APPENDIX 3

TEMPLATE FOR APPROXIMATING THE CONTRIBUTION OF THE PROXIMATE PREMIUM TO A LOCAL COMMUNITY'S TAX REVENUE

To undertake hedonic studies that calculate the impact of parks and open spaces on property taxes and the property tax base requires considerable skill in computer mapping and the use of statistical techniques, is time consuming, and is expensive. Thus, it is likely to be impractical for most park agencies to replicate studies of this nature. Nevertheless, many agencies seek a method of applying a valuation to parks that can be adapted for use in their communities. An approach for doing this is offered here, but it is emphasized that this template can only offer a rather crude "best guess." The empirical findings from the studies reviewed in the text provide a basis for developing a relatively simple "plug and chug" formulary approach that will provide an estimate of the proximate premium in a community.

The prerequisites for implementing it are that there is electronic access to the values of residential property assigned by the tax assessor's office and that the community has a GIS mapping system. The following parameters are suggested as reasonable points of departure for deriving these premiums based on the empirical results reported through the text.

1. The area of proximate impact of a park should be limited to 500 feet or three blocks. The literature suggests this is likely to capture almost all the premium from small neighborhood parks and a majority of the premium from relatively large parks. In the case of large parks, restricting it to a three block buffer will lead to an underestimate of the proximate impact because while premiums beyond these distances are relatively low, the number of properties within these more extended buffers is likely to be relatively high. However, adopting this 500-foot parameter substantially simplifies the estimation task.

Exhibit A
Park Quality Scale for Determining Proximate Premiums

Unusual Excellence	A signature park; exceptionally attractive; natural resource based; distinctive landscape and/or topography; often mentioned in sales advertisements for nearby properties; well maintained; genuine ambiance; engenders a high level of community pride and "passionate attachment."
Above Average	Natural resource based; has charm and dignity; regarded with affection by the local community; pleasant; well maintained.
Average	Rather nondescript; not really "noticed" by the local community; adequately maintained; no distinguishing features
Below Average	Sterile; absence of landscaping or trees; athletic fields with noise, lights, congestion; intensive use
Dispirited, Blighted	Dilapidated, decrepit facilities; broken equipment; unkempt, dirty; unofficial depository for trash; noisy; undesirable groups congregate there; rejected and avoided by the community

2. Grade each park in the system on the five-point scale shown in Exhibit A ranging from "unusual excellence" to "dispirited, blighted." The grading can be done either by park staff or by a panel of residents familiar with each of the sites. The scale is intended to recognize that a park's quality is defined by the emotional response to it of people in its catchment area, rather than only by its physical and tangible qualities. In every community there are fine, physically attractive parks that receive little use, either because the infrastructure and/or land uses around it do not encourage use, or because the behavior of existing users discourages others from using it. Such parks should not score highly on this scale and are likely to be assigned to the "average" category.

The two lowest rated categories in Exhibit A are likely to generate negative proximate premiums and so will contribute nothing positive to the tax base. There is no empirical literature to guide estimates of either the magnitude or the impact distance of negative premiums. Thus, no estimate parameters of them are included here. In a system-wide evaluation, these parks should be identified as being opportunities to enhance a community's tax base if it invests in them.

3a. Based on the results reported in the monograph, the suggested premiums applied to all single-family home properties within the 500-foot proximate area for each of the three highest categories shown in Exhibit A are:

Unusual Excellence:	10%
Above Average:	5%
Average:	3%

After reviewing the text, these may appear low to some readers because several studies reported premiums above 10%. However, these were for the first block immediately adjacent to the park and the premiums declined for properties in the second and third blocks. The proportionate premiums suggested here are averages to be used for all properties within the 500-foot (three-block) radius.

3b. *Variations.* The categories in Exhibit A are defined by terms such as "charm and dignity" and "rather nondescript," which are highly subjective, making it likely that different evaluators would assign them into different categories. They provide evaluators with considerable discretion in calculating the values, so someone wanting to make the values appear as high as possible may claim that all the parks in the jurisdiction are of "unusual excellence" (see Case Study #2 below).

The literature consistently reported that premiums associated with water and with passive parks were substantially than those emanating from active recreation-oriented parks. Hence, the degree of subjectivity may be reduced if premiums for the template were based on a taxonomy of four park-types: passive with water amenities; passive with no water amenities; mixed (i.e. passive with some organized recreational activity use; and recreationally oriented).

A second enhancement to the simplest version of the template would be to reflect the literature finding that size matters. The larger the park, the greater the distance over which it is likely to exert an influence on property prices. Thus, for larger parks it may be extended to 1,320 feet (a quarter mile or six/seven blocks).

If both these variations were incorporated, then the following matrix for premiums may be adopted:

	Passive with Water	Passive with no Water	Mixed: Passive, and Light Organized Recreational Use	Recreation Oriented
Under 20 acres	15%	10%	8%	4%
Over 20 acres*	20%	12%	10%	4%

* The premium on large parks may extend beyond the 3-block buffer to 6 or 7 blocks, but in the outer blocks they are likely to be only one quarter of those shown in the matrix.

4. The incremental premium associated with greenway trails (i.e., trails that are not part of visually appealing park or open space land), arises from access to the trail rather than from views of it. The typical "ordinary" trail is likely to have a 3-5% positive impact on property values after it has been in place for (say) five years.
5. A proximate premium of 25% associated with residences adjacent to a golf course is suggested. The premium is likely to be attributable predominantly to views. Unlike a park, homeowners two or three blocks away are unable to use the space unless they play golf so their physical proximity to it has little utility.

Steps in Calculating an Estimate of the Impact of Parks on the Property Tax Base

1. Identify all public parks, and grade the quality of each on the five-point scale shown in Exhibit A.
2. Draw a three-block or 500-feet buffer around each of the parks which are classified into the three highest quality categories.
3. Aggregate the assessed value of all single-family homes within each of the three-block (500-feet) buffers, using data from the local tax assessor's office.
4. Apply the percentage premiums suggested above (10%, 5%, or 3%, or the suggested "variation" percentages) to the aggregate values calculated in step 3.
5. Aggregate the premiums calculated for each park in step 4. This figure represents an estimate of the overall change in property value attributable to the parks and open spaces examined.
6. Multiply the aggregated premiums calculated in stage 5 by local property tax rates imposed by all taxing entities to estimate the total positive impact of parks on the property tax base.
7. Compare the aggregated premiums calculated in stage 6 to annual debt charges incurred in the acquisition and development of those parks.

Case Study #1: Trust for Public Land

The version of this template adopted by the Trust for Public Land, Center for City Park Excellence (CCPE) in their multiple studies estimating the total economic value of cities' park systems, uses a 500-foot buffer around each park and assumes the park adds 5% to all residential dwelling units within the 500-foot buffer. An illustration of the process is shown in Exhibit B.[1]

Exhibit B
The Property Value Premium from Parks in Washington, D.C.

Value of properties within 500 feet of parks[a]	$23,977,160,000
Assumed average premium value of a park	5%
Value of properties attributable to parks	$1,198,858,025
Effective annual residential tax rate	0.58%
Annual property tax capture from value of property attributable to parks	$6,953,377

[a] Property values were obtained from the District of Columbia

Exhibit B shows the CCPE estimate for Washington, DC.[1] The value of all residential properties (apartments, condominiums, terraced houses, duplexes, and detached homes) within 500 feet was almost $24 billion. The 5% park premium suggests that parks increased property value by almost $1.2 billion. This represents the additional asset value property owners receive because of the presence of parks. Using the city's tax rate of 0.58%, the analysis estimates that the city treasury of Washington, DC, gained an additional $6.95 million in property tax revenue because of the parks.

Case Study #2: City of San Carlos, California

The City of San Carlos, California used the following steps in estimating the impact of parks on the property tax base:[2]

1. Grade the quality of each park on a five-point scale (excellent - 1; above average - 2; average - 3; below average - 4; poor - 5);
2. Use GIS technology to draw a 500-foot radius around each park and aggregate the assessed value of land without structure(s) and all land with single family homes;
3. Apply the percentage premiums (excellent - 15%; above average - 10%; average - 5%) according to the five-point scale. This figure represents an estimate of overall change in property value attributed to the park being examined;
4. Multiply the premium by the local property tax rates of 1.0638%

Exhibit C
The Property Tax Premium from Parks in San Carlos, California

Park	Park Quality Scale	Total Assessed Value (Land and structures within 500 feet)	Percentage Premium Attributable to Parks	Contribution of Parks to Total Property Tax Revenue	Tax Dollar Revenue to the City of San Carlos
Arguello Park	Excellent	$116,196,905	$17,429,386	$185,413	$20,395
Big Canyon Park	Above Average	$104,263,743	$10,429,374	$110,915	$12,200
Burton Park	Excellent	$114,898,350	$17,234,753	$183,343	$20,167
Cedar Park	Above Average	$29,158,201	$2,915,820	$31,018	$3,412
City Hall Park	Above Average	$4,980,226	$498,022	$5,297	$582
Crestview Park	Above Average	$43,697,220	$4,369,722	$46,485	$5,113
Eaton Park	Above Average	$169,162,978	$16,916,298	$179,955	$19,795
Heather Park	Average	$20,055,787	$1,002,789	$10,667	$1,173
Highlands Park	Above Average	$115,374,306	$11,537,431	$122,735	$13,500
Hillcrest Park	Excellent	$50,122,265	$7,518,339	$79,980	$8,797
Laureola Park	Excellent	$45,471,092	$6,820,664	$72,558	$7,981
Rosek Park	Average	$23,731,247	$1,186,562	$12,622	$1,338
San Carlos Avenue	Above Average	$58,722,729	$5,872,273	$62,469	$6,871
Total		**$893,366,611**	**$103,728,433**	**$1,103,457**	**$121,374**

Combined, the twelve parks in San Carlos with single-family homes within 500 feet contributed $1,103,457 in tax revenue attributable to the parks. The City of San Carlos received approximately 10% of the property tax dollars, with the state, county and school districts obtaining the remaining.

Case Study #3: Proximate Premium Analysis: Giba Gorge Environmental Precinct

The Giba Gorge Environmental Precinct (GGEP) project is a conservation effort located in the peri-urban area of Durban, South Africa. It is a partnership between private landowners and the eThekwini Municipality and is funded through additional tax levied on landowners and external grants from the eThekwini Municipality. The GGEP is comprised of 143 properties at the edge of a natural open space which accounts for

about 227.6 hectares of land under conservation out of a total area of 354.1 hectares. Two taxes are levied on the GGEP properties: municipal rate (0.914%) and special rating area tax (0.0504%). The positive impact of the GGEP on property tax revenue was 335,985 (318,427 + 17,558) Rand (Exhibit D).[3]

Exhibit D
Estimation of the proximate impact of the GGEP open space on property tax base

Property No.	Property Value (Rand)	Overall change in property value @ 15% unusual excellence (Rand)	Applying Property Tax Rate of 0.914% on the overall change in property value (Rand)	Applying Special Rating Area tax of 0.0504% on the overall change in property value (Rand)
1	1,620,000	243,000	2,221	122
2	2,800,000	420,000	3,838	211
3	1,400,000	210,000	1,919	105
4	2,500,000	375,000	3,427	189
5	1,800,000	270,000	2,467	136
6	1,440,000	216,000	1,974	108
7	1,960,000	294,000	2,687	148
8	1,280,000	192,000	1,754	96
9	1,930,000	289,500	2,646	145
. . .	. . .	. . .	. . .	. . .
143	2,150,000	322,500	2,947	162
Total	232,239,000	34,838,850	318,427	17,558

Case Study #4 - Michigan Recreation and Park Association (MRPA)

MRPA commissioned studies in seven communities using the template. Their process was the same in all of them.[4] It is summarized in Exhibit E. A small number of parks in each community was selected to illustrate the process to stakeholders in each of the cities.

Exhibit E
Real Estate Calculations

Steps	Tasks	Example
1	Draw a 500-foot or three-block radius around the park.	Draw radius
2	Grade park on the "quality" scale	Park assessed to fall into "Above Average" classification
3	Assess value premium to be added	"Above Average" equals 10% value premium
4	Obtain list of all assessed values of single-family homes	List obtained from local Assessor's office
5	Total of all the assessed values of the single-family homes	Total value of homes: $1.5 million
6	Multiply total of assessed values by the value premium to obtain the estimated additional value	$1.5 million x 10% = $150,000
7	To obtain the estimated additional taxable value perform the following calculation: *Estimated additional value multiplied by the property tax rate divided by 1,000*	(Example of locally assessed taxes = 52.0495 [millage rate of community]) Calculation: ($150,000 x 52.0495)/1000 = $7,807.43

The results for the four parks used as the illustrative sample in the City of Ann Arbor are reported in Exhibit F. The City supplied the assessed values of single-family homes in a 500-foot (or three-block) radius around four parks in the city. The results are shown in Exhibit F.

Exhibit F
Estimation of the Proximate Premium for Homes near Four Parks in the City of Ann Arbor

Park Name	Aggregate (Total) Assessed Value for All Residential Dwellings Within 3 Blocks (500 feet) of Park	Percentage Premiums (15, 10, or 5%)	Total
Gallup	$27,502,000	10% (estimate)	$2,750,200
Mushroom	$13,694,900	10% (estimate)	$1,369,490
Kueblerlangford	$7,015,400	10% (estimate)	$701,540
Buhr	$30,957,090	10% (estimate)	$3,095,709
Aggregate (Total) of All Proximity Premiums of Four Parks			**$7,916,939**
Local Property Tax Rate			**46.78**
Proximate Additional Tax Revenue Attributable to Four Parks			**$370,354**

References

1. Harnick, P., & Crompton, J. L. (2014). Measuring the total economic value of a park system to a community, *Managing Leisure, 19(3), 188–211*
2. Weiss, B. (2005). *San Carlos Property Value Impact from Parks*. Memorandum to the San Carlos City Manager, October 17.
3. Chinzila, D. B. (2015). *Proximate premium analysis: Giba Gorge Environmental Precinct,* Petermaritzburg, South Africa: University of KwaZulu-Natal, School of Agriculture, Earth and Environmental Sciences.
4. Public Policy Associates. (2007). *Economic value of parks, programs and facilities: City of Ann Arbor Summary Response*. Ann Arbor, MI: Michigan Recreation and Park Association.

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