Jafay v. Board of County Comm’rs of Boulder County, 848 P.2d 892 (Colo. 1993).


24 211 N.W.2d 471 (Wis. 1973). For another example, see Petersen v. City of Decatur, 259 N.W.2d 553 (Iowa Ct. App. 1977), where the court found an agricultural zoning restriction “unreasonable and confiscatory” where the city acknowledged it zoned the land agricultural as a holding classification, even though it was unsuitable for agricultural use and had not been productive for years.


26 A corporation owned by Palazzolo had actually purchased the property prior to the challenged restrictions being placed on the property. A year after restrictions were placed on the property, however, the corporation was dissolved for nonpayment of taxes and Palazzolo personally became owner of the property as a matter of law. Both the Rhode Island Supreme Court and United States Supreme Court treated Palazzolo as acquiring the property with notice of the restrictions.

27 See id. at 2462-64.

28 See id. at 2464-65.

29 The Court affirmed the two-part Lucas/Penn Central analysis and made clear that though a regulation permits economically viable use of land, it must still be analyzed under Penn Central. See id. at 2457-58; 2465.

30 See id. at 2465-67.

31 See id. at 2469-75 (Stevens, J., concurring in part and dissenting in part); see id. at 2476 n. 3 (Ginsburg, J., dissenting, joined by Breyer, J. and Souter, J.); id. at 2477 (dissenting opinion of Breyer, J.).

32 See id. at 2464-65.

33 See Penn Central, 438 U.S. at 136.

34 See, Penn Central, 438 U.S. at 136; Agins v. City of Tiburon, 447 U.S. 225 (1980) (holding that zoning ordinance that limited development did not constitute a taking); Village of Euclid v. Amber Realty Co., 272 U.S. 365 (1926) (upholding zoning ordinance which resulted in 75% diminution in value of land).

35 The Court acknowledged the commonly accepted principle that “a prospective enactment, such as a new zoning ordinance, can limit the value of land without effecting a taking because it can be understood as reasonable by all concerned . . . .” 121 S.Ct. at 2462.


38 The Court has on occasion noted that one basis for upholding zoning restrictions is the “reciprocity of advantage” they produce. See, e.g., Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1017-18 (1992); Penn Central Transportation Co. v. New York City, 438 U. S. 104, 124 (1977); Pennsylvania Coal Co. v. Mahon, 260 U. S. 393, 415 (1922). This is commonly understood to mean that more broad based land restrictions provide reciprocal benefits in the form of restrictions on others, which help offset the burdens imposed on land.
Evolution of the Sprawl Debate in the United States, 5 Hastings W. Law. 183 (1997). In recent years, however, some scholars have questioned the social costs of sprawl, stating that they are not nearly as great as thought and, indeed, sprawl brings benefits to society, primarily in the form of consumer choice, see e.g., Burchell & Shad, supra note 49; Daniels & Bowers, supra, note 5 at 133-34.

Harvard law professor Gerald Frug, a supporter of Smart Growth initiatives, recently argued that effective growth management goes beyond a denial of consumer preferences, but calls for a truly revolutionary restructuring of society in terms of housing choices, decreased reliance on the automobile, and "ending the current division of American metropolitan areas along the lines of class, race, and ethnicity." Gerald Frug, Euphemism as a Political Strategy, 30 Envtl. L. Rptr. 11189 (2000).

Commentators have often acknowledged that sprawl reflects consumer choice, see e.g., Burchell & Shad, supra note 49; Daniels & Bowers, supra, note 5 at 133-34.

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See Buzbee, supra note 49 at 84-85.

See Burchell & Shad, supra note 49 at 3-4.


See Freilich and Peshoff, supra note 49 at 191.


See Burchell & Shad, supra note 49 at 18-19.

See id.


See id.

See William W. Buzbee, 64 Ford. L. Rev. 57, 89-90 (1999) (discussing informational problems that arise because input at local level tends to come from concentrated interests of those who benefit from sprawl, rather than from dispersed interests of those who benefit from controlling sprawl).

See Buzbee, supra note 57 at 79-88. Professor Buzbee provides an in-depth analysis of the institutional problems of addressing farmland conversion and sprawl at the local level. He notes that "no single unit of government bears most of the costs of sprawl or is likely to bear the blame for sprawl's harms and inconveniences. Moreover, the widely felt harms and discomforts of sprawl do not fall in a concentrated way on any particular segment of the public that is likely to be roused to political action." Id. at 85.

See Daniels and Bowers, supra note 5 at 123-24.

See Jackson-Smith and Bukovac, supra note 48 at 6.

See Daniels and Bowers, supra note 5 at 235; Edward Thompson, Jr., Hybrid Farmland Protection Programs: A New Paradigm for Growth Management?, 23 Wm. & Mary Envtl. L. & Policy Rev. 831, 844-51 (1999); White, supra note 14 at 115.

See Daniels and Bowers, supra note 5 at 238-39.


See Daniels at Bowers, supra note 5 at 179-86 (discussing success of various TDR programs); White, supra note 14 at 135-40 (discussing success of Pinelands program).

If requests for greater density development in receiving areas are given with relative ease, as is often the case, then the TDRs lose whatever worth they might otherwise have.

See Richmond supra note 47 at 346-47 (stating that on balance, most commentators believe the Oregon experiment has been successful); Daniels, supra note 5 at 141-42 (discussing success of Lancaster program).

This, however, poses the potential problem that communities will quickly redraw UGBs in response to development pressure, similar to what many currently do with regard to zoning. See White, supra note 56 at 119-20 (discussing this problem in parts of Oregon).
Let me talk a little bit about AFT, about our view of the farmland protection world today, and for a few minutes at least about the promise or opportunity of the 2002 Farm Bill currently under consideration.

As you just heard, AFT is a conservation group, a farm group, an environmental group, a research group, call us what you want. We have tried to serve a unique niche focused specifically on agriculture and farmland protection and we’ve tried to do that primarily through influencing public policy -- policies that make it possible for local and state initiatives to succeed. So we see our job as helping get programs in place, helping strengthen and improve those programs and helping get the necessary funding in the pipeline. A good deal of our work is focused on those particular goals. The work we do in analysis and research and some of the things I’d like to suggest that some of you could be doing in this area provide the grist for that political mill. They give us the information and they help us reach out to the public to better understand the problems. We also, as many of you know, have a land projects division where we actually do get involved in specific land projects around the country. I’ll tell you, we’re currently reviewing that to take a look at how we can do that even more strategically. But we will have no plans to become ‘The Nature Conservancy of farmland,’ to be acquiring and holding lots of farms and ranches in our target areas. Right now we have ten target areas. We have nine regional offices, a staff of about 115 people focused on trying to help local communities develop effective farmland protection programs. We have some very basic assumptions that help us approach this issue, and I’d like to go through those.

Right now we have ten target areas. We have nine regional offices, a staff of about 115 people focused on trying to help local communities develop effective farmland protection programs. We have some very basic assumptions that help us approach this issue, and I’d like to go through those.

First, demand for farmland protection is going to increase. I don’t think that’s a big surprise, but it’s probably going to increase exponentially. It certainly has been doing so over the last 10 years. It is not entirely clear how to categorize that demand, of course. Some of that is coming from people who genuinely are concerned about long-term food security of the nation. The strength of the nation, out into the future, is dependent upon being able to feed ourselves. I don’t think there’s any current crisis in food production in this country, and there’s no foreseeable problem in the future. But, there are people concerned about it, and especially whether we are keeping the best land available so we can produce those products most efficiently. On the local level, there are communities – farm groups, interest groups, local communities – that are concerned about locally grown food. Is the quality of the food we’re getting assured; can we have that quality, those fresh peaches that are now coming in Maryland, the fresh tomatoes, produced in the local community? In some areas and for some constituencies, that is a reason to get involved in farmland protection. There are other economic reasons as well. Agriculture in many areas of the country is a very important, though often overlooked, component of the local economic environment. Agriculture is a cash flow generator. It brings, if you will, foreign trade dollars, into a community from renewable natural resources, and that is becoming more and more a concern for many communities.

I think you’ll agree that much of the support that is developing right now for farmland protection is coming from concern about quality of life issues. You have probably heard this already this morning, and you will probably hear it more this afternoon. I just want you to understand the framework from which we are approaching the issue. Open space around our communities, wildlife habitat, clean water from well-managed farms (and I underscore well-managed) – these are issues that are driving initiatives at the local and state level. Farmland protection is becoming recognized as a tangible component of smart growth strategies. Smart growth is a complex set of issues – traffic, schools, crime, open space – those are hard to get your arms around when you are a local community leader or activist. If you can save land, it’s done. You buy the easement or you buy the land for a park, and it’s protected, it’s something very tangible and more and more communities are beginning to use that to actually help them shape smart growth policies. How do you shape the growth direction for your community? You protect a block of land in the direction where growth is not preferred – to encourage
growth in a different direction. So farmland protection is becoming a tangible component of smart growth strategies.

One final point about these programs is that they have to recognize that agriculture is a business. Those of us in the room here do, but too many people do not understand the difference between protecting farmland and protecting open space. That is a challenge for all of us to continue that educational process because good programs not only protect the land, they create a business environment that’s favorable to the future success of agriculture.

That brings me to the second assumption and that is that all the farms will sell. Every farm is going to sell at some point in time and surprisingly that happens much more frequently than we think. It may be just a generational transfer from father to son or parent to daughter or son, it may be to another farmer, and it may be to a speculator who is looking to subdivide as opposed to develop that farm in the future. So the strategies have to be developed around having an option available when that farm is in that state, when it is changing hands. Are there viable options for that landowner other than subdividing the farm? That’s the way, I think, many of the land trusts try to approach the issue. You don’t have to save every farm next week, but you have to be there when the time is right for that farm family to provide them with options.

In this whole land use game we know there are winners and losers. Already today I have heard discussion about “takings and givings.” We know that there are winners and losers in the land use game and it doesn’t always appear to be very fair. Even if the value that’s created in my farm next to a subdivision was created by substantial public investment, that investment might have happened when the previous family owned it, before I owned it, and the beneficiary might have been that person instead of the current landowner who got the higher price for the land because of the potential for future subdivision or housing development. So I think one of our real challenges as a group working on these issues is to try to “spread the gain to alleviate the pain.” There is plenty of gain in land use. There is plenty of upside. How do we make sure that there is balance in that process? I think that goes to a very basic principle that we refer to at AFT. How do we share responsibility to achieve public goals on private lands?

When a community decides that it wants to protect the farms around its border, even just to make sure there’s a green space between this community and the next, what are the tools and what are the mechanisms available? I’ll give you a quick example of our own farm in Marin County. There is a viable dairy and beef industry in the county and now a growing direct market vegetable niche market developing in the area. Our farm is 30 miles from the Golden Gate Bridge. There are homes a mile and a half away selling for over two million dollars on quarter-acre lots. Most people come home from their job at a “name the.com” or whatever company they’re working for (a lot of technology in that town) in the afternoon and walk out on their redwood deck with their glass of chardonnay and look up the valley. What they see are cows grazing on the hillside, and I submit to you that part of that two million dollars of value in those homes is directly related to their ability to do that, it’s related to that open space. If they walked out there and looked at condominiums staring back at them, the homes would have less value. So they gain value as property owners because our land is protected. Our land is in an agricultural preserve. Our family is going to stay there as long as possible, hopefully forever.

But what about the situation with the families up against the wall and they have to find ways to raise capital and their capital is all tied up in the land. They don’t have many choices. That’s when the regulatory environment, which in our case is 60-acre minimum parcel size right now, begins to break down at the local level. Either the political pressure from the landowners or a quest of fairness begins to overcome the local political body and the changes that were just referred to a few moments ago begin to occur. The agricultural zoning begins to break down; we make an exception here and an exception there and pretty soon we don’t have any farmland protection at all. There are hundreds of examples of that around the country. The reason we have strong support for this program in Marin, and I submit the reason it occurs in other places like Montgomery County, Maryland and Lancaster County, Pennsylvania, Old Mission Peninsula in Michigan, is that there is an element of fairness that has been introduced into the political equation in these communities. Fairness, of course, is compensation. It is some effort to share the gain with those landowners who are providing the benefit. If we adopt the basic principle that those who benefit should share in the cost, then those people living in the city of Novato who benefit from the open space, clean water, the wildlife habitat (and they argue about that – the deer are eating all the shrubs), need to find a way to share that value with the landowner who’s providing it. And that’s how these compensatory programs work.
don’t want to single out purchase of development rights as some sort of separate animal, though. I really think it is part of a package of things we can do to develop that shared responsibility – share the cost between the beneficiaries and the producers.

For a long time we have had tax abatement or use value taxation in most communities around the country. Some are run better than others and I point with pride to California’s Williamson Act program because it is probably the best use value taxation program in the country. As a property tax cut, it might be donation of a conservation easement for those landowners who can avail themselves. Not many active farmers are in a position to take advantage of it, but it is another way of compensating landowners or sharing the cost with them through taxation. Purchase of development rights, transfer of development rights are the obvious direct infusion of cash to buy those amenities, if you will, on a one-time basis. I think that there actually is potential to do that on less than a one-time basis, to spread that money over time so that we can continue to reward, over several years. I think, for example, you could develop a mechanism similar to the Williamson Act that gets a continued long-term commitment from the landowner in return for either cash or additional benefits that would be more appealing to those landowners who are concerned about a permanent restriction on their property.

The third set of mechanisms by which we can share the cost of protecting productive open space is through community investment in agriculture itself. Are we preserving the land but then not letting them build a processing facility in the community? Those are the kinds of things we have to educate the public about – the difference between preserving farmland and preserving open space. We have a lot of work to do in that area. It is easy to generate support for preserving open space, particularly from the last person who moved into the community, but do they really recognize that the stewardship of that land is dependent on a viable industry? We have work to do there. And that includes protections, such as “right to farm laws.”

I turn now to the importance of funding direct programs such as purchase of development rights. These programs are growing and developing very rapidly across the country. Roughly, 20 states have such programs and some individual communities have developed their own. The real challenge has been making the case to the public to make those funding investments in protecting our land. In those cases where good information has been developed and delivered properly, the public has responded very positively. As you very well know from bond issues in recent years, by a margin of two and three to one votes people do support funding farmland preservation. The polls that we and other groups do consistently find farmland protection at or very near the top of the issues the public is most concerned about, relative to the environment. We think the public support is out there. Surely the proliferation of land trusts around the country is an indication that it’s there at the grassroots level.

I want to zero in now on the federal role. Maybe I have been in Washington too many years, but I still believe that there is a very important point in working at the federal level. There’s a very important role for the federal government. If you think about the principle I laid out earlier – that is that those who benefit should share in the cost of land protection – then clearly the local community benefits the most. So the way to go at that is through local initiatives, special use taxes, whatever the mechanism might be, but it should be paid by the local community in these purchase of development rights programs. I think we could then make the case that these important agricultural areas are important to the state as well. Take a state like California where six billion dollars worth of exports comes from agriculture every year – it’s a pretty important resource for the state. It generates real dollars, real income for the state of California, so all taxpayers should contribute to the pool in some proportion. And California has a modest (to say the least) farmland preservation program right now. It certainly doesn’t compare to Maryland, Pennsylvania, Massachusetts and other programs, especially in proportion to the amount of agriculture that we have out there.

I think we can make a solid case that there’s a role for the federal government as well. It is in the national interest to protect the very best land, to protect the fertile lands in Ohio, Illinois, Indiana, Michigan, the Eastern Shore, Maryland and Delaware, not to mention, of course, Salinas, the Central Valley in California, the Puget Sound area. There are many very special, highly productive, unique natural resources out there – every bit as important as our national park system. Over the last century we’ve spent hundreds of millions of dollars protecting the crown jewels of the environment – the Yellowstone, the Yosemite and right on down the list – these great national parks. I submit to you that the special agricultural places are every bit as important to protect for future generations of Americans.
So there should be a federal program, and there is no question that the public supports a federal role in helping farmers. The question that we’re faced with in the Farm Bill is should the public support for U.S. farmers to be tied to how much corn, rice, wheat, cotton and soybeans they produce, or should it be tied to how much farmland is protected, wetlands are restored, wildlife habitat is developed, scenic vistas are preserved, water quality is protected. Are those the products of agriculture that are at least equal in importance, if not more important, than the commodities for which we have historically supported agriculture. That’s how the debate is shaping up. You know, historically, the bulk of the money, and it’s been a lot of money in recent years, $30 billion last year, went essentially to the producers of about a half dozen crops. Eighty percent of the money went to about six percent of the producers. A very small number of producers got most of the money in a fairly well defined section of the country. The debate that’s just beginning to shape up now is shouldn’t we spread that money more evenly to other states in other places where farmers are producing real value, whether it is food and fiber or environmental and conservation products that have real value to our communities and our nation. There is a bill, as you know, reported out of the House Ag Committee, which does make some significant steps toward additional funding for a conservation program. For the first time, an Agriculture Committee, House or Senate, has agreed to a farmland protection program. As you may know, the $35 million in the 1996 Farm Bill was added to the Farm Bill on the Senate floor by Senator Lugar three minutes before the vote was taken as a manager’s amendment and did not come out of committee. This time the House Committee is authorizing $500 million per year for the next ten years for matching funds for farmland protection. A number of our organizations, the conservation coalition of over 100 organizations are supporting an amendment that will come up on the floor, it’s called the Kind-Gilchrest-Boehlert, Boehlert-Kind-Gilchrest, or Gilchrest-Kind-Boehlert, whichever district you are in at the time you’re talking about it, but it’s those three Congressmen. HR 2375 will be offered as an amendment to the conservation title of the Farm Bill when it comes to the floor. It will double conservation funding from the committee level and triple it from the 1996 Farm Bill. About $6 billion a year will be available. It absolutely dwarfs the land and water conservation fund. That may come up as early as next week. (The Boehlert-Kind-Gilchrest-Dingle amendment lost on a roll call vote by 200 to 206 on October 5, 2001) On the Senate side Senator Harkin is very committed to a major conservation entitlement. So all in all, we’re very optimistic about the Farm Bill. It is not a question of are we going to get an increase in conservation money in the Farm Bill, the question is how big will the increase be and will it be meaningful for the programs that you are either implementing or analyzing or working with in your communities around the country.

Let me conclude with a couple of quick points about research, which is really why you’re here at this workshop. I think there is an important need for research in the area of the relationship and synergy between regulatory programs and compensatory programs. We already know from anecdotal evidence that a well-run compensatory program like a PDR or a PACE program complements a well-run regulatory program, but they can also do damage to each other. If they are well run they build an even stronger political base. The farmers in our community support strong zoning because they know there’s a fairness component. They know they can sell their development rights. At some point, you get enough landowners in the community who have participated that you pass a tipping point politically, if you will, and then you have a majority of farmers supporting stronger regulations. I think that is one of the promises of this, if we get the $500 million in the Farm Bill for farmland protection, we might get to a tipping point in terms of excitement and energy about farmland protection and its possibilities.

Secondly, we still need to do more work on quantifying those non-market or amenity values that are attributed to farmland protection. And, thirdly, in spite of all the work that’s been done on conservation easements and TDRs and all the other mechanisms, we still need more tools. We need more mechanisms to affect this sharing of the responsibility between the producers and the beneficiaries of farmland protection.
I. Introduction

A key feature of the American democratic system is its reliance on a system of checks and balances institutionalized in federal and state constitutions. This system is intended to assure that whatever action is taken by either the legislative, executive or judicial branch of government is subject to a process of adoption and subsequent review that assures that established standards are met. The checks and balances system act to safeguard against placing an unwarranted degree of power and authority in the hands of one branch of government without some counter balancing review.

Despite the importance of this system to our government, many of us take it for granted and its significance is lost to us as we view current problems. In this paper I propose to use the checks and balance system approach to answer several key questions about legislative “Right to Farm” measures over the past 30 years. These measures throw a blanket of protection around agricultural production activities protecting them from nuisance complaints brought by property owners who believe that the activities cause unreasonable interference with their right to use, possess and enjoy their own property. The questions I propose to answer include how effective are these statutes as public policy measures to provide protection for agricultural producers; what is the status of these laws in the face of current challenges, and what are the key questions about these laws that confront public policy makers and agricultural producers for the future? My reasons for choosing this approach to analyzing these statutes will be reflected in the comments and insights I offer to you after having applied the analysis to examine this issue.

II. A Checks and Balances System Approach

The checks and balances system describe the constitutional structure of the American form of democratic government. In state and federal constitutions considerable attention is devoted to discussion of authority that is granted to each branch of government. In choosing this approach I am highlighting how these separated powers played an important part in developing, revising and interpreting Right to Farm laws in recent years. These actions provide insights to future issues involving the revision and interpretation of these laws.

The legislative branch addresses the facts and circumstances of situations brought to it for redress. The facts and circumstances will reflect the political, social and economic values and perspectives of those who support the action and, if action is taken, at least a simple majority of the legislators as well. If presented with a formally passed bill of the legislature, Government executives evaluate legislative action and apply the executive’s own political, social and economic values and perspectives of the issues at hand.

Once the measure is in force, those affected by it or who have an interest in its application can seek judicial review of its terms and its application if the need arises. If the request for judicial review is accepted, a different set of standards can be applied to determine if the Legislature’s action and the Executive’s concurrence meet established constitutional standards for the legitimate exercise of government authority.

III. Developing Right to Farm Laws

A. Selecting the Right Words for the Legislation

Legislative drafting requires skills that are dissimilar from most other skills that law makers have. The words of a statute should be clear, concise and capable of being applied to a variety of circumstances and situations intended to be covered by the law. In addition, they should have a sense of the future and how the statute will be applied then. Since the words proposed must still survive the legislative process of debate and deliberation, a bill’s final version may reflect a variety of considerations that differ from those which supporters
of the original bill favored. Political considerations and
demands made in return for support for the legislation
can change the language, as well as the character, of the
law’s final version.

Once passed, the law is published for all to read,
review, and analyze from individual perspectives. Over
time, questions will arise about how existing laws apply
to new and unfamiliar situations. Opinions about the
application will surface from people willing to offer the
opinions to those seeking them. Eventually courts will
rule on application of the law to specific situations and
some of the conflicting viewpoints and opinions will
be resolved by the clarity of the court’s opinion. Until
courts interpret the law, speculation may abound as to
possible interpretations the language can be given.

When court review takes place, two possible out-
comes are important. The first is for the court to criti-
cize the law as ambiguous or unclear on crucial matters
that affect its application to a situation. This may force
the court to search for other sources to help in deter-
mining the legislative intent when the law was passed. A
second important outcome is for the court to determine
that the language is much narrower in its meaning than
others thought it to be. This conclusion significantly
affects application of the law. If either of these events
occurs, the legislature may either revisit the law to con-
sider amendments to it to clarify ambiguities or fill in
the missing pieces to extend application to likely areas.
Political considerations may make revisit to the law a
practical impossibility and the law will then languish in
its imperfect condition.

B. What do the Chosen Words Mean?

Interpreting the language of a statute is an exercise
in creative thinking. The words chosen are often general
and the variety of circumstances to which the law could
be applied is vast. Can the statute be interpreted to
apply to any or all of the various combinations of cir-
cumstances that are considered? This question certainly
affected Right to Farm statutes as evidenced by deci-
sions in early cases. In Herrin v. Opatut, for example,
the Georgia Supreme Court noted that under Georgia
law, Right to Farm protection would only be applicable
to situations where agricultural or farming operations
are challenged as nuisances because of “changed con-
ditions in or around the locality of the agricultural or
farming operation,” language that appeared in the stat-
ute. Certainly this circumstance would be a situation
to which the law would apply, but should it be the only
situation to which it would apply? Viewing the changed
condition in the locality as a condition for coverage,
the Court held that since the complaining parties were
making use of their land before the agricultural pro-
ducer established his agricultural use, the nuisance
claim could not be based on a changed condition in the
neighborhood. Therefore, the Right to Farm protection
did not apply.

The significance of this conclusion is that similar
language appears in other Right to Farm laws, but not
all states limit application of these laws by making a
changed condition a requirement for application of the
protection. Other states recite conditional language in
some parts of their statute, but not in others. Therefore,
the language of each statute must be carefully consid-
ered.

A second consequence of the decision affects the
ability of other rural residents, farmers and non-farm-
ers alike, to challenge neighboring farming operations
as nuisances. Under the Herrin decision, rural residents
could challenge such activities, because protection
applied only when the changed conditions arose. As
the continuing dispute between “small farmers” and
“factory farmers” aptly demonstrates, there is tension
between segments of American agriculture. Having the
ability to challenge undesirable activities on nuisance
grounds has been a useful tactic for those who believe
they are fighting to secure their economic future.

C. Moving a Dispute to the Legal Arena

Lobbying for legal or regulatory relief from a prob-
lem expresses the belief that supporters prefer to move
the dispute to the legal forum, where winners celebrate
and losers lick their wounds preparing to do battle
another day. Implicit in this choice is confidence that
once in the desired forum, the party will prevail. This
confidence can be bolstered if supporters are able to
influence the terms of the legislation applied in the legal
forum. This reinforces the importance of the political
component in forming law and regulation. When the
facts and circumstances of the dispute are brought to the
court, it uses its judicial authority to rule on applying
the law to the circumstances presented. What role do
different, social, and economic factors play in inter-
preting the law? As embodied in the judgment and temper-
ament of juries and judges, the factors have influence,
but to a lesser degree than in the legislative process.
IV. Interpreting Right to Farm Laws

A. Legislative Policy

As residential development moved out of the cities and into the country, it was inevitable that conflict between residential land owners and established farm operators would occur. Cases such as *Pendoly v. Ferreira* provide a good example of the type of situation that sets the stage for adoption of Right to Farm laws.

Alfred Ferreira began to raise pigs in Topsfield, Massachusetts in 1949. After a few years his business prospered and the size of the operation grew to a level where it was twice as large as it was ten years before. At about the same time as the Ferreira’s pig farm was starting, residential development began in the Topsfield area. By ten years later the new residents were complaining about the stench from the pig farm. Ferreira operated a quality pig farm and it was considered to be in the top 5% to 10% of pig farms in the area as far as quality of operation is concerned.

Ferreira defended his business on several grounds, including the fact that his operation existed in the local community before the residential development occurred and he did not operate it in a negligent manner. Weighing these arguments, the Court found that “[a] course of conduct that would have been without fault in [a] rural area, has, with the change in the environs of the farm to a residential district become unreasonable.” Since he could not be expected to operate the pig farm in a way that would correct the nuisance complaints, the decision should be to enjoin continuation of the pig farm at the present location. Despite the fact that Ferreira was likely to suffer significant losses in selling the property, the Court upheld the injunction and allowed Ferreira a period of about 15 months to close the facility.

In this case, the change in the rural community occurred after the agricultural facility was established. Throughout the period the facility operated, it did so in a way that met established standards. It could not be described as negligent or unreasonable. Despite these facts, the Court seemed to simply balance the interests of the complaining neighbors against Ferreira’s interest and concluded that the impact on the neighbors of continuing the activity was more unreasonable than the economic impact that Ferreira was about to suffer in closing down a profitable operation.

Outcomes such as *Pendoly v. Ferreira* are significant for they reflect the vulnerable position of an agricultural producer who happened to live in a growing residential area. Since the 1960’s growth and development has occurred in rural communities resulting in the loss of significant agricultural land. Legislatures responded to the political and social lobbying pressures that these development created by extending protections from nuisance complaints, such as Ferreira faced, with “Right to Farm” or “Protection of Agricultural Operations” laws.

B. Is the Right to Farm an Accurate Description of What these Laws Provide?

At times, social and political concepts acquire labels that help people identify with them. In some cases the label can become misleading by incorrectly describing the measure. For example, describing these laws as “Rights” has always been troublesome. On one hand agricultural producers prefer that the laws be written and interpreted as absolute rights. This is the nature of the protection they hoped to obtain in the legislative process. On the other hand, however, it is impossible to call the extent of the protection these laws provide as “absolute.” At best, the protection they offer is conditioned on factors that vary from state to state. This creates a degree of tension between the parties who want the protection to be as broad as possible and those who want to limit its coverage to what would be considered reasonable.

Describing the type of protection has been a fundamental issue regarding these laws since their introduction. Initially courts viewed Right to Farm laws as clear expressions of social and political policy to protect vital resources. Despite those decisions, however, courts were willing to narrowly interpret these statutes to meet the court’s own standards for upholding legislation when challenges are brought against them.

Over time these challenges took three different forms. First, challengers mounted detailed attacks on the meaning and application of the law’s specific provisions. These questions vary depending on the specific language that appears in the statute and is a common approach to attacking legislation. Second, challengers sought an analysis of the law in light of recognized state and federal constitutional standards that legislation must meet to withstand the challenge. Third, challengers searched for strategies to bypass whatever degree of protection these statutes offer and achieve a desired...
outcome without having to battle the specific language of the statute. Of the three forms of challenges, the most interesting is the third. If these challenges successfully find theories of liability that bypass traditional Right to Farm law protections, then agricultural producers will quickly find themselves stripped of the protection. In these cases, I propose that Courts review these statutes with a far different set of political and social standards that Legislatures apply when they enact laws. Although the difference in standards is significant in terms of the various outcomes, it is a difference that is overlooked in many contexts.

The following discussion considers the provisions of a representative “Right to Farm” Act. The statutes recite a statement of legislative policy, such as, “[W]hen non-agricultural land uses extend into agricultural areas, agricultural operations often become the subject of nuisance suits and ordinances. As a result, agricultural operations are sometimes forced to cease operations. Many others are discouraged from making farm improvements. The purpose of the statute therefore is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be the subject matter of nuisance suits and ordinances.”

Ordinarily, these statutes codify the common law defense of “coming to the nuisance” to protect farming operations that existed prior to encroachment of residential development. In some situations Right to Farm statute have been coordinated with other measures such as agricultural district laws and zoning.

C. Operative Provisions of a Representative Law

1. Limits on Local Ordinances

What impact will the Right to Farm law have on the authority of local communities to address the same issue in a different way? The answer to this question involves the legal concept of preemption. Preemption involves the interaction between the exercise of legislative authority at the federal, state and local levels. Under the federal constitution, the federal government’s authority is expressly provided for in the constitution. Whenever the federal government acts, its action can preempt actions by state or local government on the same issues. State government likewise controls the extent of authority that local government can exercise in certain situations. In most states the authority of local governments can be as broad or as narrow as the state legislature allows it to be. The following language is taken from a representative Right to Farm law. The language addresses the authority of local communities to pass public nuisance ordinances to control activities that are protected by the Right to Farm law.

“Every municipality will encourage the continuity, development and viability of agricultural operations within its jurisdiction. Every municipality that defines or prohibits a public nuisance will exclude from the public nuisance definition any agricultural operation conducted in accordance with normal agricultural operations so long as the agricultural operation does not have a direct adverse effect on the public health and safety.”

2. Limits on Nuisance Based Legal Actions

The heart of any Right to Farm law is its statement of protection of agricultural activities from particular types of legal challenges brought against them. The following excerpt is taken from the representative statute.

“No nuisance action will be brought against an agricultural operation which has lawfully been in operation for one year or more prior to the date of bringing such action, where the conditions or circumstances complained of as constituting the basis of the nuisance action has existed substantially unchanged since the established date of operation and are normal agricultural operations.”

In its own right the above statement is clear and direct. Protection begins one year after the activity begins if there have been no nuisance complaints brought against the activity in the one year period. If the activity is “substantially unchanged” protection will apply after one year. In today’s agricultural economy, change is both rapid and pervasive. Recognizing this fact is necessary if the concept is to be applied in the modern context.

How should a protection from immunity deal with changes in the agricultural activity? As taken from the representative statute, protection from nuisance suits is also available if the physical facilities of such agricultural operations are substantially expanded or altered. Protection is afforded where:

The expanded or altered facility has either: “(1) been in operation for one year or more prior to the date of bringing such action, or (2) been addressed
in a nutrient management plan approved prior to the commencement of such expanded or altered operation pursuant to the Nutrient Management Act and is otherwise in compliance therewith: Provided, however, that nothing herein shall in any way restrict or impede the authority of this State from protecting the public health, safety and welfare or the authority of a municipality to enforce State law.”

3. Exceptions to the Protections Afforded by the Act

When a statement of protection is made, the protection will extend only to those activities that fall squarely within the terms of what is to be protected. This would be a literal interpretation of the law. In addition, laws often describe other actions or activities that are not entitled to protection. These statements might be found in provisions that limit the protection offered. Under the representative Right to Farm law the following activities are specific situations that are not entitled to protection from nuisance-based challenges:

(A) Agricultural operations that have a direct adverse effect on the public health and safety may be controlled by public nuisance ordinances.

(B) Limitations on public nuisances do not defeat the right of any person, firm or corporation to recover damages for injuries or damages sustained on account of any agricultural operation or any portion of an agricultural operation that is conducted in violation of any Federal, State or local statute or governmental regulation that applies to that agricultural operation or portionthereof.

4. Key Definitions

Key definitions always play an important part in defining the extent to which protection is afforded. Defining the type or kind of activity that is eligible for nuisance suit protection is an important issue. Despite the apparent ease of defining what is protected a more significant challenge is to build enough flexibility in the definition to enable the protection to apply to a wide variety of new situations. By incorporating this flexibility into the statutory development, the legislature gives the community and courts an opportunity to ask the key question whether the legislation intended to extend its reach to this new and different type of situation. Here are examples of several key definitions taken from the representative Right to Farm law:

“Normal Agricultural Operations”¹³ are defined as the activities, practices, equipment and procedures that farmers adopt, use or engage in the production and preparation for market of poultry, livestock, and their products and in the production, harvesting and preparation for market or use of agricultural, agronomic, horticultural, silvicultural and aquacultural crops and commodities and are: (1) not less than ten contiguous acres in area; or (2) less than ten contiguous acres but have an anticipated yearly gross income of at least $10,000. The term includes new activities, practices, equipment and procedures consistent with technological development within the agricultural industry. Use of equipment will include machinery designed and used for agricultural operations, including but not limited to, crop dryers, feed grinders, saw mills, hammer mills, refrigeration equipment, bins and related equipment used to store or prepare crops for marketing. Custom work will be considered a normal farming practice.

V. Litigating Issues Under Right to Farm Laws

A. To What Types of Situations Does the Immunity Extend?

In Wellington Farms, Inc.,¹⁴ the landowner raised poultry and operated a slaughter house. In the course of obtaining approval to operate its facility it agreed that it would only slaughter poultry raised on the premises. Subsequently it was cited for violating this restriction and appealed. Among the bases for its appeal of the citation was the allegation that the Right to Farm law prohibited the Township from enforcing the zoning ordinance against its operation. In Wellington Farms, Inc. the Court denied the appeal and upheld the zoning citation on grounds that the Act extends its protection to nuisance-based actions but the action before the court was not such an action.¹⁵ Therefore, the protection did not apply.

B. Interpreting the Act’s Principal Protections

In Horne v. Haladay¹⁶ the farm operators began a poultry business in 1993. By November 1993 they maintained 122,000 laying hens. In August 1994 they constructed a decomposition building for waste that included dead chickens. In November 1995, plaintiffs, who were adjoining landowners, filed a writ of summons and subsequently a complaint based on private
nuisance and negligence grounds. Plaintiff complained of excessive flies and strong odors originating from defendant’s land. The farm operators defended the suit and raised the Act as a defense to the private nuisance cause of action. The lower court found in defendant’s favor and plaintiff appealed.

The Court held that as defendant’s activities began as early as 1993 and were modified in August, 1994, the Act applied to protect the defendant where the plaintiff’s suit was filed in November 1995, more than one year after the activity began. In order for its protections to apply, the Act required nuisance actions to be filed more than one year after the activity’s inception or more than one year after a substantial change in that operation. The Court did not conclude that construction of the decomposition building was a substantial change as it noted that such a determination was unnecessary to decide the case and arguably the construction of the building may have improved the plaintiff’s situation. Plaintiff failed to present evidence that defendant’s operation was being carried out in violation of any state, federal or local statute or regulation.

C. Is a Grant of Immunity a “Taking” that Requires Payment of Just Compensation?

Perhaps the most widely known decision concerning constitutional challenges to Right to Farm laws is the Iowa Supreme Court decision in Bormann v. Board of Supervisors in and for Kossuth County. As in the case of most litigation involving these laws, the specific terms of the statute are particularly important.

The case involved a facial challenge on constitutional grounds to section 352.11(1)(a) of the Iowa Code that provides for creation of agricultural security areas. The challenge was brought by a group of landowners whose property was adjacent to an agricultural security area that the County Supervisors created in accordance with state law. The Iowa legislature chose to offer a special incentive to agricultural landowners who placed their land in agricultural security areas by extending to them a special type of Right to Farm protection. This protection would be in addition to any other type of Right to Farm protection applicable.

Following the County’s decision to create an agricultural security area, the plaintiff filed suit against the County. As a result of the County’s decision, the nuisance protection described in section 352.11(1)(a) automatically applied to land in the area. The basis of the neighbors’ challenge is that the Board’s action creating the security area violated their constitutional right to protect property under the Iowa Constitution and deprived them of property without due process or just compensation under the federal and Iowa Constitutions. As the neighbor’s action was a facial challenge to the statute that granted immunity without paying just compensation, the action did not allege any facts to support the notion that a nuisance, either public or private, was occurring at that time or that one was certain to occur in the future. The neighbors contended throughout the proceeding that their action was aimed at the effect that creation of the security area and application of the protection had on their property interests. As a facial challenge to the County’s action, the neighbors contended, and the court agreed, that they are relieved of any burden to prove a nuisance if the consequence of the County’s action is a taking “per se.”

Referring to Lucas v. South Carolina Coastal Council, the Court noted that takings per se cases involve situations where either a person’s property is permanently invaded, or the property owner is denied all economically beneficial or productive use of the person’s land. All other cases involving takings can be classified as “regulatory takings.” To constitute a taking per se, the government invasion of the owner’s land need not be physical. In United States v. Causby the Supreme Court held that frequent and regular flights of government planes over the plaintiff’s land created an easement in the land for the benefit of the government. Flights that are so low and so frequent as to be a direct and immediate interference with the use and enjoyment of the land constitute a taking of a flight easement that must be compensated on the basis of the diminution in the land’s value resulting from the easement.

Succinctly stated, the Court’s rationale for finding a taking occurred in the Bormann case is that when the County Board approved the application to create the security area it triggered section 352.11(1)(a). Triggering the section gave the applicants immunity from nuisance suits. This immunity resulted in the Board’s taking of easements in the neighbors’ properties for the benefit of the applicants to do acts on their property, which, were it not for the easement, would constitute a nuisance. This amounts to a taking of private property for public use without payment of just compensation in violation of the federal and state Constitutions. The legislature exceeded its authority by authorizing the use of property in such a way as to infringe on the rights of others without the payment of just compensation.
D. Is the Doctrine of Anticipated Nuisance a Threat to “Right to Farm” Protection?

Superior Farm Management, L.L.C. v. Montgomery, represents use of the traditional strategy of confronting an adversary in settings where the adversary’s strengths are neutralized. Owners of adjacent land filed suit against Superior Farm Management, L.L.C. that proposed to own and operate a 1,345 acre hog breeding facility in Taylor County, Georgia. The property owners filed suit seeking injunctive relief to stop construction of the facility before it was completed and began operations. Under Georgia statutory law, where the consequences of a nuisance about to be erected or commenced will be irreparable damage and such consequences are not merely possible but to a reasonable degree certain, an injunction may issue to restrain the nuisance before it is completed.31

The trial court, having heard some unusual testimony which is described below, concluded that plaintiffs proved to a reasonable degree of certainty that there was a substantial threat that they would be irreparably damaged by defendant’s construction of the proposed facility and that plaintiffs had no adequate remedy at law.32 The trial court issued the injunctions and Superior Farm Management appealed.

On appeal, Superior argued that granting the injunction was unwarranted as the activity is merely proposed and not yet operating.33 In addition, Superior argued that equitable action is not necessary as the company would be complying with a variety of environmental protection laws.34 In reviewing testimony in the trial court, the testimony of Superior’s general manager was noted. The property owners elicited testimony from this official that as a result of what the company proposed to do in Georgia, on a daily basis people would smell unpleasant odors within a half mile of the facility.35 Foul odors will extend two to three miles away from the property several times a year. In addition, the manager noted that the application to open the Georgia facility was filed because the company could not get approval to operate additional facilities in North Carolina.36 The company’s track record in managing eleven hog facilities in that state precluded obtaining new approvals. The manager noted that if approved, the Taylor County Georgia facility would operate along guidelines similar to those used at the North Carolina facilities.37

The Georgia Supreme Court noted that while mere apprehension of injury or damage is insufficient, where it is made to appear with reasonable certainty that irreparable harm and damage will occur from the operation of an otherwise lawful business amounting to a continuing nuisance, equity will restrain the construction, maintenance or operation of such lawful businesses.38 The Court unanimously affirmed the judgment.

E. Interpreting Statutory Grants of Immunity from Liability

Central Green Co. owns land in the San Joaquin Valley that borders the Madera Canal that is part of the Central Valley Project.39 The Company alleged that due to negligent design, construction and maintenance of the canal subsurface flooding damaged the Company’s pistachio orchards.40 The Company did not allege a physical failure of any dam that is part of the Project. Basing its claim on the Federal Tort Claims Act, the Company filed suit against the United States. The government defended the claim by relying on the immunity provision and moved for judgment on the pleadings.41 The District Court dismissed the complaint on grounds that the Project had a flood control purpose and that the events giving rise to the cause of action were not wholly unrelated to it. The Ninth Circuit affirmed and an appeal was taken to the U.S. Supreme Court.

The Supreme Court in Central Green Co. v. U.S.42 noted the issue before it to be the scope of immunity offered the federal government as a result of its flood control project work.43 The Supreme Court concluded that courts should consider the character of the waters that cause the relevant damage rather than the relation between the damage and a flood control project.44 In terms of the Company’s claim, were flood waters part of the reason that the Company’s pistachio orchards were damaged? The Court observed that the Company alleged that the cause of its injury was a continuous or repeated flow occurring over a period of years, rather than a single, discrete incident, such as a flood. As there were numerous factual issues to determine regarding the types of discharges through the system over the years, the Court held that it was error to grant the government’s motion for judgment on the pleadings and it remanded the case.45

This case illustrates that applying an immunity provision that appears to be broadly worded and all inclusive will still require an analysis of factual allegations to avoid reaching oversimplified understanding of the provision. Extending this logic to other grants of immunity, the Court seems to suggest that a fair question to ask
before applying an immunity provision is “Is the type of activity that caused the injury before the court the type that is intended to have the immunity protection that the statute describes?” This validates those decisions which have taken various parts of Right to Farm statutes and carefully scrutinized and interpreted them with the objective of determining whether the protection extends that far.

VI. What is an Appropriate Response to these Challenges?

As these challenges have been brought, supporters of Right to Farm laws continue to argue for amendments to address perceived weaknesses or failures to address new developments. Is it effective public policy to add layer after layer of additional protections to measures that many people seek to avoid? Are these objections a signal for the need to reevaluate the policy in full?

In a recent land use planning example a legislature sought to strengthen these laws by coordinating or “bundling” protections of Right to Farm laws with other laws such as zoning authority, nutrient management legislation and agricultural districts. In this process the requirements of one law are incorporated into another law and applied to additional situations or used as limits on authority to address this issue.

This approach has its advantages. The legislature can respond to political pressures to enhance the protection without having to specifically address several laws. Political considerations may prevent re-opening legislative debate and consideration of a topic that is considered to be closed. Avoiding that problem by bundling the requirements with another, less controversial, requirement adds protection and avoids a costly battle. Bundling the requirements with an issue that has broad public support helps to build constituencies and coalitions, even among those who were considered likely to object, that broaden the base of support for the measure and those bundled with it.

Another example of legislative action focuses on enhancing the business climate for agricultural producers by expanding protections afforded by the Right to Farm law itself. This proposal would penalize an unsuccessful nuisance plaintiff by requiring him to pay the successful defendant’s attorney’s fees and court costs when the complaint is avoided under Right to Farm law protection. If local municipalities adopt ordinances that regulate, restrict or prohibit agricultural operations otherwise protected by Right to Farm laws, agricultural producers would be driven to challenge such measures in order to protect their economic interests. If the municipality’s action is deemed to be frivolous as a result, support is building for requiring the municipality to pay the successful challenger’s attorney’s fees and costs arising from the challenge to the municipal action.

VII. What Message Should Policy Makers Draw From These Challenges?

At its inception, Right to Farm laws enjoyed considerable support from the largely non-farming public. Over time has that support weakened from the various challenges brought against these protections? Challenges that seek interpretation of legislative terms and requirements are typical of what any law will face as it is applied over time. Successful challenges on constitutional grounds are more serious challenges as they recognize a perceived failure in the law to address basic principles and concepts central to our legal system.

If a constitutional challenge is successful, a question might be asked, how did this failure occur? Perhaps the answer is found in the process by which the law was created and interpreted. In the law making process both the Legislative branch and the Executive branch are subject to political pressures. When laws are interpreted by the Courts, those political pressures are diminished or perhaps even eliminated.

Challenges designed to avoid the protection afforded by laws such as the Right to Farm law are the more serious type of challenge. Efforts to avoid the strengths built into them indicates some weakening of public support for this approach to public policy making. With dwindling number in the agricultural sector, will its political support eventually dwindle as well? Legislative and Executive policy makers are confronted by an important decision. Do they, individually and collectively, respond to political pressure or public pressure in future action regarding Right to Farm policy?

VIII. Conclusion Regarding the Future of these Policy Measures

The role of Courts in interpreting laws is an important point to consider in regard to the future of any public policy measure that creates controversy
or dispute. Challengers would welcome the chance to have a Court examine the wisdom of legislative action, but most Courts will decline the invitation by properly citing their limited role. This limited role is a formidable impediment for challengers to confront. Being without sufficient political support to influence the legislative action, opposition forces have few other choices than litigation. The fact that some challenges have been successful is likely to spawn other challenges that will try to expand on the successful approaches. An issue for policy makers to confront is that of developing and adopting policy that as many people as possible will accept.

An educational opportunity is now available to open the doors and inform the public about the fundamental factors at work in the agricultural economy that make policy measures such as preemption and nuisance suit protection necessary. Understanding the reasons why these measures are needed, the process by which they were adopted and an assessment of how various individuals and groups will be affected by them seem to be reasonable steps calculated to overcome the skepticism of those who view political decisions as fair to only those who supported their passage.

The focal point of this article has been the policy measures intended to support the agricultural sector of the economy and support its future economic development. While these measures have been put in place, changes within the agricultural economy have taken place at a rapid rate. Some of the challenges brought against these measure may be motivated by a desire to slow down the rate of change. Rather than reexamining application of the policies to changed activities, policies have been strengthened to accommodate and embrace change within the protective measures. The message delivered by the challenges may be overlooked, or disregarded. The search for strategies to avoid the strengthened protection or to avoid restricted authority by seeking other established authority for municipal action indicates that some people do not fully accept policies that limit their right to control land use in their community. Will such opposition wane over time? Can it be dismissed as the complaints of misguided people? Will new policy measures that add further protection silence the critics or strengthen their resolve to continue the fight until their concerns are recognized?

In my view, failing to heed the signals sent by those objecting to the current protections runs the significant risk of further solidifying the opposition. Can all forms of agriculture continue to enjoy broad based public support for protective policies when the public’s concerns are not clearly addressed? Agriculture’s political strength seems as vibrant as ever. How that strength is wielded today will directly influence the strength of the support it has or the opposition it faces tomorrow.

3 See Id.
8 See Id. section 953(a) (West, 1995).
9 See Id. section 954(a) (Supp. 2000).
10 See Id.
11 See Id. section 953(a) (West, 1995).
12 See Id. section 954(b) (Supp. 2000).
15 See Wellington Farms, Inc. v. Township of Silver Springs, 679 A. 2d 267, 268.
17 See Id. 728 A.2d 954, 959.
18 See Id. 728 A.2d 954, 957.
19 See Id. 728 A.2d 954, 957.
21 Iowa Code Ann. Section 352.11(1)(a) (West, 2001) provides in part, “A Farm or farm operation shall not be found to be a nuisance regardless of the established date of operation or expansion of the agricultural activities of the farm or farm operation...” The immunity does not apply to a nuisance resulting from a violation of a federal statute, regulation, state statute, or rule. Nor does the immunity apply to a nuisance resulting from negligent operation of the farm or farm operation. Additionally, there is no immunity from suit “for an injury or damage sustained by the person [bringing suit] because of the pollution or change in condition of the waters of a stream, the overflowing of the person’s land or excessive soil erosion into another person’s land, unless the injury or damage is caused by an act of God. ...”
23 See 584 N.W.2d 309, 313.
24 See Id.
26 See 584 N.W.2d 309, 316.
27 See Id.
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29 See 584 N.W. 2d 309, 321.


31 See Id. and Code of Georgia Ann. section 41-2-4 (Harrison, 1999).

32 See 513 S.E, 2d 215, 217.

33 See Id.

34 See Id.

35 See Id. 217, 218.

36 See Id.

37 See Id.

38 See Id. 218. The doctrine that is embodied in the Georgia statute cited above is referred to as the doctrine of “anticipated nuisance.” See also, PROSSER AND KEATON ON THE LAW OF TORTS (5th ed., 1984) sections 88-89; Rutter v. Carroll’s Foods of the Midwest, Inc, 50 F. Supp. 2d 876, 1999 U.S. Dist. LEXIS 8906; 44 Fed. R. Serv. 3d (Callaghan) 940 (1999).

39 In 1935, the federal government took over California’s Central Valley Project that captured and stored waters of the Sacramento and San Joaquin Rivers and re-engineered the distribution of the water to make it available where it would be of greatest service to the State. The project required development of a system of canals to move the water up to 160 miles from its source.


41 See Id. In 1928, when Congress authorized a massive federal flood control project along the Mississippi River, it included an immunity provision in the legislation that provided, “[N]o liability of any kind shall attach to or rest upon the United States for any damage from floods or flood waters at any place.”

42 See Id. 1,2.

43 See Id. 4,5.

44 See Id. 6.

45 In the case of the representative Right to Farm law described above important amendments were made to the definition of “normal agricultural operations.” In its original form, the definition included language that identified normal operations as those that are “usual and customary.” At first glance this reference might not be considered troublesome as most people agreed that their image of what was to be protected by these laws was captured by the language. The danger in accepting that language is the limitation it imposed on those who yearned to be innovators of new technologies or practices. Arguably, the original language did not extend protection until a practice became “usual and customary” and even then that would be. By the mid 1990’s the definition was amended by dropping the “usual and customary” requirement and replacing it with an express statement that new activities, practices, equipment and procedures consistent with technological development within the agricultural industry would be considered as normal agricultural operations. In this context the amendment can also be interpreted in a common sense fashion to properly recognize the need to allow growth and development in the industry and avoid restrictions that have anti-competitive effects. When intensive scale livestock production facilities are added to the situation, however, some community groups began to see another impact of this legislative change. Producers who chose to embrace intensive production practices could also fit within the definition as most would agree that these practices have economic justification. Smaller scale producers argued that their large scale neighbors would run them out of business. Community groups raised everyone’s awareness of the environmental and public health problems associated with large scale facilities. Battle lines were formed.
Introduction

In its July 2001 issue, National Geographic magazine ran its long-awaited feature on urban sprawl in the United States. The article opened with an account of a farmer, Tom Spellmire, who operates an 87-acre farm in Turtle Creek Township in Warren County, Ohio, in the I-75/I-71 corridor between Dayton, to the north, and Cincinnati, to the south. In addition to the acreage he farms, according to the article, Spellmire leases another 2,400 acres from other landowners.

Spellmire is not happy about the prospects for continued farming in Warren County. “Believe it or not,” he says, “this county is promoted as having rural character, but the zoning codes in effect say ‘We want to develop everything.’ That’s why the county is a haven for real estate investors.”

The article follows Spellmire as he leads the author on a tour of development near the farm acreage he leases, new subdivisions with names like The Meadows at Mason, Heritage Club, Hickory Woods, Simpson Creek Farm (who thinks up these names?). Finally, they arrive at a subdivision called Trailside Acres, featuring homes that sell for up to a half a million dollars each–just what the Dayton-Cincinnati metropolitan area needs more of. Spellmire points out to the author a field he is cultivating.

“We lease that farm,” he says. “We rotate corn, soybeans, and wheat on it.” Spellmire continues. “And what I find so ironic is that all these people who live here look out their back windows and see this fine old farmstead. When I’m out there on a tractor, the subdivision kids are hanging over their fences, watching me. And you know what their parents say to the people who own that farm? They say ‘You’re not going to sell it for development, are you? Are you?’”

I read this account in National Geographic, and realized that some 23 years ago I was involved in the decision that, for all practical purposes, sealed the fate of the land between the Dayton and Cincinnati urbanized areas. In 1979, I was working for a regional planning agency in Dayton, Ohio, and was involved in a protracted dispute over whether or not the federal government, through the U.S. Department of Transportation, would give the okay to 13.5 miles of I-675 East. This was an interstate highway bypass that was proposed to wrap around the Dayton metropolitan area from an east-west freeway, I-70, to I-75, a north-south highway extending to Cincinnati.

The administration of President Jimmy Carter concocted something called the “urban policy.” In this case, it was activated by the U.S. Department of Housing and Urban Development in its review of the environmental impact statement for I-675 East. HUD asked that a supplemental “urban impact statement” be prepared for this stretch of highway to identify the impacts on the city of Dayton (particularly its housing market and population), low and moderate income persons, and minorities.

I was charged with the job of researching and writing this document, although the final recommendations were not ultimately mine. With no budget to speak of, I spent about two months trying to get a handle on what this highway would do. What I found, of course, was that, even in the absence of clear federal approval of the highway route, land-use decisions had been made as if the highway were a reality–no surprise here–and thus, just the concept of the highway gained a big fan club, never mind the specific alignment. For example, I calculated that, based on an analysis of zoning maps for the municipalities and townships through which the highway passed, there existed the potential for some 20,000 jobs in the commercial, office, and industrial districts along the route, clustered around proposed interchanges. Most of the vacant residential zoning was, with few exceptions, very low density and, in my opinion, likely to stay that way, given the preferences of the local governments in the highway corridor. One of...
the things that I concluded was that the Dayton central business district was likely to lose substantial market share to the suburbs and would continue to decline, but at an accelerated rate.

The regional planning agency ultimately recommended to DOT that the highway be built but with a series of nine mitigating conditions that were intended to offset the adverse urban impacts of the facility. On the basis of my report, however, Neil Goldschmidt, who was then Secretary of Transportation, approved only a small segment of the highway to allow it to be extended to an interchange with U.S. 35, an east-west highway that bisected the Dayton area. The remaining portion of the highway, which went through some of the Dayton area’s most exclusive suburbs and prime developable land, was vetoed. I was secretly pleased.

Well, you can imagine that a number of heavy duty people in the Dayton area as well as the Ohio Department of Transportation, which never saw a freeway it didn’t like, were quite miffed by this, and weren’t going to let the matter drop. They were unrelenting in their advocacy for the highway’s completion.

Ronald Reagan was elected president, and the Carter “urban policy” was history. The U.S. Department of Transportation was persuaded to reconsider its decision and it did.

The conventional wisdom at the time was that regardless of whether or not the remaining segment of the highway was built development was going to occur in the highway corridor anyway, so, hey, why not approve it? A federal court suit to block the highway on the theory that the EIS was inadequate failed. Finally, U.S. DOT did in fact approve the construction of the remaining segment, even though nothing had changed.

I-675 East was constructed. I toured the corridor not long ago, and sure enough, there was plenty of development, including a big new shopping center that had succeeded in attracting enough retail dollars that it gutted the market for another shopping center on the north side of the Montgomery County, the core county of the Dayton area. Not surprisingly, the Dayton CBD has no major department stores left.

The real irony was a decision of the Dayton Daily News, which, at least initially, had editorially opposed I-675 East. Not far from the interchange of I-675 East with I-75 there sits today a spanking new monumental production facility for the Daily News. The facility that it replaced was in downtown Dayton. The Daily News piously reasoned it had be at the new location to be close to emerging residential markets in the southern part of Montgomery County, and stretching all the way to Cincinnati.

If you could see this pattern, you would call it urban sprawl, although we didn’t really characterize it that way in 1979. Recently I checked census data for Ohio and found that, for all of the seven major urbanized areas in the state, the number of persons per square mile—a measure of density—decreased substantially from 1960 to 1990, but the most dramatic shift occurred in the once-compact Dayton area, which dropped from 4,013 to 2,243 persons per square mile, a 44.1 percent decline.¹

I have no doubt in my mind that the construction of I-675 East fueled this change. I can tell you now that when the I-675 East decision was made, neither the U.S. Department of Transportation, nor the Ohio Department of Transportation, nor the counties, townships, and municipalities affected by the corridor, nor even the regional planning agency for which I worked, were very concerned about urban sprawl and the protection of prime agricultural land, although the U.S. Department of Housing and Urban Development did recognize what the implications were. The issues just weren’t on the public policy radar screen, and there was no deliberate planning occurring that would identify and prioritize land for its importance as prime farmland, separate that land from land for urbanization, and undertake a program of implementation that would ensure that it remained in agricultural use. Even today, I wonder, since we are talking about Ohio, my home state, whether decisions would have made differently, even if the consequences were known.

The Three Systems

Over the next few minutes, I’d like to talk about the nature of the existing planning and land-use control systems in this country, and why planning often doesn’t work very well (although this is changing). Then I would like to discuss the problems with how many communities view agricultural land, and how they regulate it, and the consequences that creates for development patterns. Finally, I would like to conclude with an overview of the Growing SmartSM project, an effort by the American Planning Association to draft the next generation of model planning and zoning legislation, and how
The late Norman Williams, Jr., who taught planning law at Rutgers University and the Vermont Law School, and authored a major multivolume planning law treatise, argued that in the United States, there is no one system of land-use control, but rather three, with each tending to work against the others. Williams noted that, in most parts of the country, the property tax system, the first system, supports major public services but does not bring in enough revenue to meet local needs. Inevitably, local officials are driven to take into account the revenue-raising capacities of various proposed land uses. This leads to a situation where “good ratables,” such as industrial, most commercial, and high-value residential development—which bring in significant real estate taxes and require little in the way of public services—are encouraged, but “bad ratables” such as quality affordable housing, are discouraged. In Ohio, it is why, in the townships between Dayton and Cincinnati that Tom Spellmire is concerned about, the homes are pricey, because that’s what township trustees believe will “pay for itself” and zoning commissions roll over and play dead for Wal-Marts and the next tier of regional shopping centers.

The second system concerns the impact of major public services and facilities, particularly transportation facilities, such as highway interchanges and by-passes like I-675 East, and those for sewage collection and disposal. Williams observed that, while the construction of some facilities, such as schools, depends primarily on the type and intensity of land use in the area, other public facilities, such as water and sewers, can have such a strong influence on adjacent land use that they actually may dominate the official set of controls. Certainly, this is true for major transportation facilities, yet many state transportation agencies pretend that interchanges, road widenings, curb cuts, and the like have no or minimal impacts on surrounding land use, even though they increase accessibility and shorten driving time, at least for the moment. The mantra you hear from many state transportation departments is that land use is a local concern, and they just build the roads.

The third system of land-use control that Williams identifies is comprised of zoning, subdivision regulation, official mapping, and other devices, presumably all guided by a local comprehensive plan. Counter-intuitively, Williams pointed out that the official system may actually be the least important. If the first two systems work to produce unbalanced development in search of good ratables, or development in the wrong place due to lack of forethought and coordination, the third system, in Williams’s words, “comes out third best.”

**The Intergovernmental Dimension**

It is important to remind ourselves that planning and development decisions are affected by and affect a variety of governmental units. They include adjoining and nearby local government units, special districts, such as school, sewer, flood control, and water districts, which plan and operate facilities, and state agencies.

A good example of this is a state university, which, in most places, has absolute and complete authority over building and land use decisions, and does not have to consult with anyone. I worked in a university town for 12 years and I always found it remarkable that the university could unilaterally decide to up enrollment by 1,000 students at the last minute, fail to provide additional dormitory space and parking, and then wonder why there was opposition to the construction of privately-owned student housing.

Each of these systems make it difficult to manage urban growth and, in the process, make it hard to preserve agricultural land. Economics and the major form-giving decisions for a region, are regional in nature in most places—the interstate bypass, the spacing and type of interchanges on a highway, the location of wastewater treatment plants and trunk lines, the location of a major transportation facility. Sometimes the decisions are made by state agencies alone, and sometimes by the state in conjunction with special districts or affect local governments. Often, these decisions, even in their tentative stages, have an air of a *fait accompli* about them. They are gradually slipped into plans, without much initial rigorous study, and, once there, acquire a constituency of their own, without much serious regard for their consequences.

Let me give you an example of what I mean. For a number of years the State of Illinois has been pushing for a third airport in Peotone, in the southern suburbs of Chicago, to supplement Midway and O’Hare because of the substantial opposition to expansion of O’Hare by suburban interests near it. The area the new airport where it is to be located is some of the best farmland in the Chicago metropolitan area. Even though the state has a relatively strong farmland protection statute—although it is not used that much—and strong policies on
restraining the acquisition of farmland for public projects, there is limited attention to farmland protection throughout most of the metropolitan area.5

The Illinois Department of Transportation has begun using state, not federal, funds to acquire land for the airport, even though the federal environmental impact statement process is not yet completed, and there has been no official federal decision on whether the airport is to be built. But the state, by its decision to acquire land, has sent signals to developers and others that this area is no longer to be farmland for the long term, no question about it.

Of course many, but not all, of the local governments in the area have become cheerleaders for the project, as they tend to do. Again, the local property tax is one of the culprits. The local governments believe they will benefit from development related to the airport, obtaining the taxable goodies that only the relatively tax-rich northern and northwestern suburbs of Chicago have, and have formed a coalition to push for it.

A number of local governments in the area are concerned about loss of rural character and agricultural land. Homer Township in Will County, the county where the airport will be located, actually incorporated over just this issue. It is using low density zoning—one house per five acres—to forestall development. This is a common, misguided technique of course, and it doesn’t preserve agriculture at all, in my opinion, because farms aren’t simply economically viable at five acres each. Instead it forces residential development farther and farther out because each new dwelling unit uses more and more land than if the densities were more urban in nature. Except for the impact of pushing the cost of housing up due to larger lot sizes, ersatz agricultural or “rural residential” zoning will be ineffective at managing growth.

Further, I am very much influenced by a European and, more specifically, a Dutch model of urbanization.7 I favor a sharp demarcation between what is urban and developed, and what is to remain agricultural. The Dutch, faced with a burgeoning population, a strong concern for the environment, a recognition of the importance of agriculture to the national economy, and a limited supply of buildable land, accordingly are very careful in the planning and expansion of metropolitan areas.

In the Netherlands, you can travel on a train between cities, such as Amsterdam and The Hague, and you can see clearly where agriculture and urban development begin and end. Agricultural areas are agricultural areas, not areas of “rural character” intended to provide homesites for mini-mansions. In the Netherlands, expansion of major public facilities or edges of cities receives a great deal of consideration in terms of impact before decisive action is taken, and, when it is, the commitment is a full and systematic one, not dribs and drabs of infrastructure and indecision. In contrast to the U.S., you don’t see three and five-acre homesites scattered along highways leading up to cities, and you don’t have the same potential for agricultural/non-agricultural conflict—hog farms next to homes—due to intrusion of mini-mansions into farmsteads. Agriculture continues in the Netherlands and so does orderly urbanization.

What is Growing SmartSM?

While it is unlikely we will ever see the strict Dutch model at work in the U.S., except perhaps in Oregon, it is still what I regard as a best practice (because it seems to work), and it is what I have kept in mind while I have been working on the Growing SmartSM project at the American Planning Association since 1994 as its principal investigator.

What is Growing SmartSM? The project is a long-term effort by the American Planning Association to draft the next generation of model planning and zoning legislation for the United States. The model legislation is intended to update and replace the Standard City Planning and Zoning Enabling Acts that were drafted by an advisory committee of the U.S. Department of Commerce in the 1920s. Most state enabling statutes are directly descended from or influenced by these two model acts.
The major output of Growing SmartSM is a Legislative Guidebook, which contains the model statutes with commentary. In addition, APA has operated a clearinghouse on statutory reform that anyone can use. The project has been funded by five federal agencies, with the U.S. Department of Housing and Urban Development as the lead agency, the Annie E. Casey Foundation in Baltimore, the Henry M. Jackson Foundation in Seattle, the Siemens Corporation, and the APA itself.

When possible, the Guidebook presents alternative approaches to drafting statutes. The commentary that precedes the model acts provides background about the topic that is the focus of the statute, describes the various legislative alternatives, and makes suggestions concerning implementation. The commentary also directs the reader, through footnotes and special research notes, to relevant state and federal statutes, books, reports, and articles. The research notes detail subjects addressed by the model statutes, such as urban growth area designation.

The model statutes are intended to provide governors, state legislators, state legislative research bureaus, local elected and appointed officials, planners, citizens, and advocates for statutory change with ideas, principles, methods, procedures, phraseology, and alternative approaches drawn from around the country, at the state, regional, and local levels. A number of the legislative models are composites of existing, successful statutory language.

An interim edition of the Guidebook, released in September 1998, addresses a wide range of state, regional, and local planning issues, including local comprehensive planning, regional tax base sharing, urban growth area designation, and neighborhood planning. This may be downloaded for free from APA’s website, www.planning.org, and may be purchased from APA.

APA will publish a final edition of the Guidebook in late 2001 and it will be available for sale in hard copy and downloadable for free. Additional material will include: authority for land development regulations, including zoning, subdivision, site plan review, and planned unit development; provisions for innovative regulation, including incentives for affordable housing and good community design, historic preservation, mitigation banking, transfer of development rights, and purchase of development rights. There are also models on vesting of development; development impact fees; development agreements; a unified development permit review process; administrative and judicial review of land use decisions; enforcement of land development regulations; adequate public facilities ordinances—an essential part of growth management; tax abatement, redevelopment, and tax increment financing; public record keeping of land development regulations and plans; and a model state “smart growth” act, which is an adaptation of the well-known 1997 Maryland law that establishes “priority funding areas” to which state investment is directed and which has been an important initiative of Governor Parris Glendening.9

Growing SmartSM is not growth management legislation per se—instead, it is simply better planning and land development control legislation; growth management tools are only a part of the model statutes. Growth management legislation attempts to affect the pace and sequence development and, in particular, whether new development is supported by adequate public services and facilities. As I said, Growing SmartSM contains model statutes that authorize concurrency or adequate public facilities requirements, but under a statewide or regional framework to establish standards for minimum levels of service. Growth management may also try to affect the grain, or density or intensity of development, although that objective is also satisfied by conventional planning legislation.

I’d like to focus on three agricultural-related proposals in Growing SmartSM, for urban growth area designation, for comprehensive planning for agricultural and forest land protection, and for agricultural districting.

(1) Urban Growth Area Designation in Regional and Local Comprehensive Plans

Our idea of serious growth management is that it should operate within a regional framework, because, as I said, the factors and decisions that affect growth are regional, and even statewide, in nature. When one local government begins to implement growth management systems on its own, the systems inevitably have an impact on adjoining and nearby local governments. None of this should be rocket science, of course, but this notion is frequently overlooked by local governments and state legislatures and even growth management zealots.

This is particularly true for the use of urban growth areas. Urban growth areas are a regional land-use plan-
ning tool used to influence the spatial structure or pattern of development within a region and communities within it. They are intended to achieve or promote urban containment by promoting compact and contiguous development patterns. These are patterns that can be efficiently served by public services and that preserve open space, agricultural land, and environmentally sensitive areas that may not be suitable for development. A number of states, including Tennessee, Oregon, and Washington, and, arguably, Maryland, now either require or authorize urban growth area planning.

Under the Growing SmartSM model, an urban growth area must allow existing or proposed land uses at minimum densities and intensities sufficient to permit urban growth that is projected for a region or county for the succeeding 20-year period existing or proposed urban services to adequately support that urban growth. The model legislation, which is based in part on a Washington statute and administrative rules, places the overall responsibility for designation at the regional or county level. If there is no regional agency in place, then one will need to be created or the authority will instead rest with the county planning agency. The model legislation establishes a process for establishing the urban growth areas as part of a regional plan, for incorporation of urban growth areas into local comprehensive plans, and for dispute resolution and appeals if a local government disagrees with the designation of the urban growth area and the underlying assumptions.

My view is that, absent a regional or county framework, the consequence of either a single or scattered group of local governments initiating urban growth areas own their own will likely result in either growth being shifted away from one part of one community in an urban area to another community, or growth bypassing the enacting community and jump outward to the next tier of vacant, but developable land. Placing the designation process at the regional or county level spreads the benefits of the system among the central cities, the inner ring of developed and mature suburbs, developing suburbs, and the rural areas beyond.

Once the urban growth area is set in place and local governments begin to modify their development regulations to provide for the anticipated urban growth, the model legislation requires the monitoring of the regional land market to ensure that there is always a sufficient supply of buildable urban land at sufficient densities and intensities to account for population and employment growth in the region or county.

(2) Model Agriculture and Forestry Preservation Element, with Optional Provisions for Scenic Protection

State statutes can provide for local comprehensive planning as an optional activity or they can require that local comprehensive plans must be prepared. Increasingly, the view is that planning is an essential underpinning for land development regulations, like zoning and subdivision control, and public investment in capital facilities.

Under the Growing SmartSM model statute, a local comprehensive plan is a series of required and optional elements. The basic set includes an issues and opportunities element—the element that describes the community’s vision of itself and how it arrived at that vision—four functional elements that address land use, transportation, housing (especially affordable housing), and community facilities, and a program of implementation. There are another set of conditionally mandated elements that address economic development, critical and sensitive areas, and natural hazards. If the conditions are not present to justify the element, the community may opt out of preparing one—for example, if there are no natural hazards, like earthquakes. Finally, there are a set of optional elements, among them agricultural and forest preservation and scenic protection, and community design.

A number of states require local comprehensive plans to contain elements that preserve and protect such agricultural uses, although they may sometimes use the term “open space” in describing them. Some states, like Iowa and Minnesota, have enacted agricultural districiting statutes that have a planning dimension to them.

The Legislative Guidebook describes an agriculture and forest land and scenic preservation element that would be an optional part of a local comprehensive plan. While agricultural and forestry uses are also to be identified in the required land-use element, this optional element gives these activities a special emphasis and may be appropriate for local governments such as municipalities and townships in rural areas and counties.

The primary emphasis of the element is to focus on the value of agriculture and forest lands as a contribution to the local economy. A secondary emphasis is to recognize that such lands (as well as other privately
owned undeveloped lands) may have a scenic value as open space or as historic and cultural resources in their undeveloped state. The model legislation contains bracketed language that should be incorporated if this secondary emphasis is to be included.

Under this model, a local government inventories agricultural and forest land as well as other privately owned undeveloped land that is characterized by scenic views or vistas or has, in its undeveloped state, historical or cultural significance as a scenic resource. The element requires the local government to identify any conflicts between such lands and any other element of the local comprehensive plan. It calls for the local government to map such areas, prioritize them, and propose a program of action that would preserve and protect such lands as well as promote the continuance of agricultural and forest-based economies through joint marketing efforts and grant and loan programs, among other initiatives. It is up to the local government itself to decide which tools are appropriate to ensure that agricultural and forestry use will continue. Not every tool will work in every circumstance.

The identification of farmland is a key component of this element. Through soil surveys, prime farmlands have been identified throughout the country by the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service) and represent lands containing soil properties that are highly suitable for agriculture. While soil surveys are useful, another, more focused method for determining suitable agricultural lands is through the use of the U.S. Department of Agriculture’s Land Evaluation and Site Assessment (LESA) system.14 LESA is designed to assist local and state governments arrive at objective rankings of the agricultural value of land within the community by gauging many diverse factors. Several states, including California, Hawaii, and Illinois, and a number of local governments have experience with a LESA-based system. LESA and the NRCS research on soils provide extremely useful tools for local governments as they evaluate the relative importance of agricultural properties.

If the local government incorporates an urban growth area into its comprehensive plan, the requirement of inventoried agricultural and forestry lands within the growth area may be omitted if it is intended that developed land will gradually replace such activities. There is not much point, in my opinion, of creating an urban growth area and then attempting to continue agricultural uses within it. On the other hand, if it is intended, for example, that forestry and related activities are to be continued within the urban growth area, then the inventory should include such lands.

(3) Model Agricultural Districting Statute

As you know, agricultural district statutes allow the establishment of special areas where commercial agriculture is encouraged and protected. Land within such areas is then assessed at its use value for agriculture rather than its market or speculative value, a concept called “differential assessment.”15 The theory is that, if land is taxed in this way, it will remove the financial pressure that comes about from rising land values, particularly on the fringes of metropolitan areas, and from resulting higher property taxes on farmland to convert that land to nonagricultural use. According to the American Farmland Trust, every state provides property relief, in some form or another, to farmland, and 49 states specifically use differential assessment. Sixteen states have enacted agricultural district legislation. Two states, Minnesota and Virginia, have two agricultural district programs each.16

APA’s agricultural district statute is an adaptation of the California, Minnesota New York, and Ohio agricultural district statutes.17 In particular, it is to be used for lands that are outside urban growth areas. Under this model, a local government must have first adopted a local comprehensive plan that contains the agricultural and forest preservation element that I described. It may then adopt an ordinance establishing an agricultural district, which will be effective for ten years and may be reenacted at the legislative body’s discretion. The ordinance establishing the district must identify, in both mapped and written form, the affected parcels. It must also establish a maximum density of one dwelling unit per 40 acres in order to create a true agricultural area rather than simply another low-density single-family residential enclave.18

Once the agricultural district is established, a landowner whose property is within it may apply to the county assessor for an agricultural assessment, provided the landowner’s property meets certain minimum area (at least 40 acres) and agricultural production requirements. As part of the initial application, the owner must record a restrictive covenant that limits the use of the property to agriculture for a period of nine years. If the application is granted, the land is assessed at its agricultural rather than its market value, and may not be sub-
ject to special assessments for water, sewer, streetlights, and sidewalks, without the owner’s permission.

Certain procedures must be followed before eminent domain (for acquisition of more than ten acres) can be used or expenditure of public funds, by grant, loan, interest subsidy, or otherwise, for the construction of non-farm housing, or commercial or industrial facilities to serve nonagricultural uses of land can occur within the district. Local governments are barred from enacting ordinances that unreasonably restrict or regulate normal farm structures or agricultural use or practices, unless the restriction or regulation bears a direct relationship to an immediate and substantial threat to the public health or safety. The model provides a defense from civil nuisance actions for agricultural activities conducted on land within an agricultural district.

If the land that has been granted an agricultural assessment is converted to nonagricultural use before the nine-year period has lapsed (conversion includes subdivision for non-farm uses), the owner, or his or her successor, is liable for a penalty equal to five times the taxes saved during the past year (the difference between the taxes that would have been collected if the land had been assessed at its market value and its agricultural value), interest for each year the agricultural assessment has been in effect, up to five years, and any uncollected special assessments. If the district is terminated or not reenacted by the local government, if land is removed from the district, such as by amendment, or if land is acquired through eminent domain, there are no required payments and penalties on the part of the landowner. The model statute requires the landowner to notify the county assessor if conversion takes place.

Other Models Legislation Affecting Agricultural Land Use

There are other models in the Legislative Guidebook that are relevant to agricultural preservation. As I said, we developed model legislation for transfer of development rights, purchase of development rights, and conservation easements. The authorization for zoning ordinances is very broadly written, so any type of agricultural zoning may be enacted, although I favor an exclusive use approach with extremely large (40 acre or greater) area requirements. In addition, there are procedures for regional review of proposed region-serving improvements, such as highways and treatment plants, that can stimulate development in rural areas, resulting in the potential loss of agricultural land. Finally, the regional tax base-sharing statute, drafted by Minnesota State Representative Myron Orfield, is intended to allow local governments to share in the growth of the commercial/industrial property tax base on a metropolitan basis, so each local government does not feel it needs to have a regional shopping center or other high value land use in order to justify its existence. This, in theory, should take pressure off the conversion of agricultural land.

Conclusion

Let me conclude. The article in National Geographic that I spoke of earlier—the mere fact it appeared—is an illustration of what I believe is the sea change underway in the United States. It has to do with how we manage growth and change—how we shape the character of our states, metropolitan regions, and urban and rural communities by shaping their patterns of development. It is a change that has bubbled up from local governments to the state and national levels. We see it here in Maryland with Governor Parris Glendenning’s leadership in the area of smart growth. The sea change has been the result of many factors. Chief among them was the sustained economic boom over the past five to six years, which has resulted in an American landscape that has literally been transformed before our eyes. This boom and the resulting landscape transformation have made the public more and more aware of the consequences of growth and change. Loss of good agricultural land, of course, is one of them, which is why we are here today.

We are now beginning to realize how many things, how many thousands of small things, will need to be changed if we are to be successful at managing growth and balancing the many interests—social equity, affordable housing, environmental protection, private property rights, provision of food and fiber—that such an effort implies. I have outlined one set of proposals, from the American Planning Association, to provide states and their local governments with a better set of statutory tools to do that. But the real advancements will come from coalitions of citizens who recognize the need to wrestle to the ground the problems of urban sprawl and build political support in state legislatures and in local governments to do that. I think the time is ripe for advancing the set of interests that brought us all to this conference. I am an optimist, and based on what I see and read and hear around the country, I think success at doing so—while it won’t be easy—is most definitely in the offing.
Protecting Farmland at the Fringe: Do Regulations Work? Strengthening the Research Agenda


American Planning Association (APA), Growing SmartLegislative Guidebook Final Edition, Draft Chapter 14, Tax Equity Devices and Tax Relief Programs, Section 14-401, Agricultural Districts (June 12, 2001 draft, unpublished).

It is important to note that the average size of an economically viable farm may differ from state to state and indeed from region to region within a state. It is recommended that the most current U.S. Census of Agriculture be consulted for average farm size when setting the minimum size requirement for parcels or combination of parcels under common ownership to be eligible for an agriculture assessment. For a good discussion of this issue, see Robert E. Coughlin, “Formulating and Evaluating Agricultural Zoning Programs,” Journal of the American Planning Association 57, No. 2 (Spring 1991): 183-192, esp. 189 (discussion of preferred density at which land use conflicts between agricultural activity and non-farm residential uses will be acceptably low to farmers). See generally Arthur C. Nelson, “Preserving Prime Farmland in the Face of Urbanization–Lessons from Oregon,” Journal of the American Planning Association 58, No. 4 (1992): 467-488 (reports on effectiveness of a mix of techniques, including exclusive farm zoning, urban growth boundaries, tax deferral, and right-to-farm laws in preserving prime farmland).


20 Legislative Guidebook, Phases I & II Interim Edition, Section 6-401, Effects of Regional Plans on State Agencies, Local Governments, and Special Districts; Review of Plans and Major Capital Facility Projects of Extrajurisdictional or Regional Significance.

21 Id., Sections 14-101 et seq, Regional [Metropolitan] Tax-Base Sharing


Farmland Protection Programs: How Would We Know They Worked?

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My task in this paper, as established by the organizing committee, is to provide an assessment of how we can better determine the consequences or effects of farmland protection programs, or, more broadly, of attempts to control urban growth and development. How do we determine whether regulations, incentives, or other means actually have an impact on patterns of land use change? Can a research strategy be suggested that promises to provide information on what works—and what doesn’t?

It is especially ironic that I was assigned this topic: I am an indifferent scholar and the last person to do research planning. My inclination is to recognize an important topic, and identify an achievable piece of empirical research (read “data crunching”) that may illuminate an aspect of it, rather than agonize over the bigger picture issues. As an example, our recent report includes an estimate of the total cost of purchasing development rights on U.S. cropland influenced by urbanization (Heimlich and Anderson, 2001, p. 60-64). The idea that all cropland affected by urbanization should be protected is not particularly realistic, but comparing the $130 billion cost for those 94.7 million acres to the $1.2 billion spent to date on the 820,000 acres currently under protection makes it clear that we are not going to solve the farmland protection problem by purchasing easements. The task is simply too big and too expensive. Other means, such as regulatory programs and land use controls, will be needed and may have to do most of the work. Such research cannot answer the larger question of what tools will work to protect farmland, but helps answer a related question: What won’t work?

This paper begins with a reminder about what land use control programs are trying to accomplish, at least as I understand them. It then briefly outlines the major alternative regulatory and incentive-based tools for protecting farmland and controlling urban development. It then outlines a number of difficulties researchers and policy analysts face when evaluating anything to do with land use. It reviews the literature on studies focusing on values or prices as indicators, and those dealing more directly with land use change. Finally, the paper discusses two research approaches that have been used and suggests ways that some of the difficulties outlined earlier can be overcome.

What Are We Trying To Do, Again?

In evaluating programs or policies, it is always important to be clear about the intended consequences. Much of the muddle that goes on in these endeavors is due less to poor data, murky methods, and confounding variables than to confusion in initial assumptions about what the programs being evaluated are actually intended to accomplish. Economic theory involves notions of “optimality” or “efficiency” that have few counterparts in real-world policy making. Economists often substitute these notions in place of carefully examining what the framers of particular policies had in mind for them.

Another aspect of being clear about what growth controls are intended to do consists of being clear about the nature of the problem being addressed. Unfortunately, “sprawl” has become the indeterminate pejorative for everything that could possibly go wrong with growth. While all sides seem to be in agreement that sprawl is bad, there is very little agreement about even how to define sprawl (Heimlich and Anderson, 2001; Fina and Shabman, 1999; Wassmer, 2000). When both highly dense town house developments and land gobbling large-lot development can be lumped together under as “sprawl,” little is added to the debate by using the term. The confusion over “sprawl” does spotlight a lack of consensus on what land use should be and how public policy should seek to influence it. Until there is more clarity about what we mean by “good land use”, it will be difficult to effectively measure how particular policies work to produce it. The only solution to this problem, in the short run, is to avoid sweeping but meaningless generalizations like “sprawl” and focus on specific characteristics of development that can be quantified, such as density, acres of particular uses converted to developed use, etc.
What all the land use policies dealt with here have in common is that they are interventions in previously functioning markets for land to prevent a future negative externality or a future reduction in amenity. On the regulatory side, these interventions are carried out by tinkering with the “rules of the game,” established heretofore, not by God or Adam Smith, but by the same body politic who must now sanction the changes to the rules. The motivation for changing the rules is that the existing or expected pattern of land use, or consequences flowing from that land use pattern, is displeasing to those exercising power over the rules.

In modern, democratic America, we may hope that those exercising power over the rules are broadly representative of public will, but it was not always so, and may not actually be so in particular circumstances now. When Baron Von Haussmann pulled down the ancient houses of Paris in the Second Empire to create the broad boulevards so characteristic of the city we know, he was not reflecting the contingent preferences of a million Parisian proletariat, so much as his own preferences for aesthetics, sanitation and unobstructed fields of artillery fire to put down riots like those of the Communards of 1848 (Boyer, 1994; Pinkney 1958; Streets of Paris, 2001). The instrument employed (direct condemnation) was no less effective in achieving the land use pattern desired by those in power (Von Haussmann, seconded by Napoleon III), and can only be clearly evaluated against those objectives, or by explicitly proposing alternative criteria for “success”.

The motives for farmland protection are many and varied, and the motives for “growth control” are even more uncertain. Supporters of farmland protection include those who want to preserve active farming operations, those who want the open space and rural amenities provided by cropland, pasture, and farm woodlots, whether actually used for production or not, and those who value farmland for what it is not: more townhouses and shopping centers. Growth control is embraced by everyone from those who would return to a dense urban-centric pattern of settlement not seen in this country since before World War II, to those who simply want a more orderly transition and juxtaposition of land uses and traffic flows. The success of any given program of land use controls can only be evaluated through the eyes of the various beholders, and one or many objectives to be used as criteria for judging that success must be clearly stated at the outset or nothing but confusion can result.

It is especially important that economists not impose any artificial optimality or efficiency criteria in evaluating land use control programs, without first acknowledging whether those notions were objectives motivating the program originally. If faultlessly effective programs are serving flawed goals, the fault is with the goals, not the program, although a large dose of hubris accrues to social scientists who claim to “know better” what people should want. Fischel (1990) makes the point that growth controls are not imposed exogenously, but through a rational process involving goal-setting by the political leaders and participants involved, who may have quite different notions of “efficiency” and “optimality” than their ex-post evaluators do (p. 3).

The need to include growth controls endogenously in economic models has long been recognized (Davis, 1963; Fischel, 1978; Mills 1979). Growth control policies have been analyzed in many studies (Henderson, 1980; Shlay and Rossi, 1981; Epple et al., 1988; McDonald and McMillen, 1998; Levine, 1999; Phillips and Goodstein, 2000; Wallace, 1988; Erickson and Wollover, 1987). However, endogenizing the institutional mechanisms of growth control measures is a far more complicated task than most economists and modelers are willing to concede (Pgodzinski and Sass, 1994; McMillen and McDonald, 1991). An example from a recent paper attempting to endogenously model land use controls through zoning is illustrative. Starting from the unexceptionable premise that land planners are attempting to optimize a social welfare function, Seong-Hoon Cho and JunJie Wu (2001) abstract that notion into unreality in their theoretical model by assuming that county government seeks to maximize the net value from developed and farmland use less a term for the social cost of converting farmland (equation 11, p. 8). Going from not considering growth control policies as forces in the market at all, to modeling them in an unrealistic and distorting way doesn’t constitute progress. Economists have a severe challenge in capturing the zoning and growth control process as it really exists: Not a hard-and-fast restriction on potential land uses, but a process of negotiation on what uses will occur on a particular site during what time frames.

Two trends in attempts to capture zoning and other land use controls in econometric modeling leave me particularly uneasy. First, the tendency to treat zoning and other growth controls as hard-and-fast classifications of land ignores the essential nature of land use regulation as a process, rather than an end product (Fischel, 1990, p. 7). The initial zoning for a parcel,
particularly one in a relatively undeveloped area, is only the starting point for a negotiation on what ultimately can and cannot be built. This is especially true for the larger, more sophisticated development projects that tend to alter the rural landscape in significant ways.

Because most econometric studies are nonspatial, the second tendency is to devise nonspatial ways to quantify growth controls, such as calculating the percentage of county land area zoned for a particular density of development, the number of growth control measures in place in a county, the number of variances granted, or some similar measure. Only rarely, for example in the case of urban growth boundaries, can such simple measures have a hope of capturing the effect of a complex institutional processes like subdivision and building permit regulation, zoning, and creation and implementation of a general land use plan.

**Regulatory versus Incentive Approaches to Farmland Protection**

There are two major classes of programs that apply to all attempts by government to alter patterns of land use, of which farmland protection is merely a special case (see figure 1). Most of the definitions used here are based on AFT (1997). Regulatory approaches proceed by altering the “rules of the game,” rules previously established by government itself. This latter point bears repeating because economists have a tendency to write as though land markets are natural and unalienable, whereas anyone who has ever closed on a house knows that they are artifices constructed by generations of real estate lawyers. A profound philosophical division in fact exists between believers in the concept of naturally arising property rights, influenced by the writings of John Locke, John Stuart Mill and Adam Smith (Shabman, 1995), and a less romantic conception springing from Jeremy Bentham that rights accrue to those with the power to exercise them. Regardless of who is right about the origins of property rights in hoary antiquity, that current property rights are hedged about by legal stricture as much before imposition of land use control programs as after should be obvious.

The other major class of programs based in incentives operates by contrast by participating in markets according to the “rules of the game,” without changing them. At the most fundamental level, when government purchases land from private landowners in fee simple title, it is no different than any other market participant. Most other incentive-based programs differ only in the degree of interest in the property, not in this fundamental characteristic.
What are Regulatory Approaches?

In ascending order of scope, one can distinguish the following changes to the market “rules,” accomplished by regulatory approaches:

• Agricultural Protection Zoning—Sometimes called “Exclusive Agricultural Zoning,” APZ refers to local government zoning provisions that designate areas where farming is the desired land use, discouraging or prohibiting other uses. APZ usually excludes non-farm businesses, and often restricts the density of residential development associated with farms (AFT, 1997, p. 49).

• Agricultural Districts/Right to Farm—I’ve lumped these two together because they are often linked in practice. Agricultural districts are special areas where agriculture is encouraged and protected by a variety of rule changes, including limitations on exercise of eminent domain, limits on special assessments, limits on non-farm public investments, requirements for agricultural impact statements, automatic eligibility for preferential tax assessment, and protection from nuisance suits based on a presumptive right to farm (AFT, 1997, p. 197). Ag districts differ from APZ because enrollment in them is voluntary for farmers, and not all land uses in an Ag District must be agricultural. However, they still fit in my notion of “regulatory” measures because they are created by changing the “rules” of development, not by bribing market participants.

• Nonagricultural Planning and Zoning—Moving beyond farmland protection, per se, general planning and zoning may serve to protect farmland by restricting alternative development opportunities. Local land use authority encompasses a number of powers, delegated from the states.

“A wide variety of powers may be delegated by the state to local governments. Among those most frequently in local hands are the authority to establish and enforce a zoning ordinance and the authority to establish a planning board or commission to prepare a plan, usually called a comprehensive plan or a master plan, for the physical development of the jurisdiction. Other powers affecting land use which may have been delegated to localities include the authority to adopt subdivision regulations; official maps; building codes; capital improvement programs; shoreline, floodplain, or wetlands restrictions; and to acquire or preserve special areas such as open space or historical districts.” (NRDC, 1977, p. 318.)

A more expansive variant that is not often pursued is regional planning and coordination of local plans, with zoning implemented by localities consistent with the broad outlines of a regional plan. A rash of regional plan implementation broke out in the 1970’s, abetted by the Circular A-95 intergovernmental coordination of Federal funding, as state and local leaders realized that metropolitan growth required metropolitan powers (NRDC, 1977, ch. 13).

• Urban Growth Boundaries—At their broadest and most restrictive, urban growth boundaries have been established that prohibit most development outside the growth boundary, which is laid over existing planning and zoning (Knapp and Nelson, 1992; DeGrove and Metzger 1993; Johnson, 1999).

What are Incentive Approaches?

Incentive-based approaches participate in land markets, without abrogating any of the property owner’s rights, generally by “buying” more or less of an interest or otherwise offering a “bribe” for preferred behavior. They include:

• Preferential Tax Assessment—Often called “differential”, “use value” or “circuit breaker” tax programs, the general idea is to reduce the incentive for farm-land owners to sell land for development by taxing the land at lower, agricultural values, rather than the higher values of developed uses (AFT, 1997, p. 147). There are usually some requirements that the owner engage in more or less active farming in order to qualify for the tax reduction, and many have “rollback” provisions that attempt to recover lost tax revenues if the land is developed.

• Purchase/Transfer of Development Rights—A more aggressive approach is to buy or trade the future development rights on farmland for ready cash (PDR, AFT, 1997, p. 81) or for an interest in higher density development elsewhere (TDR, AFT, 1997, p. 119). The interest obtained is a permanent one, and effectively prevents future development of the parcel, but cannot guarantee that farm use is feasible or will continue.
• Smart Growth—A more diffuse participation in markets, usually exercised strategically at the State level, is the collection of positive incentives and reinforcements to desired patterns of growth and development labeled “Smart Growth” (Meck, 1999; Chen, 2000; DeGrove and Metzger, 1993; Nickerson, 2001). A voluntary version of urban growth boundaries may be used that does not restrict development, but directs infrastructure and other State funding to preferred development areas. States may coordinate transportation and other infrastructure investments to encourage development in certain areas and discourage it in others.

How Do Regulatory and Incentive-Based Approaches Compare and Contrast?

Regulatory and incentive-based approaches differ in the degree of “hardness” implied in changes to the “rules” of the game, and in the locus of costs imposed (figure 1). The uninitiated may think that ag and nonag zoning are “hard” changes to the rules, and would therefore result in rather permanent changes to the way land is developed. In fact, variances and zoning appeals are the norm, not the exception, so that changes in zoning are fungible, indeed. By contrast, permanent easements, whether obtained through PDR or donation of conservation easements for charitable tax purposes, are among the most enduring legal instruments, undergoing little reversal in practice. While they have enduring legal standing, their impact on the working agricultural landscape may diminish over time if they are scattered, isolated, and become surrounded by uses incompatible with agricultural operations. While they work well, they cost the government a lot of money, albeit less than fee simple purchase.

Urban growth boundaries and agricultural districts both draw a line in the land—the former to limit where growth can occur, and the latter to define where agriculture has primacy. Neither are as absolute in practice as they sound in theory. Urban growth boundaries can function well to direct growth when there is still plenty of developable land inside them to accommodate growth. When little undeveloped land remains, the pressure to expand the boundary becomes irresistible and growth will spill over into a new ring around the existing conurbation. Similarly, agricultural districts function well when the surrounding landscape remains mostly rural. When a sea of development surrounds these islands of agriculture, the dike will burst and more and more exceptions will be granted, especially if the districts are too small to be viable and fragment to farms that remain willing to be included. Thus, both change the “rules,” but only until pressure is sufficient to overwhelm them. These approaches cost the government very little, beyond some need to defend them in court, at least for the pioneers. The locus of private costs falls clearly on the side of the line where development is prohibited, but may be reasserted in the case of urban growth boundaries (because a development opportunity is foreclosed), and welcomed in the case of agricultural districts (because a conflict with development is avoided).

Use value assessment and “Smart Growth” are incentive-based approaches operating at opposite ends of the scale. Use value assessment operates at the most microscale (individual parcels) and offers a very direct incentive. Unfortunately, it is subject to a form of “freeriding” wherein landowners with no thought of development receive a subsidy, and landowners who are assembling parcels for development can lower their landholding costs by applying for it, as well. Thus, use value assessment has a tremendous cost to government, particularly in rural areas, which often goes unrecognized because it is a tax expenditure (a reduction in revenue that might have been received). Nonagricultural land uses pay a part of this cost, but in the limit they will resist shouldering the entire tax burden of which agricultural land uses are relieved. At the other extreme, Smart Growth, which seems like a very amorphous and indirect approach, when used in an aggressive and well-directed manner can have disproportionate impacts on the pattern of growth at the most macro scale. Smart Growth reallocates benefits geographically, so the costs could be viewed primarily in terms of the political costs to Governors or State planners who direct these approaches. Neither approach changes the “rules” of development, with both offering bribes of a more or less recognized nature for desired behavior.

Problems in Evaluating Anything On Land

Moving beyond this kind of generalization about the different approaches based on observation and experience is difficult. Evaluating the impacts of particular land use policies is a special case of the general problem of building causal models of land use change. As a general observation, economists, planners and regional scientists have not been hugely successful in understanding and predicting land use patterns and land use change. There are three classes of problems in these endeavors: the appropriate comparisons, the issues of
dynamics and timing, and uncertainty. The degree of abstraction from the geographical reality of the developing landscape is also an issue in our forecasting ability.

In order to evaluate a policy, we must be making the appropriate comparisons (Schwartz, Zorn, and Hansen, 1986). This is true of almost any policy analysis, not just policies affecting land use change. The simplest evaluations are usually conducted in terms of the amount and character of development occurring before the policy was enacted, compared with development after the policy was in place. This is flawed because a host of other variables also have changed over time, not least being the initial state of development. Demographics, the health of national and regional economies, transportation and communication infrastructure, and other policies affecting development will all be different “before” and “after” enactment of the policy to be evaluated. These differences may be subject to econometric control, but there may be little relevant data or too amorphous an influence to adequately prevent them from confounding the policy evaluation.

A “with” and “without” comparison is preferable to the typical “before” and “after” approach. The “without” requires either finding convincingly similar control areas, or modeling or constructing the counterfactual case: What would have been the state of development in the absence of the policy change? Just as it is difficult to econometrically control for all the various factors influencing land use change that could change between two periods, capturing their effects in a predictive model of land use is also difficult. Comparing areas with controls to those without controls may create sample selection bias because areas with controls were likely experiencing significant growth pressures, and thus would differ from areas without controls, even if controls were not imposed.

Issues of dynamics and timing are important in understanding the difficulty of adequately modeling land use change. Part of this is data-driven: We do not have very good data generally available on land use change on a frequent basis. Consequently, we are often modeling land use changes that occur over 5-10 years, rather than year-to-year changes that would better pick up the influences of changing economic conditions and other policy changes. Development decisions are often not instantaneous, with the time between initiation and actual development often taking several years. Other actions, such as the alignment of major transportation corridors or utilities, occur over decades. Comprehensive plans and zoning laws take time to implement as well. All of these timing issues result in lags of various dimensions between the time of initiation and the time of implementation. During these lags, both landowner and consumer expectations are affected by the impending action and participants’ judgments about their likely success, failure, or modification. Development may accelerate in the face of news about a restrictive policy under consideration, or slow down if proposed highway corridors are opposed, supported, or delayed. All of this is extremely difficult to capture in a meaningful way in econometric modeling. (See Beaton, 1991; Beaton and Pollock, 1992; and Meyer and Somerville, 2000 for studies where timing issues are explicitly recognized).

In addition, even if the probability of particular parcels being developed can be modeled, the exact timing of development is often highly variable. Delays stem from a variety of institutional and economic factors in the development process that have little to do with the underlying potential for development (Meyer and Somerville, 2000).

Related to timing and dynamics are issues of uncertainty. Policies like zoning tend to be abstracted in the modeling process into simple zero/one conditions on tracts of land. In reality, many of the specifics in zoning or other regulations are subject to negotiation or outright reversal in the zoning appeals process. The outcome is very uncertain, even when the original zoning is upheld. Modifications, like exactions for public facilities, delays in getting building permits, exemptions for nonprofit development, and mitigations at other sites, are additional sources of uncertainty that change the simple “black and white” of zoning often seen in models.

Modelers have used a variety of techniques to try and capture the effects of growth control policies in their models (table 1). The complexity of the institutional environment for land use change multiplies rapidly as researchers are forced to consider important real world issues. Is there more than one control measure in place (a simple yes/no does not suffice)? Are different measures in place in a jurisdiction of more or less importance in controlling growth (weighting may be needed)? Are the measures in place actually enforced (another kind of weighting, more subjective)? Some of the most sophisticated studies start from the realization that growth control measures are not hard-and-fast, cut-and-dried delineations, but reflect a process
Table 1—Approaches to modeling growth controls

<table>
<thead>
<tr>
<th>Approach</th>
<th>Studies</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>None, analyze with controls</td>
<td>Landis (1992)</td>
<td>adopting cities vs. similar nonadopting cities</td>
</tr>
<tr>
<td>None, model as scenarios</td>
<td>Edwards and Anderson (1984)</td>
<td>allowing or not allowing building</td>
</tr>
<tr>
<td></td>
<td>Parsons and Wu (1991)</td>
<td>displaced building activity</td>
</tr>
<tr>
<td>Yes/No</td>
<td>Shilling, Sirmans, Guidry (1991)</td>
<td>State land use controls: comprehensive state-wide planning, coastal zone and wetlands management, power plant and utility management, critical areas and wilderness areas, strip mining controls, floodplain, wetlands and shoreland controls, tax reductions</td>
</tr>
<tr>
<td>Percent of area</td>
<td>Bockstael (1996)</td>
<td>percent of area zoned low density</td>
</tr>
<tr>
<td>Specific requirements</td>
<td>Green (1999)</td>
<td>mobile homes permitted, minimum lot width, setback, subdivision standards, etc.</td>
</tr>
<tr>
<td>Number of Controls</td>
<td>Kuminoff and Summer (2001)</td>
<td>ag element and growth mgmt element in county general plan, urban growth boundary, &quot;Super&quot; Williamson Act participation, growth policy, LESA use, local PDR program</td>
</tr>
<tr>
<td></td>
<td>Levine (1999)</td>
<td>number of 18 measures, &quot;strong&quot; 4 measures and &quot;weak&quot; remaining measures</td>
</tr>
<tr>
<td>Severity of Controls</td>
<td>Logan and Zhou (1989)</td>
<td>moratorium, growth limitation, EIS, open space zoning, environmental zoning, public facilities requirement, public land dedication</td>
</tr>
<tr>
<td>Weighted Index</td>
<td>Cho and Wu (2001)</td>
<td>index of number of measures, weighted by effectiveness of implementation</td>
</tr>
<tr>
<td></td>
<td>Pollakowski and Wachter (1990)</td>
<td>weighted average of zoning categories (e.g., RE-1 = 80)</td>
</tr>
<tr>
<td>Delay to Build</td>
<td>Mayer and Somerville (2000)</td>
<td>number of months for subdivision approval</td>
</tr>
<tr>
<td>Impact Fees</td>
<td>Mayer and Somerville (2000), Skidmore and Peddle (1998)</td>
<td>Modeled as a fee per unit or area</td>
</tr>
<tr>
<td>Growth Limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban Growth Boundaries</td>
<td>Knapp and Nelson (1988)</td>
<td>inside or outside UGB</td>
</tr>
<tr>
<td></td>
<td>Kline and Alig (1999)</td>
<td>inside or outside of UGB, forest zone, farm zone</td>
</tr>
<tr>
<td>Ag Zoning/Districts</td>
<td>Henneberry and Barrows (1990)</td>
<td>estimated separate equations for zoned and unzoned parcels</td>
</tr>
<tr>
<td>Flood Plains/Critical Areas/Special Areas</td>
<td>Holway and Burby (1990)</td>
<td>zoning severity index, elevation requirement, and development permitted dummy</td>
</tr>
<tr>
<td></td>
<td>Beaton (1991)</td>
<td>restricted and control areas</td>
</tr>
<tr>
<td></td>
<td>Beaton and Pollock (1992)</td>
<td>inside or outside critical area</td>
</tr>
</tbody>
</table>
of negotiation. This results in measures of the delay in development imposed by controls that can cut across the variety of measures in place (Mayer and Somerville, 2000). Other approaches recognize that variances are a way of life, and attempt to model the outcome of the variance process itself (Bliven, et al., 1984).

More fundamental than any of these difficulties are questions of measurement: What is the appropriate measure of whether a land use control policy or program “works”? This returns us to the question of objectives, but also the degree to which readily available data can serve as proxies for the objective. Many proponents of growth control have very qualitative and elusive objectives such as “improving the quality of life” that do not readily translate into quantitative measures such as land value changes, population changes, or acres of a given land use type. One might think that in the area of farmland preservation, changes in the number of acres of farmland, or the rate of farmland conversion, would be a relatively objective measure of success. Even here, however, there are concerns about whether the farmland protected remains in farming and the quality of the farm activity. In general, the economic literature on growth controls involves two measures derived from welfare economics: impacts on prices and impacts on quantities.

The Market Test: Have We Affected Prices?

One way in which economists have tried to resolve these modeling difficulties is by using market prices as a precursor and proxy for effects on land use. The argument is that changes in the market “rules” embodied in zoning and other regulatory measures are first reflected in changes in the price of land, which reflect increased or decreased development potential. Obviously, this only works for policies that affect markets (such as zoning and growth boundaries), not for incentive policies (such as preferential tax assessment and PDR) that directly “bribe” current landowners, without affecting broader underlying markets. The affect of “Smart Growth” policies on land values is unclear, but in particular instances, such as redirecting infrastructure development, they could be significant.

Fischel (1990) provides an excellent review of the hedonic literature up to that time, examining whether growth controls affect land values. He reviews several categories of studies (impacts on undeveloped land values, impacts on housing prices, costs and benefits of growth controls, etc.) and concludes that there is convincing evidence from this literature that growth controls do influence the value of land and the price of housing. I highlight studies dealing with agricultural issues and append the following post-1990 studies to his review (table 2).

Anderson and Bunch (1989) found that Michigan’s property tax credits for agricultural land retention and the homestead exemption are capitalized into land values, increasing them approximately 10 percent. Eligibility for the property tax credits, which reduce costs and increase income from farming in current years apparently offset the loss of expected gains from sale for development in the future. Changes in the rate of taxation itself are not capitalized into land values.

Henneberry and Barrows (1990) examined the extent to which exclusive agricultural zoning in Wisconsin was capitalized into farmland values. Their theoretical analysis identified four possible price effects: a negative one from foregone development potential, a positive one from avoiding externalities associated with nonag development near the farms, a positive one from certainty regarding future land use compatibilities, and a positive one from lowering potential property tax increases. An hedonic regression analysis of 140 parcel sales in one Wisconsin county showed that exclusive ag zoning had both positive and negative influences on farmland prices, depending on the characteristics of the specific parcel. Larger parcels located further from development generally experienced a positive net capitalization, while smaller parcels closer to developed areas had farmland value losses.

Nickerson and Lynch (2001) investigated what effect PDR and TDR programs in Maryland counties had on the value of parcels for which development was restricted. Using data for 224 restricted and unrestricted parcel sales in three counties, they estimated an hedonic regression model explaining sales price. Contrary to expectations from their theoretical model, they did not find statistically significant declines in farmland value on restricted parcels. Protected parcels have values equal to or greater than unprotected parcels, indicating that the restrictions are not being capitalized into the parcel’s value.

Beaton (1991) similarly examined enactment of the New Jersey Pinelands Protection Act in 1979 and its implementation in the Comprehensive Management Plan in late 1980. They analyzed a dataset of property sales forest and agricultural parcels within the Pine-lands and in control townships adjacent to the Pine-
### Table 2—Summary of Growth Control Studies Using Housing or Land Price as an Indicator

<table>
<thead>
<tr>
<th>Variable</th>
<th>Title</th>
<th>Author(s)</th>
<th>Source</th>
<th>Year</th>
<th>Area</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>housing price</td>
<td>Evaluating the Economic Impact of Planning Controls in the United Kingdom: Some Implications for Housing</td>
<td>Monk, S.; Whitehead, C.M.E.</td>
<td><em>Land Economics</em> 75(1):74-93</td>
<td>1999</td>
<td>United Kingdom</td>
<td>Growth controls in one area increased prices in all area and changed relative prices.</td>
</tr>
<tr>
<td>housing price</td>
<td>Land Use Regulation and the Price of Housing in a Suburban Wisconsin County</td>
<td>Green, R.K.</td>
<td><em>Journal of Housing Economics</em> 8(2):144-59</td>
<td>1999</td>
<td>Waukesha County, Wisconsin</td>
<td>Finds that forbidding mobile homes and requiring frontage increase housing prices 6.1% to 8.5%. Regulations decrease the share of affordable housing significantly.</td>
</tr>
<tr>
<td>housing price/housing construction</td>
<td>Housing Prices, Externalities, and Regulation in U.S. Metropolitan Areas</td>
<td>Malpezzi, S.</td>
<td><em>Journal of Housing Research</em> 7(2):209-41</td>
<td>1996</td>
<td>60 U.S Metro Areas</td>
<td>Based on the regression coefficients derived, Malpezzi estimates that moving from a lightly regulated environment to a heavily regulated one would increase rents 17 percent and housing prices 51 percent, and would reduce permits issued by 42 percent.</td>
</tr>
<tr>
<td>housing price</td>
<td>The Effects of Land-Use Constraints on Housing Prices</td>
<td>Pollakowski, H.O.; Wachter, S.M.</td>
<td><em>Land Economics</em> 66(3):315-24</td>
<td>1990</td>
<td>Montgomery County, Maryland</td>
<td>Housing and developed land prices increased; spillover to unconstrained areas. Zoning restrictiveness had a significant impact on housing price, but a development ceiling and the relative restrictiveness of surrounding areas produced only weak effects.</td>
</tr>
<tr>
<td>housing price</td>
<td>Land Regulation and the Price of New Housing</td>
<td>Landis, J.D.</td>
<td><em>Journal of the American Planning Association</em> 52(1): 9-21.</td>
<td>1986</td>
<td></td>
<td>This paper explores the relationship between rezoning and changes in observed property values and the ability of zoning to mitigate externalities. Results imply that rezoning does not necessarily lead to changes in land use and value.</td>
</tr>
<tr>
<td>housing price</td>
<td>Land Use Controls: The Case of Zoning in the Vancouver Area</td>
<td>Mark, J.H.; Goldberg, M.A.</td>
<td><em>American Real Estate and Urban Economics Association Journal</em> 9(4): 418-35</td>
<td>1981</td>
<td>Vancouver, BC</td>
<td>This paper examines the impact of both land-use controls and natural restrictions on interurban variation in residential land prices. Results indicate that, as expected, land prices are significantly higher as the land supply decreases both as a result of natural and man-made restrictions.</td>
</tr>
<tr>
<td>land value</td>
<td>Land-Use Controls, Natural Restrictions, and Urban Residential Land Prices</td>
<td>Guidry, K.A.; Shilling, J.D.; Sirmans, C. F.</td>
<td><em>Review of Regional Studies</em> 29(2): 105-13</td>
<td>1999</td>
<td></td>
<td>This paper examines the impact of both land-use controls and natural restrictions on interurban variation in residential land prices. Results indicate that, as expected, land prices are significantly higher as the land supply decreases both as a result of natural and man-made restrictions.</td>
</tr>
<tr>
<td>land value/land use</td>
<td>Modeling Economics and Ecology: The Importance of a Spatial Perspective</td>
<td>Bockstael, N.E.</td>
<td><em>American Journal of Agricultural Economics</em> 78: 1168-1190</td>
<td>1996</td>
<td>Patuxent River Basin, Maryland</td>
<td>Low-density zoning (negative) and community planning (positive) are significant variables in a hedonic model of land price. These findings play through into a probit model of land use conversion probabilities as a variable reflecting value in residential use.</td>
</tr>
<tr>
<td>land value</td>
<td>Economic Impact of Growth Management Policies Surrounding the Chesapeake Bay</td>
<td>Beaton, W.P.; Pollock, M.</td>
<td><em>Land Economics</em> 68(4):434-53</td>
<td>1992</td>
<td>Maryland</td>
<td>Prices for existing properties within the Maryland Critical Areas boundary increased relative to those outside for counties under development pressure, not otherwise.</td>
</tr>
</tbody>
</table>
Table 2—Summary of Growth Control Studies Using Housing or Land Price as an Indicator (continued)

<table>
<thead>
<tr>
<th>Study Title</th>
<th>Authors</th>
<th>Journal/Media</th>
<th>Year</th>
<th>Location/Region</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Opportunity Cost of Coastal Land-Use Controls: An Empirical Analysis</td>
<td>Parsons, G.R.; Wu, Y.</td>
<td>Land Economics 67(3):308-16</td>
<td>1991</td>
<td>Chesapeake Bay Area, Maryland</td>
<td>Restrictions on development in the coastal zone reduced housing value in terms of frontage, view and proximity to water.</td>
</tr>
<tr>
<td>The Impact of State Land-Use Controls on Residential Land Values</td>
<td>Shilling, J.D.; Simmans, C.F.; Guidry, K.A.</td>
<td>Journal of Regional Science 31(1):83-92</td>
<td>1991</td>
<td>37 States</td>
<td>Comprehensive state land use programs add 1.6 % to the price of residential land, with positive effects on both the supply and demand equations. Certain single-purpose land use control programs (power plant and transmission, strip mining) are also significant demand factors.</td>
</tr>
<tr>
<td>The Impact of Regional Land-Use Controls on Property Values: The Case of the New Jersey Pinelands</td>
<td>Beaton, W.P.</td>
<td>Land Economics 67(2):172-94</td>
<td>1991</td>
<td>Pinelands Area, New Jersey</td>
<td>Properties in the restricted area had a 10 percent premium over control areas and maintained the premium over time.</td>
</tr>
<tr>
<td>The Effect of Farmland Preservation Programs on Farmland Prices</td>
<td>Nickerson, C.J.; Lynch, L.</td>
<td>American Journal of Agricultural Economics, 83(2):341-351.</td>
<td>2001</td>
<td>Maryland</td>
<td>PDR and TDR do not decrease value of restricted parcels relative to unrestricted.</td>
</tr>
<tr>
<td>Capitalization of Exclusive Agricultural Zoning into Farmland Prices</td>
<td>Henneberry, D.M.; Barrows, R.L.</td>
<td>Land Economics 66(3):249-58</td>
<td>1990</td>
<td>Wisconsin</td>
<td>Exclusive ag zoning has both positive and negative effects on farmland value depending on parcel characteristics.</td>
</tr>
<tr>
<td>The Effect of Agricultural Zoning on Land Prices, Quebec, 1975-81</td>
<td>Vaillancourt, F.; Monty, L.</td>
<td>Land Economics 61(Feb):35-42</td>
<td>1985</td>
<td>Quebec, Canada</td>
<td>Land zoned exclusively for ag is 15-30 percent less valuable than unrestricted land.</td>
</tr>
</tbody>
</table>
lands area. Price index equations were estimated for 1966-72, 1972-81, and 1982 onwards, corresponding to unrestricted growth, transition, and under growth controls. They concluded that growth controls affected the restricted area and the adjacent areas, both after implementation and in anticipation of implementation, with properties in the restricted area garnering a 10 percent premium over control areas, which persisted over time.

Parsons and Wu (1991) estimated an hedonic price regression for housing using cross-sectional data from a developed coastal zone area in Anne Arundel County, Maryland, where land use controls for coastal development had been imposed in 1983 and 1984. They estimated the average value of lost coastal access at $233-$524 (lost proximity), $6,553-$7,883 (lost view), and $74,763-$96,672 (lost frontage) per house in 1983. They also estimated various scenarios for displacement of housing from the protected area to estimate the total opportunity cost of the controls, in terms of lost housing amenity value.

Beaton and Pollock (1992) examined growth controls imposed to improve water quality in the Chesapeake Bay under Maryland's Critical Area Law, which restricts new housing development within 1,000 feet of the Bay shoreline. Using a cross-section, time-series panel database of property sales occurring before and after imposition of the Critical Area legislation in 1988 and 1989, they estimated hedonic price equations for housing and vacant land, controlling for property characteristics in four Maryland market areas around the Bay. They found that property values within the Critical Area for both housing and vacant land did grow faster than comparable upland counterparts in two areas easily accessible to major population centers starting as much as a year prior to implementation of the law, but were not significantly different in more remote areas on the Eastern Shore. This is cited as evidence that the growth controls did restrict the supply of new housing and developable land in the affected area, presumably having a positive impact on the environment in that restricted area.

Malpezzi (1996) used an index of local regulatory stringency derived from sample data collected from planning officials in 60 large metro areas (Linneman et al. 1990; Buist 1991) and an index of state planning stringency based on a survey by the American Institute of Planners (AIP, 1976) to study changes in housing rents and sales prices and on the number of building permits issued. Based on the regression coefficients derived, Malpezzi estimates that moving from a lightly regulated environment to a heavily regulated one would increase rents 17 percent and housing prices 51 percent, and would reduce permits issued by 42 percent. In an attempt to measure the impact of regulation on some externalities often mentioned in association with poorly regulated development (traffic congestion, racial segregation, and neighborhood quality), Malpezzi found that local regulations had little effect in reducing these ills, although indirect effects on other related variables may have been confounding the results.

In the context of United Kingdom land use controls, Monk and Whitehead (1999) used a comparative static framework to examine changes in land prices, housing completions, and housing prices for three areas, given the history of planning permissions (units allowed) by county housing authorities. They concluded that the growth controls in one area pushed up prices in all three areas, and modified relative land prices. The controls maintained a level of density that they expected would have fallen without the controls.

While nearly all of these studies find some impact on prices for land or housing from growth controls, they are all equally unsatisfying regarding the question of “so what?” Price increases or decreases may indicate that growth controls are affecting markets for land and housing, but does that indicate that the growth controls are positively affecting the conditions they were designed to change and adding to social welfare, or just a restriction in supply? Welfare is not equivalent to changes in land values, and changes in the supply of land don’t necessarily equate to improvements in conditions for people. If price increases result from an outward shift in demand, then the case for welfare enhancement is stronger, but it is not usually clear whether supply or demand factors have contributed to the increase in observed prices, and to what degree.

As Fischel (1990, p. 1) points out in the introduction to his literature survey, the problem with interpreting studies of the effect of growth controls on land or housing prices is that they could as easily result from monopolistic restrictions on supply as on benefits reflected by increased demand. That is, home or property owners may benefit from higher prices simply because of an (artificial) supply restriction caused by the growth control measures, rather than from higher prices reflecting increased demand due to higher social welfare from a more desirable land use pattern. In an extreme case, imagine that instead of imposing zoning...
on a community to preserve farmland and open space amenities, we have instead sowed vacant land with radioactive plutonium. The effect on land values on the remaining, uncontaminated land might reflect the same price increase (ignoring the affects of proximity to radioactivity), but it is difficult to conclude that the community is better off. If we really believe that the objective of both zoning and spreading plutonium is to increase land values, both methods appear to “work,” but they both do so by restricting supply. We hope that growth controls increase prices because improvements increase demand, but merely observing increased prices doesn’t reassure us that this is the case.

There is something a bit disingenuous about claiming, on the one hand, that housing markets function perfectly and changes in prices should reflect the effects of sprawl and poorly planned growth, yet on the other hand condemn those neighborhood effects as unpriced externalities resulting from market failure (Baumol and Oates, 1988, p. 12). While the markets for housing and commercial real estate work efficiently, the market for “lifestyles”, including landscape or rural amenities either fails to exist or fails to deliver the anticipated benefits. This market failure can be understood as arising from interactions between the following factors:

- Markets for positive externalities from agricultural production, such as open space and rural amenities, do not exist. Therefore, these attributes in the landscape are neither permanent nor even necessarily long-lived when development begins to occur. Housing construction does not impose negative spillover effects (externalities) in this regard, it removes a positive spillovers that were in place from the previous economic activity, farming.

- Negative spillovers from housing consumption, such as traffic congestion, destruction of visual amenities, and crowding, are not priced in the cost of the housing or other development. If the cost of the landscape amenities were accurately included, “housing” costs would be much higher and demand lower. For example, fully planned communities with carefully controlled land uses and landscape amenities such as open space, lakes, and recreational facilities included are more expensive than nearby developments without these amenities.

- Imperfect information creates a market failure because consumers do not anticipate future development patterns and do not weigh them perfectly in current housing purchase decisions. See the innovative call for “build out” maps to inform housing consumers of the potential future condition of the neighborhood they are buying into under full development (U.S. EPA, 2001; Lacy, 1990).

- Absence or failure of planning and zoning in local communities contributes to this failure because there is no information about the institutional framework within which future development can take place. When future development is dealt with on a piecemeal or ad hoc basis, neither consumers nor developers can adequately anticipate what development will occur on surrounding parcels.

- Developers, who generally have a good grasp of future development potential, have no incentive to inform housing consumers who value open space and other rural amenities that they are likely to be developed.

Other sources of failure in the “lifestyle” market derive from the nature of development and land use change. Development results from the cumulative impacts of many small decisions, with the rare exception of a large, planned, “new town”, such as Columbia, Maryland, Reston, Virginia, or Irvine Ranch, California. Markets proceed on the basis of many small decisions, which when taken without an overall context, produce results that can neither be envisioned by nor anticipated by consumers and developers (Kahn, 1966). There is no problem when consumers of corn or soap fail to anticipate the resultant changes in supply and demand that result from their atomistic consumption decisions because corn and soap producers respond quickly and seamlessly to small variations in supply and demand in very short order. However, the cumulative effects of similar decisions in land use can result in significant disamenity over time (CEQ, 1997; Spaling and Smit, 1993). Specifically:

- Individual developers’ decisions, which produce negative spillovers for existing land users, are generally small in scale relative to the entire landscape, occurring subdivision by subdivision, or even house by house (Fischel, 1999, p. 411).

- Consumers’ decisions on housing consumption, which produce negative spillovers for each other from consumption, are made one house at a time.
• Both developers’ and consumers’ decisions are irreversible over time scales of a lifetime, providing little scope for adjustment except to move to a “clean canvas” in another rural setting (Tiebout, 1956; Hamilton, 1975).

• Efficiency in the real estate market increases property values as development proceeds in desirable new neighborhoods, creating greater incentives to develop (Lafferty and Frech, 1978; Burnell, 1985; Speyrer, 1989).

• Negative spillovers from development do not create a drag on property values in the real estate market until disamenities are quite high.

In summary, there are substantial costs imposed by allowing low-density development, both at the fringe of existing urban area and farther out in the countryside. People recognize substantial benefits from maintaining and conserving rural land uses in farming, grazing, and forestry. While some communities actively address growth control issues, private market forces often operate with minimal intervention from fragmented land use control authority at the State and local levels and cannot recognize and avoid these costs, nor capitalize on the benefits.

The underlying premise that changes in land use regulation result in land value changes correlated with increases in social welfare cannot be defended in all cases (see figure 2). Changes in density are a good example. If a parcel is down-zoned to allow for fewer units per acre (case A to case B), undeveloped land values are likely to decrease because the development value is reduced. However, the welfare of new and existing homeowners may actually be higher because they prefer lower density settlement patterns. Another case is where there is no difference in density, producing little difference in land value, but the arrangement of settlement is more preferable to surrounding neighbors and new residents because it is more aesthetic or preserves more public open space (comparing case B and C). Again, welfare may be increased, but land values may remain the same. Increased visual amenity from the public open space would tend to increase land values, but the undesirable lack of control in becoming part owner of a common could offset this increase in whole or in part.

From a modeling perspective, some of the dynamic issues of trying to directly model land use or land use change are avoided by focusing on land values, but many of the other problems remain and some new ones are introduced. First and foremost is the fact that data on land values aren’t any easier to get than data on land use. At least land use (or land cover) is directly and unambiguously observable at every instant in time, even if it isn’t collected that often. Land value is only reliably observable in a market sense when a transaction occurs, which is relatively seldom for the typical parcel. Assessed or appraised values can be biased and inaccurate when conditions are rapidly changing, because of the dynamics and uncertainty discussed above for land use. The same kind of confounding factors influence land value as do land use, and must be controlled for econometrically or through sample design. As in the case of land use, the test is not simply did land values go up or down after a policy change, but did they go up or down more than they would have in the absence of the policy change.

**The Land Use Test: Have We Affected Outcomes?**

The real test of a land use change policy is whether the policy changes the use of land over what would have occurred in the absence of the policy. Fortunately, for farmland protection, the desired change is relatively easy to observe: Is less farmland converted to developed uses or abandoned than otherwise? There is a qualitative dimension to farmland protection as well. Is the land that is retained in farming actually being used for production agriculture?

For growth control policies, the objective is more difficult to articulate and observe. The quantity of development is important, but some policies could be evaluated as successes if they affect the quality of the development that occurs. What the desired qualities are is difficult to say, in most cases. While much of the effort in land use controls is directed toward controlling the amount and timing of development, a great part is also directed at the spatial pattern of development. Even if the absolute amount of development (number of houses, number of acres) remains the same, over the same time period, the way new development is accommodated on the land changes social welfare. This was the original intention of density requirements in zoning, which were aimed at preventing slums by limiting density to a prescribed number of units per acre. In conjunction with preserving farmland and open space, we are more concerned with zoning to insure that densities are higher than the market might otherwise call for.
Subdivision and site review, planned unit development, and other planning measures are explicitly concerned with how a site is developed, not just the aggregate density.

One of the best examples of this is the work of Randall Arendt, a rural land use planner who has shown how the same density of development can be accommodated in rural landscapes without sacrificing visual and open space amenities (Arendt, et al. 1994; Arendt, 1996). By clustering development on a portion of the site and keeping the rest of the site in open space uses, different landscape impacts are achieved at the same overall density. This is a recent manifestation of ecological planning principles first espoused by Ian McHarg (1971) that somehow need to be incorporated into our models for evaluating what works in land use planning. The quantitative overlap between ecology and economics appears in the discipline of landscape ecology, which uses various quantitative measures to capture the matrix, network, patch, corridor and other features of landscapes that are ecologically important (Forman and Godron, 1986; Zipperer, et al., 2000).

Below, some examples of land use change studies from the literature are reviewed that focus on growth control policies as explanatory variables, emphasizing those dealing with agricultural programs (table 3). While not a comprehensive review, it does provide a flavor for how the growth controls are being incorporated in models, and what findings result.

Kline and Alig (1999) use detailed data on land use change from the Forest Inventory Analysis program to evaluate how effectively the Oregon urban growth boundary and forest use and exclusive farm zones worked to reduce forest and farmland conversion relative to Washington, where no such controls were in place. They conclude that conversion has been concentrated inside the urban growth boundary, but that conversion outside the growth boundary has not been measurably different than in Washington. Of several possible explanations, they conclude that because the growth boundary was drawn around areas experiencing growth, growth continued to occur inside the boundary, and not outside it.

Kuminoff and Sumner (2001) use similarly detailed data on land use change from the California Farmland...
Table 3—Summary of Growth Control Studies Using Land Use or Housing Change as an Indicator

<table>
<thead>
<tr>
<th>Variable</th>
<th>Title</th>
<th>Author(s)</th>
<th>Source</th>
<th>Year</th>
<th>Area</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>land use</td>
<td>Modeling Farmland Conversion with New GIS Data</td>
<td>Kuminoff, N.V.; Sumner, D.A.</td>
<td>AAEA meetings 2001</td>
<td>2001</td>
<td>California</td>
<td>Finds that population growth and edge length of urban interface are statistically significant and positively correlated with conversion. Zoning and development restrictions were not significant explanatory variables for conversion.</td>
</tr>
<tr>
<td>land use</td>
<td>Land Use Regulation and New Construction</td>
<td>Mayer, C.J.; Somerville, C.T.</td>
<td>Regional Science and Urban Economics 30(6): 639-62</td>
<td>2000</td>
<td>44 U.S. Metro Areas</td>
<td>Finds that land use regulation lowers the steady-state level of new construction. Metropolitan areas with more extensive regulations have up to 45 percent fewer starts and price elasticities that are more than 20 percent lower than those in less-regulated markets. Regulations that lengthen the development process alter short- and long-run effects of demand shocks relative to conditions in markets without such delays. Development or impact fees have relatively little impact on new construction, but regulations that lengthen the development process or otherwise constrain new development have larger and more significant effects.</td>
</tr>
<tr>
<td>land use</td>
<td>The Effects of Local Growth Controls on Regional Housing Production and Population Redistribution in California</td>
<td>Levine, N.</td>
<td>Urban Studies 36(12): 2047-68</td>
<td>1999</td>
<td>490 California cities and counties</td>
<td>Local growth-management measures significantly displaced new construction, particularly rental housing. Measures impacted low-income households and minorities particularly. Measures which limited available land or which downsized existing zoning had stronger effects.</td>
</tr>
<tr>
<td>land use</td>
<td>Does land use planning slow the conversion of forest and farm lands?</td>
<td>Kline, J.D.; Alig, R.J.</td>
<td>Growth &amp; Change, (Winter): 3-22.</td>
<td>1999</td>
<td>Oregon</td>
<td>Results suggest that Oregon’s land use planning program has concentrated development within urban growth boundaries since its implementation, but its success at reducing the likelihood of development on resource lands located within forest use and exclusive farm use zones remains uncertain.</td>
</tr>
<tr>
<td>land use</td>
<td>Do Development Impact Fees Reduce the Rate of Residential Development?</td>
<td>Skidmore, M.; Peddle, M.</td>
<td>Growth &amp; Change, 29(Fall):383-400</td>
<td>1998</td>
<td>DuPage County, Illinois</td>
<td>Empirical results show that impact fees reduce rates of residential development by more than 25 percent.</td>
</tr>
<tr>
<td>housing price/housing construction</td>
<td>Housing Prices, Externalities, and Regulation in U.S. Metropolitan Areas</td>
<td>Malpezzi, S.</td>
<td>Journal of Housing Research 7(2):209-41</td>
<td>1996</td>
<td>60 U.S Metro Areas</td>
<td>Based on the regression coefficients derived, Malpezzi estimates that moving from a lightly regulated environment to a heavily regulated one would increase rents 17 percent and housing prices 51 percent, and would reduce permits issued by 42 percent.</td>
</tr>
<tr>
<td>land price/land use</td>
<td>Modeling Economics and Ecology: The Importance of a Spatial Perspective</td>
<td>Bockstael, N.E.</td>
<td>American Journal of Agricultural Economics 78: 1168-1180</td>
<td>1996</td>
<td>Patuxent River Basin, Maryland</td>
<td>Low-density zoning (negative) and community planning (positive) are significant variables in a hedonic model of land price. These findings play through into a probit model of land use conversion probabilities as a variable reflecting value in residential use.</td>
</tr>
<tr>
<td>land use</td>
<td>Regional Growth...Local Reaction: The Enactment and Effects of Local Growth Control and Management Measures in California</td>
<td>Glickfeld, M.; Levine, N.</td>
<td>Cambridge, Mass.: Lincoln Institute of Land Policy,</td>
<td>1992</td>
<td>443 California cities and counties</td>
<td>Growth controls have only modest effects on subsequent changes in local population, median family income, median rent, and black percentage.</td>
</tr>
<tr>
<td>land use</td>
<td>Do Suburban Growth Controls Control Growth?</td>
<td>Logan, J.R.; Zhou, M.</td>
<td>American Sociological Review 54(3):461-471</td>
<td>1989</td>
<td>338 suburbs of U.S. cities</td>
<td>Growth controls have only modest effects on subsequent changes in local population, median family income, median rent, and black percentage.</td>
</tr>
</tbody>
</table>
Mapping and Monitoring Program in a GIS framework to model change from agriculture to urban use, movement of land out of agricultural use, and movement of all rural land into urban use. They use a count of development restrictions for each county as a proxy for growth controls, but find that the variable is never statistically significant in explaining the land use changes observed. When each of the seven kinds of controls was tested individually, all had negative signs regarding conversion, but none were statistically significant at the 95 percent confidence level.

Mayer and Somerville (2000) conduct a very sophisticated piece of econometric analysis on quarterly data for a panel of 44 metro areas between 1985 and 1996 to investigate how land use regulations affect new housing construction. Their framework is well suited to considering subdivision and building permit regulations as processes to manage the timing of development, and detects changes in the dynamics of housing supply response and the overall elasticity of supply. They find that regulation has a significant negative effect on steady-state levels of new construction (up to 45 percent lower), that developers increase their inventory of approved development lots in response to stiffer regulations and longer regulatory delays, playing out over several quarters, and that price elasticities of housing supply are up to 20 percent lower than in areas with less regulation. Impact fees are found to have little effect on the supply of new housing. The authors point to the difference between impact fees, which are large but certain changes in the production function for new housing, and regulatory delays and uncertainty, with the latter being much more effective in reducing total new construction activity.

Skidmore and Peddle (1998) used a sample of municipalities in DuPage County, Illinois to examine whether impact fees had a measurable role in reducing residential development. They found that imposing impact fees would reduce the rate of development by 29-31 percent because they impose additional costs on new development, increasing prices and reducing demand. This finding appears to be in direct contradiction to the Mayer and Somerville (2000) finding above.

Bockstael (1996) develops a probit model of land use conversion probabilities that is a second stage of a land value hedonic model which includes variables representing percent of land zoned for low density development, and whether the lot is in a planned community. Low density zoning decreased land values significantly, while being in a planned community increased land values. When passed into the land conversion model, high-density zoning and being in a planned community would therefore tend to increase the probability of conversion, indicating that these land use controls are working counter to expectation. Because the model is integrated with an ecological model predicting water quality impacts, the outcome of different development scenarios can be estimated directly.

Landis (1992) examined local growth controls in 7 medium-sized California cities and control areas. He distinguishes growth controls, which put an absolute cap on the number of new residents, houses permitted, or areas to be annexed, from growth management policies, such as conventional zoning, subdivision regulations, annexation controls, and urban growth boundaries. Examining differences in population and housing growth and housing shortfalls in the case study and control cities, Landis found no evidence that absolute growth controls, as implemented, made a significant difference in reducing population growth or housing construction. He also found no evidence that housing sales prices were any higher in the case study cities than in control cities. He attributed this observed failure to loopholes in implementing the controls and “grandfathering” existing construction and development approvals.

Logan and Zhou (1989) used census data for 1970-80 and data from a 1973 survey of planning officials in cities over 10,000 in population regarding adoption of 7 growth control measures to measure whether the controls affected changes in key variables related to growth. They found that open space zoning and environmental zoning reduced increases in suburban black population, and requirements for environmental impact statements on projects increased median rents. No other measures were statistically significant with respect to population growth or growth in median income. The authors conclude that simply passing these kinds of controls does not necessarily produce an impact on growth, at least as they have measured it. Given the aggregate, summary measures used to represent “growth” however, it is equally likely that more subtle impacts associated with actually managing growth in land use are not captured in the model.

While more direct than the evidence on land or housing prices, the evidence from land use or housing construction studies remains unsatisfying. Even where a study shows that growth control measures are a sig-
significant variable in explaining changes in land use or housing development, we are not sure that they “work” to actually improve the quality of development that does occur.

**Anecdotes and Objectivity: Two Research Approaches**

Evidence from econometric and other quantitative studies is necessary, but not sufficient to conclude that adoption of a particular set of growth controls has actually improved the pattern of land use and the resulting public welfare. While such studies provide credible, scientific evidence that the growth control program has (or has not) been responsible for some change in the market (price or quantity), it is very difficult to ascertain that the resulting market changes reflect increased demand, heralding an improvement, or simply result from monopolistic supply reduction. Less direct and less scientific methods of case study are needed to really understand what is happening in such situations, and to understand the institutional complexities that produced the result observed.

Examples of the kind of case study needed are Levinson (1997, Montgomery County), Richard-son, et al. (1993, Pasadena, California), Knapp and Nelson (1992, Oregon), Schnidman, et al. (1990, New England), Babcock and Siemon (1985, 8 states), and Daniels and Lapping (1984, Vermont). However, very few of these employ both the in-depth examination embodied in the best examples of case studies, and the objective, scientific, quantitative approach of econometric studies. An exception is a study by Landis (1992), which examines growth control policies in 7 California cities, carefully matched to control cities of similar demographics and location. In addition to the usual qualitative comparisons, a number of quantitative comparisons of population growth, housing price trends, housing shortfall, and fiscal impacts are conducted between the adopting cities and the controls. While too small a sample for econometric study, the quantitative treatment adds an additional dimension to an otherwise-typical case study.

**Conclusions and Reflections**

I would be pleased if a more robust set of conclusions would emerge from this examination of research into evaluating growth control policies. However, the most I can provide is a catalog of what is troubling or clearly not working in this area. My conclusions are these:

- This field is fraught with confusion about exactly what these policies are trying to achieve. The diagnoses of the “problems” with development are so various, and even conflicting, that it is no wonder that the solutions are equally varied. Given that we are not particularly certain about the problem, it is perfectly understandable that we aren’t really very clear about what we want to achieve. Do we want more agricultural land? How much more? Do we want denser housing, or less dense? Housing near open space? How much and how close? In fact, there is relatively little consensus on what we really want in our landscapes, despite attempts embodied in city planning in most areas. **Conclusion: We can’t know what “works” until we know what end state we desire.**

- I hope by this point in the paper that I have convinced you that there is more to solving land use problems than simple, aggregated market tests. Neither the land price test, nor the land quantity test answer the development quality test. That is, the pattern of the landscape and the interactions of the various elements in it may be more important to our perceptions of the “goodness” or “badness” of land use problems than anything that results in significant market effects from aggregates such as land or housing price, land conversion, or construction. Conclusion: Conclusions based on economics alone will be inconclusive.

- Even the best case studies have an anecdotal quality to them that comes from their focus on the particular and the specific. This is exactly what convinces us that we really understand what is going on in a good case study. On the other hand, econometric studies provide objective, verifiable evidence for a specific effect, but don’t go much further than that. Conclusion: Econometric studies are necessary, but not sufficient to understand what works and why. This is especially so if growth controls are simplistically modeled.

- Even the best econometric studies leave us feeling that things are too pat, and that the mathematics and economics don’t capture everything that is going on in the messy real world. On the other hand, case studies can be made from any given set of anecdotes, and are perfectly suited to arguing both sides
of most issues. Econometric studies add a quantitative dimension that no amount of discussion can provide. The best combination would have that scientific certainty, preserving the qualitative distinctions and insights to be drawn from good case study material. Conclusion: Case studies can be usefully informed by econometric research.

While it is unlikely to please either the qualitative, case study-oriented school of institutional economists, planners and political scientists or the quantitative, econometrically-oriented school of modelers, regional scientists, and engineers, my conclusion is that there are strengths to be garnered by working together. Working across disciplines is hard enough: working across mindsets may be asking the impossible. Yet, sticking to our own particular knitting in the company of others with different points of view and approaches will most likely lead to stronger studies that will help society understand what we are trying to do about land use change, and what tools work best in helping use to achieve our aims.

Protecting Farmland at the Fringe: Do Regulations Work? Strengthening the Research Agenda


Focus

Critics of zoning question its political viability to achieve public purposes, such as protection of agricultural land from premature conversion. Too often, they contend, private landowners are able to block proposed zoning changes perceived to threaten their property values or life styles (Babcock and Siemon 1985). Zoning regulations that avoid owners’ veto one year are frequently reversed or weakened after an electoral backlash. As Eisele observed in her case study of agricultural zoning in California’s Napa County, “All it takes to change zoning decisions is a three-vote majority on any Tuesday, the day the Board of [five] Supervisors meets” (1999: 105). It seems likely, as Nolon and Solloway argue (1997), that many agricultural landowners will strongly pressure their elected local legislators to oppose restrictions that diminish, not just the value of their land for sale purposes, but also its valuation as collateral for current bank loans to operate their farms.

These owners may be numerous enough in individual legislative districts to replace or intimidate incumbent county or town board members who lean towards preventing conversion through zoning. Incumbents who are not pressured may instead sympathize with the owners who plea at public meetings that their retirement plans and/or their current farm businesses will be jeopardized if the land’s development potential is extinguished.

Using information from California, Oregon, Wisconsin, and Illinois, this paper explores conditions that promote the opposite scenario: agricultural landowners supporting or, at least acquiescing in, zoning restrictions. They seem more likely to find such zoning useful or fair:

• if the land restricted to agricultural use is mostly profitable to farm;
• if, because the zoning regulations target viable agricultural areas, the owners see restrictions on conversions as designed to protect farming operations from disruption by non-farm neighbors, such as in the form of nuisance complaints against agricultural operations (e.g., applications of chemicals, early-morning use of tractors) or in the forms of vandalism, trampling of crops and other types of trespassing by those neighbors;
• if “fair” exceptions to exclusive agricultural use are allowed, such as farmers being able to carve out building lots for relatives who help with the farm;
• if the owners trust that the boundaries of the agricultural-use zones will periodically be reviewed so that, when development nears their land, the latter may be re-classified as ripe for conversion;
• and since, because relatively little development has already taken place, the zoning restrictions do not substantially reduce land values, although they may limit increases due to speculative land buying.

This last fairness condition begs the question, “Is zoning needed where development is sparse and most farmland sells for not much more than its agricultural-use value?” A “yes” answer is credible if policy makers and the farmers supporting them aim to prevent subdivisions and individual houses from scattering into the commercial agricultural areas. The initial few homes become zoning precedents for more non-farm homes.

Definitions

Before proceeding, we need to define terms. The nation’s principal organization for protecting farmland from conversion, the American Farmland Trust, has defined “agricultural protecting zoning [APZ]” as county or municipal zoning ordinances that stabilize the agricultural land base through limiting non-farm uses, such as by requiring 20 to 640 acres as the minimum parcel size to qualify for a building a home.² A
common justification for the mandated minimum lot size is that the typical farm in the area has that many acres (Cordes 1999). Gas stations and other commercial uses are not normally permitted in an APZ zone; and there is a commitment (such as expressed in the zoning jurisdiction’s land-use plan) not to grant special-use permits or to rezone farmland for residential, industrial, or commercial uses, except perhaps for an agriculturally related service like an implement dealer or fertilizer supplier.

A dictionary meaning for “premature” is “Occurring, growing, or existing before the customary, correct or assigned time.” In zoning issues the “correct . . . time” understandably is a matter of political judgment. Beginning with its 1972 comprehensive plan, the County Board of Illinois’ De Kalb County (now a component of the Chicago Primary Metropolitan Statistical Area) regarded as premature any developments proposed for land not “adjacent to existing municipalities where services can be extended most economically.” In 1999 the policy was more precise: “The only areas designated on the Comprehensive Plan as appropriate for conversion from agriculture to some other use are within 1 1/2 miles of the municipalities.” When the 1999 plan revisions were being debated, the De Kalb County Farm Bureau recommended “continued support for the land use plan which places growth around municipalities.”

### Evidence of Farmers’ Interest in Agricultural Protection Zoning

Farm Bureau support for agricultural protection zoning has been seen also in Oregon and California. The Oregon Farm Bureau Federation fought a 1998 decision to expand Portland’s urban growth zone into rich agricultural areas (Nokes 1998). Sokolow (1999) reported that Farm Bureaus in California’s Tulare and Yolo counties “regularly monitor county (and, at times, city) planning and land use decisions, often issuing critical comments” if farmland is not being adequately protected (p. 156). Eisele’s study of Napa Valley in California (1999) found that grape-growers and vintners backed growth-control policies in order to protect an expanding wine industry in a county that geographically was ideal for growing wine grapes.

Napa’s Farm Bureau surveyed its members in 1991 and found considerable backing for growth restrictions through zoning. Almost half of the respondents (46 percent) “strongly agreed” to keeping agriculturally zoned land in large parcels, thereby discouraging parcel splits for hobby farms or ranchettes (see Table 1). Just over half (52 percent) “strongly agreed” to a policy of limiting the number of residences on agricultural land, presumably for such purposes as protecting the land base for commercial farming and preventing conflicts between non-farmers and farmers over agricultural practices (e.g., pesticide spraying).

| Table 1: 1991 survey of members of Napa County Farm Bureau (California): Percentage of total respondents who “strongly agree” and who “agree” with selected statements |
|------------------------------------------------------------|------------------|------------------|
| **Statement**: “Zoning that encourages the existence of large parcels is essential for the survival of agriculture in Napa County.” | **Strongly agree** 46% | **Agree** 25% |
| **Statement**: “In the interest of agriculture the number of residences built on agricultural land should be kept as low as possible.” | **Strongly agree** 52% | **Agree** 24% |
Through a 1997-98 survey of 1,729 farmland owners spread over 42 states, the American Farmland Trust tested for, among other things, interest in restrictive zoning as one of three competing means to cope with conflicts with non-farmer neighbors:

**Question:** “[W]hen non-farm homes are built in agricultural areas, the new non-farm residents may complain about agricultural odors, dust, or chemicals and may even sue farmers to restrict their operations. One way of dealing with this kind of conflict is to have the residents and farmers settle their problems in court or in out-of-court settlements. A second way is to do what some eastern state governments have done—to pay landowners who volunteer not to develop especially important farmland. A third way is for local government to zone land in important farming areas so that few homes may be built on it. Probably only one approach can be used. Which approach do you prefer?”

Table 2 shows that 58 percent of the weighted national sample chose the zoning approach to the problem rather than (1) going to court or (2) preventing the conflict by public purchase of the land’s development rights. Majority support was measured for the zoning option also in each of the seven regions, although in the Northeast it was a bare majority - 50.2 percent. In the national sample the level of support did not significantly vary in a statistical sense by the respondents’ gross revenues from agriculture and whether or not the surveyed owners were currently farm or ranch operators, had livestock on their land, or lived close to their land versus more than ten miles away. However, owners were somewhat less likely to favor zoning if non-farm homes were located within a football field’s length of any of their farmland. Presumably, many of that group of respondents believed there was a market for more homes in their areas and they would benefit from providing building sites.

<table>
<thead>
<tr>
<th>Response Category</th>
<th>West</th>
<th>Southern Plains</th>
<th>Northern Plains</th>
<th>Midwest</th>
<th>South-east</th>
<th>Northeast</th>
<th>National (weighted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settle in court</td>
<td>8.3</td>
<td>20.2</td>
<td>10.8</td>
<td>11.6</td>
<td>15.3</td>
<td>7.2</td>
<td>13.0</td>
</tr>
<tr>
<td>Govt. pays volunteers not to develop</td>
<td>15.9</td>
<td>15.5</td>
<td>13.7</td>
<td>12.5</td>
<td>17.1</td>
<td>31.1</td>
<td>15.9</td>
</tr>
<tr>
<td>Zone to restrict development</td>
<td>62.7</td>
<td>52.5</td>
<td>64.7</td>
<td>61.4</td>
<td>53.2</td>
<td>50.2</td>
<td>58.0</td>
</tr>
<tr>
<td>Don’t know or won’t say</td>
<td>10.2</td>
<td>6.8</td>
<td>6.6</td>
<td>8.9</td>
<td>7.9</td>
<td>10.6</td>
<td>8.3</td>
</tr>
<tr>
<td>Not asked</td>
<td>2.9</td>
<td>5.1</td>
<td>4.5</td>
<td>5.6</td>
<td>6.5</td>
<td>1.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Total percent</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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<tr>
<td>Total respondents</td>
<td>314</td>
<td>297</td>
<td>306</td>
<td>303</td>
<td>216</td>
<td>293</td>
<td>300/1729</td>
</tr>
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</table>

Conditions for Landowner Acceptance of Restrictive Zoning: Commercial Agriculture Predominates and Zoning is Seen as Protecting It

Farmland owners are not likely to accept all forms of agricultural protection zoning. Rather, there are conditions for their approval. In preparation for the 1981 update of its comprehensive plan, the DeKalb County Board commissioned two studies of rural subdivisions developed before the 1972 plan and related zoning policies were adopted. One study concluded that residential developments in unincorporated areas failed to pay for themselves in the sense of generating enough revenues to cover the costs of public services (school busing, road maintenance, fire, emergency medical, and police). The other found that subdivision residents were often bad neighbors to farmers of adjacent land. Both studies were used to justify the county’s agricultural protection zoning (Heuer 2000). At that time more than 90 percent of the county’s land surface was in farming.

Also supportive of zoning limits on rural subdivisions was a broader study, conducted in 1982-83 and funded by the Joyce Foundation, that surveyed the operators of 281 farm units located next to subdivisions in unincorporated portions of three Chicago area “collar” counties: McHenry, Kane, and Will. McHenry had already adopted agricultural protection zoning (Paulson 1997), while the other two were considering it. The surveyed farmers were asked if they had experienced any of nine types of problems that the literature suggested could be the consequences of farming next to residential developments. Thirty-three percent reported trampling of crops, with the losses regarded as more than “slight” and “caused or made worse by the subdivision being there” (Esseks and McCallister 1986: 141-142). Thirty-two percent had nontrivial trash or litter problems, and 29 percent attributed more than “slight” crop losses to storm water runoff from subdivision roads, roofs, and other impermeable surfaces or to drainage tiles or ditches that the development damaged. Sixty-three percent had experienced at least one type of problem among the nine (Table 3).

Table 3. Percent of sampled operators in McHenry, Kane and Will counties who attributed selected problems to adjacent residential subdivisions

<table>
<thead>
<tr>
<th>Type of “More than Slight” Problem</th>
<th>Percent Reporting This Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trampling of Crops</td>
<td>32.8</td>
</tr>
<tr>
<td>Injury to livestock</td>
<td>3.2</td>
</tr>
<tr>
<td>Vandalism of farm equipment or vehicles</td>
<td>6.8</td>
</tr>
<tr>
<td>Vandalism of farm fences or structures</td>
<td>10.7</td>
</tr>
<tr>
<td>Theft of property</td>
<td>1.8</td>
</tr>
<tr>
<td>Trash or litter</td>
<td>32.0</td>
</tr>
<tr>
<td>Subdivision residents plant gardens, shrubs, or trees on farmers' land.</td>
<td>6.0</td>
</tr>
<tr>
<td>Damaged drainage tiles or drainage ditches</td>
<td>16.4</td>
</tr>
<tr>
<td>Crop losses due to storm water runoff</td>
<td>18.5</td>
</tr>
<tr>
<td>(Experienced at least one of the above nine types of problems)</td>
<td>(63.0)</td>
</tr>
<tr>
<td>Total farm units</td>
<td>281</td>
</tr>
</tbody>
</table>

Source: Esseks and McCallister 1986.
Mary Handel’s inventory of problems faced by California farmers was broader, including losses due to people who steal food crops (fruit, avocados), difficulty for tractors and other slow-moving farm vehicles to use public roads, and increased liability to damage claims, both from trespassing children or adults hurting themselves on farm properties and from nearby non-farm residents who complain about farm pesticides, odors, flies, etc. (Table 4).

Agricultural protection zoning offers farmers a way to avoid or minimize the frequency of such problems; it limits the number of non-farm neighbors. In exchange the farmland owners give up, at least until the next revisions of comprehensive plans and zoning ordinances, the opportunity to sell at prices that reflect the land’s development potential. However, if relatively few if any nearby parcels have been developed, that potential for their land may be modest. Moreover, there is the risk that, in the absence of an effective APZ policy, a parcel near theirs will have houses built on it, while developers skip over theirs for some or many years, during which time they experience significant trespassing problems and nuisance complaints. Another advantage from agricultural protection zoning for commercial-scale operators (rather than “hobby farmers”) is that, the less development of farmland in an area, the more acres available for renting or buying to achieve economic-size operations.  

### Table 4. Inventories of problems faced both by farmers operating near to residential developments and by residents of homes located near to farms

<table>
<thead>
<tr>
<th>Farmers' Problems</th>
<th>Non-farm Residents' Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theft, vandalism, and litter</td>
<td>Farm pesticides</td>
</tr>
<tr>
<td>Pests and dogs</td>
<td>Noise</td>
</tr>
<tr>
<td>Urban traffic</td>
<td>Odor</td>
</tr>
<tr>
<td>Restraints on pesticide application, spreading of livestock manure on farm fields, and other normal farm operations</td>
<td>Dust, burning, and air pollution</td>
</tr>
<tr>
<td>Increased liability from trespassing</td>
<td>Flies and pests</td>
</tr>
<tr>
<td>Slow farm traffic</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Handel, 1999: 54.

The Land Restricted to Agricultural Use is Mostly Profitable to Farm

“Agricultural zoning makes sense only if agriculture is profitable,” wrote the director of the Agricultural Preserve Board in Pennsylvania’s agriculturally famous Lancaster County (Daniels 1993: 3). Neither the affected farmland owners nor perhaps the courts will support zoning that restricts land to uses that regularly yield no net income.  

Jurisdictions that impose agricultural protection zoning have used various indicators of profitability potential when delineating the farmland to be covered. Soil quality is not sufficient because parcel sizes may be too small, water availability inadequate, and other necessary physical or economic conditions absent. In McHenry County, Illinois, the preservation district was defined to consist of large contiguous areas of mostly prime farmland (Paulson 1997b). Oregon statutes that mandate protection through zoning list the criteria of “soil fertility, suitability for grazing, climatic conditions, existing and future availability of water for farm irrigation purposes, existing land use patterns, technological and energy inputs required, or accepted farming practices,” as well non-prime lands “which are necessary” to farming on the adjacent or nearby good land (Goal 3, “Agricultural Lands”).

Beginning in 1981 USDA’s Natural Resources Conservation Service developed an evaluative tool with the acronym “LESA,” which stands for “land evaluation and site assessment.” It was designed “to help elected officials, citizens, farmers, soil conservationists, and planners rate a tract’s potential for agriculture” (Steiner 1994: 13). Among the LESA rating factors are “quality of soil, . . . for a crop, predicted yields,[and] the relative cost of applying modern technology to minimize the effect of any soil limitations . . . “ (Wright 1994: 37). A separate component of the LESA system evaluates particular sites for such other factors important to zoning decisions as the amount of nearby land in urban uses, size of the farm compared to the county’s average farm, “the extent to which agricultural support services exist in the area,” and the extent of on-farm investments “made and maintained” (Wright 1994: 38). A 1990-91
survey found that LESA had guided the land-use decisions of 85 local governments, mostly in East Coast states but also in Illinois and Oregon, among other states (Pease and colleagues 1999). The objective measures in LESA evaluations may contribute to the acceptability of zoning decision.

Marginal Farmland May be Exempted from the Restrictions

Essential to farmland owners’ perception of the fairness of agricultural protection zoning may be how the local government deals with marginal agricultural land found amid good land. Critics of Oregon’s state-mandated zoning, including the 1998 Republican gubernatorial candidate, alleged that too much poor land had been covered by APZ (Franzen and Hunsberger 1998). Illinois’ McHenry County has tried to reserve protection status to farmland that is located beyond planned municipal growth, as well as having truly prime soils. County policy permitted residential development on parcels with steep slopes, extensive tree cover, and other traits detrimental to profitable farming (Paulson 1997b).

Neighboring De Kalb County aimed for a similar kind of fairness by permitting “Rural Residential” districts, consisting of mostly small areas of marginal land amidst the prime farmland. Enacted in 1977, this zoning classification was revoked in 1991. The County Board’s desire to be fair to landowners in this way conflicted with two other policy objectives: to minimize the fiscal costs of sprawl and to avoid conflicts between commercial agriculture and nearby non-farm residents. By 1991 the Rural Residential (RR) districts were believed to be too costly to serve (e.g., school busing and road maintenance costs), as well as being nuisances to surrounding farmers (Miller 1999).

Proponents of this zoning change were vindicated when one group of RR homes became the basis for a prolonged legal battle. A developer had obtained Rural Residential zoning for a wooded area. By 1996 more than 20 homes had been built there. Then, claiming that the trend in the neighborhood was away from farming and towards housing, the developer petitioned to rezone an adjoining 146-acre parcel of open farmland from exclusive agricultural use to estate use, i.e., for 76 homes. Turned down, he sued, and lost at the circuit court level, as well as on appeal. The appellate judges upheld the circuit judge who ruled, among other points, that the grant of residential zoning to adjacent, less productive land did not invalidate exclusive agricultural-use zoning on the subject property, given that the latter land earned good income from farming and that protecting prime farmland was a legitimate purpose of zoning (Gehl and Paulson 1997).

Building Permits for Close Relatives But Not for Hobby Farms

As suggested in De Kalb’s experience, parcel-by-parcel exceptions to agricultural use may cumulatively jeopardize the main purposes of the protection zoning program. On the other hand, an exemption-less regime may be politically unviable. A particularly difficult-to-resist type of exception is the farmer wanting to cut out a parcel for a son, daughter or other relative who helps with the farm or may eventually be the principal operator, as well as a building lot for the farmer’s own retirement home. McHenry County’s zoning regime allows homes for both of these situations (Paulson 1997b).

Critics warn that the parcels supposedly created for farm family members may end up sold to non-relatives who do not farm. To avoid honest changes of plan or deliberate deception, the zoning jurisdiction could impose “consanguinity covenants,” that limit “sale and subdivision of land to persons related in some legally recognized way” (Skelley 1997: 292). Oregon law both defines the permitted family relationships and discourages sale or re-sale to non-relatives by prohibiting any additional home from having its own separate recorded lot. The accessory homes must be:

- “Located on the same lot or parcel as the dwelling of the farm operator, and [be]
- “Occupied by a relative, which means grandparent, grandchild, parent, child, brother or sister of the farm operator or the farm operator’s spouse, whose assistance in the management of the farm use is or will be required by the farm operator.”

Deception may motivate another type of parcel split that abounds in many agriculturally zoned areas. Nonfarmers buy enough acres to qualify for a home building permit in the supposedly exclusive farm use zone. Since there cannot be a permanent ban on new farm homes, many APZ programs set a minimum number of acres as their definition of a farm. But whether it is 20 acres, 40, or even more, non-farm households may pay the going price, so eager are they to live in attractive rural areas, particularly those within reasonable commuting times to their places of work (Nelson 1990). Of course, they can soften the financial burden by leasing
back to farmers many or most of the acres required for a building permit.

Bothered by evidence that too many non-farmers were obtaining building permits for “farm dwellings,” Oregon’s legislature in 1993 moved beyond a minimum acreage criterion for defining a “farm.” Requiring as many as 35 acres in the exclusive agriculture zone did not keep non-farm households with deep pockets from buying the necessary land and filing plans for farm operations. A 1991 study reported to the legislature that 37 percent of the so-called “farms” for which local government had issued building permits between 1985 and 1987 had no gross farm sales in 1990 (Franzen and Hunsberger 1998; Liberty 1998). Either they made no pretense at farming, or they kept a few animals or tended a garden plot or two.

To discourage such fake or “hobby” farms from consuming good farmland and perhaps being nuisances to nearby commercial farms, Oregon now requires evidence of substantial gross annual income from farming in the previous two years or three of the last five, as well as proof of the occupants being “principally engaged in the farm use of the land, such as planting, harvesting, marketing or caring for livestock, at a commercial scale.” The minimum required gross income varies by the type of land (i.e., suitable for high-value crops or not) and by the typical earnings in that area of the state. For example, a parcel “not identified as high-value farmland” must generate “at least $40,000 (1994 dollars) in gross annual income from the sale of farm products” or “Gross annual income of at least the midpoint of the median income range of gross annual sales for farms in the county with gross annual sales of $10,000 or more according to the 1992 Census of Agriculture, Oregon.”

**Fairness in Drawing and Revising Urban Growth Boundaries**

When prospective buyers believe that rezoning for residential is much more likely within an urban growth boundary (UGB) that outside it, they tend to offer higher prices for the inside parcels. Research in individual Oregon and California counties with UGBs found such price differences (Liberty 1998; Moore, 1999).

Why would farmland owners be willing to have their land fall outside the boundary? First, the UGB may be drawn generously enough that for some or many years it has little effect on their land’s sale value. For example, the UGBs in Oregon are supposed to provide enough space for growth over 20 years. If speculators think about development eight to ten years into the future (Sayer 1997), the farmland outside the boundary should lie beyond speculative pressures until much or most of the 20 years have elapsed. There still is an important role for the zoning restrictions associated with a UGB. They block leapfrog-type developments that, once established, are likely be precedents for further developments and to generate speculative buying in the area, as well as cause conflicts between farming operations and the new non-farmer neighbors.

A second reason for farmland owners tolerance of land-value-determining UGBs is that they tend to be periodically revised. As the demand for new homes increases, so may the area under the UGB and the affected landowners’ chance for handsome capital gains. The 146-acre parcel discussed earlier as the subject of a 1996-97 law suit against De Kalb County is now (September 2001) a half-mile closer to the 1.5-mile growth boundary that the County Board draws around municipalities. That is, the nearest municipality expanded in that direction by a half mile, leaving only another half-mile to separate the parcel from the revised boundary.

Oregon law provides for periodic reviews of the UGBs mandated to be drawn around all single- or multi-city urban areas. Changes are supposed to be based on projected job and population growth and housing densities, among other factors. Since first adopted in 1979 the Portland metro area’s UGB was moved “about three dozen times, . . . [mostly in small increments of] 20 acres or less.” In 1998, however, the metropolitan council (Metro) voted to increase it by 3,527 acres to create “enough room to provide approximately 23,000 housing units and 14,000 jobs.”

**Other Threats to the Political Viability of Agricultural Protection Zoning**

Insufficient support from farmland owners is of course not the only threat to the political viability of agricultural protection zoning. Another danger is that county or township officials give up trying to use this challenging tool because they believe they face insurmountable external obstacles. One such obstacle would be the courts not sustaining exclusive agricultural use zoning. However, judicial opinions have been largely supportive of the kind of zoning discussed in this paper.
A second external obstacle might be municipalities annexing excessively, including farmland that county or townships aim to protect. Oregon law requires cities and villages to respect growth boundaries that they and their county governments must jointly approve and that a state agency reviews when disputes arise. California provides for annexation reviews by joint municipal-county agencies, Local Agency Formation Commissions (LAFCO). They have the power to deny or delay annexations. However, research in seven Central Valley counties found that “LAFCO efforts to conserve farmland . . . [were] absent, ineffectual, or inconsistent (Sokolow 1997: 10). Fiscal considerations appeared to have been dominant.

In two Wisconsin cases the local governments used their own land-use powers to try to frustrate annexing cities. The Town of Dunn in Dane County, south of Madison, Wisconsin, purchased the development rights to farmland that was threatened with annexation by Madison (Paulson 1997a). The Town of Middleton also tried to make land unattractive for annexation. It encouraged large-lot homes on parcels coveted by the cities of Madison or Middleton (Paulson 1997a). By contrast, the government of De Kalb County has tried to win cooperation for its growth management program from the county’s municipalities; and in August 2001 its Planning & Zoning Department was aiming to develop a county-wide comprehensive plan that would guide land-use decisions by all units of local government.17

Also likely to sap the political will to restrict premature development would be state-mandated compensation for regulatory “ takings.” In November 2000 Oregon voters amended the state’s constitution to require compensation if a state or local-government regulation “restricts the use of private real estate property” in ways that reduces its value.18 By late December a number of municipalities had apparently suspended land-use regulations for fear of burdensome compensation awards (Nokes 2000). A suit challenging the legality of this voters’ initiative put its enforcement on hold.

Summary

Focusing on the limited but important goal of preventing premature conversion of good agricultural land, this paper discussed conditions that both support and detract from that goal’s political viability. The zoning context is the situation where current or contingent owners seek permission to build non-farm residences in predominantly agricultural areas where little non-farm development has already occurred. Other owners may encourage their local legislators to oppose rezonings to residential use if:

- they believe the resulting homes would disrupt farming operations in their area, such as through complaints about those operations’ odors, dust, and other perceived nuisances, as well as through trespassing onto farms by humans, litter, or stormwater;
- if they believe their own land is profitable to farm so that protecting it from non-farm neighbors is in their self-interest;
- if they, owners who must live with exclusive farm-use zoning, feel assured that they will be treated fairly, such as
  - being able to build homes for family members who help with the farming and
  - possibly being allowed to sell to non-relatives those parcels that are unsuitable for economic farming,
  - but not having to compete for farmable land with, and perhaps be harassed by complaints from, “hobby” or fake farmers who obtain building permits only because they acquired the requisite minimum number of acres.
- Another important fairness condition is that owners believe the boundaries of the agricultural protection zone will be periodically reviewed so that, if development trends towards their farmland, zoning will change to permit conversions.

Conditions that likely undermine local legislators’ will to enforce restrictive agricultural zoning include evidence that:

- the courts would not sustain it,
- municipal annexations would frustrate it, and
- compensation requirements would make it fiscally prohibitive.
Protecting Farmland at the Fringe: Do Regulations Work? Strengthening the Research Agenda

1 Dick Esseks is a Visiting Scholar at the Center for Great Plains Studies Emeritus of Public Administration at Northern Illinois University. Lela Long is doctoral candidate in Political Science at Northern Illinois University, specializing in public administration and public policy.


5 Paul Miller (1999-9), Director of De Kalb County’s Planning & Zoning Department.

6 “Public input sought on land use,” Point of View (De Kalb County Farm Bureau), 20 (5): 1.

7 Of course, some non-farmer newcomers to an area may prefer that most of the land they bought be kept in open space so as to retain the rural nature of where they built their homes. David Vail (1987) found in three Maine towns that many such landowners provided much needed leased land to local farmers.

8 The U.S. Supreme Court’s ruling in Lucas v. South Carolina Coastal Commission turned in large part on whether Mr. Lucas’ land retained any economic use after the Coastal Commission prohibited its development for residential purposes. 505 U.S. 1003, 1017 (1992).

9 Oregon’s Statewide Planning Goals & Guidelines at www.lcd.state.or.us/goalpdfs/goal03.pdf. September 18, 2001.

10 Oregon Revised Statutes: 215.283.

11 Oregon Administrative Rules: 600-033-0135.1(c)

12 High-value farm parcels include those producing nursery stock, berries, fruits, nuts, and Christmas trees.

13 Oregon Administrative Rules: 600-033-0135.5(a).


16 Oregon’s Land Use Board of Appeals (www.luba.state.or.us).

17 Interview with that department’s director, Paul Miller, August 27, 2001.


Eisele, Volker, 1999. Twenty-five Years of Farmland Protection in Napa County,” a chapter in California Farmland and Urban Pressures: Statewide and Regional Perspectives, edited by Albert Medvitz, Alvin D. Sokolow and Cathy Lemp (Davis, CA: Agricultural Issues Center, University of California), pp. 103-123.


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Protecting Farmland at the Fringe: Do Regulations Work? Strengthening the Research Agenda 87


Introduction

The farm has entered a new era in its history of relevance to the American public. Once considered a resource of endless supply, farmland is now a target of preservation efforts designed to address the loss of farmland to non-farm land uses. Reasons cited for the desire to protect farmland are many, and include appreciation for traditional amenities offered by the farm—food and fiber production, pastoral landscapes, soil conservation, family farms and family values—along with developing recognitions of the relationships between farmland, environmental quality and public health. Farmland, long treasured or romanticized to some extent in America, is increasingly viewed today as a public resource warranting public protection.

As with most conservation issues in this country, the desire to preserve farmland for its public resource benefits must contend with the issue of private property rights. Our institution of property rights establishes and protects private rights in real property, but also recognizes limited public rights in private property. Public intrusions upon individual property rights are acceptable for the purpose of serving the “public good”. In many cases, an attempt to regulate private property for the public good raises the controversial issue of defining the line between acceptable and unacceptable interferences with private property.

Establishing the boundaries of private and public property rights is especially problematic for the farmland resource. Historically, the farmland owner has symbolized our most classic view of private rights in property—“a private owner … has title to a set of valued resources with a presumption of full power over those resources.” For various reasons, many farmland owners and agricultural organizations resolutely adhere to this classic view of private property rights. Whether or not supported by our legal framework, we can expect that such perceptions of the private property rights attached to farmland will conflict with attempts to regulate private farmland for preservation purposes.

This paper examines the parameters of private property rights in farmland. Part I presents a brief history of the legal foundations of private property rights in the United States, while Part II considers policies and factors that suggest differing notions of private property rights in farmland. Part III concludes with a discussion of the current climate for addressing the issue of restraining private property rights for the purpose of farmland preservation.

I. The Legal Framework for Private Property Rights in the United States

A. A Brief Historical Background of Private Property Rights

History reflects the importance of private property rights to the establishment and development of the United States. “[F]or many, the right to use one’s property, like the right of free speech or freedom of religion, is an essential ingredient of the liberty that each American enjoys.” Many notable commentators of diverse viewpoints recognize private property as a principal, or as the principal, foundation for individual freedom, and a necessity of political stability, democracy and economic prosperity.

The deference to private property rights in America contradicts our English and Roman law heritages. Early feudal and patriarchal systems of land ownership concentrated property in the hands of the sovereign and denied those who possessed or worked the land the right to own and dispose of property. Remnants of feudal law influenced our early notions of property ownership to the extent that property in the new territories initially was held “of the King”. The possessor of the property could not own or dispose of the land, and paid ground rents to the King of England for the use of the land.

But philosophical, moral and economic justifications for abandoning English property law had gained recognition by the time of the American Revolution. Popular theories argued for individual ownership and disposal of property as a moral mandate, a natural
right and a necessity of liberty and economic stability. These theories in time led to the development of the freehold estate in the newly established United States. Post-revolutionary legal structures recognized the freehold estate or the fee simple absolute estate as “the largest estate and most extensive interest that can be enjoyed in land”. The fee simple absolute entitled a property owner to all of the legal rights available in a parcel of property, including individual ownership and an unconditional power of disposition of the property.

With a legal instrument in place allowing private ownership and control over real property, the United States began the more tedious task of defining the specific rights of use encompassed by private property rights. Our country has long since muddled through attempts to define exactly what one owns when one owns real property, what an owner may or may not do with his or her property and the extent to which the public holds rights in private property. In most instances, the questions are much simpler than the answers.

B. Private Property and the Public Good

While the framers of the Constitution recognized individual property rights, they held competing philosophies regarding the extent to which the government should abdicate control over property. On one hand was the desire for absolute individual authority over property, and on the other was a call for public limitations on individual property rights for the good of society at large. After much debate, the United States Constitution reflected both of these philosophies, creating what many characterize as a “balance” of private and public rights in property.

The cited source of the balance between private and public rights in land is the Fifth Amendment of the federal Constitution: “…No person shall be … deprived of life, liberty or property, without due process of law; nor shall private property be taken for public use without just compensation.” The Fifth Amendment authorizes the taking of private property for public use, but only upon the conditions that fair compensation be paid and the landowner be given notice and the right to a hearing. The provision recognizes both the need for utilizing private property for public purposes and the need for mechanisms that will ensure a fair and constrained process for taking private land.

Contemporary discourse debates the private-public balance in property rights, claiming on both sides that it has become one of imbalance. Property rights advocates argue against a trend of increasing government regulations that intrude upon private property rights, and have successfully urged the establishment of state property rights statutes requiring compensation for regulatory interferences with property rights. Conversely, public property theories propose expanding public rights in property, abolishing private property ownership altogether, or at a minimum, diminishing the breadth of the fee simple absolute estate. Regardless of the merits or flaws of each side of the current private-public property rights debate, our constitutional framework requires that we recognize both private and public rights when defining property rights.

C. So What Are Private Property Rights?

A well-used explanation of property rights is the “bundle of sticks” analogy. The concept portrays property rights as a bundle of sticks attached to a parcel of property. Each stick represents a separate and severable right or interest in the land – the rights to possess, sell, lease or mortgage the property, to exclude others from the land, to subdivide the land into smaller parcels, to pass the land to others at death, and to utilize the land’s minerals, water and timber resources, for example. An owner of land may hold some or all of the property rights, or may transfer certain rights to another party. A few of the sticks in the bundle are held by the government, however – those sticks representing the right to take the land for public use, to control uses of the land, to assess taxes on the land and to take possession of land for which no heir exists.

The bundle of sticks analogy illustrates that property rights do not only address the individual’s rights in regards to the land, but also the relationships between an individual and others with respect to the land. The “street” definition of property rights focuses on this aspect, and property rights in these terms are the rights that allow a landowner to keep others from interfering with his or her land. Additionally, many define property rights as the right of one landowner to exercise rights of use that could burden another. These notions of what landowners may do to protect or utilize property are encompassed by the sticks that are associated with a parcel of property.

Despite the structure and logic provided by the bundle of sticks explanation, an important element of
our institution of property rights is that no set of property rights is permanent or absolute. No individual has an absolute right to use property in a way that harms the public health or welfare, a neighboring landowner, or the community as a whole. History demonstrates that our legal framework allows the precise parameters of property rights to vary along with social preferences, economic conditions and political factors. Established legislation and policy will guide an inquiry into the acceptability of an action that intrudes upon a landowner, and is largely a function of prevailing social preferences.

For this reason, a law, public policy or social preference established today could redefine our definition of private property rights tomorrow. Throughout an analysis of the current boundaries of property rights, however, the underlying elements of property rights remain protected by our legal framework—the right of private ownership and constraints upon public use of private property. Rather than creating chaos and ambiguity, this fluid nature of property rights allows rights in property to adapt to changing societal needs and values.

E. Private Property and Regulatory Takings Analysis

A review of the legal history and framework for property rights would be incomplete without a discussion of the concept of regulatory takings, which often serves as the current legal backdrop for defining the acceptability of public intrusions upon private property rights. While the Fifth Amendment of the Constitution provided for the sovereign’s right to “take” private land for public purposes, it did not clearly define those actions that constitute a “taking” of private property. Is a taking of property a deprivation of the right to permanently possess the land, or a regulatory action that excessively limits property rights but doesn’t physically possess the property? The theory of regulatory takings subjects a regulatory action to the legal framework of the Fifth Amendment by characterizing excessive regulatory actions as a “taking” of property requiring just compensation to the landowner.

The ambiguity of the Fifth Amendment’s taking language creates a legal cause of action that has been advanced by landowners against the government as early as 1887. Since that time, the United States Supreme Court has rendered regulatory takings decisions that fluctuate between favoring individual property rights and expanding the public’s right to regulate private property use for the good of the public. Takings decisions establish a test for examining the extent to which the government may freely burden private property. Generally, the regulation of private property for public purposes will not constitute a taking if the regulation advances a legitimate governmental interest and the property owner retains some viable use of the property.

The body of regulatory takings law must be considered when defining private property rights. Over time, court decisions determining what actions are and are not a taking of private property have provided guidelines for delineating the acceptability of a public action that burdens private property for public purposes. These decisions, in turn, help establish the limits of private and public rights in property.

II. Defining Private Property Rights in Farmland

At a recent meeting, a farmer expressed his frustration with trespass and property destruction taking place on his farm, and the potential of a new regulatory program that would require changes in his agricultural operation. Phrases such as “they can’t do that to my property” and “this is my land” displayed not only his passion for property rights but also an interpretation of property rights that left little room for the public good or interference by others.

This perception of and passion for private property rights is common in agriculture and suggests that farmland owners view their property rights uniquely. Often attributed to stubbornness or selfish financial interests, a heightened sense of private property rights for farmland owners may instead derive from our history of policies, programs and attitudes toward agriculture and agricultural land. Over time, various laws and policies have treated agriculture differently than other sectors of the economy. Assuming that property rights are influenced by policies, attitudes and social preferences, it is possible that our agricultural history has influenced how we perceive or define the property rights of farmland owners.

How do such factors affect the bundle of sticks attached to farmland? Is it possible that the property rights of farmland owners differ from those of non-farm landowners? From the legal perspective, the following factors could affect our definition of the private property rights of farmland owners specifically.
A. Exemptions and Protections from Statutory and Regulatory Law

In a number of areas of the law, federal or state legislation commonly exempts agriculture from statutory and regulatory requirements or provides agriculture with statutory defenses or protections. Consider the following examples of such provisions:

• The federal Fair Labor Standards Act grants agriculture exemptions from certain minimum wage, overtime and child labor regulations.25
• All states have a “Right-to-Farm” Act that provides a statutory defense to civil nuisance claims under certain conditions.26
• Many states provide tax relief for agriculture in the form of differential assessment of agricultural land for real property taxes27 or exemptions from sales and/or use tax.28
• Many states exempt agricultural property from sewer and water assessments.29
• In a number of states, agricultural operations are exempted from air pollution provisions.30
• Ohio and a number of other states do not allow local governments to enforce all zoning provisions against agricultural property owners.31

B. Economic Policies to Sustain Farming

Government support programs for agricultural landowners have been in place in the United States since the 1920s.32 The purposes of support programs have been multiple: to reduce the instability of prices for farm products, increase farm income, stimulate production, and provide incentives for reducing production. The programs do so by purchasing surpluses, raising the long-term level of prices above free-market levels, or providing direct payments to farmers. In 1996, Congress attempted to replace farm subsidy payments with a fixed payment program in the Freedom to Farm Act, but agriculture’s reliance on farm program payments has not since decreased. Various versions of the most recent legislation, the 2002 Farm Bill, have not yet found consensus on the issue of how to provide continued support for agricultural production.

C. Settlement Laws and Policies

Settlement of land was an early priority in the establishment of the United States. The government gave away and sold land freely, encouraging citizens to “go forth and conquer” the unexplored territories of the United States. Land laws such as those recognizing squatter’s rights favored the improvement and development of land, allowing a possessor to claim rights to land that he or she “improved” and made “productive”.33 The government urged citizens to improve unsettled land by converting it to agricultural use, and asserted the virtues of agriculture and rural life.34 Concurrently, agricultural land was largely unregulated, leaving farmland owners with full authority over the uses and practices taking place on the property.

D. The Value of Land

A factor most easily identified as one that could affect perceptions of private property rights for farmland is the relationship between the landowner and the land. Agricultural production requires the availability of the land resource. The agricultural producer is directly dependent upon the land, which can be the primary factor in determining financial success. Often the most economically valuable asset in an agricultural operation, the land can serve as one generation’s retirement and the next generation’s livelihood. Additionally, the land may carry family heritage values that increase the value of the land to the farmland owner.

II. Conclusion: Property Rights and The Climate for Regulatory Approaches to Farmland Preservation

A regulatory approach to farmland preservation requires that we examine the parameters of private property rights in farmland. A landowner affected by a public regulation has the right to challenge the regulation for its infraction upon private property rights. It is the potential of such a challenge, and the possible declaration of a taking or unconstitutional regulation, that causes us to ask the question “what about private property rights?”

While the typical legal response to the question is to analyze the action under our legal framework for property rights and regulatory takings analysis, such an analysis won’t prevent a landowner from challenging a regulation. It is the perception of an unreasonable burden upon the property rights of the farmland owner that could lead to a challenge of a regulatory action to preserve private farmland. For this reason, regulatory approaches to farmland preservation should consider both the current legal framework for private property rights in the United States as well as factors that may influence the farmland owner’s perceived property rights.
Protecting Farmland at the Fringe: Do Regulations Work? Strengthening the Research Agenda


2 Popular theories of individual property ownership at the time of colonization included those of British philosopher John Locke, British legal analyst Sir William Blackstone and Scottish economist Adam Smith.


4 Though presented somewhat favorably in this brief history of property rights, many commentators see the evolution of the freehold estate as a negative development in our country’s history and predict the necessary abolishment of the freehold estate for the social good. See, e.g., Daniel W. Bromley, “Rousseau’s Revenge: The Demise of the Freehold Estate” in Who Owns America? Social Conflict Over Property Rights (Harvey M. Jacobs, ed. 1998).

5 “These fundamentally different ways of viewing property have been imbedded in the U.S. Constitution from its inception … Property rights should really be understood as a balance between those competing interests [of the Federalists and the Republicans].” Jerry L. Anderson, “Property Rights in Historical Perspective” in Property Rights: A Primer, Farm Foundation/Western Rural Development Center BUL 834 (2001).

6 Others suggest that property issues are not dyadic: “There are not two parties – the individual and a predatory government—in this plot. Rather, there are three participants. Let us call these me, the rest of you, and that third party who alone can mediate disputes between us.” Bromley, supra note 8, at 25. See, e.g., Defenders of Property Rights, Washington, D.C.; Florida’s Bert Harris, Jr., Private Property Protection Act, Fla Stat. § 70.001(1) (1995); Texas’s Private Real Property Rights Preservation Act, Tex. Gov’t Code § 2007.001 et seq. Approximately 20 states now have private property rights statutes that attempt to clarify when and how a landowner should be compensated for a regulatory taking of a private property interest.


8 Barlowe provides a good explanation of the bundle of sticks analogy. See Barlowe, supra note 4, at 1-3.


10 “The most central right associated with property, according to tradition and current constitutional law, is the right to exclude.” Singer, supra note 1, at 5.

11 Based upon the author’s observations as a practicing attorney and educator.


14 See Mugler v. Kansas, 123 U.S. 623 (1887) in which the owner of a brewery claimed that a prohibition law amounted to a taking because it destroyed the value of his property.

15 For a thorough discussion of takings analysis applied to the acceptability of agricultural zoning, see Mark W. Cordes, Agricultural Zoning: Impacts and Future Directions, included in these conference proceedings.

16 This observation is based upon the author’s experiences as a private attorney and educator in the field of agricultural law.

17 29 C.F.R. § 780 et seq.


19 For a brief history of key cases in regulatory takings law, see Anderson, supra note 9.

20 Forty nine states have a differential assessment statute. Id.

21 See O.R.C. §§ 5713.30 et al.


23 See, e.g., O.R.C. § 3704.01. However, agriculture generally is not exempt from Title V requirements of the Clean Air Act.

24 See O.R.C. §§ 303.21, 519.21, 3781.06.

25 Many cite the Agricultural Adjustment Act of 1933, a component of President Roosevelt’s “New Deal” package, as the first farm support program in the United States. In 1929, however, President Hoover signed the Agricultural Marketing Act, which created a Federal Farm Board and a fund of $500 million for farming cooperatives and purchases of grain and cotton on the open market. Perhaps because the law failed miserably, it is often overlooked as the federal government’s first involvement in economic support programs for farmers.

26 See, e.g., Thomas Jefferson’s Notes on the State of Virginia.
Thank you for inviting me here today to talk about Maryland’s Smart Growth Program. As people who are deeply involved in the stewardship of our nation’s farmland, I know you are already very intimately familiar with the many programs that exist around the country to preserve farmland, ranchland, forestland and other natural resource land and some of the many important reasons for land preservation. I’m going to show you today a lot of pictures. It might seem unusual to see so many images of urban and suburban places at an agricultural conference, but here in Maryland we’ve really come to see that in many ways the future of farming is bound to the quality of life in our cities, in our towns and in our suburbs. Smart growth in Maryland recognizes that encouraging growth inside existing communities works hand in glove with efforts to protect and preserve our farmland.

Already we have a pretty good farmland protection program here in Maryland. In 1999 the Sierra Club ranked Maryland number one in the protection of open space. That included our farmland protection programs, but a bunch of other open space programs as well. Only Pennsylvania has permanently protected more farm acreage than Maryland. Despite being successful relative to other states across the country, in the decade between 1987 and 1996, more than 200,000 acres of Maryland farmland were converted to other uses. The pace of that conversion has only slowed slightly. Right now we have about 2.2 million acres of farmland in the state of Maryland, and only 400,000 acres at this point have been permanently preserved.

What is the current pattern of growth? Since World War II what we’ve really seen is a vast change in how our communities have grown and developed. What currently characterizes the growth pattern, in Maryland and across the country is low-density single-family housing separated from other land uses like retail, office, schools, all increasingly automobile dependent. The Baltimore metropolitan area and Washington D.C. metropolitan area are independently each in the top 20 of the worst congested metropolitan areas in the country. Washington is in the top three. Part of this development pattern is more disinvestment in existing communities, not just central cities, but older towns and inner ring suburbs.

The connection between sprawl and disinvestment in our existing communities is less readily apparent. The relationship is a complicated one. By subsidizing highways, mortgages, water and sewer lines, and schools in outlying areas we have greatly encouraged people to leave their existing neighborhoods, their older communities. It has been the defining phenomenon of the last half of the 20th century. The important thing to note, I think, is that sprawl can occur even when there is little or no population growth.

Between 1970 and 1990, the Chicago metropolitan area grew in that 20-year period by 4% in population but spread out over 46% more developed land. Los Angeles grew by a whopping 45% in population between 1970 and 1990 to spread out over 300% more land. Cleveland lost 11% in population and spread out over 33% more land. This phenomenon is independent of population growth. People are abandoning their existing neighborhoods and moving out to our urban-edge agriculture and using that land for development.

This phenomenon was particularly apparent to us in Maryland. As late as 1960 most of Maryland’s development was near our major metropolitan areas of Washington and Baltimore. After 1961, new growth began to consume farms and other open space in an extraordinary way with a continued exodus from established cities and towns – very little new growth, very little infill, very little development in our existing neighborhoods. In 1950 Baltimore was home to nearly a million people. By 2000 they had lost 400,000 in population. Where did they go? Into surrounding communities and surrounding farmland. Even if they didn’t go into the inner ring suburban community, their migration pushed a new wave of development further beyond the suburban boundary. It was that information, plus the fact that our 20-year projections showed that if we didn’t change how we grew in the state of Maryland, new development would consume as much land over the next 25
years as it had during the entire 366-year history of the state. That’s why in Maryland in 1997 we passed something called the Smart Growth and Neighborhood Conservation Initiative. Smart growth in Maryland has become a framework for decision making and spending on projects that support growth. It has very simple goals. From the outset we tried to link these things together: 1) supporting and enhancing existing communities – encouraging investment there, 2) permanently preserving our most valuable farmland and natural resource land, and 3) saving taxpayers the cost of new and often redundant infrastructure needed to support sprawling patterns of development. This is an incentive-based program. We use our entire state budget as an incentive. We are going to direct our state resources into areas designated for growth and to preserve open space. We are not going to be putting those resources into costly sprawling development. Maryland made explicit the connection between the health of our existing communities, the loss of farmland and suburban sprawl.

We have both an “inside game,” and an “outside game.” Our inside game has as its cornerstone the Priority Funding Areas Act. It established priority funding areas into which we will channel all of our state spending for growth-related projects. We have only 23 counties and 157 municipalities in Maryland. All 157 municipalities are automatically considered priority funding areas. Our 23 counties were allowed to designate additional areas for growth within a twenty-year planning period. They must have an average density of 3½ units per acre for new development; planned or existing water and sewer; and they have to be consistent with county growth reductions. We have a $21 billion state budget, not a huge amount of money compared to other states, but as an incentive for encouraging growth, it’s a lot of money to be putting on the table. That includes our water and sewer dollars, transportation dollars, school construction dollars, economic development dollars and many of our other discretionary dollars - they will go only into priority funding areas and not into areas not designated for growth. This isn’t about slowing growth, and certainly not about stopping growth. We’re trying to be relentlessly pro-growth, but in a more sensible development pattern. We also recognize that these financial incentives are just the starting point. Even in that first year we added a number of additional incentives…a brown-fields redevelopment incentive, a job creation tax credit, a program called “Live Near Your Work” which is an employer-assisted housing program. We partner with employers and local governments to provide down payment assistance for employees who live near their job. In every year we’ve added substantially to our smart growth and neighborhood conservation initiatives because the playing field is still tilted, precipitously, away from existing communities and to the urban fringe where lies our best farmland.

In 2001, we announced a $500 million addition to our capital budget for transit over the next six years. We are trying to double our transit ridership in the state by 2020. We have committed over $3 billion over the next six years to make it public transit more affordable, comfortable, and convenient.

We adopted a statewide program, following the lead of New Jersey, to streamline building codes and to try to more rationally comport with code compliance and the amount of rehabilitation. Under this program you don’t have to bring your building all the way up to code if you’re making a small renovation. Not every building that’s 11 feet wide can be ADA compliant, so this code tries to recognize that there are differences.

Community Legacy is a flexible grant program designed to help communities meet their revitalization needs without necessarily having pigeon-hole their projects within the narrow bounds of one specific program or another. With Community Legacy we ask communities to bring in their revitalization plans and we’ll help fit programs to their project as opposed to them fitting their projects to our program. Community Parks and Playgrounds is another competitive grant program. We recognize that access to nature and recreation is an amenity, and we want to reward communities that are doing smart growth by giving them additional funds to provide those community parks and playgrounds.

These are all things that are part of the “inside game.” But the program with which I’m most closely connected is the new Office of Smart Growth that was created within the Governor’s Office. I’m the first Secretary of that office and it’s the first of its kind anywhere in the country. The primary goal is to coordinate the resources of the state on behalf of smart growth. The Office is supposed to be a relentless advocate for smart growth around the state. That means standing up in favor of projects, helping local governments who are trying to make smart growth happen in their community, and also trying to do a better job communicating to the citizens of Maryland about how important smart growth is to the quality of life in our state and to our future.
The other half of our smart growth effort is the “outside game.” Not only are we trying to direct resources to encourage growth to existing communities, we’re trying to put some of our most valuable land off limits to development outside of those designated growth areas. We have a long tradition of open space preservation in Maryland. The Rural Legacy Program asks local governments to designate large contiguous parcels of land that they want to target for preservation. As you know, fragmentation can really be the death of farming, even if there is a lot of farmland preserved. If it’s broken up by subdivision, you don’t have a farm economy that will support feed stores, or equipment suppliers, and then it becomes very difficult to farm. So we devote money to the rural legacy for large contiguous parcels and require counties to prioritize their most valuable land. We encourage interjurisdictional plans to reward counties that cooperate with each other, to deliver joint plans. And we provide additional funds for active protection of resources, not just for easements, but also to plant buffers along the streams and other things. In 20 of our 23 counties, we have designated 24 different rural legacy areas and have spent almost $100 million so far to preserve 42,000 acres.

In this last legislative session, we passed another program called Greenprints. Most of our programs have not necessarily focused on ecological or biological values of land preservation, nor on connectivity for wildlife corridors and other habitat. Greenprints looks at the land’s biological and ecological significance. One of the insights from farmland and open space preservation is that there is just not enough money to buy it all, so we have to be smarter. One of the first things we did with the Greenprints Program is to prioritize farmland with Greenprint value. We are going to see where we have overlaps of biologically significant areas and the farmland that’s waiting for purchase of easements. We have a long-standing agricultural land preservation program, but our farmers wait in line for money to become available so easements can be purchased on their land. Twenty-five percent of the Green Print money has been set aside for farmland preservation. We have a lot of these wonderful preservation programs in Maryland and we’re trying more and more to pull them together.

Let me just name a couple of those programs that we’re beginning to knit together. The Maryland Environmental Trust offers tax breaks for donating easements. This appeals to those who can financially benefit from a tax break. This isn’t for everybody, but Maryland is a wealthy state and there are many people who would be interested.

We have the Maryland Agricultural Land Preservation Foundation. They buy agricultural easements within designated agricultural districts and counties have to be re-certified each year for farmers to participate in the program. Many local governments have long-standing programs, some predating the state program, to do land preservation. Montgomery County is one of our best known counties with their long-standing and very successful transfer of development rights (TDR) program. I don’t know of other places that have had that degree of success. That’s another example of how good planning, with strong support for developing existing communities, helps protect farmland. Without receiving areas for that transfer of development rights, without communities willing to accept more density in those receiving areas, TDR programs don’t work. That has become a fatal flaw for places that have tried TDR around the country.

It is our intention that smart growth make all the difference to farmers. But in evaluating how our program is working, there is good news and bad news. Smart growth is all about choices. Can we really count on appealing to a segment of the population who would love to live in a relatively high density community and take transit to work? We have to recognize that that is not for everyone. We want to support landowners who don’t want to develop their land. They want to continue to farm, but at the same time it’s often farmers who say, “Well wait a minute – with the development pressure in my community I could really get a tremendous price for my land; I’ve been counting on it for my retirement. I’ve been willing to not make money every year for the last ten years in order that I can retire comfortably when I sell my land.” Smart growth doesn’t purport to solve all these problems, but I’ll talk to you about some of the ways it’s working in Maryland. We’re trying to reduce the pressure to convert farmland to other uses and provide landowners with more choices about how they can continue to stay in farming, or keep their land in some sort of a natural resource rural use without having to grow subdivisions as their only cash crop.

In Maryland, we are now seeing that 75% of parcels that get developed are within our designated growth area, within our priority funding areas. That result is from a program that basically encourages but doesn’t dictate where development will go. At the same time, 75% of the land being converted is outside of prior-
ity funding areas. The large lot development outside of priority funding areas often is on farmland. We are definitely not yet winning that war. That’s an alarming statistic.

Lot sizes are getting smaller in the State of Maryland for the first time in 20 years -- very slightly smaller, but bucking a national trend. We are looking for these signs of hope, but as you can see, it’s still definitely a mixed bag. We’ve also begun to recognize that you can’t rely solely on the purchase of development rights alone to conserve land. The cost is simply prohibitive. In 2000, the State of Maryland paid an average of $1,600 per acre for 19,000 acres of land through our Agricultural Land Preservation Foundation. In one of our counties where the zoning does not support agricultural preservation, and there is a lot of competition for land, we were paying as high as $7,200 per acre. Good partnerships with local governments make a tremendous difference and we are increasingly insisting that local governments be good partners with our state on agricultural land preservation. One of the recommendations we made to a legislative task force was that we increasingly be strategic and targeted with our land preservation efforts and that we start slowly to give more money to those counties that are doing the zoning that is supportive of land preservation so that our money will go farther in our preservation efforts.

One of the lessons we have learned is that in order to save farmland in Maryland, we have to save the farmer and farming. This is not just about the land. Smart growth, in some ways, ends up becoming about things like value-added agriculture and other such possibilities. Our agricultural economy is shaped a lot by changing demographics, by development patterns and by consumer demand. In some ways, there are more potential customers around urban-edge farmers than there have ever been – people who would actually enjoy being closer to the agricultural activities, the fresh produce, and the other farm products that are nearby. At the same time, rising land values and suburbanization have created tremendous conflict between farming and non-farm usage. In an example of value-added agriculture, a farm couple was selling 100 pounds of milk for $17.00. They could take that same 100 pounds of milk and process it into 10 pounds of cheese that they could sell for $5.50 per pound directly to consumers. So they could make $17.00 from their milk, or they could make $55.00 for their milk. Not surprisingly, they elected to go into the cheese business. Value-added product sales and direct marketing of farm products to consumers are enjoying a tremendous boom in our state. Baltimore has the longest continually operating farmers markets of anywhere in the country. We have them all across the city, so we’re very blessed in that regard. Farm markets are springing up all across the region and our Department of Agriculture is looking at ways to promote them. Counties are looking to find ways to do more direct marketing and help people understand and appreciate agriculture, and help encourage the demand for fresh and often less expensive produce. It helps keep consumers closer to a producer. It helps farmers, most importantly, increase their income. Commodity agriculture and value-added products are very different markets and I realize that farmers in our state are proceeding very cautiously about whether or not they want to get into this, but it really is looking like it’s going to be part of our future in Maryland.

We are also trying to look at the ways that public policy could be working to help preserve farmland in our state and around the country. In some ways, I think you could say that our public policy improves support of the global food market at the expense of the local food market. In some ways, we’re really interested in trying to make this a local issue. Implications are enormous for agriculture, for rural economies and for the health of our cities. Our state is actively involved in the Farm Bill debates, looking for opportunities to better support local agriculture. We want to financially support small farm opportunities and not just be paying for a commodity price support. We want to look at more money in the Farm Bill for conservation, for land preservation, and really try to look at it as opportunity to further some of the goals of smart growth in our state.

I’d like to close with an observation. The Montgomery County farmland preservation program is one of the most successful in the nation. There are more than 50,000 acres in that single county permanently preserved. At the same time, Montgomery County has a large number of very vibrant, very dense communities and has really excellent transit. Let’s contrast that with my story of Baltimore City where we lost 400,000 people and some of the most aggressive farmland losses to development have been around Baltimore city. I’ll take Baltimore County out of this because they actually really have a really wonderful farmland preservation program but in a lot of the other adjacent counties we’re seeing tremendous development pressure on farmland. This isn’t an accident, but the result of a very progressive approach on the part of Montgomery County, for one, in planning that addresses the quality of existing
communities and the need to provide landowners with a feasible alternative to development. We really see these two things working hand in glove in the State of Maryland and protecting farmland and revitalizing our cities are on two sides of the same coin.

Thank you very much for inviting me to share with you some of Maryland’s experiences.
If you travel one hour northwest from Philadelphia, you will find a historical designated Oley Valley which was the birthplace of Daniel Boone. You will also find Berks County with a rich past, present, and hopefully a future in agriculture production. The fertile soil, ideal climate, abundant water supply, hard working dedicated farm families, and ideal geographic location provides a perfect home for the food and fiber system. The past and present agriculture will be part of its history, but will there be a future? It looks positive but much work remains. Only by using the available tools in the toolbox will the agriculture industry have as bright a future as its past. A land use regulation known as Effective Agriculture Preservation Zoning is a major activity in the toolbox.

History

Berks County is a diamond shaped area of 864 sq. miles (549,901 acres) framed by the Blue Mountain (Appalachian Trail) in the north and the South Mountain Ridge to the south. Between these mountain ridges, whose elevations rise to 1,500 feet above sea level, lies a section of the great valley. Rich limestone soil is located in the southwest, south and east and a shale soil area lies to the north, northwest and northeast. Major watersheds include the Tulpehocken, Maiden Creek and Manatawny that flow into the Schuylkill. The annual rainfall is 45 inches and the mean temperature is 52 degrees. The frost free season occurs between May 15 to October 15 for a growing season of 154 days.

At the start of the 18th century the mild climate, fertile soil and the Schuylkill River combined to attract Swedes followed by Quakers, German Amish, French Huguenots, Mennonites, and English to Berks County.

Berks County’s early growth was largely influenced by this river and its canal, which were navigable for flat-bottomed boats to carry products, mainly agricultural, to the markets of Philadelphia. Known as the bread basket for Philadelphia and Southeast Pennsylvania, wheat grown in the area and processed in the county’s grist mills was the source of Philadelphia’s flour till the mid 19th century.

Currently about 40% of the county’s land is devoted to agriculture. The 1997 Census of Agriculture provides these statistics:

• 221,511 acres in farmland
• 187,645 acres in crop production
• 1,586 farms
• Farm product sales of $247.8 million
• Ranks 90th in the USA in market value of agricultural products sold
• Produces 6.2% of state’s market value of agricultural products sold, 4.8% of Pennsylvania’s livestock and poultry production, and 9.2% of Pennsylvania’s nursery and greenhouse products which includes mushroom production.
• Berks County ranks third in Pennsylvania in number of farms, cash receipts from agriculture products, layers, swine, corn grain, soybeans, and apples. It ranks fourth in dairy, broilers, cattle and calves, peaches, nursery and greenhouse crops (includes mushrooms), and barley.
• Within the county, 52% of the market value of agricultural products sold is livestock including dairy and poultry, 35% is nursery and greenhouse which includes mushrooms. Mushrooms are the largest market value crop grown.
• Almost 30% of the farms are in the category of more than $100,000 value of products sold and on the opposite end almost 23% have sales valued less than $5,000.

Parallel to the development of agriculture production was population growth. The same Schuylkill River and canal which sent agriculture products southeast helped with migration northwestward. Reading’s industrial growth attracted a considerable amount of immigrant labor during the late 19th and early 20th centuries. The 1900’s found the county’s population doubling with concentration of development in Reading, its urban area and some larger county towns. Recently the growth
pattern reflects suburban sprawl outward from Reading as well as development in rural land beyond suburban areas. This sprawl comes from Philadelphia, Allentown and Lancaster.

**200,000 Acres for Agriculture**

When including all businesses and jobs from farm to consumer this food and fiber industry, known as the agribusiness system, is the largest industry in Berks County. In addition, 60% of the agriculture production in Pennsylvania occurs south and east of the Blue Mountain. Lancaster, Chester and Berks Counties rank in the top 100 agriculture producing counties in the United States. This area also includes most of Pennsylvania’s population. Urban sprawl is responsible for taking large areas of the most productive farmland in the world.

How Berks County, Pennsylvania and each municipality in this region deals with sprawl will determine the fate of the agriculture industry as well as the landscape in each community.

Pennsylvania and Berks County have encouraged landowners and municipalities to use the many laws available for protection of the agriculture industry. These include:

1. The Right to Farm which offers protection from nuisance action;
2. Clean and Green which assesses land according to its use—not according to developmental value. The county has 244,727 acres in this program.
3. Agriculture Security Area Program—a local municipality established area providing benefits of protection from ordinances restricting normal farm structures and practices; land condemnations; and the requirement of being located in Ag Security Areas to be considered for the purchase of conservation easements (development rights). Thirty-four townships with 139,254 acres are enrolled in this program.
4. Purchase of Agriculture Conservation Easements (development rights) Landowners are paid for their land’s development rights permanently preserving it for agriculture production.
5. Agriculture Zoning – A local land use planning tool that is authorized for municipalities by state law. Local governments can provide for or allow land uses including agriculture.

Though all of these acts play an important role for the preservation of farms and/or farmers and the agriculture industry, only the “Purchase of Agriculture Conservation Easements” (on a permanent basis) and development of “Effective Agriculture Preservation Zoning” (on a permanent/temporary basis) offer solutions to providing for the land base needed for the agriculture industry.

The preservation of agriculture land did not occur overnight. In the mid-1980’s a Farm-City Council and the Chamber of Commerce Agribusiness Committee were formed. These groups helped in the recognition of agriculture as a vital county industry that is a key player in business, employment, tourism, scenic vistas, groundwater recharge areas, and much more. All of the following activities have helped Berks County residents understand that a critical number of farm supply businesses, farmers, and processing and marketing firms are needed to save the entire industry. In addition, the need for a critical element for the industry—land—was promoted.

The following were some of the activities that promoted an understanding and importance of the food and fiber industry:

- Farm-City Banquet with Public Relations in Agriculture and Woman in Agriculture Awards
- Agriculturist-business person exchanges
- Berks County’s #1 Industry—The Agribusiness System flyer
- Farm-City Day on Penn Square
- Teacher seminars and courses
- Ag in the Classroom newsletter

In the middle 1980’s a farmland preservation committee was formed to develop a more formal plan of action. Over the next eight years, this group visited other counties including Lancaster County and centered on these areas:

- The need for Effective Agricultural Preservation Zoning.
- Developing township based agricultural security areas.
- To prepare for the state/county purchase of conservation easements program.
- Have the County Planning Commission develop and recognize agriculture as a vital land use. The 1974 County Comprehensive Plan addressed agricultural preservation but did not make it a major
goal. Only 65,000 acres was designated for Agricultural Preservation on the Future Land Use Plan. Remaining farmland was designated as a Holding Area. This 1974 Plan was criticized by the agricultural community.

• The County Planning Commission worked with the agricultural community in developing the 1991 County Comprehensive Plan. Expanded criteria to qualify for agricultural preservation.

In the early 1990’s, county government and the agriculture community made these major strides:

• County adopted 1991 Comprehensive Plan with a major agricultural preservation component. The goal was to protect agricultural lands and promote agriculture as a viable component of the region’s economy. The 1991 plan designated 200,000 acres for agricultural preservation which consists of large contiguous areas (minimum of 500 acres) with existing agricultural productivity. Factors for inclusion in this area were prime/unique soils, existing farms, land in programs administered by the Farm Service Agency, agricultural security areas, agricultural eased parcels, effective agricultural zoning (40,765 acres – 7 municipalities).
• The county developed a farmland preservation program for the purchase of conservation easements.
• The county developed educational programs on the Clean and Green preferential land assessment program as a county-wide assessment was taking place.
• The county developed a goal of 200,000 acres of farmland to be preserved through either the purchase of conservation easements program and/or Effective Agriculture Preservation Zoning.

Today’s Effective Agriculture Preservation Zoning

It was clear that in Berks County the purchase of conservation easements was a program highly accepted by landowners and the farming community. In 11 years from its beginning, development rights on 180 farms had been purchased. Interest was so strong that each year over 200 farms are being considered for easement purchases. Each year, about 1,900 acres are being permanently secured for agriculture production. To decrease the backlog of farms to be protected, in 1999 the County Commissioners floated a 33 million dollar bond for five years. Along with state monies, the additional county monies would be able to preserve about 5,000 acres each year. To date, the program has saved 21,766 acres and 180 farms in Berks County. By the end of 2004 when the bond is completed, approximately 43,000 acres will have been purchased.

Though very successful, the 21,766 acres will not be near our goal of 200,000 acres. In addition, urban sprawl was severely encroaching into our agriculture areas. Conflicts between rural residents and agriculture production were increasing. Odor, flies, chemical use, farm traffic were a few of the complaints. At crossroads, Berks County had to do something or it would continue to lose its agriculture industry!

Agricultural zoning was another activity which needed to be rekindled in Berks. Unfortunately, most townships allow agriculture, residential, and other land uses in the same zoning district. This general zoning allows development and other activities to enter agriculture areas. Conflicts between farmers and neighbors over smells, traffic, and other farm activities then follows. Today’s effective agriculture preservation zoning limits the amount of non-agricultural activities (houses via sliding scale or large lots). It also allows by right today’s agriculture but manages large scale agriculture operations through additional standards and special exceptions. From 1973 to 1997, 12 townships enacted agriculture zoning placing 60,000 acres in agriculture production. These ag zoning ordinances limited non-agriculture activities but did not address large scale agriculture. In 1997, in order to generate interest in agriculture zoning, the Berks County Planning Commission developed AZIP (Agricultural Zoning Incentive Program), using Community Development Block Grant Funds. In return for the successful adoption of effective agricultural zoning by any municipality in Berks County, the county will pay the costs associated with amending or revising the municipalities zoning ordinance. The zoning amendment must be consistent with the County Comprehensive Plan and program standards.

Agriculture Zoning Incentive Program Standards

The primary purpose of this program is to implement the agricultural element of the County Comprehensive Plan which contains the goal of protecting and stabilizing agriculture in areas of productive soils and promoting agriculture as an ongoing viable component of the county’s economy. It is also designed to further the agricultural zoning objectives of the Pennsylvania
Municipalities Planning Code and other Commonwealth policies.

Specific Objectives Include:

- Protect the land resource base on which farming depends. Protect productive soils from non-farm development. Maintain agricultural parcels in sizes which will permit efficient agricultural operations.

- Maintain and strengthen the agricultural industry. Permit those land uses and activities that are either agricultural in nature or act in direct support thereof. Protect enough farmland so that a sufficient market remains for agriculture support services and agribusiness.

- Minimize conflicting land uses detrimental to agricultural enterprises. Limit development which requires additional public facilities and services in excess of those required by agricultural uses.

- Guide development that is incompatible with agriculture into more appropriate zoning districts.

Municipal Requirements

1. The Municipal Comprehensive Plan must clearly support effective agriculture preservation.

   a) Demonstrate that agricultural land is a valuable natural resource.
   b) Demonstrate that agriculture is an important aspect of the municipality’s economy.
   c) Demonstrate that the purpose of agriculture preservation zoning is to sustain the agricultural industry.

2. Select the appropriate zoning method to limit residential development. The particular zoning technique that a municipality selects for protecting farmland should be based on a variety of factors, including sizes of existing farms and local concerns. The zoning ordinance must meet preservation requirements by using one of the following effective agricultural preservation techniques, or variations thereof (Transfer of development rights may be included in combination with the following):

   a) Area-based allowances are the most widely used methods in Pennsylvania. Provides flexibility in site planning so that a large portion of the property can be kept open for farming. The number of dwelling units a landowner is allowed to build is determined by the total acreage of the property. Dwellings must be built on small lots, typically one to two acres.

   - **Fixed area-based allowance**

     - One dwelling for a specified number of acres owned (1 unit/“x” acres). Size of “x” acres can range from 20 to 50 acres. Formula determines the number of lots allowed; not lot size. Example: tract size is 105 acres. Total permitted units determined by 1 unit per 30 acres; 105 acres _ 30 acres = 3 units. Minimum lot size: 1 acre; Maximum lot size: 2 acres. Using the maximum lot size: 3 homes can be built on 6 acres with 99 acres remaining as farmland. This method works well when your zoning district consists of large farm tracts.

   - **Sliding scale area-base allowance**

     - The number of dwellings allocated per unit area decreases as the size of the tract increases. Small tracts are allowed to be developed at a somewhat higher density than larger tracts. The scale just determines the number of units allowed. Again, lot sizes range between one and two acres, so the bulk of the tract remains open.

       - The following scale is used in our program as the minimum requirement. Municipalities are allowed to change the scale to best fit their existing conditions. Most have adopted a more restrictive scale. A majority of our municipalities use this method.

       | Size of Parcel | No. of Dwellings Permitted |
       |---------------|---------------------------|
       | 0-5 acres     | 1                         |
       | 5-15 acres    | 2                         |
       | 15-30 acres   | 3                         |
       | 0-60 acres    | 4                         |
       | 60-90 acres   | 5                         |
       | 90-120 acres  | 6                         |
       | 120-150 acres | 7                         |
       | over 150 acres| 8 plus 1 dwelling for each 30 acres over 150 acres |

Example: Tract size is 105 acres. Total permitted units determined by scale = 6 units. Minimum lot size – 1 acre; Maximum lot size – 2 acres. Using maximum lot size, 6 homes can be built on 12 acres with 93 acres...
remaining as farmland. The method works well when you have a variety of tract sizes located in your zoning district.

b) Large minimum lot size ("x" acres/1 unit) - The division of the property into lots deemed to be the minimum acreage needed to mount an efficient, productive farming operation that is typical within that municipality. Regulations are to be designed to prevent the division of land into parcels smaller than a typical farm core. Therefore, the Township must identify a representative size of a farm core (Fields contiguous to the tract that includes the farmstead and barns. Outlying tracts, separated from the “core” are not included.) Several Berks County municipalities use a variation of this method. Unlike the area-based allowance methods, this method divides the tract into large lots. Example: tract size is 105 acres. “x” (minimum lot size) = 50 acres. Tract could be divided into 2 lots – each lot would have to be a minimum of 50 acres.

The Berks County Planning Commission will consider other methods/techniques as long as the overall goal of effective agricultural preservation is met.

3. Provisions that should be included in conjunction with the above zoning methods (not to be used alone).

a) Permitted dwelling unit allowances should be concentrated where possible—not fragmented throughout the farm.

b) Non-farm development should only occur on the least productive soils or where there is the least interference with the agricultural activities.

c) Establish maximum/minimum lot sizes for permitted dwelling units, typically 1 to 2 acres. Minimum lot sizes should be no larger than the least amount of land required for on-lot septic systems for percolation. Maximum lot size requirements limit the amount of farmland consumed for non-farm uses.

d) Establish minimum lot sizes for agricultural use. This helps to discourage the division of the farm into “farmettes” (typically 10-20 acres) which are more likely to be converted into non-farm use. Exceptions are permitted to allow for annexation of land for agricultural purposes.

e) Subdivision plans and zoning permits for non-farm development shall include agricultural nuisance disclaimers to notify residents that normal agricultural practices are not subject to nuisance claims.

4. Permit a variety of agricultural activities and farm-related business, as well as activities that are compatible with agriculture. Place few restrictions on normal agriculture activities. Avoid incompatible uses that tend to induce non-farm development, that generate large amounts of traffic, require substantial parking, and result in substantial amount of imperious surface. Any non-farm development that is allowed should be regulated through the special exception or conditional use procedures that allows additional standards and conditions to be applied to the use to ensure placement protects the integrity of the farm. The provisions should also address intensive animal operations. Animal units should be used to address different scales of animal agriculture. As animal units increase, the operation should be required to meet additional standards such as greater setbacks, nutrient management plans, fly and odor abatement plans, etc.

5. The majority of the land placed in the agricultural zoning district should be actively used for agriculture. Agricultural districts should encompass a substantial amount of land and not be fragmented into small islands of farmland. Areas that should not be included within an agricultural preservation area include:

a) Areas that already have public sewer and water.

b) Areas that the municipality identifies for future sewer service in their Act 537 plan.

c) Farms that are in the process of being subdivided.

d) Areas with a significant amount of non-farm development

If the proposed agricultural preservation area is close to municipal borders, the land uses in an adjoining
municipality shall be identified and considered for possible conflicts.

6. The municipality must include public input in this zoning process. All meetings must be advertised and open to the public. Agricultural zoning is an emotional and controversial issue. In the long run, the process will be more successful if it is open and educational. Do not try to “sneak” the regulations through. Do not rush the process and involve the farm community. Our process has been very successful by inviting farmers to help develop the regulations. If they are part of the process, they have a better understanding of the intent and the regulations themselves.

7. The zoning amendment must be consistent with the County Comprehensive Plan.

8. The municipality’s zoning ordinance must allow for sufficient varied development (especially residential) in other parts of the municipality, to meet “fair share” responsibilities.

Experiences

Since its inception, eight townships have developed this new type of agriculture zoning with three more in the process. Referred to as Effective Agriculture Preservation Zoning, it allows by right today’s agriculture. Based on the concept of allowing the size of operation needed to raise a family and allowing agribusiness but setting standards for large scale agriculture and agribusiness operations. Of course, it still limits the number of non-agriculture activities to limit the conflicts.

Some important parts of the Model Ag Zoning Ordinance include:

• Use animal units per acre to address different scales of animal agriculture. For example, two animal units per acre under 25 acres and up to five animal units per acre on 26 acres or more. A public hearing and more standards (including a minimum of 100 acres and additional setbacks) for larger animal units.
• Standards for greater than two animal units per acre including: conservation, nutrient management, fly and odor abatement plans.
• Allowing farm related businesses but limiting size through number of employees and space limits.
• Requirement of using Best Management Practices for mushroom operations and meet “The Environmental Standards for Production for Large Pork Producers.”
• Specific intent that refers to state enabling legislation/policy, regional and local objectives.
• Place strict limitations on number, lot size, and location of residential development.
• Minimum lot size for farm to prevent farm from being broken up into “farmettes.”
• Provide setbacks from residential zoning districts for intensive animal operations.

The townships have proceeded in the following way:

• Completed an agreement with the county which included a discussion on requirements.
• Hired a planning consultant.
• Formed a committee of farmers, landowners, residents, and representatives from the local planning commission and board of supervisors to work with the consultant.
• Using a model agriculture zoning ordinance for discussion, met up to 40 hours to develop an Effective Agricultural Preservation Ordinance which fits their local township.
• Develop the boundaries for the agricultural zoning district.
• Submitted recommended map and ordinance to supervisors who proceeded with steps of enactment.
• A member of the Berks County Planning Commission, normally Cheryl Auchenbach, and Clyde Myers, Penn State Extension Agent in Berks County, attended meetings to offer advice and suggestions.
• All meetings were advertised and open to the public for discussion and input.
• After adoption, the Berks County Planning Commission confirms consistency of the amendment with the County Plan, and municipality submits itemized bill for reimbursement.

Using the concepts of Today’s Effective Agriculture Preservation Zoning, over 48,000 acres have been designated for agriculture production and other farm-related businesses in the last four years.

In total, the county has 108,684 acres in 19 townships providing for agriculture through effective agricultural zoning. Three additional townships are in different stages of developing similar “Effective Agriculture Preservation Zones.”
Footnote

The county is working with one township in a municipal land protection program. This is a joint municipal and Berks County conservation easement pilot program to protect agricultural lands and natural resource areas. The basic concept is that if a municipality enacts Effective Agricultural Preservation Zoning or Effective Conservation Preservation Zoning, the county will provide up to $500 per acre for ag land and $300 per acre for conservation land to be matched by local municipality. The land must be in the above-mentioned zoned areas and comply with the county comprehensive plan land use map.
Strengthening the Research Agenda – Future Priorities

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A major goal of the conference was to stimulate research on the performance of rural land use policies, with particular attention to regulatory approaches to land use management. To this end, a focused discussion among workshop organizers and participants was held at the close of the conference to identify important gaps in our knowledge of the workings and impact of these policies. This input was used to develop a set of recommendations for strengthening the research agenda on farmland and open space protection issues.

The recommendations fell into six broad categories:

- Better Problem Definition
- Meeting Public Preferences and Values for Farmland and Open Space Protection
- Integration of Public Policy Tools and Across Jurisdictions
- Measuring Impacts of Farmland Protection Policies
- Creativity in Developing New Policy Tools
- Recommendations for Extension and Outreach

I. Better Problem Definition

A number of conference participants argued that there are many aspects of the land use that we don’t understand very well. Until the problem is better identified or issue more clearly understood, it will be difficult to make progress in improving public policies for farmland protection. Specific research topics included:

A. The need for better data collection systems to document the nature and amount of farm and forest land converted to other uses.

B. Learning what farmers do to adapt to the challenges and opportunities brought by changes at the rural-suburban fringe and the outcomes of such strategies.

C. Ascertaining the nature of demographic change in rural areas where farmland and open space is threatened.

D. Understanding personal and family considerations and stresses and the factors influencing farmers’ decision making to stay in farming, pass the farm down to children, or to sell to developers.

E. Determining the effect of industrializing the food system (e.g., changes in farm size, ownership, contracting) on farm decision making about conversion to other uses.

F. Determining the role played by agriculture in local, regional, and state economies. What is the economic impact of farmland loss on economies and communities? Is the amount of loss affected by scale?

G. Answering this question: Is there such a thing as critical mass of farms and supporting businesses needed for the long-run viability of farms in a particular region? If so, what are the methods by which critical mass can be defined for any particular economic setting?

H. Better defining the term “sprawl.” From previous experience and past research, we should be better able to define what sprawl is, understand the underlying causes of this phenomenon, and predict its impacts.

I. Understanding residents’ location choices, including preferences, travel costs and congestion issues, and budget constraints, as well as the role of developers, banks, and other organizations that affect these choices. What do people really want in housing? Why do they end up in rural areas?

J. Defining the factors that influence the “premature development” of farmland and open space. How can policies be devised to alter these forces?

II. Meeting Public Preferences and Values for Farmland and Open Space Protection

Improved understanding of the public’s perceptions of farmland and their preferences and values toward farmland was identified as an important gap. Much dis-
discussion centered on the issue of whether people really want farms or the amenities associated with living in proximity to farms. As farms change to be economically viable, how well will farms provide the characteristics desired by the public?

A. There is a need to gain a better understanding of the public’s perceptions of farming and its benefits or burdens to them. How do these perceptions relate to farm characteristics (scale, type, and ownership)?

B. There is a need to document the public values for farmland and to more precisely measure the citizens’ willingness to pay for the outcomes (i.e., services) that result from farmland and open space protection policies.

C. There is a need to develop an exhaustive list of rural and urban stakeholders to farmland policy issues and better document the goals of these individuals and groups. Further, there is a need to identify convergent and conflicting goal sets and policies that have the potential to achieve multiple goals.

III. Integration of Public Policy Tools and Across Jurisdictions

Perhaps the most common thread in speakers’ presentations and in participants’ discussion comments was the need for greater integration along a number of dimensions. Conference participants suggested greater integration of policy goals, modes of analyses, policy tools, and governmental boundaries.

A. There was widespread recognition that farmland and open space protection is undertaken with a variety of goals and intentions. These goals are often not stated or adequately acknowledged. Some farmland protection options may achieve some goals at the expense of other conservation or environmental goals. Other policies may have unintended consequences, such as increasing the cost of housing or environmental costs if suburban growth occurs further into rural areas. Greater understanding of farmland protection goals is needed to design policies that attain goals congruent with stakeholder preferences regarding these issues.

B. Multi-disciplinary studies are needed to understand the complex and dynamic nature of land conversion decisions and formulate effective public and private responses to issues of farmland and open space loss. Farms are converted to other uses when external stresses are placed on them. Decisions within the family as well as within business structures affect farmers’ responses to these stresses. Family sociology, conflict resolution, legal, and other perspectives may be needed in addition to financial assistance to effectively understand and help resolve these complex issues.

C. In the real world, different policy approaches are often utilized together. We need to know more about the potential complementarity of different policy tools and ways that they may conflict with one another. In addition, policy evaluation must be more sophisticated to effectively measure the impacts of hybrid or “blended” policies.

D. More information is needed on regional approaches that cross political boundaries, how different programs work, and outcomes for different stakeholders and jurisdictions. Several states have programs on regional growth management that present excellent opportunities for evaluation.

IV. Measuring Impacts of Farmland Protection Policies

Speakers and conference participants pointed out the dearth of empirical evidence on the performance of policy options. More research, particularly of the type that identifies and measures policy impacts in local situations, is needed to fill this void and inform policy decision making.

A. When evidence of policy performance is lacking, decisions may rely on theory and use untested assumptions or anecdotal evidence about an impact in decision making. For example, agricultural zoning is often thought to reduce agriculture-zoned property values. Yet several applied studies of land values have found the opposite: that values of down-zoned farms have shown values to increase. More work is needed to test our assumptions and determine the real effects of policies on land values and other impacts of concern. Sharing and comparing the results is
needed to understand the full range of factors affecting the results.

B. Policy impacts depend on follow-through in addition to initial legislation and policy making. Several speakers noted that variances are often granted to agricultural zoning programs. What is the actual impact of this regulatory option when variances are granted? More study of the details of policy implementation is needed.

C. Speakers and conference participants identified the unintended consequences of farmland and open space policy as an area ripe for inquiry. A prime example was the potential effects of farmland preservation on residential land availability and housing affordability. While some of the impacts have been identified, a more thorough inventory of these consequences and an investigation of their magnitude of their impacts are needed.

D. Related to unintended impacts are second- or third-round impacts of policies. One participant suggested that decision makers should know more about the impacts of the significant amounts of money flowing from public to private hands through PDR programs. How is this money being used and what are the impacts on local, regional, or state economies?

E. Several successful programs appeared to work well because of the institutional designs that led individual farmer behavior toward common group goals in his or her decision to stay in farming. Thus, individual goals may be suppressed to achieve the collective interest of farmers within an area. Greater understanding of these programs and how they influence participants’ expectations and behavior is needed.

F. Many different criteria were used to evaluate performance. Some of these related to the different goals of stakeholders, such as amenities or land preserved. Others related to efficiency, equity, and practical issues of legal and political feasibility. More work is needed to advance the conceptual framework offered by Heimlich and to incorporate suggestions by others.

G. Application of the policy evaluation framework in a systematic way was seen as a logical next step in applied research in this area. The suggestion was made to focus on a specific category of regulatory policies (e.g., agricultural zoning) and begin cross-state comparative studies. After completing such research, a follow-up conference could be organized that provided researchers with a forum to compare results and work toward practical recommendations to decision makers about what works in farmland preservation policies.

V. Creativity in Developing New Policy Tools

Several conference participants felt that research on farmland and open space protection needs to be much more creative and experimental. The suggestions ranged from new areas to invention of hybrid or new policy alternatives.

A. Devise new ways to raise funds for the Purchase of Development Rights.

B. Need multi-disciplinary teams to understand why farmers leave farming and why farms are not passed on to the next generation. Such information can then be used to assist public and private interventions when and where they are needed. Specific topics that could be investigated include the following:

1. What are the stress points?
2. What do farmers need to stay in business? (e.g., pensions and life insurance)
3. What are the family dynamics in staying in business; how do farm families deal with conflict among siblings?

C. Need multi-disciplinary research to broadly examine the patterns of development at the farm-rural interface in a broader context. Such work should include an analysis of the role of banks, developers, and real estate businesses, and examine urban migrants’ reasons for locating in rural areas (land costs and housing affordability).

D. Build on the work in New Jersey to better understand the complex interactions on the farm-urban fringe, to include an inventory and analysis of successful farmer adaptation strategies.
E. Analyze the distributional consequences of different farmland protection policies that would examine the main beneficiaries of such programs and those who directly or indirectly pay for them.

F. Analyze the relationship between farmland protection issues and other issues (e.g., housing affordability) and identify stakeholders to these issues.

G. Analyze political and institutional relationships between state and local government as they affect farmland protection policy development and its implementation.

VI. Recommendations for Extension and Outreach

A. There is a need for thoughtful reflection and reexamination of the messages we send when we use particular terms in farmland policy (agricultural protection zoning, premature development) and frame farmland protection issues in narrow or selective ways. Learning from such a reexamination may allow programs to be developed that are balanced and more inclusive of all stakeholders to farmland protection issues. Words may need to be honed and some abandoned to improve participation and dialogue among the many audiences for these issues.

B. Education is needed regarding how and how much agriculture contributes to the economy. This education and supporting research would assess the issues of level of “critical mass” of farming and supporting infrastructure needed to sustain these economic benefits over time.

C. Successful strategies by farmers to survive and even thrive through adaptation at the rural-urban fringe need to be shared, as well as available information about factors likely to be associated with the success of these strategies.

More effort needs to be undertaken to understand the process by which effective farmland and open space policies become enacted and implemented. Extension and others organizations have played a catalytic role in many states and local areas. What do we know about how they identified and involved stakeholders? A future conference could identify the process element as well as what is known about the success of these education and involvement strategies. Perhaps steps are needed to change our approaches to do this better over time. One outcome of such a conference could be a detailed manual or guidebook with supporting case studies on to mobilize support through education and community participation for farmland protection programs.
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