

**THE PROXIMATE PRINCIPLE:
The Impact of Parks, Open Space and Water Features on
Residential Property Values and the Property Tax Base**

by

John L. Crompton
Distinguished Professor
Texas A&M University

Second edition

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Preface to the Second Edition

Like most second editions, minor revisions have been made in the flow, editing and presentation of the first edition material. The most obvious is a reordering of the chapters. However, complementing these relatively minor amendments, four major additions are incorporated into this edition: (i) an enhanced historical perspective; (ii) inclusion of a chapter on the impact of water features; (iii) an expansion in the number of studies reviewed; and (iv) a method by which local officials can estimate the proximate impact of parks and open spaces in their own communities.

There is an aphorism which says, “People who forget (or are never aware of) their history, forever remain children.” Children are required to learn much by trial and error, because they have little experience from which to draw to inform their actions. In contrast, those who are familiar with historical precedent can use it to inform their contemporary actions. The proximate principle was a central feature of justifications for urban parks in the early

years of their evolution in the United States. However, in contemporary times it has rarely been part of the political debate. Advocates of parks and open spaces have either been unaware of this history, or have failed to recognize its extraordinary potential power in the political arenas of local governments in the United States.

Hence, the first major change in this second edition is the addition in chapter 2 of an overview of the rich history of the proximate principle. In developing this material I appreciate the assistance of Steve Perkins of Liverpool City Council who has responsibilities for Prince’s Park; Martin McCoy, Manager of Birkenhead Park; and Hilary A Taylor Associates who are engaged in planning restoration work at both of these parks.

A second major change is the introduction of a new section, chapter 5, in this edition on the impacts of water-based features on property values. The evidence suggests that the magnitude of their impacts exceeds those associated with exclusively terrestrial park and open space lands. The chapter was contributed

by Dr. Sarah Nicholls whose careful empirical work on the proximate principle in recent years also features prominently in chapters 3 and 6. I am very appreciative of her contributions.

In the four years since the first edition was published, the use of geographic information systems (GIS) by local communities for storing and displaying spatial data has become much more widespread. When this mapping system is linked electronically with home sales transactions data which are available from realtor multiple listing services, they form a basis for hedonic pricing which uses multiple regression techniques to identify the portion of sales price attributable to proximate parks and open space. This has facilitated the emergence of several technically strong scientific studies in recent years. Their inclusion as the third major change in this edition resulted in a substantial expansion of chapter 3. A similar expansion has occurred in the number of cost of community services studies reported in chapter 7. The net effect of the new studies reviewed in chapters 3 and 7 is to confirm and reinforce the economic contributions that parks and open spaces make to enhancing the property tax base and stabilizing residents' property taxes.

The technological advance that has facilitated the introduction of GIS and multiple listing services data means that contemporary empirical studies exclusively use sales transaction information in their analyses, whereas some of the earlier studies relied on the assessed values assigned to properties by tax appraisers. Appraisals are only "best guesses" and thus rarely accurately reflect actual market values. Indeed, tax appraisers frequently systematically undervalue properties in order to avoid having to engage in a large number of negotiation or arbitration procedures with disgruntled residents who believe their property's appraisal is too high. Further, many tax assessors are unfamiliar with the proximate principle so they do not incorporate premiums for it in their appraisal

algorithms. Thus, in empirical studies that use assessed values to measure the magnitude of proximate premiums, the data set is likely to be inherently flawed.

There is now sufficient empirical evidence available about the nature and magnitude of the proximate principle to justify tentative generalizations. Thus, the final major change in this edition occurs at the end of the Executive Summary, where a "plug and chug" formula approach is offered. This can be used to derive an estimate of the proximate premium in a community. Again, I am appreciative of Sarah Nicholls' assistance in developing this approach, and to Peter Harnik of the Trust for Public Land for encouraging us to produce it.

My Luddite-like insistence on writing on yellow pads with a pen rather than using a keyboard, means that I am reliant on others to transpose my difficult to read scrawl and sketched illustrations into a publishable format that an audience can read. Thus, I am appreciative of the skills and talents of So Yon Lee who transposed all the exhibits that were new to this edition, prepared the page layouts, and organized the material in "printer-ready" form for publication.

Finally, as always, my thanks are extended to Ms. Marguerite Van Dyke who typed most of the manuscript and kept track of the many revisions made to it as the writing progressed. Her professionalism is manifested in the quality of her work, her patience, her tactful editing and guidance, and the unequivocal support and enthusiasm she always offers for my work. All this is accompanied by kindness, unquestionable optimism, and a youthful-like exuberance that belies her years. Marguerite has been my friend and *aide-de-camp* for over a quarter of a century. I have been blessed.

College Station, Texas, October 2004

Preface to the First Edition

There are two ways to measure the economic value of urban parks and open spaces. The first type of measure captures the capitalization worth of parks by measuring their impact on the value of land and property in their immediate catchment zone. The second type of measure is the economic value which residents in the urban area receive from visitors, and from businesses and retirees, whose decisions to come to the area are at least in part predicated on the availability of parks and open space. However, the use of both measures will provide only a *minimum* estimate of the economic value of parks and open space because the measures are not able to capture some dimensions of the benefits these amenities provide to a whole urban area. Such benefits include air cleansing, ground water storage, flood control, elimination of waste, alleviation of environmental stress and pleasing vistas.

This publication focuses on the first type of measure and addresses the economic contributions of parks and open space through their impact on property values. A previous monograph in this series reported the economic contribution made by park and recreation agencies through their role in attracting visitors.¹ Other economic contributions are briefly described in Appendix 1.

The monograph reviews the principles and empirical evidence relating to the economic impact of parks, open spaces, greenways, and golf courses on property values. In the context of this publication, the economic contributions of public park land and open space derive from two premises. First, they often increase the value of proximate properties, and the resultant incremental increase in revenues that governments receive from the higher property taxes is frequently sufficient to pay the acquisition and development costs of the amenities. This view was widely articulated in the early years of the

parks field, but in recent decades it appears to have disappeared from the lexicon of advocates. Few park professionals today appear to espouse it, and the author has *never* heard it articulated by an elected official!

The second premise is that public expenditures increase with development, because the costs to a community of servicing residential sub-divisions usually exceed the tax revenues that accrue from them. Thus, the conversion of open space to housing often results in an increased tax burden on existing residents.

Many of the sources used in this monograph were “fugitive” documents. That is, the material had not appeared in scientific journals or other mainstream publication outlets and, thus, was difficult to find and access. Much of this literature has been produced by graduate students for theses or dissertations, land trusts, park advocacy groups, or planners and consultants for the narrow purpose of making or evaluating the case for parks or open space in specific local contexts. The scientific quality of this work varies widely, but the volume of material and the remarkable consistency of findings reporting the positive impact of parks and open space on property values is sufficiently striking that concerns over methodological issues are unlikely to affect the conclusions emanating from this body of literature.

All studies that pertained to the issues discussed in the monograph are reported, irrespective of their conclusions. An effort was made to be comprehensive, rather than selective, and to avoid the review becoming only an advocacy treatise. Thus, results from all studies that were found which do not support the case made by park and open space advocates are included. However, there were relatively few of these. While this suggests strong empirical support for advocates’ positions, it is recognized that there may be a lesser probability of research which is not supportive of these positions being reported in the literature. Un-

fortunately, negative findings sometimes are viewed as being unexciting and not as worthy of publication as positive findings.

This publication was commissioned by the National Recreation and Park Association with funding provided by the National Recreation Foundation. It is a component of the National Recreation and Park Association's commitment to documenting the scientific knowledge base pertaining to the contribution made by park and recreation services and amenities to a community's economic development.

The prime motivating force behind this publication was Ms. Terry Hershey, the redoubtable doyenne of the conservation movement in Texas. She heard me discuss these issues over a period of several years and invariably commented: "When are you going to write it all down? This is important information for those of us fighting to protect the critters, open space and parks." Ms. Hershey is a board member of the National Recreation Foundation. When Dean Tice, the executive-director of NRPA proposed to the Recreation Founda-

tion that this monograph be funded, she enthusiastically endorsed the proposal. So, Terry, thanks for all the pushing and support.

The author is grateful for the assistance of Ms. Jennifer Dempsey and Ms. Melissa Adams with American Farmland Trust who provided much of the material on costs of community services. He is also very appreciative of the assistance provided by Ms. Marguerite M. Van Dyke who typed the manuscript drafts of this publication, and Mr. Seokho Lee who prepared the illustrations and formatted the narrative.

References

1. Crompton, John L. (1999). *Measuring the economic impact of visitors to sports tournaments and special events*. Ashburn, Virginia: The National Recreation and Parks Association.

College Station, Texas, April, 2000

The real estate market consistently demonstrates that many people are willing to pay a larger amount for property located close to parks and open space areas than for a home that does not offer this amenity. The higher value of these residences means that their owners pay higher property taxes. In effect, this represents a “capitalization” of park land into increased property values of proximate land owners.

This process of capitalization is termed the “proximate principle.” It means that in some instances if the incremental amount of taxes paid by each property which is attributable to the presence of a nearby park is aggregated, it will be sufficient to pay the annual debt charges required to retire the bonds used to acquire and develop the park. In these circumstances, the park is obtained at no long-term cost to the jurisdiction.

In addition to public officials, developers and homeowners have an interest in better understanding the proximate principle. Developers need to apportion the opportunity cost of park and open space lands in their projects to

individual lots and to establish these premiums based on the lots’ locations. For many people, their home is their principal investment. Thus, data that provide homeowners with information on park proximity premiums have meaningful practical value to them.

Several scenarios are developed to illustrate the proximate principle. They show how, for example, a city council may invest \$90,000 a year for 20 years (annual debt charges on a \$1 million bond) to construct or renovate a park; which causes the values of properties proximate to the park to increase; leading to higher taxes paid by the proximate property owners to the council that are sufficient to fully reimburse the \$90,000 annual investment made by the council.

There are contexts in which the proximate principle may exert a negative impact on property values. Adverse impacts may emerge from nuisances such as congestion, street parking, litter and vandalism, deviant behavior, noise and ballfield lights, and from poorly maintained or blighted, derelict facilities.

In most contexts where parks enhance

property values, the increments of property tax which accrue go into the general fund along with all other property taxes. However, four vehicles are discussed which activate the proximate principle to directly capture the incremental gains and use them to pay for park acquisition and development costs by retaining the increments in a separate account for that purpose. These vehicles are:

(i) Excess purchase or condemnation which involves purchasing more land than is needed for the park project; developing the park, thus appreciating the value of the remaining land; disposing of the remaining land on a commercial basis; and applying the income derived to pay for the original investment in the park.

(ii) Special assessment districts whereby property owners within an area of a community agree to assess themselves an additional tax to pay for a new or renovated park. The tax may be apportioned according to a formula designed to reflect the proportion of benefits that accrue to each property owner, so those whose property abuts the park would pay more than those residing on the fringe of the district.

(iii) Tax increment financing where park renovations result in increases in value of taxable property in the area, and the resultant incremental tax revenues are used to retire the debt used to finance the original renovations.

(iv) Creating new neighborhood and community parks in advance of development. Given their attraction power, they are likely to become a focus for development. Their financing can be retired from the incremental increases in tax revenues from the properties around them and from the exaction fees levied on developers to pay for new parks whose demand has been created by their developments.

The Early Empirical Evidence

The genesis of the proximate principle oc-

curred in the first half of the nineteenth century in England, where it started as a strategy used by private developers to quantumly raise the value of homes in their developments. When the rapidly growing industrial cities in England were urged by central government to create parks, they balked at doing so because they were perceived to be a low priority. When the proximate principle transitioned into the public sector, it repositioned park expenditures as investments rather than costs in the minds of taxpayers and elected officials. This was the financial breakthrough that led to parks becoming a standard component of the British urban infrastructure.

The idea transitioned from the British to the U.S. context through the influence of Frederick Law Olmsted. Olmsted brought the idea of the proximate principle to the U.S. from England; broadcast it widely based on its intuitive appeal; and provided data from his Central Park project, which appeared to empirically confirm it. Thus, in 1868 writing to the future developers of Riverside, Chicago, he cited the “vast increase in value of eligible sites for dwellings near public parks” and over 50 years later in 1919, his son Frederick Law Olmsted, Jr. continued to espouse the mantra: “It has been fully established that...a local park of suitable size, location and character, and of which the proper public maintenance is reasonably assured, adds more to the value of the remaining land in the residential area which it serves than the value of the land withdrawn to create it.” Hence, Olmsted’s data and advocacy were used to justify major early park investments in many U.S. cities. Other early empirical studies undertaken in two New Jersey county park systems also endorsed the legitimacy of the proximate principle.

Thus, from the earliest days of urban park development in the United States in the 1850s, through the 1930s, there was an insistent, almost inviolate conviction among park and

open space advocates of the legitimacy of the proximate principle. It was conventional wisdom among them, but it was also espoused by city planners and elected officials. A review of the early studies emphasizes the long history of the proximate principle and its early effectiveness in persuading decision-makers to invest in parks.

In the first third of the twentieth century, developments of parkways and playgrounds were considered to be as central economic, social and political issues, as the development of parks. Hence, studies on their impacts on proximate property were also undertaken. Although these studies showed substantial gains in proximate property values associated with parkway developments, historical perspective suggests that much of the value increase was attributable to more effective and efficient access for traffic and transit, rather than to the parkways' aesthetics. Early conventional wisdom held that playgrounds were likely to depreciate land values in their vicinity, but the evidence from empirical studies in the 1920s suggested this concern was generally unfounded.

These early studies were fairly rudimentary and naïve, reflecting the underdeveloped nature of the statistical tools and research designs available in the first third of the twentieth century. All property value increases were attributed to the proximity of a park and the potential influences of other factors were ignored, such as house age and size; lot size; distance to city center or major shopping center; and access to other amenities such as schools and health care facilities. Although historical perspective suggests the findings reported by these studies may have been exaggerated because of their design failings, they illustrate the rich historical pedigree and tradition of the proximate principle, and its effectiveness in persuading decision-makers to invest in parks.

The Later Empirical Studies

The limitations of the early studies were much better controlled in the later empirical studies which were all undertaken after 1960, except for one pioneering pathfinding study completed in the late 1930s. These later studies were designed to address three key questions. The *first* question asked whether parks and open space contributed to increasing proximate property values. Results from studies that investigated this issue were reviewed and in approximately 30 of them the empirical evidence was supportive.

The support extended beyond urban areas to include properties that were proximate to large state parks, forests and open space in rural areas. The rural studies offered tentative empirical evidence to support not only the proximate principle in some cases, but also to refute the conventional wisdom that creating large state or federal park or forest areas results in a net reduction in the value of an area's tax base.

Six of the supportive studies further investigated whether there were differences in the magnitude of impact among parks with different design features and different types of uses. The findings demonstrated that parks serving primarily active recreation areas were likely to show much smaller proximate value increases than those accommodating only passive use. However, even with the noise, nuisance and congestion emanating from active users, in most cases proximate properties tended to show increases in value when compared to properties outside a park's service zone. Impacts on proximate values were not likely to be positive in those cases where (i) a park was not well maintained; (ii) a park was not easily visible from nearby streets and, thus, provided opportunities for anti-social behavior; and (iii) the privacy of properties backing on to a linear park was compromised by park users.

Examination of the six studies that did not support the proximate principle suggested that in four of those cases the ambivalent findings might be attributed to methodological limitations.

The *second* question that the later empirical studies sought to answer related to the magnitude of the proximate effect. A definitive generalizable answer is not feasible given the substantial variation in both the size, usage and design of park lands in the studies, and disparity in the residential areas around them, which were investigated. However, some point of departure based on the findings reported here is needed for decision-makers in communities who try to adapt these results to their local context. To meet this need, it is suggested that a positive impact of 20% on property values abutting or fronting a passive park area is a reasonable starting point guideline. Guidelines on how local officials can apply these result to park systems in their communities are given in the section of the monograph immediately following this Executive Summary.

The diversity of the study contexts makes it feasible to offer a generalizable definitive answer to the *third* question addressed by the empirical studies which concerned the distance over which the proximate impact of park land and open space extends. There was consensus among the studies that it has substantial impact up to 500-600 feet (typically three blocks away from the park). In the case of community-sized parks (say upwards of 40 acres), it tended to extend out to 1,500-2,000 feet, but even in those cases the premium was small after 500-600 feet. Studies have not tried to identify impacts beyond that distance because of the compounding complexity created by other potentially influencing variables which increases as distance from a park increases. However, especially in the case of larger parks, it is likely there are additional economic benefits not captured by capitalization into increased property

values beyond this peripheral boundary, since the catchment area from which users come frequently extends beyond it.

The Evidence Relating to Greenway Trails

In the 1990s, there was an exponential growth in interest in developing greenway trails. The nature of responses to greenway trails is likely to vary according to individuals' value systems and a trail's context. Thus, even narrow greenway corridors in densely developed areas may offer meaningful open space and aesthetic value to some owners. The natural habitat and associated wildlife in a narrow wetland in a greenway corridor, for example, may be more of an amenity for some buyers than living adjacent to a large golf course.

Some potential buyers of a property may have no interest in hike/bike trails or linear recreation activities, so for them there is no positive counterbalance for the potential negative impacts of privacy loss, people flow and noise. For other potential buyers, especially perhaps those with young children, hiking, biking, and linear recreation activities may be a central feature of their lifestyle, so access to trails far outweighs the perceived potential negative outcomes. These dichotomous lifestyles suggest why some are likely to respond positively to trails, while others remain more circumspect.

For the most part, the rationale underlying the proposition that greenway trails may positively influence property values is different from that associated with parks. Unlike parks, any added property value is not likely to come from the views of nature or open space which a property owner enjoys because in many cases, especially in urban trail contexts, there are no such vistas. Rather, any added value derives from access to the linear trail. It is a trail's functionality or activity potential that is likely to confer added value, not the panorama of at-

tractive open space.

The literature investigating the proximate principle in the context of greenways is sparse and the sample sizes of many studies were small. Nevertheless, the consistent pattern emerging from them and the diversity of milieus in which they were conducted enables a reasonable level of confidence to be placed in generalizations drawn from them. Across the studies there was broad consensus that trails have no negative impact on either the saleability of property (easier or more difficult to sell) or its value. There was a belief among some, typically between 20% and 40% of a sample, that there was a positive impact on saleability and value. However, the dominant sentiment was that the presence of a trail has no impact on these issues.

The Impacts of Water-Based Features on Property Values

The value of a view of water has been proven conclusively. Of the nineteen studies reviewed that included a variable relating explicitly to the view of some water-based feature on property values, only one indicated a significant negative impact while one other listed an insignificant result. The latter finding referred to a view of a small, freshwater pond.

The significant, positive effect of a water view obtained in the remaining studies held across all types of water feature, including ocean, lake, river, and canal. Premiums for a water view in the 1970s were generally in the hundreds or low thousands of dollars. Figures ranged from \$573 to \$1,340 in a 1977 study. By the late 1980s, premiums of expansive ocean views had reached tens of thousands of dollars. In 1989, figures ranging from \$15,000 to nearly \$39,000 were reported for a view of San Francisco Bay, though another estimate in 1994 of the value of a view of Lake Michigan was considerably smaller, at \$6,700. The most

recent estimates of premiums associated with water views have been substantial, nearly \$46,000, over \$75,000, and \$115,000.

When considered as percentages of value added, water views generally produced premiums of between 4% and 12% through the late 1980s. The most recent evidence, however, suggests that the value of such a view is growing in importance relative to the value of a house. Studies since 1997 have listed premiums from 30% to 147% for full ocean views, and over 10% for partial vistas. Lake view premiums of 18% to 56% have been reported. One study found a 115% premium associated with a view of a creek or marsh.

Many analyses have incorporated a variable entitled, "on lake," or "on ocean," to measure impacts of such a position on property values. Such variables do not differentiate between view and recreational access but they have consistently indicated positive impacts on property values. Of the nineteen studies reviewed that utilized this type of variable, fourteen reported significant, positive impacts; three reported insignificant results; and, two, a mixture of positive and negative results. Significant positive impacts were recorded for properties on the ocean, on lakes, and on canals. Insignificant results pertained to properties on a pond, and on a "lake or lagoon," while the largest negative impact (a \$49,000, or 12%, decline in values) was attributed to location on a flat, featureless lagoon.

The earliest study of premiums related to waterfront location, conducted in 1964, reported an increase in values of \$65.42. By the 1970s, premiums had reached the thousands of dollars (\$809 to \$4,040). A 1982 study listed amounts ranging from \$7,900 to \$10,200. In 1989, increases of \$24,000 to \$65,500 were reported. Today, premiums for properties on a waterfront may exceed \$100,000.

The decay impact of increasing distance to a lake or ocean on property values is conclu-

sive. Each of the eighteen studies including such a variable confirmed it. Unfortunately, however, few studies have estimated the numerical value of increased proximity.

The Analogous Case of Golf Courses

Almost 1,000 golf courses incorporated as central features of real estate developments were constructed in the U.S. in the 1990s. Developers include golf courses to increase the land values in their projects; to accelerate the absorption of real estate, i.e., to sell their lots more quickly; or to respond to physical planning or ecological conditions.

Contemporary golf courses integrated into real estate developments typically exemplify the important role of “edge” in maximizing proximate residential lot values. The favored designs are linear because they can accommodate much more real estate frontage than traditional circular or rectangular courses.

The magnitude of the premium associated with golf courses appears to be in the 25 to 30 percent range which is substantially higher than the proximate premiums associated with parks and open space, but lower than that accruing from water features. However, the premium is mostly limited to homes abutting the course. Those located two or three blocks away are unlikely to have a view and, unlike a park, frequently they do not have access since casual use for purposes other than golf is often aggressively discouraged.

Although the evidence is sparse, there is general agreement among studies and reports that approximately 70 percent of households residing in golf communities have no members who play golf regularly at the course. These data when aligned with the substantial cost of developing a golf course and the lack of developer interest in operating it, suggest more developers may consider creating a similar premium for their lots by using prime attractive,

ambient open space rather than building a golf course.

The developers’ use of golf courses in developments mirrors the rationale that public parks and open space has used for over a century and a half, i.e., parks are an investment not a cost because they generate more property taxes for a community than it costs to service the annual debt charges incurred in creating the amenities. The high visibility, large number, and success of these golf course developments demonstrates by analogy to governmental stakeholders and decision-makers the viability of the proximate principle in the context of park land and open space.

The Role of Park and Open Space Lands in Reducing Taxes

It is often argued by developers and elected officials that in addition to acquisition and development costs, and operating and maintenance costs, there is a substantial opportunity cost associated with allocating land for public parks and open space. Because such land is publicly owned, it is exempt from property taxes. Hence, the opportunity cost is the loss of property tax income that jurisdictions would have received if the land had been developed for other purposes.

The conventional wisdom which prevails among many decision-makers and taxpayers is that development is the “highest and best use” of vacant land for increasing municipal revenues. This conventional wisdom is reinforced by developers who claim their projects “pay for themselves and then some.” They exhort that their developments will increase a community’s tax base and thereby lower each existing resident’s property tax payments.

However, in the past two decades a number of communities have commissioned a type of fiscal impact analysis which has become known as a cost of community services study.

Findings from these analyses have challenged conventional wisdom. They have consistently shown that the public costs associated with new residential development exceed the public revenues that accrue from it. The 98 cost of community services studies reviewed showed that for every \$1 million received in revenues from residential developments, the median amount the communities had to expend to service them was \$1.16 million. There was not a single instance among the 98 communities where taxes from residential development were sufficient to cover the costs of servicing them.

New houses mean more children have to be enrolled and bused to school, additional roads built and maintained, extension of police and fire protection and so on. While supposed benefits of growth are loudly and widely proclaimed by a community's growth coalition, its associated costs are rarely discussed. The re-

sults from these studies refute the notion that development of land is invariably its "highest and best use" which sometimes thwarts park and open space initiatives.

The evidence clearly indicates that preserving open space can be a less expensive alternative to development. Hence, a number of communities have elected to purchase park and open space land, rather than allow it to be used for residential development, because this reduces the net tax deficit for their residents which would occur if new homes were built on that land. The conclusion is that a strategy of conserving parks and open space is not contrary to a community's economic health, but rather it is an integral part of it.

** The full report is available from NRPA at the address shown on the cover.