

## Farmland Protection Policy: The Effects of Growth Management Policies on Agricultural Land Values

by  
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January 1997

According to an AFT report in 1993, more than 85 percent of the nation's fruit and vegetables and nearly 80 percent of its dairy products are produced in counties subject to urban growth pressure.

It is well established that, other things held constant, the greater the value of agricultural land in an alternative <sup>1</sup>, non-agricultural use, the more likely the land is to be converted to non-agricultural use (e.g., see Shoup [1970]). In addition, it is well-established that the development value of land can be affected by constraints imposed through growth management policies of a community. <sup>2</sup> Thus, logically one can expect that a local community can affect the rate of agricultural conversion and the relative price of agricultural land through its growth management policies. This essay seeks to systematically investigate the relationship between agricultural land value, agricultural land conversion and the choice of growth management tools on the part of local communities. The information is intended to help educate local citizens and local public policymakers toward better public policymaking in the area of growth management.

The first section of the paper focuses on a discussion of land as an economic resource, with special attention given to defining land ownership as ownership of a bundle of economic rights that in combination give land its market value. This section is particularly important in providing a foundation within which growth management tools can be viewed as rules or regulations regarding the exercise of land ownership rights. Such rules or regulations may include fees for exercising particular rights (e.g., paying an impact fee if one develops the property for residential use). The second section of the paper provides a generic explanation of the economic, social and legal basis upon which growth management policies are justified and implemented. Along with this discussion, a menu of growth management options is outlined. The third section of the paper analyzes the set of growth management options in terms of their characteristics with respect to classification in terms of restrictions on exercise of ownership rights and their expected effect on land values and agricultural land conversion. <sup>3</sup> The final section of the paper then analyzes the menu of growth management options and places them on a continuum with respect to their likely effect on agricultural land values and conversion rates. From this information, a policy framework for choosing an appropriate growth management tool or system is developed.

### ***What is land?***

*Land* is referred to by economists as one of the primary factors of production or economic resources. Productive resources are valuable because they can be combined with other resources to produce goods and services desired by a society.

Land includes all natural resources that are useful in producing goods. Arable land, forests, mineral resources, oil deposits and water resources are all useful in the production process and are included in the economist's definition of "land." While such a definition of land may seem broad or even idiosyncratic at first glance, after even a slight bit of consideration one realizes that the economist's definition of land is consistent with common usage of the term. For example, when one buys land he or she would expect that they are purchasing the mineral resources, oil deposits and water resources associated with that property unless otherwise agreed upon as part of the sales contract.

Thus, land is valuable because its various attributes can be used to produce goods and services desired by a society or individuals within a society. Furthermore, "the allocation of land may be considered optimal when the aggregate social returns from its various uses are maximized" (Lopez, Shah and Altobello, 1994).

From the perspective of real property law, land ownership is viewed as a bundle of rights or entitlements that are often compared to a bundle of sticks, each of which represents a particular set of rights or entitlements. Epstein (1985) argues that these rights or entitlements center around "three separate incidents: possession, use and disposition."

### ***How is the market value of land determined?***

The market value of land (i.e., the sales price in an arms length transaction) is the capitalized value of the net rents or returns the land is expected to earn over its life. In general, there are three components that combine to produce the capitalized value of the net rents to a piece of land: (1) the net rents from the "highest" use of a given attribute (or right/entitlement in the alternative legal nomenclature) of the land; (2) the number of different attributes of the land that can contribute to the long term stream of rents<sup>4</sup> and (3) the interest or discount rate.

The highest or best use of an economic resource, like a land attribute, is that use for which the highest price will be paid to the resource owner. The notion of value in best use presumes that the market price paid to the resource owner is an accurate reflection of the marginal social benefit of the goods or services to be produced by the economic resource.<sup>5</sup>

The number of different attributes of land that can contribute to the long term stream of rents also has an effect on the price or market value of the land. All attributes (or sticks in the ownership bundle) of a given piece of land need not be owned by the same person and attributes may be sold individually or collectively. For example, water resource or mineral rights for a given piece of property may not be owned by the same person that has development rights to the piece of property. Alternatively, a farmer who owns the farming and crop rights to a piece of land may not own the development rights to the piece of property. Indeed, increasingly the land ownership rights are being unbundled and sold separately, resulting in multiple ownership interests in the various attributes of a given physical location we refer to as a single plot of land. Much of this unbundling has been the result of intentional growth management efforts on the part of government, private industry and interest groups.

The final factor influencing the capitalized value of the stream of expected rent payments is the interest rate. In simple terms, the interest rate is used to adjust future costs and benefits to present value terms in an effort to create a common denominator against which projects with different patterns of benefit and cost flows, as well as different time horizons, can be compared. While this factor is immensely important in determining the actual market land price, the interest rate will generally be determined by factors outside the control of local governments and interest groups. More precisely, the growth management policy of a community is unlikely to significantly affect the market interest rate or the discount rate, especially given the nonlocal, or in many cases global, funds market. Thus, for tractability we will concentrate on the first two factors affecting the market price of land.

### ***Land Ownership: Rights, Responsibilities, Attributes and Value***

As pointed out above, "land" is comprised of a number of attributes that have economic value and can be used to produce valuable goods and services. The ownership of land involves ownership of a set of these attributes within a system of property rights that set up conditions allowing the owner to use the land for his or her own gain. But property rights are a concept whose foundation and meaning is derived through a concept of community living and responsibility. That is, property rights have no meaning in the absence of conflict over property and resource ownership<sup>6</sup> or in the absence of some external enforcement mechanism (generally government).<sup>7</sup> Therefore, in general the definition of property rights and their enforcement takes place in a social realm that offers definition and protection of property rights in exchange for conformance with societal norms of ownership conduct and behavior. The right to use one's property is rarely absolute, just as freedom of speech does not protect slander and freedom of the press does not protect libel. Nevertheless, in an economic system that is fundamentally grounded in individual freedom to engage in free enterprise and voluntary economic transactions, significant economic power and freedom is vested in a resource owner and is vigorously defended by such owners. Perhaps nowhere are property rights and economic freedom more stridently defended than by land and real property owners. Understanding the precise nature of land ownership in the United States may help us better understand the role that growth management tools can play in affecting land values and agricultural land conversion.

For simplicity sake, our discussion will focus on three general areas of the land market: attributes that give land value, basic ownership rights that allow the owner to reap the benefits from his or her land and its attributes and basic ownership responsibilities and behavioral limits that affect the owner's use of the land. Each of these will be discussed in turn.

There is an old saying that in real estate only three things matter: location, location, location! Indeed, the location of a piece of land goes a long way in contributing to the value of the land. But location is a much richer concept than one might recognize on first glance. Location value (and land value) depends upon: climate, accessibility (including proximity to roads, highways and airports)<sup>8</sup>; availability of nearby amenities including entertainment, shopping, restaurants and cultural resources and proximity to resource and product markets, among other things. Land value also is a function of the availability of basic services like water, solid and sanitary waste systems, electricity, natural gas and telecommunications. But fundamentally, the most important determinant of land value, all else held constant, is the suitability of the land for use in productive economic activity. Land differs greatly in its ability to be used or converted to use for differing productive purposes. For example, wetlands or lakes may be inappropriate as sites for heavy manufacturing facilities (but very appropriate for the location of recreational facilities). Not all land is arable, and arable land differs in its productivity and ability to grow different crops. Terrain may make land very difficult to build homes on, while climate considerations may make it unattractive (or very attractive) to do so. Different amounts of land are required for different types of economic activity or to make the unit costs of the land—use affordable or competitive.

Fortunately, or unfortunately, most land is suitable for use in more than one type of productive enterprise.<sup>9</sup> While it would be somewhat easy to argue that the market will assure that the land gets put to its best use through the operation of the price system, economists are well aware of the often specious nature of this reliance. Without drawing this argument out in agonizing detail, suffice to say that the highest and best use argument requires competitive markets and levels of information flow that are not sustained in most markets. Thus, the highest market price offered for land may not be an accurate reflection of the social value of the land in its best use. Furthermore, the suitability of land for particular economic uses changes over time and can be directly or indirectly affected by the policy choices of local communities and their governing bodies. A very simple example should make this very clear. Extending water lines to an area without potable water would make that area significantly more attractive for residential development. Similarly, changes in the quality of local public schools can affect the attractiveness of land for commercial, industrial or residential use.

Thus, a dynamic and endogenous element is introduced into the land value equation. This element becomes even richer and more complex when the issue of property rights and their exercise are considered as components of the value of land. Cordes (1996) provides an interesting and thought provoking extension of this point in the context of evaluating new state-level takings legislation and the present state of the United States Supreme Court's takings decisions. "Givings"<sup>10</sup> are rarely given equal attention to "takings," yet only by considering the overall nature and effects of government action (e.g., a system of land—use controls) can the net or total effect of government regulation on land value be discerned. This requires the analysis of the effects of growth management tools to be much more comprehensive and far ranging.

Recall Epstein's (1985) notion that property ownership centers around possession, use and disposition. This provides some guidance for understanding the constraints imposed by growth management tools.

In terms of disposition of property, even in today's more complex market for land, ownership of the complete set of land attributes is generally in the hands of a single individual, trust, business or organization. One of the basic property rights granted to landowners is the right to transfer their ownership interest in their land. This transfer of ownership may take place through a sale, gift, donation or exchange. Furthermore, landowners may only transfer their ownership of an incomplete subset of their ownership interest. That is, landowners can transfer ownership of attributes like development rights, mineral rights, air rights, oil and gas rights, hunting rights or other rights associated with land ownership without transferring the whole of their land ownership rights. Furthermore, each of these same land rights can be granted temporarily through lease agreements with no transfer of ownership interest. Finally, easements can be granted to allow passage upon the land for public or private purposes.

Beyond the transfer of ownership rights, the landowners' property rights allow exercise of their ownership rights to take economic advantage of the productive resources contained as part of their land. In Epstein's nomenclature, this would involve the use portion of the bundle of ownership sticks. The owner of the bundle of economic rights associated with a piece of land can take actions that are designed to exercise those rights through use of the land for productive purposes.<sup>11</sup> For example, the owner of mineral rights can take measures to extract minerals from the property. The owner of development rights can build homes on the property. However, the ability of a land attribute owner to exercise his or her ownership right is rarely if ever an unconstrained right.<sup>12</sup> At least four general constraints prevent unfettered exercise of land property rights and can be expected to affect the land value: (1) conflicts between the exercise of rights by owners of different attributes of the same piece of land; (2) constraints imposed by private land–use arrangements; (3) nationally–based land–use controls and (4) state and locally based land–use controls.

Conflicts between owners of different land attributes are easy to imagine. The exercise of mineral rights may conflict with the ability of the owner of development rights to build on the property. Building on the property may change the water resources and the ability of the owner of the water resources to exercise his or her ownership rights. This conflict becomes particularly relevant to our discussion when we consider the transfer of development rights as a growth management tool. For now, we only note the existence and general nature of the conflict. Furthermore, the exercise of police power by general purpose governments can also conflict with unfettered use of the land by a property owner.

Land–use controls derived from private arrangements include easements, equitable servitudes and restrictive covenants. While there are potentially advantageous means of utilizing such private law devices as a means of preserving farmland, the focus of this paper is on public growth management policies. Therefore, discussion of these privately based land–use controls will be deferred to another occasion.

Publicly based land–use controls may be either judicial or legislative in nature or origin. Furthermore, land–use controls can be national, state or local in origin and nature.

Judicially based land–use controls include the common law notions of waste and nuisance. "Actions predicated upon waste customarily involve persons who possess interests of one kind or another in the same piece of land" (Wright, 1994, p. 11). That is, the litigants are generally individuals who share ownership interests in a given parcel of land. The basic thrust of the law of waste is that an owner of a given piece of property shall not adversely affect, through his or her action or inaction, the ownership interests of any other owner of the same piece of property. Put another way, the owner shall not engage in or permit uses of the property that will fail to maximize the long–term value of the property.<sup>13</sup> Once again, the law of waste deals with private economic relationships and will not be discussed in further detail in this paper.

On the other hand, the law of nuisance involves the social relationship of two or more property owners and/or consideration of the public interest. The law of nuisance is one of the oldest<sup>14</sup> and most pervasive restrictions on the unfettered exercise of property rights. Even the most fervent and fundamental adherents to the absolute property rights view recognize the law of nuisance as a reasonable and viable restriction on individual property rights (Cordes, 1996).

Unlike an action for waste, the litigants in a nuisance action do not share an interest in a single piece of property. "A nuisance action involves a suit by a neighboring landowner or by a public prosecutor suing on behalf of the people seeking to control or limit the use of land owned by the defendant" (Wright, 1994, p. 17). The basis of the law of nuisance is the maxim that "no one may use his property in such a way as to injure his neighbor, or neighbors in the area generally" (Wright, 1994, p. 17). In general, nuisances are divided into private and public nuisances. The difference between private and public nuisances refers to the property interests or extent of interests that are affected.

"A private nuisance arises from unreasonable interference with the use and enjoyment of land. A public nuisance is different—an act that interferes with general community interests or the comfort of the public at large" (Dukeminier and Krier, 1993, p. 956). Alternatively, [a public nuisance] "is of sufficient magnitude to affect adversely the health, morals, safety, welfare, comfort or convenience of

the public in general" (Wright, 1994, p. 17). Nuisances may be the result of affirmative actions or neglect, and whether an activity is considered to be a nuisance will generally vary depending upon its location and proximity to other competing uses.<sup>15</sup> The plaintiff in a nuisance action has the burden of proof in showing that "the activity or structure complained of is sufficiently obnoxious or sufficiently interferes with the use of his land that it amounts to a nuisance" (Wright, 1994, p. 19).

The law of nuisance and the nature of nuisance actions is relevant to the issue of agricultural land conversion and growth management policies. In the absence of the right-to-farm laws that have now been passed in all 50 states, land might be forced out of agricultural use<sup>16</sup> through a nuisance action, especially in an area that is in the process of becoming residential. It should be noted that the modern trend in nuisance cases has been to apply the "balancing of the equities" doctrine which requires that the economic losses of the plaintiff from continuing the nuisance be balanced against the economic losses to the wrongdoer and/or society from restricting or eliminating the activity or structure responsible for the nuisance.<sup>17</sup> With the existence of right-to-farm laws in every state (Sorensen, 1996, p. 181), it is unlikely that the main battleground for agricultural land conversion will be in the area of the legal actions based upon the law of nuisance.

Nationally-based land-use controls derived from legislative actions are something relatively new, especially to the degree that we now institutionalize such controls. The National Environmental Policy Act of 1970 is one of the first and most overarching examples of national land-use control that affects the ability of land owners to exercise their property rights in an unconstrained fashion. Wetlands protection legislation has also been an example of national land-use control, as well as the various Clean Air and Clean Water acts. "The Clean Air Act limits the uses to which private land can be put by requiring permits for new and expanding source of emissions, the Clean Water Act limits land-use where there is any meaningful form of wet discharge" (Marzulla, 1995, p. 9). Section 404 of the Clean Water Act serves as the authority by which the federal government regulates approximately 100 million acres of wetlands. Other examples of federal legislation in the area of land-use regulation include the Resource Conservation and Recovery Act (cradle-to-grave hazardous waste management); the Comprehensive Environmental Response, Compensation and Liability Act ("Superfund")<sup>18</sup>; the Surface Mining Control and Reclamation Act of 1977 and the Endangered Species Act of 1973 (Marzulla, 1995). Over the past 25 years or so, federal legislation has placed significant regulations on the use and stewardship of land resources. Many of these regulations have had effects on the value of land, including agricultural land, as well as on the rate of agricultural land conversion. However, given the exogenous nature of these regulations for local communities, as well as their nationwide application, further analysis of these federal regulations is unlikely to lead to any significant policy conclusions or prescriptions that will provide assistance at the local level and therefore will be deferred for the time being.<sup>19</sup> Furthermore, despite the efforts to expound national standards, these efforts have represented "an ad hoc kind of approach, and there has never been an overall, cogent national land-use policy" (Wright, 1994, p. 67).

Land-use controls are also promulgated at the state level both through judicially based controls (e.g., nuisances per se and impact fee decisions) and through state-level legislation. "In 1973, the Oregon legislature put into effect a sweeping program to regulate land-use on a statewide level. The new law created the Land Conservation and Development Commission, which required all cities and counties to adopt plans complying with at least 14 basic goals" (Nelson, 1991, p. 130). States have also used extensively their police power to regulate property rights and land-use. Perhaps the most important way in which they have done this is through enabling legislation that delegates zoning and land-use control authority to municipalities and other political subdivisions.<sup>20</sup>

Most states have passed legislation that authorizes/compels comprehensive planning. Most of these acts have their foundations in the Standard City Planning Enabling Act or the Model Land Development Code (Wright, 1994). Increasingly, state legislation has been passed to encourage or compel increased levels of regional planning. The state is also the source of authorization for taxes and revenue systems including the all important real property tax.<sup>21</sup> In addition, at least eight states have passed enabling legislation for impact fees (Peddle and Lewis, 1996). Furthermore, given the fact that a number of the federal environmental statutes set floor levels of environmental protection, numerous states have passed air pollution control, hazardous waste, water pollution control and other environmental statutes affecting land-use and land-use patterns that are more stringent than their federal government counterparts or relatives (Marzulla, 1995).

Since about 1970, the relationship between state and local governments in the area of planning and growth management has changed. Traditionally, the state had authorized local governments to regulate the development of land with the state retaining primary responsibility for environmental regulations. The first wave of new legislation increased and strengthened the role of regional and local governments in protecting all aspects of the environment. More comprehensive growth management statutes<sup>22</sup> soon followed. "All these state initiatives have certain elements in common: all redefine to some degree the roles and responsibilities of local governments in planning and growth management, and all require to some degree that local governments share their planning responsibilities with state and regional levels of government" (DeGrove, 1991, p. xviii).<sup>23</sup>

The local level<sup>24</sup> may be the most interesting and fertile ground upon which to study land-use regulation and its effects on agricultural land conversion and the value of agricultural (as well as all other types of) land. It is at the local level where comprehensive plans are prepared and implemented, land-use maps developed, zoning ordinances passed, zoning variances granted and most real property taxes assessed. Development exactions and other growth management policies are generally developed and implemented at the local level. Furthermore, the range of effects from a given pattern of land-use are most likely to be local or regional in nature, making local government the most common level for the exercise of police powers related to land-use.<sup>25</sup> While local governments have a long history of using comprehensive plans, zoning ordinances, subdivision controls and building codes to help guide growth, today a wider array of growth control measures are in use. Among the wide categories of measures now in use are: limitations on the level of intensity of development permitted, stringent design and performance standards for lots and buildings, shifting of costs from the public to the development project, reductions in the supply of developable land and/or restrictions on the locations where development is permitted, and reductions in the amount of growth permitted, overall or per time unit (Deakin, 1991, p. 5).

### ***The Economic, Political and Legal Bases for Growth Management Controls***

Growth management policies represent a subset of the publicly based land-use controls discussed in the previous section. In evaluating such policies it is important to have a basic understanding of the economic, political and legal foundations of such policies. These foundations will allow us to better understand the community or social aspects of land-use and land ownership that contribute to assessing reasonable a priori expectations for land investors.<sup>26</sup>

At the outset, it is important to note that growth management policies are not inconsistent with a community's desire to actively promote even vigorous growth. Growth management means planning to ensure that growth occurs where it is both appropriate and needed. "Growth management...is not an effort to stop...or even...to slow growth. It is a calculated effort by a local government, region or state to achieve a balance between natural systems—land, air and water—and residential, commercial and industrial development" (DeGrove, 1991, p. xiii). Furthermore, "growth control communities are not all wealthy suburbs; rural towns, moderate income cities, ethnic cities and even communities with below-average growth are well represented" (Deakin, 1991, p. 6). Deakin goes on to say that before growth controls were imposed, "most of these places were characterized by rapid environmental changes (fast rates of growth, farmland conversion to urban uses, traffic congestion) and fiscal concerns." This suggests some of the most commonly cited social/political reasons for implementing growth management policies.

In broad terms, growth management policies are typically driven by traditional environmental concerns (e.g., clean air, clean water, sanitary and solid waste management, open space preservation and stormwater management), quality of life concerns (e.g., congestion disamenities, infrastructure capacity and quality) or a desire to maintain social and economic status through exclusion of newcomers.<sup>27</sup> Fiscal concerns, though economic on the face, are ultimately grounded in equity issues. With respect to growth management policy, fiscal concerns tend to be of three generic types: (1) the costs of the infrastructure needed to meet the needs generated by new growth; (2) issues related to dividing the burden of paying for new infrastructure between new and existing residents and (3) deciding the revenue tools to be used to raise the requisite financing shares from new and existing residents. Good demographic, engineering and planning studies can provide reasonable and objective estimates of the costs of the infrastructure that will be necessary to support new growth.<sup>28</sup> Concerns of the second type are ultimately equity concerns that are very real but only resolvable through collective choices based on community values and preferences. Development exactions can be used to

help shift some of the burden toward new residents, while greater reliance on property tax finance generally places a greater burden on existing residents and businesses. Development exactions are based on the benefit principle of public finance. According to the benefit principle, individuals should be charged for government goods and services according to their degree of consumption of those commodities.<sup>29</sup> By tying the costs of infrastructure more directly to the beneficiaries of the infrastructure, the finance system can be expected to perform better on efficiency grounds. However, equity concerns still remain and must be dealt with through the community's collective choice institutions. For a more comprehensive discussion of the equity aspects related to development exactions, see Peddle and Lewis (1996). With respect to concerns of the third type (i.e., the appropriate revenue tools), recommendations can be made on the basis of the performance of the various prospective revenue tools along the traditional economic criteria of equity, efficiency, administrative ease, yield effectiveness and political palatability. However, ultimately the decision about appropriate revenue tools depends upon the community's priorities with respect to the type of revenue system they prefer, and once again issues of equity and political palatability (both measured in terms of the collective values of the community)<sup>30</sup> typically drive the final decision and make the revenue structure a socially driven (and determined) institution.

Beyond the legislative and judicial aspects of land–use control that were discussed above, two other significant issues bear discussion in terms of the legal foundations of growth management policies: police powers and the "takings" clause of the United States Constitution. "The police power is generally defined as the power to legislate for the health, morals, safety and welfare of the community, and this power can be exercised even though it imposes burdens on the use and enjoyment of private property" (Wright, 1994, p. 80). The police power, along with the legislation discussed earlier that enables local governments to regulate land–use and do comprehensive planning, provide the main legal basis upon which growth management programs are built.

Despite the wide–ranging authority granted by the police power and numerous legislative enactments, government's ability to regulate land–use and control growth is far from unlimited. One of the major constraints limiting government intervention is the "takings clause" of the United States Constitution. Numerous recent United States Supreme Court cases have begun to better clarify the limits of government land–use regulation including development exactions and conditional permitting. "The Fifth Amendment enjoins, 'nor shall private property be taken for public use, without just compensation'" (Dukeminier and Krier, 1993, p. 1141). While government has well–established powers to both regulate the use of private property and to take private property from its owners (e.g., through eminent domain), reallocating it to government preferred uses, "takings" require compliance with the just compensation provisions of the Constitution. In general, regulation of land–use has generally not required compensation of owners, even though such regulations often are argued to have adverse effects on the value of land or ownership interests (e.g., see Wright [1994] or Cordes [1996]). However, the difference between regulation and taking may often be blurry. "In regulating through zoning or other means, the government might at times be said to have expropriated what it claimed to only control" (Dukeminier and Krier, 1993, p. 1141). Justice Oliver Wendell Holmes recognized this point in the late nineteenth century. In 1889, while a member of the Massachusetts Supreme Court, Holmes noted that the power of eminent domain and the police power differed only in degree (Wright, 1994, p. 81). In his classic 1922 opinion in *Pennsylvania Coal v. Mahon*, Holmes noted, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." While the opinion was written in 1922, the Supreme Court's major contribution in applying Holmes' opinion has occurred over the past 10 years or so.

United States Supreme Court cases like *Nollan v. California Coastal Commission* (1987), *Lucas v. South Carolina Coastal Council* (1992), *First English Evangelical Lutheran Church of Glendale v. County of Los Angeles* (1987) and *Dolan v. City of Tigard (OR)* (1994)<sup>31</sup> have helped define sets of conditions under which land–use controls do and do not represent takings in the constitutional sense. A number of states have also passed takings legislation designed to help clarify/strengthen property rights and the issue of takings and just compensation (Cordes, 1996).

While the Supreme Court's recent rulings have been subject to much debate and interpretation, certain elements seem clear to legal scholars. "In particular, the court has clearly established that land–use regulations which result in a total loss of economic viability<sup>32</sup> or involve a physical invasion of land constitute a taking<sup>33</sup>" (Cordes, 1996, pp. 1,2). Cordes goes on to note that although the court has

acknowledged that takings are not limited to these two categories,<sup>34</sup> it has not provided clear guidance as to what other government actions might constitute takings. "Moreover, except in the exceptional instances of physical invasion or loss of all economic viability, the Supreme Court and lower courts typically reject taking challenges to government regulation. This has been true even where significant diminution in value occurs, often because of important state interests supporting the regulations" (Cordes, 1996, pp. 2,3). The court has acknowledged that government could not function if it had to pay every time its regulations had an adverse economic impact on a landowner.<sup>35</sup> Furthermore, American property law has long recognized that the exercise of private property rights are subject to the constraints of the broader public interest.<sup>36</sup> Finally, there has been a recognition that government givings help to offset government takings and that "the court has long noted a reason for not requiring compensation whenever government regulation adversely affects land value is the assumption that such regulations will result in an average reciprocity of advantage" (Cordes, 1996, p. 73). That is, on average, when government land–use regulations are considered on whole, the effects on a landowner's interests can be expected to be positive. The issue of takings remains important as we discuss the effects of particular growth management policies on the value of agricultural land and the rate of land conversion.

A number of different options exist for responding to growth. General categories of response include: rejecting new development altogether, financing growth through the existing community revenue structure, allowing the quantity and/or quality of local services and/or infrastructure to deteriorate, seeking governmental assistance from higher levels of government, implementing and enforcing a system of development exactions and changes in land–use controls. In the next section of the paper, a set of growth management policies is outlined for consideration and analysis.

### ***Analysis of Growth Management Tools***

Urban and regional economists, who specialize in the spatial aspects of economic activity, have long professed the efficiency of the market for land. To say that the market for land is efficient means that the market price is an accurate reflection of the value of all of the incorporated attributes and characteristics of the land, including the economic value of its potential uses. The efficiency of the land market also means that constraints on the use of the land, both actual and reasonably expected, will be accounted for in the market price of the land.<sup>37</sup> For example, the constraints of a subdivision ordinance would generally be expected by a prospective developer, even in the absence of the existence of such an ordinance at the time of a given land purchase. Similarly, a level of zoning and land–use control would be expected and considered in the market determination of the price of a given plot of land.

On the other hand, certain levels of publicly provided services and infrastructure can generally be expected for land in the path of development. The expectation of such services and infrastructure can also be expected to be incorporated into the price of a given plot of land.

Thus, expectations play a great role in the timing and degree to which government regulations and actions affect the market price of land. Local land–use norms and community values will influence the investment expectations of landowners and therefore it may be difficult to develop universal expected price effects of different forms of growth management policies. Nevertheless, it seems reasonable that we can at least place such policies on a continuum with respect to expected price effects and effects on property rights.

For the purpose of tractability and brevity, we will limit our discussion of growth management policies to a subset including some of those felt to be of particular interest in terms of agricultural land policy. These policies include: implementing a growth moratorium, transfer of development rights/purchase of development rights programs, development exactions (impact fees in particular), agriculture security areas and zoning. Each policy will now be separately considered and analyzed.

#### ***A. Development Moratorium***

A development moratorium would constitute a drastic growth management policy on the part of a community. There are a number of ways of implementing a growth moratorium, but perhaps the most common and straightforward is through a policy prohibiting the issuance of building permits (at least for new construction). It should be noted that a growth moratorium of this type is explicitly authorized in the Illinois statutes for counties to the extent that such a moratorium is based upon the exercise of

the jurisdiction's police powers. Nevertheless, due to the substantial restriction it places on the owner's ability to put his or her land to economic use<sup>38</sup>, a growth moratorium is unlikely to be sustainable on more than a temporary basis, at least without compensation being paid to at least some landowners.<sup>39</sup> At the same time, a moratorium can be expected to be very successful in slowing growth and agricultural land conversion. However, to the extent that the moratorium is anticipated, there may be a burst of development activity prior to the implementation of the growth moratorium that offsets a portion or all of the slow down that occurs once the moratorium is in place.

*Conclusion: A growth moratorium would be expected to have a substantial negative effect on land value with the magnitude of the effect directly related to the market's expectation as to the duration of the moratorium. Similar effects can be expected in terms of a slow-down in the rate of agricultural land conversion. Due to the drastic nature of a moratorium policy, the possibility of litigation against the community should be considered and its costs weighed (including possible compensation to landowners) before implementing a wide-reaching or sustained moratorium policy.*

### ***B. Transfer of Development Rights/Purchase of Development Rights***

TDR and PDR programs are actually different means to similar ends in terms of the preservation of open space and/or agricultural land, as well as slowing the rate of agricultural land conversion. Development rights refer to the development value of [farm]land, "usually calculated as the difference between its market value and easement-restricted value" ("67 Acres...", 1996, p. 19). Alternatively, development rights mean exactly what the words say: the right to develop the property.

"A TDR program sets up a market in development rights. As rights are bought and sold, this shifts the construction of new residential units away from an area to be preserved for farming (or other open space land-use) to another area that has been planned for development at higher density" (TDRs..., 1994, p. 3). Setting up a TDR program requires designation of a "sending area" from which development rights are created and sold, and a "receiving area" where development rights can be used to build at a higher density than would otherwise be allowed. Obviously, good planning must take place to ensure that the receiving area is capable of absorbing the additional density in terms of public services and environmental characteristics. "Once a TDR has been sold, a development restriction is recorded on the seller's deed and becomes a permanent easement on the property" (TDRs..., 1994, p. 3). Whereas a TDR program is a public policy instrument in the context of a comprehensive planning and growth management program, PDR programs need not involve the public sector directly, though many state and local governments have adopted such programs since their public sector inception about 20 years ago.<sup>40</sup> The 1996 Farm Bill provided matching funds for such programs.

"Purchase of development rights programs compensate landowners for agreeing not to develop or subdivide their property. In exchange, an owner places a conservation easement on the property, an agreement that permanently protects the land from non-farm uses" ("Putting Dollars...", 1996, p. 9). As of December 1995, about 400 thousand acres of development rights had been purchased under PDR type programs at a cost of nearly \$700 million ("Putting Dollars...", 1996, p. 11).

PDR and TDR programs are popular with economists due to their reliance upon market forces and voluntary market transactions to achieve a solution. Since the landowner is fully compensated for the loss of development rights to his or her property, the implementation of a PDR or TDR program should not negatively affect landowners upon program implementation. Over time, as more and more land is subject to conservation easements, less land will be available for active development and the price of land (and development rights) can be expected to rise due to the decrease in the supply of developable land. Indeed, the empirical evidence bears out such increases in the price of development rights.<sup>41</sup> With the increases in the prices of development rights, the willingness of landowners to sell their land or its development rights would be expected to increase. This could lead to an increase in the rate of agricultural land conversion, but it should be noted that the ultimate rate of conversion will depend upon the relative mix of landowners selling the land for development or merely selling the development rights. In addition, every acre of farmland protected represents one less acre that can be converted later, even if the incentives to do so increase astronomically. Furthermore, with a lesser amount of land available, even a large increase in the rate of agricultural land conversion may be very small when considered in absolute terms. Empirical evidence cited by both the Lincoln Institute of Land Policy and the American Farmland Trust indicates that these programs can be very successful in

preserving farmland and open space.

*Conclusion: As market-based tools, TDRs and PDRs should have little if any independent effect on the value of land. By compensating the owner for the loss of development rights, these programs enhance the attractiveness of keeping land in agricultural use or as open space. In theory, TDRs can have these results without affecting the aggregate amount of development that takes place in the community. On the other hand, PDRs can be effectively used to reduce the amount and rate of development in the community. Both PDRs and TDRs are effective ways of preserving agricultural and open space land. However, both programs require substantial amounts of money to finance, a significant issue in a public sector that is increasingly under fiscal stress.*

### **C. Development Exactions (Impact Fees)**

Development exactions refer to regulations that require a builder or developer to give something to a public sector entity, or to a common maintenance entity such as a property owners association (Frank and Rhodes, 1987, p. 2). In general, development exactions are designed to offset infrastructure costs or infrastructure deficiencies that are attributable to new growth (typically residential growth). As such, one can view development exactions as a financing or infrastructure provision method associated with a comprehensive growth management program, but other than through market responses to the increased costs associated with development as a result of the exactions, no direct effect on the rate of growth should be expected. However, one might expect the market response to the imposition of development exactions to be non-trivial.

Intuitively, one might expect the imposition of development exactions<sup>42</sup> to increase the costs of development for developers and/or builders and therefore slow growth. Empirically, the results are somewhat mixed (see Peddle and Lewis [1996] for a review of some of these results).<sup>43</sup> The reader who has followed thus far might anticipate the nature of the following argument.

Development exactions are intimately related to the public services typically provided by local governments. Furthermore, a development exaction system is consistent with a desire for new growth to pay a greater share than existing residents in financing infrastructure attributable to the new growth. Finally, a development exaction system may provide more assurance of the availability and quality of services than would ad hoc reliance on a community's existing revenue system. Indeed, it is plausible that the necessary infrastructure with which to support economic development and growth only be provided by a community under the terms of a development exactions program.

When one considers government "givings" in the context of a development exactions program, not to mention the anticipation effects of government policies discussed earlier, it is easy to imagine situations in which a development exactions system, in combination with the capital improvements plan it supports, results in an increase in the development value of land and in the rate of agricultural land conversion. Indeed, I would argue that this case is ultimately more plausible than the one constantly put forth by developers that development exactions will retard growth and result in industry shakeout due to significantly reduced profits for developers and/or builders. It is true, however, that a development exaction system adds at least one additional regulatory hurdle to the development exactions, unambiguously contributing an increase in development costs into the development decisionmaking equation.

It should be noted that the start-up costs of a development exaction system may be non-trivial in that capital plans, demographic studies, cost of growth calculations, public hearings and ordinance drafting must all be conducted and paid for. Furthermore, the legal status of impact fees (i.e., cash exactions, including those for capital improvements, as opposed to land/cash ordinances) for non-home rule jurisdictions is not well settled in Illinois. However, most lawyers and growth management scholars believe that the courts would uphold impact fees for non-home rule jurisdictions if they are based upon capital plans, local demographic studies, local cost of growth calculations and provide for public input as well as an appeal mechanism. Unfortunately, no case with this richness of facts has been litigated and resolved.

*Conclusion: On the face, development exactions can be expected to slow the rate of agricultural land conversion due to the increased costs imposed on developers by the regulations. However, the nature of development exactions is such that they are intimately tied to the finance of local infrastructure and*

*public services that unambiguously increase the development value of land. To the extent that these infrastructure and public services would not be provided in the absence of the development exaction system (or be provided in a lesser quantity or lower quality), the net effect of the development exaction system may be to increase the value of land for development purposes and therefore the rate of agricultural land conversion.<sup>44</sup> However, to the extent that the infrastructure and public services would be provided anyway (i.e., in the absence of the development exaction system), and the development exactions merely represent a reallocation of finance of the fixed level and quality of infrastructure from existing residents to new residents, the rate of development can be expected to slow and the value of land for development purposes would be expected to fall.<sup>45</sup> Thus, development exactions may be an extremely effective way of reallocating public finance of infrastructure and services, but their effectiveness as a growth deterrent or retardant is ambiguous at best.*

#### **D. Agriculture Security Areas**

"The concept of Agricultural Security Areas is a statewide voluntary program enacted at the local level and initiated by farmers" (Michigan Farmland..., 1994, p. 18). Agriculture Security Areas would be comprised of areas of land of a minimum amount of acreage that need not be contiguous and might be owned by several landowners. Additional land could be added to the ASA at any time.

As outlined in the Michigan report, ASA's would:

- ◆ provide protection from local laws or ordinances that would restrict farm operations in the
- ◆ area, with an enhanced legal defense against nuisance lawsuits
- ◆ reduce or eliminate property taxes on new farm buildings and other land improvements
- ◆ made while enrolled in an ASA
- ◆ exempt landowners whose land is in an ASA from taxes for special assessments for
- ◆ services and utilities that do not directly benefit the land owners
- ◆ provide protection for enrolled farmland from land condemnation and eminent domain
- ◆ actions by government agencies
- ◆ landowners would still be eligible to participate in PDR and TDR programs
- ◆ farmers would be eligible for greater state cost–share funding of environmental stewardship improvements
- ◆ allow farmers to construct a limited number of additional residences for use by family members or as part of the farm operation
- ◆ a conservation or development easement would be placed on the property for a period of 10, 15 or more years. Protection of farmland could also be accomplished through zoning that would restrict development accordingly in an ASA. (Michigan Farmland, 1994, pp. 18–20)

Inclusion of the last provision clearly would reduce the value of land for development purposes and other factors mentioned would be expected to increase the agricultural value of the land. It should be remembered that, at least under the Michigan construct, the designation of an area as an ASA would be driven by voluntary action on behalf of landowners, thus at least a majority of landowners would have chosen to accept the program before its implementation.

*Conclusion: The ASA concept is an interesting one, especially in its reliance on voluntary action for commencement of a local area. The value of land in agricultural use could be expected to increase, at least in relative terms, due to the provisions of the ASA concept, as well as the relative decline in the attractiveness of developing the land. Nevertheless, the ASA concept may be bothersome depending upon the public hearing and input requirements of a given statute. However, it seems clear that the ASA concept would go a long way towards slowing the rate of conversion of agricultural land, as well*

*as potentially increasing the relative value of farmland as compared with its alternative uses. However, ultimately the major advantages derive from the conservation/development easements which can be achieved through means other than ASAs. However, to the extent that land in an ASA is prevented from conversion through eminent domain or condemnation, the protection of the land is probably stronger than in an unfettered market-based PDR or TDR system.*

### **E. Zoning**

Zoning is a very attractive means of land-use control, but one that ultimately tends to be a rather weak growth management tool. Most zoning ordinances, out of legal concerns or practical ones, provide for the granting of zoning variances, and one of the basic principles of comprehensive planning is adaptability over time to changing conditions. Based upon my growth management experience and expertise, I would make the following observations, all of which might appropriately be subjected to critical analysis and debate:

- ◆ Zoning is an essential and effective tool as part of a comprehensive planning process designed to aid in the appropriate spatial relationship of economic activities, and can be effective as a means of planning and protecting the open space and recreational needs of a community or region.
- ◆ Zoning can be an effective land-use control and farmland preservation tool when used as a means of preventing sprawl development. That is, to the extent that zoning is used to require in-fill development or development contiguous to developed areas, it can make a significant contribution to preserving large plots of agricultural land and maintaining some spatial purity to agricultural areas.
- ◆ Other than as a tool for encouraging cluster development and preservation of small plots of open space, zoning is not a particularly effective tool in preventing agricultural land conversion on the fringe of established communities.

*Conclusion: To the extent that agricultural zoning is imposed and rigorously enforced, zoning represents a low cost and effective means of slowing the conversion of agricultural land and maintaining the relative value of farmland in its non-developed state.<sup>46</sup> However, zoning regulations are easily changed at a relatively low cost to most communities and are unlikely to provide any kind of long-term solution to the issue of agricultural land conversion.*

### **Where do we go from here? Public policy implications of the discussion.**

Public policies can be evaluated and compared through consideration along the dimensions of equity, efficiency, individual freedom, paternalism and political palatability. As is somewhat obvious in considering this list of criteria, policies are often simultaneously asked to meet conflicting goals and intents.

Ultimately, public policy is a product of the value system of the constituency served by the policymaking entity. Thus, political palatability is at the center of public policy, especially in a system based upon representative democracy. Furthermore, political palatability varies from community to community and is a function of the prevailing value system of the community as expressed through collective choice institutions. Growth management policies are products of collective choice and therefore community values. Universal solutions to growth management issues do not exist in such a context. Nevertheless, some public policy guidance can be derived from our discussion to this point. For tractability reasons, we once again concentrate on the five growth management tools evaluated in the previous section of the paper.

In an effort to further focus the discussion, evaluation of the growth management tools will be done, albeit briefly, along two dimensions: effectiveness and feasibility (political, economic and legal). It should be noted that judgements on these dimensions are based on the general form and conditions under which the tool would likely be implemented. Thus, in terms of effectiveness in slowing the conversion of farmland, a growth moratorium, TDRs/PDRs and agricultural security areas would rank highly. Zoning and development exactions would be significantly less effective.

In terms of feasibility, a growth moratorium would rank poorly due to its extremeness and likelihood of legal challenge. Zoning would probably rank highest in terms of feasibility due to the fact that most

people are familiar with and comfortable with basic zoning regulations. Due to the voluntary nature of PDR and TDR programs, especially those that are not publicly funded, political feasibility would seem very high. Only slightly behind would be agriculture security areas. ASAs perform well because of their provisions for voluntary action and involvement, but this may somewhat be counteracted due to the public sector givings inherent in proposals like the Michigan one outlined earlier in the paper. Furthermore, the easements under ASAs may or may not require market-based compensation of the owner. Development exactions may or may not be feasible depending upon the community's evaluation of the equity issues associated with the use of exactions for infrastructure finance.

Thus, after analysis and consideration of the growth management tools outlined in this paper, I would argue that PDR and TDR programs have much to offer communities seeking to manage growth and protect farmland. Both PDR and TDR programs are market-based methods of compensating landowners for surrendering development rights voluntarily, and both programs have the effect of permanently protecting farmland and open space through development and/or conservation easements. PDR programs are slightly stronger in terms of reducing growth in that development rights are surrendered rather than merely transferred to another area. These programs also have the virtue of being flexible in terms of the sources of their funding. Not only can PDR and TDR programs be run without public dollars if the community chooses to do so, but also there is no definitive or universal means of financing the public sector costs of such a program. On the negative side, this may create obvious financing problems, but on the positive side it allows a community that makes the collective choice to manage growth through TDRs or PDRs to further make a collective choice as to the best means of financing such a program given the community's resources, preferences and values.

The issue of growth management policy and its effects on land values and the rate of agricultural land conversion is a very complex and rich one to consider. This paper has built up land ownership from an economic, social and legal standpoint, and considered government's role in the regulation of land-use. While definitive answers are difficult to produce, our framework has allowed consideration of a number of growth management tools of which at least one seems to perform well in terms of being effective in managing growth and being politically palatable in a wide range of circumstances. It should be noted that other communities may find any of the effective growth management tools to be politically palatable alternatives for adoption in their area.

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### **Footnotes**

<sup>1</sup> Acknowledging that the alternative use must be one that is permissible under the zoning and land-use rules of the community. ([Back](#)).

<sup>2</sup> For example see Cordes (1997). ([Back](#)).

<sup>3</sup> It should be noted that restrictions may have the ultimate effect of raising the development value of land when considered from a global or macro perspective. ([Back](#)).

<sup>4</sup> It should be noted that the choice of land-use may affect the ability to use all attributes of the land productively at any given time. For example, building homes or commercial buildings on a piece of land can not generally be done simultaneously with mining gravel from the land. ([Back](#)).

<sup>5</sup> This assumption therefore precludes the existence of externalities, imperfect information and other factors that lead the market price paid by the buyer or received by the seller to diverge from the marginal social benefit or marginal social cost. ([Back](#)).

<sup>6</sup> There is no need for property rights in a one-person society. ([Back](#)).

<sup>7</sup> It should be noted that this view is not the only way to view private property interests and their derivation. Other views take property rights to be inherent and absolute, with government and other social institutions existing only at the pleasure of individuals for individual benefit. Some variants of this view are discussed in Cordes (1996). ([Back](#)).

<sup>8</sup> Certainly, at one time in the United States and currently in other parts of the world, accessibility is better measured in terms of proximity to railroads and/or navigable waterways. ([Back](#)).

<sup>9</sup> Indeed, the absence of an alternative use for an economic resource generally renders that resource to be valueless in the market since the opportunity cost of using the resource is zero in the absence of an alternative use. ([Back](#)).

<sup>10</sup> Givings can be defined as cases where government action adds to the value of land or property. Examples would include the building of general infrastructure and regulation of neighboring land uses. ([Back](#)).

<sup>11</sup> Productive purposes should be interpreted to mean any activity that produces goods or services (including both passive and active recreation) that directly or indirectly contribute to the owner's satisfaction or well-being. ([Back](#)).

<sup>12</sup> This is a point that is well-established in the law. See for example, Wright (1994) or Dukeminier and Krier (1993). ([Back](#)).

<sup>13</sup> The law of waste becomes clearer in the context of the competing interests of life tenants and remaindermen. A life tenant has the incentive to maximize the present value of the stream of earnings of the property during his or her expected lifetime without regard to the interests of the remainderment or the longer term value of the property. Waste basically refers to the diminution of the long-term value of the property that occurs. In the context of the current paper, it should be noted that the appearance of the land can be changed without committing waste, and timber may be cut or minerals extracted to the extent that such actions are consistent with good husbandry, ancillary to agricultural operations, necessary to carry out the conditions of the lease, or generally not harmful to the interests of the non-possessory party. The longer the period of time over which the ownership interests are considered, the wider the range of activities that will generally be permitted without upholding a charge of waste. In general this is due to the greater likelihood of changed conditions in the neighborhood of the property that may necessitate more drastic changes in the subject property or its use. ([Back](#)).

<sup>14</sup> According to Wright (1994), the law of nuisance began to develop shortly after the Norman Conquest and royal courts began to handle nuisance disputes in the late twelfth century. ([Back](#)).

<sup>15</sup> There is a class of nuisances, nuisances per se, which constitute nuisances in and of themselves. Nuisances per se have generally been established by statute or from the courts declaring them to be so on repeated occasion. ([Back](#)).

<sup>16</sup> This is perhaps easiest to envision with respect to agricultural operations with more noxious or unpleasant odors, byproducts, or traffic (e.g., pig or chicken farms, large cattle operations). ([Back](#)).

<sup>17</sup> For example, in *Boomer v. Atlantic Cement Co.* (1970) the court chose to award permanent damages to nearby landowners rather than shut down a plant that employed over 300 people and involved a \$45 million investment. ([Back](#)).

<sup>18</sup> Superfund differs from most of the other legislation in that it is a liability scheme rather than a permitting program, and includes injunctive authority to require reclamation of sites by private parties that frequently were no part of the parties' operations or property (Marzulla, 1995, p. 9). ([Back](#)).

<sup>19</sup> Nevertheless, the possibility of having more global effects on the rate of agricultural land conversion through changes in national public policy should not be ignored. As appropriate, national policy changes will be recommended in the conclusion section of this paper. ([Back](#)).

<sup>20</sup> It should be noted that such enabling legislation is generally not necessary when cities have home-rule powers under state statutory or constitutional provisions. Nevertheless, nearly all states have adopted zoning enabling legislation. ([Back](#)).

<sup>21</sup> This is a particularly important point with respect to the issues at hand since policy toward the assessment of agricultural land is generally determined by state-level policy even in the case of locally administered real property taxes. ([Back](#)).

- <sup>22</sup> e.g., Maine, Vermont, Rhode Island, Georgia, Washington and the Cape Cod region all implemented growth management programs between 1986 and 1990. ([Back](#)).
- <sup>23</sup> A notable exception to this trend, only begun to be relaxed in early 1997, is the 1985 Florida Growth Management Act that mandated state review of all local plans and centralized many growth management powers at the state level. ([Back](#)).
- <sup>24</sup> The term "local" here should be broadly construed to mean any level of government below that of the state. ([Back](#)).
- <sup>25</sup> This observation is even more valid the stronger are local home rule powers. ([Back](#)).
- <sup>26</sup> As will be noted later, such investment expectations are at the center of property rights and takings cases. For example, see Cordes (1996), Wright (1994) and Dukeminier and Krier (1993). ([Back](#)).
- <sup>27</sup> It should be noted that the elitist explanation does not seem to be supported empirically, although it remains a popular ad hoc explanation (Deakin, 1991). ([Back](#)).
- <sup>28</sup> Although it should be noted that the quality of infrastructure is an appropriate issue for discussion. One possible way of responding to growth is to allow the quality of infrastructure to decline as it becomes necessary to service a larger and larger community. (See Peddle and Lewis, 1996) ([Back](#)).
- <sup>29</sup> In contrast, the ability to pay principle finances government activities with the individual's cost share determined by his or her economic circumstances or "ability to pay." ([Back](#)).
- <sup>30</sup> As noted in Peddle and Lewis (1996), development exactions tend to be a palatable alternative financing source for local officials. Development exactions tend to shift the burden of finance away from existing residents (i.e., established voters) and make claims of self-financing growth plans more credible. ([Back](#)).
- <sup>31</sup> Nollan and Dolan are exactions cases that establish criteria for legally defensible exactions based upon the relationship of the exactions to public interests. For more detailed discussion of this area of land-use law, see Peddle and Lewis (1996). ([Back](#)).
- <sup>32</sup> See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992). ([Back](#)).
- <sup>33</sup> See *Dolan v. City of Tigard*, 114 S.Ct. 2309 (1994); *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987). ([Back](#)).
- <sup>34</sup> For cases involving a denial of less than all economic viability, Cordes notes that "the Court applies a relatively open-ended balancing test, examining the interference with investment-based expectations, diminution in value and character of the government action." ([Back](#)).
- <sup>35</sup> The focus of Cordes' article is the move by property rights advocates to strengthen property rights beyond this level through state takings legislation. Four states have passed compensation statutes that require compensation for diminution in value at levels significantly less than that acknowledged by the Supreme Court according to its somewhat hazy standards. ([Back](#)).
- <sup>36</sup> This is a very important point in that "this accommodation between private and public rights is an inherent limitation in the bundle of private rights to begin with, rather than a deprivation of interests" (Cordes, 1996, p. 68). ([Back](#)).
- <sup>37</sup> Economists refer to this process of incorporation of attributes into a market price as capitalization. This also refers back to the explanation of market price as the capitalized net present value of the stream of the expected earnings from the land. ([Back](#)).
- <sup>38</sup> Indeed, the restrictions are very similar to those in the Lucas case, although it should be noted that those restrictions themselves were never actually evaluated in terms of the degree of diminution in value they caused. ([Back](#)).

<sup>39</sup> e.g., landowners with approved plats would seem to be in a relatively strong position to argue that a sustained moratorium represented a "taking." ([Back](#)).

<sup>40</sup> Although a PDR program will be most effective when used in conjunction with a comprehensive plan and planning process that is sympathetic to and compatible with the PDR program. ([Back](#)).

<sup>41</sup> e.g., see (TDRs, 1996). ([Back](#)).

<sup>42</sup> Impact fees refer to the subset of development exactions made up of required cash payments by builders or developers to governments as a means of helping to offset infrastructure costs associated with the growth resulting from a given project. ([Back](#)).

<sup>43</sup> Brueckner (1995) also contains a fairly rich model that recognizes the ambiguousness of the expected theoretical result. ([Back](#)).

<sup>44</sup> Given the public good aspects of infrastructure and public services, it can generally be stated that a development exaction will only collect a portion of the total benefit received from a given piece of property, leaving what the courts have called an "average reciprocity of advantage." ([Back](#)).

<sup>45</sup> It should be noted that development exaction systems rarely apply universally to all types of economic development. For example, an impact fee to finance schools would rarely be applied to commercial or industrial development because such development does not directly produce additional students for the schools. ([Back](#)).

<sup>46</sup> Einsweiler (1996) argues that the imposition of an urban growth boundary that restricts all urban–intensity land–use to a defined area would increase the value of developable land (which is now finite), increase the value of urban land on the border (due to its border with green space) and increase the value of agricultural land at the border due to reduced uncertainty with respect to the future of agricultural investments. "If the urban growth boundary is combined with exclusive agricultural zoning and other measures to reduce uncertainty, the value of farmlands may climb even further." However, Einsweiler also notes that negative externalities flowing in both directions at the growth boundary are likely to at least partially counteract any increases in property values. ([Back](#)).

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