Do Parks Make Cents?

An Analysis of the Economic Value of Parks in San Francisco

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EXECUTIVE SUMMARY

This report explores the economic value of San Francisco's parks system by:

- ✓ ***Explaining*** the importance of measuring the value of parks and open space
- ✓ ***Defining*** the proximity principle and introducing the ***green*** **premium**
- ✓ ***Reviewing*** the empirical evidence of the proximity principle
- ✓ ***Estimating*** the economic impact parks have on property values
- ✓ ***Investigating*** the role parks play in economic development
- ✓ ***Providing recommendations*** on how the city of San Francisco can maximize the economic value of its parks system
- ✓ ***Providing recommendations*** for areas of future research

In addition to laying a foundation for a larger, more comprehensive study, the goal of this report is to initiate a city-wide conversation on how to best invest in one of San Francisco's most valued assets.

Measuring the economic value of parks is a difficult yet necessary exercise. This is because while the costs associated with acquiring, developing, and maintaining a city's parks system is relatively easy to calculate, its benefits are hard to quantify. As San Francisco grows and develops, a more complete picture of the economic benefits of parks will provide city agencies and developers with the necessary information to set priorities and develop policies that will strike a balance between open space, development, and other objectives.

Currently, there is a shortage of information on the economic value of parks in San Francisco. For example, the Recreation and Parks Department (RPD) does not track the number of visitors to its parks. No company would stay in business long if its management did not know how much product was being produced, the market price for the product, or who its consumers were. Public goods such as parks and open space, although difficult to quantify, must also have a price tag. Unless decision-makers are better equipped with this type of information, the city may risk losing one of its most valued assets.

The Proximity Principle

The housing market consistently sends signals that home buyers are willing to pay more for a property that is close to a park or open space than one that is not. In most cases[1], this increased value is reflected in higher property taxes accrued by the local government. This premise that parks have a positive impact on property values is known as the **proximity principle** and represents a *capitalization* of park land into increased property values[2]. The proximity principle suggests that the value of living near a park is captured in the price of the surrounding properties.

[1] Proposition 13, See Appendix I

[2] Crompton, John (2005). "The Impact of Parks on Property Values: Empirical Evidence from the Past Two Decades in the United States". *Leisure Management* 10, 203-218

All else being equal, parks in urban areas tend to show a greater impact on home prices than parks in more suburban or rural areas.[3]

Measuring the Economic Value of Parks

The literature reveals a number of different methods to measure the economic value of parks and open space. These include, but are not limited to:

- ✓ Measuring the impact parks have on property values
- ✓ Calculating the economic activity generated by a city's parks system
- ✓ Quantifying health, environmental, and social benefits

This report calculated the **impact parks have on residential property values** in San Francisco. Residential properties within 1000 feet of an RPD-owned park were divided into two zones: **Zone 1**, which includes properties within 500 feet of a park; and **Zone 2**, which includes properties between 500 and 1000 feet of a park. Results from a hedonic pricing model indicate that all else equal, houses in **Zone 1** are worth $125,838 more than houses in **Zone 2**. This suggests that parks have a significant positive impact on property values, making the ***green*** **premium** in San Francisco approximately $125,838. This estimate most likely underestimates the true ***green*** **premium.**

Limitations

There are many limitations associated with these approaches to measuring the economic value of a city' park system. They include:

- **An economic analysis will always underestimate the true value of a city's parks system.** This is because there is a wide range of other possible economic benefits associated with a parks system, including, but not limited to: health benefits, environmental benefits, revenue from special events, and attracting and retaining businesses. In fact, it would be very difficult, if even possible, to completely measure the value of a city's park system.

- **City parks can also have negative impacts**. For example, poorly maintained parks may decrease the value of surrounding properties. Therefore, any balanced assessment of the economic benefits of parks will look at the net overall effect, by addressing both the positive and negative externalities.

- **An economic analysis is inherently community specific**. Results, and therefore recommendations applicable to one community may not always be relevant to another.

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[3] Crompton, John. (2005). The Impact of Parks on Property Values

Role of Parks in Economic Development

In addition to increasing property values, parks play other roles in economic development. It has been demonstrated in numerous studies and surveys that a major factor in San Francisco's economic success is its quality of life. And, regardless of how one defines quality of life, parks and open space are a key component.

This report suggests four key impact areas in which parks and open space can play an important role in San Francisco's new Economic Development Plan. The four key impacts are:

- ✓ Attracting and retaining businesses, including corporate headquarters
- ✓ Attracting *Knowledge Sector* Workers
- ✓ Protecting and growing, and raising the value of the *Experience Sector*
- ✓ Retaining the middle-class family

Paying for Parks: A Menu of Options

Creating *new* policies that mandate or incentivize developers to either provide or pay for open space acquisition, development, and maintenance is necessary to best invest in San Francisco's parks system. This report provides a menu of options for the city:

- ✓ Extend mandatory open space requirements beyond the Downtown core
- ✓ Incentives for "green" developments
- ✓ Extend developer impact fees beyond the Downtown core
- ✓ Sales Tax on Sporting Goods

Recommendations

In addition to the menu of options on how to provide and pay for parks, this paper makes additional recommendations to the City of San Francisco on how to best invest in their parks and open space. The following recommendations are meant to begin a city-wide conversation and should only be used as a part of the larger recommendation that San Francisco perform its own larger, more comprehensive study.

- ❖ The RPD should work jointly with Department of Public Health, SF Unified School District, SF Environment, The Visitor's Bureau, the Mayor's Office, and other relevant agencies and organizations on an "Investing in our Parks" initiative.
- ❖ The City of San Francisco and the Visitor's Bureau websites should have a direct link to parks and recreation.
- ❖ Park agencies and organizations should join the "Only in San Francisco" campaign.
- ❖ RPD should start tracking users. In addition, with the help of the Visitor's Bureau, RPD could also administer a survey to visitors regarding their experience in San Francisco's parks.

- The City of San Francisco should further investigate the role of developers in the economic value of parks.
- The proximity principle should be a guiding practice when designing new residential and commercial development in the areas of San Francisco undergoing redevelopment or development.

Areas for Future Research

The following three areas of the economic value of parks should be investigated in more detail.

- Refining the hedonic pricing model introduced in this report
- Performing an economic impact analysis
- A comprehensive study including health and environmental benefits

Section 1: Introduction

This paper explores the economic value of parks in San Francisco. It does so by estimating the impact parks have on property values, by investigating the role parks play in economic development, and by identifying key areas of need and opportunity. Finally, this report provides a framework whereby these issues can be more rigorously analyzed in the future.

This study investigates the economic value of parks in San Francisco quantitatively, qualitatively, and anecdotally. Methods include a literature review, hedonic analysis, interviews, and best management practices from other cities – domestic and international.

1.1 DEFINING THE PROBLEM

Concern over the preservation of open space in the Bay Area has grown in recent years as the rate of development has significantly increased. While many of these discussions are over the issue of suburban sprawl, it is also a major concern in the more urban environment of San Francisco. In fact, despite its perception as a built-out city, the current level of development and redevelopment within its 49 square-miles is strikingly high. With 16,634.4 people per square mile, San Francisco is the second densest major US city, and has a growing population.[4] The Association of Bay Area Governments (ABAG) predicts that San Francisco will add 161,000 new residents by 2035.[5] As the population and rate of development increase in San Francisco, the pressures to balance new development and provision of open space will also increase.

Few in San Francisco would argue that parks and open space are an indispensable part of a healthy and sustainable urban mosaic. Numerous polls, ballot measures, and surveys have shown that residents and visitors place a high value on the San Francisco's parks and open space. This is partially because in a city as dense as San Francisco, the benefits of urban parks are obvious: in addition to providing respite from city life and access to recreation, they supply many environmental services such as ventilation, wetlands and forest supply, storm-water drainage, wildlife habitat, and so on. It has also been shown that parks, under the larger 'quality of life' umbrella, are a large component of San Francisco's economic success.[6]

Nevertheless, these high yet abstract values placed on San Francisco's parks system are not necessarily reflected in policy. In addition to being chronically underfunded simply to maintain its existing parks, the Recreation and Parks Department (RPD) does not have a technique in place to track the number of users at its facilities. Compared to other

[4] San Francisco's Population Profile using 2000 Census data. Website: http://www.city-data.com/us-cities/The-West/San-Francisco-Population-Profile.html . Access Date: 17 March 2007.
[5] ABAG Projections 2007: Regional Projections. Website: http://www.abag.ca.gov/planning/currentfcst/regional.html. Access Date: 17 March 2007.
[6] Florida, Richard. (2005) Cities and the Creative Class. New York: Routledge.

agencies, there is very little baseline information to make informed decisions.[7] To better understand the value of its parks system, RPD should measure its users and their needs. Additionally, the RPD's policies and procedures are limited and those in place are not consistently applied. Budget decisions for recreation services tend to be political instead of market driven.[8]

The City of San Francisco does not have a systematic approach to ensure provision of adequate open space for its high level of development. The City's policy on park development and maintenance is, at best, ad hoc. For example, the SOMA, a neighborhood that is undergoing rapid, high density development is experiencing difficulty in providing adequate open space for neighborhood residents with the existing policies.[9] Having no standardized policy to ensure provision of adequate open space may make the city commit to development before comprehensive open space plans are implemented.

1.2 DEFINITIONS

How a park is defined may depend upon the perspective of the person defining it. A park can be defined by its relationship to humans or by its relationship to nature. For the purposes of this study, however, a park is defined by its size, who uses it, how it is used, and by ownership.

Size

City parks are typically divided into four size categories: neighborhood parks, community parks, city-wide parks, and regional parks. The differences are highlighted in **Table 1**.

Table 1: Open Space Defined by Size

- **Neighborhood Park**: Parks that serve a neighborhood. These parks are typically smaller than 10 acres.
- **Community Park**: Parks that serve a community larger than a neighborhood. In San Francisco, community can be roughly defined by different district.
- **City-wide Park**: This is a park that serves the whole city. An example of a city-wide park in San Francisco would be Golden Gate Park.
- **Regional Park:** This is a park that serves the whole Bay Area. An example of this would be Golden Gate National Recreation Area.

[7] 2004 Recreation Assessment Report. San Francisco Parks and Recreation Department. Leon Younger and PROS

[8] 2004 Recreation Assessment Report. San Francisco Parks and Recreation Department. Leon Younger and PROS

[9] Representative from SOMA Community Action Network. Testimony at NPC's Annual Meeting with the Mayor. 13 April 2007.

Type and use

City parks are typically divided into three type/use categories: natural parks, urban parks, and specialty parks.[10] The differences are described in **Table 2**. The San Francisco RPD also owns and maintains two other types of "parks". They include the city's golf courses and Candlestick Park, home of the San Francisco professional football team, the 49ers.

Table 2: Open Space Defined by Type[11]

- **Natural Park**: More than 50% of the park is preserved natural vegetation. Park use is balanced between preservation and natural habitat. This definition includes parks with no public access.
- **Urban Park**: More than 50% of the park is manicured or landscaped and developed for active recreation (swimming pools, sports fields, playgrounds, etc).
- **Specialty Park**: Primary use at the park and everything in the park is related to the specialty category.

Ownership

Parks and open space in San Francisco are both owned by government agencies and private entities. Government agencies include the RPD, California State Parks, and the National Park Service. Parks can also be privately owned and managed. These are called "Privately-Owned Public Spaces" (POPOS)[12]. POPOS are a product of Section 138 of the City's Planning Code[13].

1.3 SCOPE

As demonstrated by **Figure 1**, the benefits of parks span a wide spectrum of areas, including *economic, environmental, social, and health.* These four components are not exhaustive, nor mutually exclusive. All four of these areas are major components of a community's **quality of life**. Economy, environment, and society are also the three founding principles of a sustainable community. Of the four integral areas, this paper only touches on the economics piece. Furthermore, within the economic component of the benefits of parks, this paper focuses mainly on how parks impact property values.

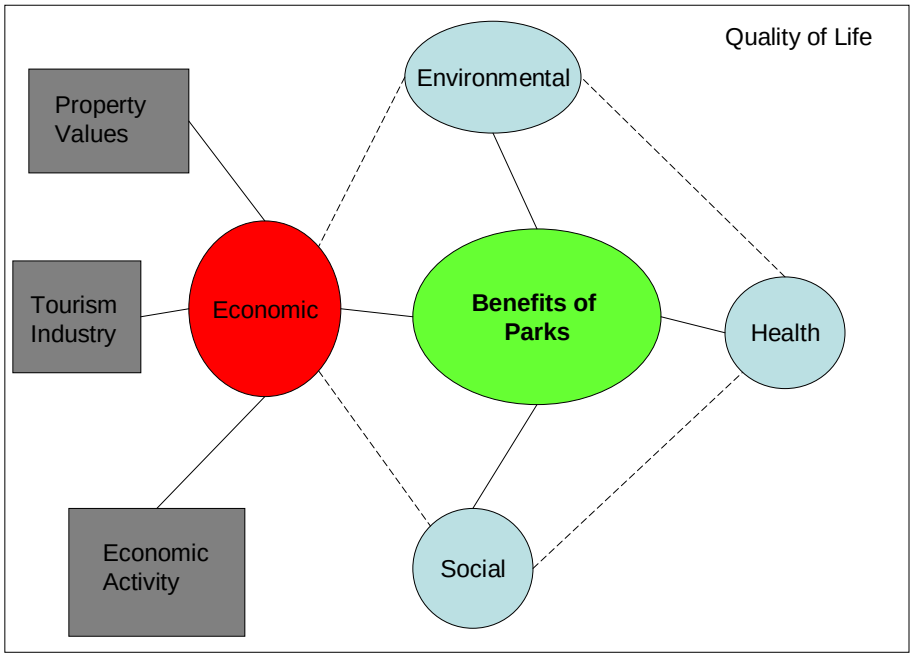
[10] Crompton, John (2005). "The Impact of Parks on Property Values."
[11] Crompton, John. (2004). The Proximate Principle: The Impact of Parks, Open Space and Water Features on Residential Property Values and the Property Tax Base (Second Edition). Ashburn, Virginia: National Recreation and Park Association.
[12] CommonSpace: An Exploration of Publicly-Owned Private Space. Website: http://www.rebargroup.org/projects/commonspace/index.html . Access Date: 10 December 2006.
[13] City and County of San Francisco Municipal Code – Planning Code. Section 138. website: http://www.municode.com/Resources/gateway.asp?pid=14139&sid=5 . Access Date: 9 April 2007

1.4 PURPOSE

A complete analysis of the economic value of San Francisco's parks system must include much more than is presented in this report. Therefore, the purpose of this report is simply to lay a framework for a larger, more comprehensive to be administered by providing insight into the economic value of San Francisco parks.

The goal of this report is to initiate a city-wide discussion around how to best invest in San Francisco's park system.

Figure 1: Mapping the Benefits of Parks



1.5 REPORT OVERVIEW

This report:

- ***Explains*** the importance of measuring the value of parks
- ***Defines*** the proximity principle and introduces the ***green*** **premium**
- ***Reviews*** the empirical evidence of the proximity principle
- ***Estimates*** the impact parks have on property value in San Francisco
- ***Investigates*** the role parks can play in economic development
- ***Provides recommendations*** on how the city of San Francisco can maximize the economic value of their park system

- ***Provides recommendations*** for areas of future research

In addition to laying a foundation for a larger, more comprehensive study, this report is not meant to stand alone. It does not address two issues central to the economic value of parks: **equal access** and **health and the built environment**. The *Parks Make Cents* Report is therefore meant to be read and analyzed in tandem with the following documents:

- The Neighborhood Park Council's *Green Envy* Report[14]
- SF Department of Public Health's *Healthy Development Measurement Tool*[15]

[14] Neighborhood Parks Council. December 2003. *Green Envy: Achieving Equity in Open Space.* Website: http://www.sfnpc.org/greenenvy . Access Date: 2 January 2007
[15] SF Department of Public Health. *Healthy Development Tool.* Website: http://www.sfdph.org/phes/enchia/enchia_HDMT.htm . Access Date: 12 January 2007
** SEE APPENDIX III**

Section 2: Measuring the Economic Value of Parks

> *"How much economic value does a city receive from its parks system? Finding this number is the Holy Grail. The Center for City Park Excellence has spent almost three years trying to figure it out and we're still not all the way there"*[16]
>
> - Peter Harnik

2.1 QUANTIFYING VALUE

Placing a price tag on *value* is an exercise that is inherently difficult and requires a tremendous amount of estimation. That said, the *absence* of economic measures of nonmarket goods – whether it is measuring the value of open space preservation, clean air, or education – means that the positive externalities of these traditionally public services cannot be objectively prioritized and accurately ranked against other services whose benefits are more easily quantifiable.

Many public opinion surveys suggest that people value open space, and recent voting on bond issues and referenda in San Francisco supports this view. However, only economic analysis relying on well-established statistical techniques, comprehensive research methodologies, and reliable and extensive data, can provide objective evidence about the dollar value of important nonmarket goods such as open space. On a local scale, such estimates are important in policy debates over how to best invest in San Francisco's parks system.

2.2 IDENTIFYING THE NEED

The primary purpose for investing in a park – whether it occurs at the acquisition, development, or maintenance stage – is rarely economic. Nonetheless, financial justification for this type of investment is nearly always required, especially when the cost of land is high. And, due to the concern over open space preservation in San Francisco, there has been an increasing interest in quantifying the value of its parks system.

Measuring the costs associated with acquiring, developing, and maintain a city parks system is relatively easy to calculate. The benefits associated with city parks, however, are much more difficult to accurately estimate. This is because while many of the advantages of city parks are highly instinctive and easy to describe *qualitatively*, they are very difficult to *quantify*. Nonetheless, approximating the benefits of parks, while inherently rough and incomplete, permit comparisons to be made between the costs and benefits of parks and developed land. Understanding both the costs *and* benefits of parks

[16] Harnik, Peter (TPL). Phone Interview. 13 February 2007.

can help improve urban land-use decisions because they are based on a more complete understanding of the trade-offs.

The challenge to maintaining a healthy and sustainable community lies in providing the right mix of housing, employment, and open space, as land is used for residential and commercial development. Assessing the need for housing and employment are relatively easy to measure, however, there is much debate over what park deficiency actually looks like in San Francisco. This lack of understanding forces San Francisco's decision-makers – elected officials, voters, and private developers – to continue comparing these *abstract* values of parks to concepts with a price tag already attached, such as development costs (and benefits), infrastructure spending, and tax revenues.

This asymmetrical approach to decision-making can be directly linked to the absence of any information on the economic value of San Francisco's parks system. Currently, no city agency tracks such information. The RPD does not track the number of users or survey its visitors; the City Assessor's assessment policy is not standardized; and there is no city-wide policy for open space requirements or developer impact fees. As San Francisco grows and develops, a more complete picture of the economic benefits of parks will provide city agencies and developers with the information necessary to set priorities and develop policies that will strike a balance between open space and other objectives. Unless these decision-makers are better equipped, the city may risk losing one of its most valued assets – its world renowned parks system.

2.3 MEASURING THE ECONOMIC VALUE OF PARKS

An examination of the literature[17] reveals that there are three basic ways to measure the economic value of a city's park system:

- **Measure the impact parks have on the surrounding property values**
- **Calculate the economic activity generated by a city's park system**. This includes the economic value which residents in the urban area receive from visitors, relocation of businesses, retirees, etc, whose decisions to come to the area are at least in part due to the availability and quality of parks
- **Quantify the health and environmental benefits associated with a City's parks system**.

2.4 LIMITATIONS TO ECONOMIC ANALYSES

There are many limitations associated with these approaches to measuring the economic value of a city' park system. They include:

[17] Crompton, John. (2004). The Proximate Principle; Crompton, John. (2005). "Impact of Parks on Property Values"

- **An economic analysis will always underestimate the true value of a city's parks system.** This is because there is a wide range of other possible economic benefits associated with a parks system, including, but not limited to: health benefits, environmental benefits, revenue from special events, and attracting and retaining businesses. In fact, it would be very difficult, if even possible, to completely measure the value of a city's park system.

- **City parks can also have negative impacts**. For example, poorly maintained parks may decrease the value of surrounding properties. Therefore, any balanced assessment of the economic benefits of parks will look at the net overall effect, by addressing both the positive and negative externalities.

- **An economic analysis is inherently community specific**. Results, and therefore recommendations applicable to one community may not always be relevant to another.

Section 3: The Proximity Principle

This section defines the proximity principle, summarizes its history, provides empirical evidence, and investigates the role of the developer.

3.1 DEFINITION OF THE PROXIMITY PRINCIPLE

The housing market consistently sends signals that home buyers are willing to pay more for a property that is close to a park or open space than one that is not. In most cases[18], this increased value is reflected in higher property taxes accrued by the local government. This premise that parks have a positive impact on property values is known as the **proximity principle** and represents a *capitalization* of park land into increased property values[19]. The proximity principle suggests that the value of living near a park is captured in the price of the surrounding properties.

All else being equal, parks in urban areas tend to show a greater impact on home prices than parks in more suburban or rural areas.[20]

3.2 HISTORY OF THE PROXIMITY PRINCIPLE

The proximity principle is not a new concept. In fact, many parks systems were initially developed based to a considerable extent upon expectations of their direct and indirect economic contributions to city tax revenues. [21] Dating back to 19th century England, it began as a strategy for private developers to increase the value of their investments. Through justification of the proximity principle, developers were able to convince governments to fund public parks. In fact, the proximity principle was central to the development of many of the famous British parks of the 19th century. These parks include London's Regent Park, Liverpool's Prince Park, and the world's first publicly-owned park, Birkenhead.[22]

In the United States, Frederick Law Olmstead, a famous urban planner of the late 19th century, used the proximity principle to legitimize building New York City's Central Park. From 1856 to 1873 he tracked the value of property immediately adjacent to Central Park, in order to justify the $13 million spent on its creation. He found that over the 17-year period there was a $209 million increase in the value of the property

[18] Proposition 13 (See Appendix I)
[19] Crompton, John. (2005). The Impact of Parks on Property Values
[20] Crompton, John. (2005). The Impact of Parks on Property Values
[21] Dunn, 1911, Olmstead, 1919, Nolen and Hubbard, 1937, Adams, Lewis, and McCrosky, 1974
[22] Crompton, John (2005). The Impact of Parks on Property Values

impacted by the park.[23] Olmstead then used Central Park's success to legitimize the development of many parks in the United States, including Golden Gate Park.[24]

3.3 EMPIRICAL EVIDENCE

This section is not meant to be an academic literature review. Instead, by introducing results from a meta-analysis of 30 'modern' studies, it is intended to lay a baseline for this study as well as any study performed in the future. This section also includes a compilation of the few local studies that have investigated the impact parks have on property values in the Bay Area and California. Finally, it provides readers with a clear sense of how the proximity principle and this field of economic research are relevant to public policy and land-use decision-making.

The 'Modern' Study

During the past two decades, there have been advancements in technology which have simplified and improved the process of calculating the impact parks have on property values. These include the increased sophistication of statistical tools such as the hedonic analysis; the creation of the Multiple Listing Service (MLS) which reports the sales prices of all sales transaction; and the development of Geographic Information Systems (GIS) software. Approximately thirty 'modern' studies have measured the impact of property values.

Seminal 'Modern' Study

In 1978, a study examining the impact of greenbelts on property values in Boulder, Colorado found a $10.20 decrease in property values for every foot away from an open space project in a particular neighborhood. They estimated that property values in that same neighborhood were $5.4 million greater than they would have been without the project. The resulting increase of tax revenue was $500,000, enough to recover the initial investment of $1.4 million in three years.[25]

The Meta Analysis

A meta-analysis of approximately 30 studies show that well-maintained parks enhance surrounding property values. The study found a positive impact of 20% on property values abutting or fronting a passive park area. While the impact of the park was somewhat lower moving away from the park, there was still a positive effect on property values two to three blocks away.[26] The results of the meta-analysis are described in **Table 3.**

[23] Crompton, John (2005). "The Impact of Parks on Property Values"
[24] Crompton, John (2005). "The Impact of Parks on Property Values"
[25] Correll, Lillydahl and Singell. (1978). "The Effects of Greenbelts on Residential Property Values: Some Findings on the Political Economy of Open Space". *Land Economics*, 54:2 207-217
[26] Crompton, John. (2004). The Proximity Principle

Table 3: The Proximity Principle[27]		
Quality of Park	**Distance**	***Green* Premium**
Excellent – Average	1 block	***16-20%***
Excellent	1-3 blocks (500ft)	***15%***
Above Average	1-3 blocks (500ft)	***10%***
Average	1-3 blocks (500ft)	***5%***
Poor	1-3 blocks (500ft)	***-5%***

The Green Premium
This report introduces the term ***green* premium** as the increased value of a property defined by its close proximity to a park.

Local Studies

East Bay Regional Park District
In 2000, East Bay Regional Park District (EBRPD) hired Economic & Planning Systems to conduct an Economic Impact Analysis of the East Bay Regional Park System. The study measured the impact EBRPD land had on the surrounding area. The study quantified the economic benefit in terms of property values, user utility, and replacement value, among other things. The study found that:

- EBRPD-owned open space increases the value of adjacent properties by as much as 30%
- EBRPD provides $58 million in "user utility" value each year[28]
- The cost to preserve EBRPD's land if purchased in 2000 was estimated to be $960 million[29]

The report concluded by stating, "The provision by the District of parks, open space, and trails, and associated recreational and educational opportunities, environmental and cultural preservation, alternative transit modes, and sprawl-limiting characteristics all form part of the strong quality of life in the East Bay"[30], and assigns no monetary value to this *high quality of life* in the East Bay.

[27] Crompton, John. (2004) The Proximity Principle
[28] "User Utility" is the value gained from using the park and is based on comparing: 1) the cost to the user (travel, fees, permits, etc) and 2) the user's WTP for the park experience
[29] "Replacement Value" is the cost of preserving district lands today if they had already been set aside. This estimate is on the conservative side, because it can be assumed that if the land had not been acquired 65 years ago, that it would have most likely been developed.
[30] "Regional Economic Analysis: Trends, Years 2000 and Beyond." (1 November 2000). Economic and Planning Systems Inc. website: www.ebparks.org/resources/pdf/district/econalysis.pdf . Access Date: 28 December 2006.

Lake Merritt, Oakland
In Oakland, California, a 3-mile greenbelt around Lake Merritt, located near the city center, was found to add $41 million to surrounding property values.[31]

Golden Gate Park
In 1993, a study of properties adjacent to Golden Gate Park found that "[the park] is responsible for $500 million to $1 billion of the market value of real estate within walking distance of the park. This value generates $5 to $10 million per year in property tax revenue."[32]

Conclusion

One conclusion that was drawn from the literature review is that the existing empirical evidence tends to be case study specific. Using these studies as empirical evidence can inform jurisdictions about the *direction* of particular effects. However, decision-makers looking for a specific dollar amount to attach to a parks system may find it difficult to use the existing research. This is why it is important that cities, including San Francisco, conduct an economic impact analysis for their own parks system.

3.4 DEVELOPERS AND THE PROXIMITY PRINCIPLE

"If sustainability were profitable, the developer would seek it anyway. If it is not profitable, no competitive developer will wish to pursue the project"
- Robert Reich

Debunking the Myth?

Parks are traditionally considered to be a cost for a development project. The research, in contrast, shows that providing parks in new neighborhoods offers clear financial benefits to developers.[33] For areas of new development, research shows that thoughtfully integrated open space in a community's land mix creates a premium value in that neighborhood.[34]

As previously mentioned, over 30 studies have attempted to measure the effect parks have on property values. However, few have done so from the perspective of a developer or an urban designer. A study done by Andrew Miller (2001) at the request of Bill Gietema, a developer in Texas, showed that, if well designed, developers could benefit

[31] Benotto, Catherine. (18 April 2002). "Greenbacks in the Greenery". Weber + Thompson. Website: http://www.weberthompson.com. Access Date: 12 April 2007
[32] Spickard, Steven. (18 May 1993). "The Value of Parks". Testimony before the California Assembly Committee on Water, Parks, and Wildlife.
[33] Miller, Andrew. (2001) "Valuing Open Space: Land Economics and Neighborhood Parks". Thesis. MIT Real Estate Development
[34] Miller, Andrew (2001)

financially from adhering to the proximity principle.[35] Miller found that more value is created by a series of small parks, which permit more total houses in their vicinity, than by a large, single park. To maximize the value of parks, Miller also found that parks need to be visible and easily accessible. See **Appendix V**.

Empirical Evidence: Developers

San Diego, California
In San Diego County, a developer found he could increase the sale price of his houses by 25% by scaling back his development 15% and adding natural open space corridors visible from every home.[36]

Boulder, Colorado
An interesting finding of the 1978 Boulder study was that the effect of open space on neighborhood property values depended critically on how well the open space had been integrated into the neighborhood. Open space had a greater positive effect on property values in the neighborhood where it was purchased prior to construction and included in the neighborhood design than it did where it was purchased after construction and separated from the neighborhood by a major limited access highway.[37]

Conclusion

Currently, traditional development projects do not reflect buy-in to the proximity principle. However, the more research is done that proves the proximity principle, the more likely it will become conventional practice for developers.

[35] Miller, Andrew (2001)
[36] Benotto, Catherine. (18 April 2002). "Greenbacks in the Greenery". Weber + Thompson. Website: http://www.weberthompson.com. Access Date: 12 April 2007
[37] Correll et al. (1978)

Section 4: The Impact of Parks on Property Values

4.1 SUMMARY

Prices are a means, although imperfect, of quantifying the *value* of public goods such as open space, clean air, community, and safety. In most cases, attaching a price tag is the only way of comparing these nonmarket goods to goods traded in the market. In a city such as San Francisco where many other priorities exist, the ability to demonstrate the economic value of parks in monetary terms is particularly crucial. Unless an attempt to quantify the benefit of parks – both intangible and tangible – is made, it is unlikely that park investment will be prioritized to the requisite level.

This section explores a small yet significant segment of the economic value of parks: **the impact parks have on property values**. As a public good, parks are not generally traded in the market. Because of the lack of direct information to calculate the value of nonmarket goods, economists have developed indirect methods to measure the value of nonmarket goods. The hedonic pricing model is one of these methods. The hedonic pricing method is typically used to estimate the value of nonmarket goods such as parks and open space, as well as air pollution and proximity to hazardous waste facilities.

This analysis measures the impact parks have on property values in two ways:

1) A *holistic* **hedonic pricing model** is used to measure the capitalization of park land into property value for residential homes in San Francisco. Because distance to the nearest park does not have a market price, a hedonic pricing model is the only way to estimate the relationship between property values and proximity to parks. This particular model is designed to measure the *proximity principle*.

2) The **total property tax generated by parks** that the city is not accruing by not including the green premium in their assessment of properties was calculated. This approach assumes that the assessed value of residential properties does not include the *green* premium.

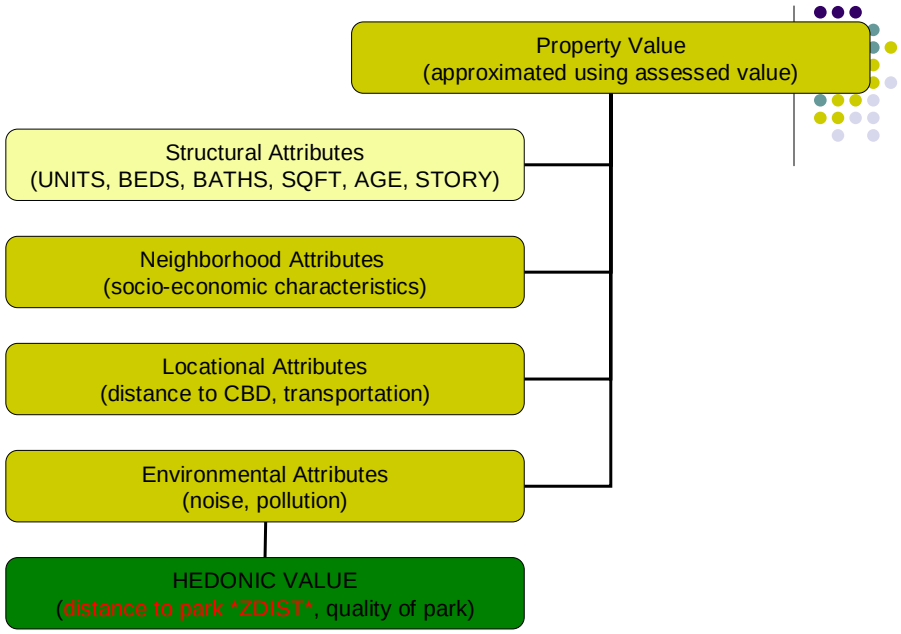
4.2 THE HEDONIC PRICING MODEL

Hedonic Pricing

Hedonic pricing models express the price of a good as a function of its characteristics or attributes. The model then econometrically estimates the implicit price of all the included attributes. For example, a house is a bundle of structural characteristics such as square footage, age of house, number of bedrooms, and so on. The house "bundle" can also include *neighborhood amenities, community conditions, locational factors,*

environmental factors, and *macro-market conditions*.[38] These different attribute categories are demonstrated in **Figure 2**.

Figure 2: Diagram of the Hedonic Pricing Model[39]



The hedonic pricing model is able to explain the variation home prices by attributing the variation to these different attributes included in the bundle. The price of a house is therefore the sum of the value of all of its attributes. This is expressed as:

- Equation One → $P = f(x1, x2, x3 \ldots xn)$;

where P, the market price, is a function of the set of attributes (x1, x2, x3 and so on).

A hedonic variable can then be added to the equation. A hedonic variable is an attribute that does not have a market price. In this case, the hedonic variable is *distance to the nearest park*. The function can now be expressed as the following:

- Equation Two → $P = f(x1, x2, x3, \ldots xn, z)$;

where z is the hedonic variable.

[38] Nicholls, Sarah and John Crompton. (2005). "The Impact of Greenways on Property Values: Evidence from Austin, Texas". *Journal of Leisure Research* 37(3), 321-341
[39] Nicholls, Sarah (2005)

The regression model used to estimate the hedonic price is expressed as:

- Equation Three → $P = B1 + B2X2 + B3X3 + B4X4 \ldots BnXn \ldots BxXx + u$;

where P is the observed property value; X2 - Xn represent the structural attributes; Xx represents the hedonic attributes; u represents the error; and B represents the estimate of the relevant attributes implicit marginal price after differentiation. The regression coefficients, Bs, can also be interpreted as marginal prices homebuyers are willing to pay for each of the attributes.

There are many assumptions associated with the hedonic pricing model. First, the market must be at equilibrium and homebuyers are expected to maximize their utility subject to budgetary constraint. Second, homebuyers must have the ability to choose among all available properties in the area. And finally, homebuyers must have perfect knowledge.[40]

Table 4: Description of Variables and Expected Sign on Coefficient[41]

Variable Name	Variable Description	Expected Sign on Coefficient
ASSESS_V	Total Assessed Value (land+structure+improvements = assess_v)	n/a
SQFT	Size of property (in square feet)	+
AGE	Age of property	-
UNITS	Number of units	?
BED	Number of bedrooms	+
BATH	Number of bathrooms	+
STORY	Number of stories	?
DIST	Distance to Nearest Park	-

[40] Boardman, Anthony E. et al. (2006). Cost Benefit Analysis: Concepts and Practice (Third Edition). Pearson Prentice Hall: New Jersey. pp. 349-352.
[41] Nicholls, Sarah (2005)

Methods

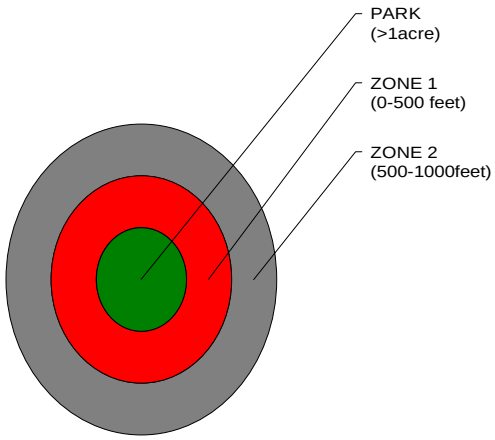
Study Area

As requested by the Neighborhood Parks Council, the City of San Francisco was selected as the area of study. The data set includes 13,472 single-family residential units[42] that are located within 1000 feet of a park under RPD jurisdiction. The purpose of only including RPD-owned park land in the study area is so that, if desired, a comparative analysis could be made between the annual *benefits* and *costs* of RPD parks.

Methods

Through geocoded site location[43], residential properties within 1000 feet of every significant park in San Francisco were identified (**See Figure 3**). A *significant* park is defined as a park that is more than one acre.[44] Next, two zones were created: **Zone 1** includes all properties within 500 feet of a park; **Zone 2**, the 'control group', includes all properties between 500 and 1000 feet of a park. The selected distances were based on the following baseline assumption: although it has been shown that effects from the proximity principle can be measured up to 2000 feet from a park, almost all of the premium generated from a small neighborhood is captured in the first 500 feet, and 75% of this added value is captured within 500 feet of a large park.[45] Only properties that were completely contained Zones 1 and 2 were included. This was done to avoid double-counting.

Figure 3: Hedonic Pricing Model -- Zones



[42] RH-1 and RH-1(D)
[43] GIS software used: ArcView 9.1
[44] Harnik, Peter (TPL). Phone Interview. 13 February 2007
[45] Crompton, John. (2004) The Proximate Principle.

Variables
Assessed property value was used as the dependant variable. This data set was obtained from the City Assessor's Office.[46] Although sales price data more accurately depicts true market value, due to the high cost of accessing this information, assessed value was used as a proxy.

Independent variables fall into two groups; structural and hedonic. Though many other variables categories exist (see **Figure 2**), this study was limited by the availability of data. Independent variables used in this analysis include: the square footage of property (SQFT), the age of the property (AGE), number of bedrooms (BED), number of bathrooms (BATH), number of units (UNITS), number of stories (STORY), and the distance from the nearest park (ZDIST). **Table 4** illustrates the variables used in this study and includes the expected sign of the coefficients.

Sample size was dependant on the reliability of the data set. Reasonable parameters were set for the following variables:

1) only properties with an assessed value between $200,000 and $5 million were included;
2) only properties with BEDS<20 were included;
3) only properties with BATHS<40 were included;
4) only properties with UNITS<10 were included;
5) only properties with STORY<10 were included.

This was done first, to clean up the data of suspicious outliers; and second, to limit the scope of the study to smaller residential properties instead of including large apartment buildings. Distance to the nearest park, or ZDIST, is a dummy variable that categorizes properties as being in either **Zone 1** or **Zone 2** (see **Figure 3**).

Regression Analysis
This study uses a standard multiple regression. Cropper et al. show that a simple linear form produces less of an omitted variable bias than more complicated versions.[47]

Results

Figure 5 shows the results of the hedonic pricing model. The set of explanatory variables included in the model accounts for 19% of the variance in the assessed property value ($R2 = 0.19$). The t-score for distance from a park had a t-score of 21.5, which was the second highest, after the number of bathrooms.

[46] This study used the 2006 Secure Role
[47] Cropper, M.L., Deck, L.B., McConell, K., 1988. "On the choice of functional forms for hedonic price functions". *Rev. Econ. Stat*. 70, 668–675.

Based on the results of the hedonic pricing model:

- Each additional square foot increases the property value by $14.80
- Each additional bathroom increases the property value by $98,905
- Each additional story increases the property value by $95,806
- Each additional unit decreases the property value by $114,500
- Houses in Zone 1 are worth $125,838 more than houses in Zone 2

Table 5: Determinants of Property Value

Variable	Coefficient	Standard Error	P-value	T-Score
SQFT	14.8	.93	0.00	15.99
AGE	2333	133.77	0.00	17.44
BEDS	-1336	1921.57	0.49	0.48
BATHS	98905	3419.14	0.00	28.93
STORY	95806	5515.75	0.00	17.37
UNIT	-114531	5853.75	0.00	-9.17
ZDIST	-125838	15763.41	0.00	-21.5

Discussion

The results indicate that properties in **Zone 1** are worth more than properties found in **Zone 2** (see **Table 5**). This suggests that parks have a positive impact on property values and that a *green* premium of approximately $125,838 exists in San Francisco. It is most likely that this model underestimates the true green premium. This model is only able to capture the green premium within 500 feet of a park. Other studies have shown increases in property values as far out as 2000 feet from a park.[48] Hence, the value estimated for the San Francisco parks system, in terms of positive impact on property values, may be substantially larger than suggested.

Limitations

Conducting an accurate hedonic analysis for a city's parks system is not an easy task. This analysis of the impact of parks on property values in San Francisco is no exception. Variables that would undoubtedly affect property values are left out, either because they were not available, or because the data was incomplete or unreliable. Other studies in the literature, for example separate their analysis by "park type".[49] Still other studies are more thorough in their treatment of neighborhood attributes.[50]

[48] Miller, Andrew (2001)
[49] Crompton, John. Personal Interview. 13 February 2007
[50] Crompton, John. Personal Interview. 13 February 2007

Ideally, this study would have used sales price as its data set. However, the actual sales price data is not easily accessible and is Multiple Listing Service (MLS) data can be prohibitively expensive for non-profits and government agencies.

It is also important to note the disparity between the median price of a home in San Francisco, which is approximately $800,000, and the mean assessed value, which is approximately $400,000.[51] Again, the economic value estimated for San Francisco's parks system, in terms of positive impact on property values, may be substantially larger than suggested.

4.3 AGGREGATING THE GREEN PREMIUM

To Be or Not to Be?
There is a debate to whether or not the assessed value of a property includes the proximity principle. This debate is not only between academics, it also occurs at the city level. Interviewing a handful of city appraisers exposed the lack of a standardized approach for property assessment in San Francisco.

Calculating the Green Premium
Assuming that the City Assessor's Office *does not* take the proximity principle into account when assessing the value of properties in San Francisco, and assuming that there is an average premium of 5-20% within 500 feet of an urban park, property values for residential homes in **Zone 1** were aggregated. The sum of all property values was $11 billion. Next, a 5% to 20% premium were added to this dollar amount. This range represents an estimate of the overall change in property value attributed to the proximity principle. Aggregated property values increase from $11 billion to $11.6 – 13.3 billion when the proximity principle is accounted for. Finally, this new aggregate total was multiplied by local property tax rate[52] to estimate the total positive impact of parks on the property tax base. When accounting for the *green* premium, property taxes jumped from $125 million to $132 - $150.4 million.

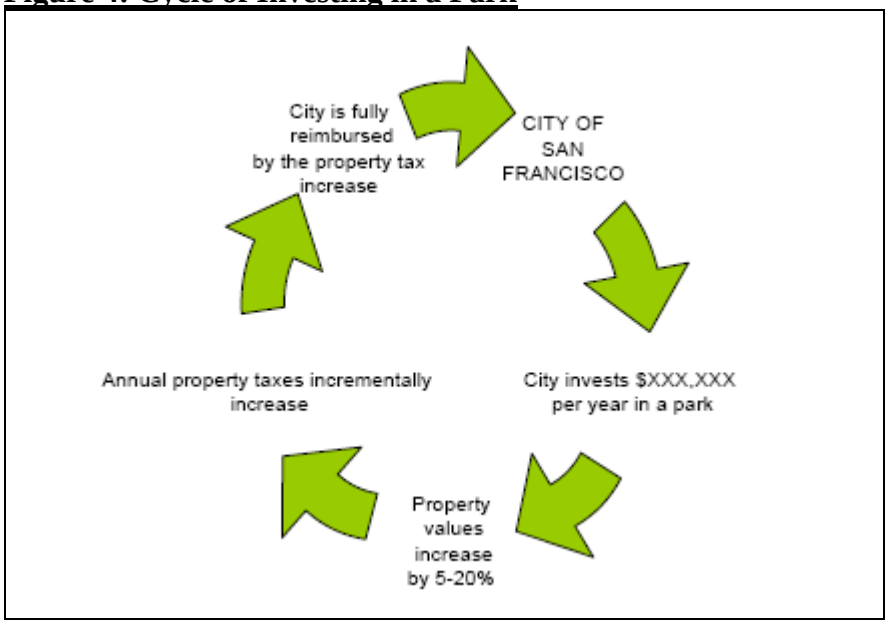
This calculation is important because it estimates the amount of property taxes generated by the *green* premium that the City is not taking advantage of. By not including the proximity principle in assessed property values, the City is missing out on $6.3 – 25.1 million in property taxes. This number only reflects the impact of RPD-owned parks and open space. It does not include other parks and open space in San Francisco.

Conclusion
An important next step would be to compare the aggregated *green* premium with the annual cost to RPD to acquire, develop, and maintain parks and open space. However, it

[51] California Home Sale Price Medians by City: Home Sales Recorded in March 2007: Dataquick real estate news. Website: http://www.dqnews.com/ZIPCAR.shtm . Access Date: 25 April 2007
[52] Local Property Tax Rate = 1.135%

is again important to note that calculating the *green* premium is only a partial indicator of the revenue parks generate for the city.

Figure 4: Cycle of Investing in a Park



Section 5: Parks and Economic Development

In addition to increasing property values, parks play other roles in economic development. The following section explores the role parks can play in San Francisco's new economic development strategy.

5.1 QUALITY OF LIFE

It has been demonstrated in numerous studies and surveys that the desirability of a community is at least in part dependant on the quality of the park system:

- *Community Desirability*: The National Association of Home Builders found that 65% of respondents to a survey said that parks seriously influenced their decision to buy a house[53].
- *Proximity to Parks*: A 2001 survey conducted for the National Association of Realtors indicated that 50% of respondents would be more likely to select a neighborhood close to parks and open spaces over one that was not[54].
- *Willingness to Pay for Parks:* The same 2001 survey indicated that 50% of respondents would pay 10% more for a house located near a park or other open space[55].

This is also true in San Francisco. Numerous surveys and studies have shown that quality of life has been a key component in San Francisco's economic success. For example, San Francisco has been recognized as the most "Creative City" by Richard Florida's Creativity Index. This analytic tool correlates creativity, another component of quality of life, to economic development.[56]

Additionally, the annual Money Magazine article, "America's Best Big City" credits parks as key criteria for choosing its winners. Winners are economically vibrant cities that provide the highest quality of life. These are cities that put a premium on *park space*.[57] Park space is measured by square mileage of designated green space/park land within a city. This includes local parks, state parks, golf courses, and national and regional forests.[58] San Francisco did not make the top ten big cities.

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[53] The Perryman Group. (December 2006). "Sunshine, Soccer, and Success: An Assessment of the Impacts of Municipal Parks and Recreation Facilities and Programs on Business Activity in Texas". Waco, Texas. Website: http://www.tprfoundation.org/files/TexasParksAndRecreation_1-19-07_with_Summary.pdf . Date Accessed: 20 April 2007.

[54] The Perryman Group. (December 2006). "Sunshine, Soccer, and Success"

[55] The Perryman Group. (December 2006). "Sunshine, Soccer, and Success"

[56] Florida, Richard (2005). The Creative Class and Cities

[57] Money Magazine's Best Places to Live (2006), website: http://money.cnn.com/magazines/moneymag/bplive/2006/faq/ . accessed: 10 April 2007

[58] Money Magazine's Best Places to Live (2006), website: http://money.cnn.com/magazines/moneymag/bplive/2006/faq/ . accessed: 10 April 2007

Figure 5: Diagrammatic Representation of San Francisco's Major Sectors

5.2 TAXONOMY OF SAN FRANCISCO'S ECONOMY

San Francisco's economy is based on two core activities: generating new knowledge and providing a unique, high-quality experience to visitors. San Francisco's new Economic Development Plan identifies these two key sectors as the *Knowledge Sector* and the *Experience Sector*, respectively.[59] Both sectors are dependant on the reputation San Francisco has as an attractive, unique place to live or to visit. In addition, the success of these two sectors is dependant on the ability to attract a quality workforce.[60] See **Figure 5** for a diagrammatic representation of San Francisco's two most important sectors.

5.3 THE ECONOMIC DEVELOPMENT PLAN

San Francisco is in the process of putting together its first Economic Development Plan.

Origin: Proposition I

In 2004, the voters of San Francisco passed Proposition I. In Section 10.33, the Economic and Workforce Development Department was tasked to prepare and present to the Board of Supervisors a long-term Economic Development Plan for the City of San Francisco. The plan will be updated every three years and address the following topics:

[59] Egan, Ted. ICF Consulting. (27 March 2007). Presentation to SPUR's Economic Policy Committee on San Francisco's new Economic Development Plan.
[60] Egan, Ted. ICF Consulting. (27 March 2007). Presentation to SPUR's Economic Policy Committee on San Francisco's new Economic Development Plan.

- Employment in the City, public and private
- The City's tax revenues, by industry and firm size
- The industries most likely to create significant numbers of jobs in the City
- Goals for private and non-profit sector job and revenue generation
- Goals and strategies for protecting existing small businesses and neighborhood-serving businesses from displacement while also growing new businesses
- Goals and strategies for increasing employment opportunities for people with disabilities and vulnerable populations
- A review of the physical, financial, market and organizational factors impacting the City's ability to attract, retain, and increase private and non-profit sector jobs
- The identification of best practices that other jurisdictions have successfully implemented to create private and non-profit sector jobs within their respective communities

From Goals to Strategies: Identifying Key Impact Areas

After studying the strategies proposed by the Economic Development Plan, four components were identified as key impact areas in which parks and open space could play a role in San Francisco's economic development. The four key impact areas are:

- Attracting and retaining businesses, including corporate headquarters
- Attracting *Knowledge Sector* Workers
- Protecting and growing, and raising the value of the *Experience Sector*
- Retaining the middle-class

Key Areas 1 and 2: *Attracting and retaining knowledge sector businesses and workers, including corporate headquarters*

The success of businesses in the high-tech and research and development fields is in many cases dependant on their ability to attract and retain a highly educated workforce. This is because, as exporters of knowledge, this sector's key assets are not inventory and capital, but ideas and a skilled workforce.[61] A major factor in where these *knowledge sector* workers choose to live is the area's **quality of life**. In 1998, a survey of 1200 high-tech workers found that the quality of life of a community increased the attractiveness of a job by 33%.[62] And, regardless of how one defines quality of life, parks and recreation are a key component.

Furthermore, companies in the *Knowledge Sector* are less tied to a specific place to run their businesses or set up their headquarters. Because of this, *knowledge* companies have

[61] Crompton, John. (2007) "Competitiveness: Parks and Open Space as Factors Shaping a Location's Success in Attracting Companies, Labor Supplies, and Retirees." Chapter 5 in Trust for Public Land's *The Economic Benefit of Land Conservation* Report. Website: http://www.tpl.org/tier3_cd.cfm?content_item_id=21251&folder_id=175

[62] The Perryman Group. (December 2006). "Sunshine, Soccer, and Success"

more control over where to locate or relocate. Similar to *knowledge sector* workers, quality of life has been shown to highly impact this decision. A 2001 poll of 50 senior executives of Fortune 500 companies rated quality-of-life – including things such as parks and recreation, traffic, and climate – as one of the most important factors they consider when locating their companies. See **Table 6** for results of the survey. This trend is demonstrated by the following comment on recruiting from the Vice-President of Dell: "People working in high-tech companies are used to their being a high-quality of life in the metropolitan areas in which they live. It's all about 'what's the community like where I'm going to live?'".[63]

Cities now have a greater responsibility to create an environment that will attract talent, knowing the economic growth talent brings. "Recognizing that even local sources of investment are now able to seek global opportunities to realize higher return, cities are searching for new ways of gaining a competitive edge in winning investments."[64] According to Richard Florida, the solution for cities in capturing this crucial talent is to develop the kind of creative conditions that best promote and attract them to live there. Since technology and talent are highly mobile, it is the tolerance and diversity of the cities that helps these factors to stay and flourish. The creative class gravitates towards progressive values and lifestyles, and outdoor recreation amenities.[65]

Finally, a study conducted in Colorado by Crompton, Love, and Moore was able to separate the value of parks from quality of life issues in attracting businesses. Crompton et al. surveyed 174 businesses that had been started, relocated, expanded in Colorado from 1992-1997. In addition to citing quality of life as the single most important attribute they considered, more than 80 percent of the respondents included some dimension of parks, open space, or ambience as critically important to the decision-making process.[66]

[63] Crompton, John. (2007) "Competitiveness: Parks and Open Space as Factors Shaping a Location's Success in Attracting Companies, Labor Supplies, and Retirees."
[64] Florida, Richard. (2002). Rise of the Creative Class. New York: Basic Books
[65] Florida, Richard (2002). Rise of the Creative Class
[66] Crompton, John. (2007) "Competitiveness: Parks and Open Space as Factors Shaping a Location's Success in Attracting Companies, Labor Supplies, and Retirees."

Table 6: Attributes Considered Most Important by Fortune 500 Companies When Locating their Companies[67]	
Rank	**Attribute**
1	Pool of skilled, experienced, tech savvy talent
2	Quality of Life: climate, traffic, **recreation,** etc
2	Cost of Living
4	Universities that supply talent, "commercializable" research
5	Quality of Local and Regional transportation network, including airports and mass transit
6	Presence of "Pillar Companies" – support technology and entrepreneurial activities
7	Strong local and regional government that fosters growth
8	State and Local Tax Policies

Harris Interactive (2001)

Key Area 3: *Raising the Value of the Experience Sector*

Tourism is the number-one growth industry in the world and San Francisco's number one revenue-generating industry.[68] It has historically been a major source of economic growth and tax revenue for the City. For thirteen consecutive years, San Francisco has been voted to be the number one destination in the United States by a poll conducted by Conde Naste.[69] In 2005, 15.7 million visitors came to San Francisco and spent $7.3 billion dollars in local businesses. According to the San Francisco Visitor's Bureau, visitors generate $418 million taxes and fees and support 66,315 jobs directly related to tourism.[70]

People come to San Francisco for a uniquely San Francisco experience. For example, San Francisco's "Ambiance and Atmosphere" was one of the top motivating factors for people to come visit San Francisco.[71] San Francisco's "Scenic Beauty" was cited second most often. Although both categories include more than just parks, parks play a major role in both the ambiance and scenic beauty of the city.[72]

Neither the Visitor's Bureau nor the RPD track the number of tourists that visit parks.[73] However, in 2004, the Visitor's Bureau estimated that 26.6% of tourists staying in hotels visited Golden Gate Park. The 2004 survey only surveyed 4.5 million visitors staying in hotels – it did not include the 10.92 million visitors not staying in hotels.

[67] Poll conducted by Harris Interactive for AT Kearney/EDS Corp. "50 Senior Executives of Fortune 500 Companies. June/July 2001. Reported in the Dallas Morning News (24 July 2001), Business Section cover story.
[68] Tourism has a total payroll of $1.8 billion/year, according to the SF Visitor's Bureau.
[69] Goldes, Dan. Email Interview. 4 April 2007
[70] San Francisco Convention and Visitor's Bureau, Education and Research Foundation, Economic Research Associates: www.sfvisitor.org
[71] 63.4% of respondents to the 2004 survey
[72] Goldes, Dan. Email Interview. 4 April 2007
[73] The PRD does not track the number of users, visitors or SF residents, in its parks.

The Golden Gate National Park (GGNP) Conservancy tracks the number of users of the Golden Gate National Recreation Area. Total recreation visits for 2004 were 13,154,102.[74] In addition, more than 1.5 million people visit Alcatraz every year.[75]

Golden Gate Park

In a survey administered by GGNP Conservancy in the late 1990s, 67% of Bay Area residents said they go to a park once a month, while fewer than 10% never do.[76] Of the 15 million visitors to Golden Gate Park each year, 52% are San Francisco residents, while the rest are visitors. Forty percent of tourists in San Francisco reported visiting Golden Gate Park.[77]

Golden Gate Park is among the favorite destinations of tourists visiting San Francisco.[78] Although research shows that Golden Gate Park is high on most visitors 'must see' list, it does not appear on www.sfgov.org's Visitor's webpage.[79] Visitors using the City's website must hunt around to find any sort of information regarding the City's park system. On the Chamber of Commerce's website, 10 out of the 25 featured 'what to do' sites in San Francisco are parks – either national, state, or city parks – yet, on the main page, parks is not included as an option.[80] These options include golf courses, art galleries, nightlife, museums, shopping, etc. Finally, on the "Only in San Francisco" website, administered by the Visitor's Bureau, golf courses are the only parks and recreation facility advertised.[81] Again, information about Golden Gate Park on the "only in San Francisco" website is not easy to find.

Other Cities

This report explored the websites of three other major tourist destinations – Chicago, New York City, and Paris – to see how they were marketing their parks system.

Under "Exploring Chicago" on the City of Chicago's website, there is a direct link to Parks and Recreation.[82] On the visitor's webpage for New York City, one of the options is Parks and Facilities.[83] Similarly, the City of Paris' tourisme webpage has a link to "parcs & jardins".[84]

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[74] Golden Gate National Recreation Area: Park In Brief. Website: http://www.nps.gov/transportation/alt/documents/Ford%20Golden%20Gate%20Scholar.pdf, Access Date: 4 April 2007.
[75] Golden Gate National Parks Conservancy: Alcatraz. Website: http://www.parksconservancy.org/visit/alcatraz/tours.asp . Access Date: 4 April 2007.
[76] San Francisco Partnership for Parks (1998). "Golden Gate Park, The deYoung Museum, and the California Academy of Sciences: Some Facts and Conclusions." p. 15.
[77] San Francisco Partnership for Parks (1998). "Golden Gate Park, The deYoung Museum, and the California Academy of Sciences: Some Facts and Conclusions." p. 17.
[78] San Francisco Partnership for Parks (1998). "Golden Gate Park, The deYoung Museum, and the California Academy of Sciences: Some Facts and Conclusions."
[79] SF Gov's Visitor's Website: http://sfgov.org/site/visitor_index.asp
[80] Chamber of Commerce Website: http://sfchamber.dpway.com/sfchamber/search.aspx
[81] Only in San Francisco Website: www.onlyinsanfrancisco.com
[82] City of Chicago Website: www.cityofchicago.com
[83] City of NYC Website: www.nyc.gov
[84] Translated from French: parks and gardens

Key Area 4: *Retaining the Middle Class Family*

Not all families want the suburban, white picket fence existence. However, a recent survey of San Francisco's families showed that urbanite families place a high value on safe and enjoyable public spaces. In addition to providing good public schools, the success of any city in keeping these families will depend on how desirable their public spaces are.[85]

5.4 CASE STUDY: ATLANTA

This report interviewed city employees and park advocacy organizations from New York City, Atlanta, and Chicago, and Paris, to get a better sense of how these cities integrated parks and open space into their economic development strategies. Although all four cities addressed the economic value of parks in one way or another, Atlanta was the only city that explicitly included parks and open space into their economic development plan. It is debatable, however, to what extent this initiative has been effective.[86]

Atlanta Parks and Economic Development
The City of Atlanta explicitly states that "parks and greenspace are vital elements of health and economic prosperity for a community which values healthy neighborhoods and an excellent quality of life".[87] In response, the New Century Economic Development Plan identifies "growing dedicated parks and greenspace" as one of the City's top ten priorities to achieve by 2009. The *Greenspace Initiative* is part of the "support the growth of the hospitality, tourism, and entertainment industry" action plan. To view the *Greenspace Initiative*, please refer to **Appendix IV**.

Partnerships
The Atlanta Development Agency has partnered with the Department of Parks and Recreation, Cultural Affairs, Department of Planning, and Department of Community Development to "facilitate the evaluation, funding, and acquisition of properties that enhance the existing network of parks and trails throughout the city"[88].

5.5 CONCLUSION

This report is not trying to single out parks as the solution to all of the city's economic development problems – however, this report does see the economic value in

[85] Holt, Tim (8 April 2007) HOW SAN FRANCISCO CAN KEEP ITS FAMILIES FROM MOVING OUT: Open space, safe streets are key incentives. *SF Chronicle*
[86] Harnik, Peter. Phone Interview. 13 February 2007.
[87] Atlanta Development Authority Website: Atlanta Development Authority Website: http://www.atlantada.com/adaInitiatives/parksGreenSpace.jsp
[88] Atlanta Development Authority Website: Atlanta Development Authority Website: http://www.atlantada.com/adaInitiatives/parksGreenSpace.jsp

incorporating *investing the city's park system* as an integral part of SF's new Economic Development Plan.

Section 6: Paying For Parks

As any homeowner knows, a successful investment requires ongoing maintenance. It is no different for a city's park system. However, ongoing maintenance does require adequate funding. Because parks are public goods, this responsibility of protecting, maintaining, and growing the investment falls on the local government. The current level of park funding in California – at the federal, state, and local level – is not nearly adequate and is best described as a *maintenance conundrum*.[89]

The following section defines the maintenance conundrum and explains its relevance to the economic value of parks. Next, it summarizes how San Francisco currently pays for its parks. Finally, it provides a menu of options for alternative ways San Francisco could best invest in their parks system.

6.1 THE MAINTENANCE CONUNDRUM

Fixing a leaky toilet does not cost a lot of money. However, it is not politically sexy, either. The current trend in most park systems is a lack of funding for ongoing maintenance. This typically results in expensive deferred maintenance costs. These deferred maintenance costs can eventually turn into capital expenses. The irony is that a higher annual allocation would decrease future spending.[90] The *maintenance conundrum* explains the phenomenon that park agencies rarely get adequate resources to maintain newly acquired park land. This is especially true in urban areas, where competition for general funding is steep.

Similar to any type of investment, the economic value of a park depends on how well it is maintained. Because RPD is an agency that finds itself systematically underfunded, it is safe to presume that looking at alternative methods to pay for parks may be necessary.

6.2 HOW SAN FRANCISCO CURRENTLY PAYS FOR PARKS

San Francisco funds its parks through an Open Space Fund, the General Fund, departmental revenues, operation of the Yacht Harbor, and parking garage revenues. In addition, some areas of the city, such as the downtown and Rincon Hill assess developers an impact fee. Developers in the downtown area also face open space requirements.

Open Space Fund

San Francisco's only city-wide funding source for parks and open space is called the Open Space Fund. The Open Space Fund receives 2.5 cents for every $100 of assessed property value paid to the City. Five percent of the allocated amount is dedicated

[89] Holderman, Reed (TPL). Personal Interview. 9 April 2007
[90] Holderman, Reed (TPL). Personal Interview. 9 April 2007

specifically for acquisition. In the last 10 years, the Open Space Fund has acquired 11 acres. These properties include parks such as Esprit Park, Edgehill Mountain Open Space, Portoloa Park, McLarren Park Extention, Perry Park, Bessie Carmichael Park, Page Street Garden, Page Street Community Garden, Hayes Green Park, and Roosevelt and Henry Open Space.

Currently, 23% of RPD's budget comes from the Open Space Fund.

General Fund

Approximately one third of funding for RPD comes from the city's General Fund. This funds basic operational costs such as recreational programs and services, maintenance of parks and facilities, and administration.[91]

Developers Fees

Developers in San Francisco are assessed impact fees that help to pay for parks and open space in the impacted area. However, this is limited to certain areas of the city, specifically Rincon Hill and the Downtown area. In Rincon Hill, residential developers are charged $11 per square foot. Downtown, the city collects $2 per square foot for new office or commercial development and the revenues are used to help finance the creation or maintenance of open space, but compete with many other important neighborhood services. The money generated from the impact fees downtown is placed in the Downtown General Fund and can only be used in that area. It has been difficult for RPD to use the Downtown Park Fund to acquire park land because property in that area is prohibitively expensive.[92] Instead, the impact fees have been limited to for improvements to Union Square and Ferry Park.[93]

Open Space Requirements

Section 138: Open Space Requirements in C-3 Districts
All new development projects in the Downtown Area are required to provide a minimum of 1 sq. ft. of open space to every 50-100 sq. ft. of development.[94] Developers must provide one or more of the following types of open space: plaza, urban park, urban garden, view terrace, sun terrace, greenhouse, small sitting area, atrium, indoor park, or a public sitting area.[95] No more than 20% of the space can be indoors and should be of

[91] History of the Capital Plan. RPD website: http://www.parks.sfgov.org/site/capimp_index.asp?id=16489 . Access Date: 6 April 2007.
[92]Boyde, Robynne. (15 June 2006). "San Francisco has insufficient green to maintain green spaces". Neighborhood Newswire. Website: http://www.sfpower.org/newswire/landuse20.php . Access Date: 12 March 2007.
[93] Boyde, Robynne (15 June 2006).
[94] City and County of San Francisco Municipal Code – Planning Code. Section 135.1. website: http://www.municode.com/Resources/gateway.asp?pid=14139&sid=5 . Access Date: 9 April 2007
[95] "Guidelines for Open Space" in the Open Space Section of the Downtown Plan. Website: http://www.sfgov.org/site/planning_index.asp?id=25010 . Access Date: 9 April 2007.

adequate size, well-designed, landscaped, sunny, and open to the public. The spaces are maintained at no public expense.[96]

While this approach may seem ideal for provision of open space, it has three fundamental problems. First, because the open space is *required,* there is no incentive for the developer to think strategically about the design and placement of the open space. Secondly, because the maintenance and security responsibilities fall on the private owner, there is incentive to create public spaces that require less maintenance costs; which results in a high proportion of indoor spaces or minimally landscaped areas. Finally, it is debatable whether these Privately-Owned Public Spaces (POPOS[97]) are actually public spaces.[98]

Section 135.3:
Section 135.3 of the Zoning Code requires that all new commercial developments within the RED, RSD, SPD, SLR, SLI and SSO districts provide 1sq. ft. per 90 sq. ft. of usable open space. For example, if a new commercial development was 100,000 sq. ft., then it would be required to provide 1111 sq. ft. However, there is an alternative -- this requirement can be waived if the developer pays $.80 for each sq. ft. of open space otherwise required to be provided. This would mean that for a development of 100,000 square feet, the developer could opt to pay less than $1000 to the Open Space Fund instead of providing the physical open space. This dollar value is far from equaling the cost of acquisition, development, and maintenance of an 1111 sq. ft. park. According to the Planning Department, this policy has not been updated for years and there is no formal application process.[99]

6.3 ALTERNATIVES: A MENU OF OPTIONS

Currently, traditional development projects do not reflect buy-in to the proximity principle. However, the more research that is done proving the legitimacy of the proximity principle, the more likely it will become conventional practice for developers.

In the meantime, **creating policies that either mandate or incentivize developers to either provide or pay for open space acquisition, development, and maintenance is required**.

[96] City and County of San Francisco Municipal Code – Planning Code. Section 138 (h). website: http://www.municode.com/Resources/gateway.asp?pid=14139&sid=5 . Access Date: 9 April 2007
[97] There are 14 POPOS in the downtown area. Website: www.rebargroup.org/projects/commonspace/index.html . Accessed: 2 November 2006
[98] Bela, John. Email Interview. 5 April 2007
[99] SF Planning Department Staffer. Email Interview. 10 April

Extend Mandatory Open Space Requirements

For developers, the decision to incorporate open space into a project is not straightforward. The developer's main interest is the short-term return of a project. Therefore, for a developer to invest in a park, the financial feedback has to be immediate. This is rarely true when investing open space, as there is a lag time associated with the capitalization of open space into increased property values.[100] In addition, developers must calculate the benefits of parks themselves, a task that this report has already identified as difficult. However, if a city has a policy that mandates a park, the benefit-cost analysis becomes much simpler.

Mandatory open space requirements for development in San Francisco could be extended by geography as well as by type:

1) Institute a city-wide policy
San Francisco currently requires all new development in the Downtown area to provide Privately-Owned Public Space. Similar requirements should extend to other parts of the city. However, to be effective, open space requirements should be drafted so that they compel developers to create well-designed, strategically-placed outdoor open spaces that are accessible to the public. For projects where providing open space may not be possible, an in-lieu fee equivalent to the estimated cost of acquiring, developing, and maintaining park land near the project could be included as an alternative. This could be similar to the waiver in Section 135.3 (d), but must accurately reflect the actual cost of acquiring, developing, and maintaining open space.

2) Include improvements and provision of services
Open space requirements for public open space (either onsite or offsite) could also be extended to include streetscape improvements and recreational opportunities.

Incentives for "Green Development"

Because the economic return and value of park is so heavily dependant on design and strategic placement[101], creating incentives may make parks more valuable for the developer *and* the community, instead of simply mandating a certain percentage of the development as open space.

Similar to incentives for buildings to be LEED certified, the city could develop a policy that gave developers an incentive to incorporate open space into their projects. For example, projects that committed to providing an additional X acres or X percentage of open space could be pushed to the front of the line.

[100] Miller, Andrew. Phone Interview. 16 February 2007
[101] Miller, Andrew. Phone Interview. 16 February 2007

The city could also offer incentives to high density development but also require that small, community parks are included on each block.[102]

Extend Impact Fees

Development impact fees are a cost-effective, realistic way to mitigate a development's impact to the local area. While this fee will increase the overall cost for developers, it is typically passed on to the buyer, the group will ultimately enjoy the benefits of the resulting community improvements. Development impact fees should be enough to pay for open space acquisition and development in the immediately impacted area. One option would be to have and open space fee separate of the impact fee.

Development impact fees should become a city-wide standard for all areas experiencing high levels of development. The City should explore the possibility of extending impact fees beyond the Downtown core.

Open Space Tax

A number of cities and states levy a tax that is specifically used to pay for their parks and open space. The City of Boulder has an open space tax.[103] Parks in Florida and Texas are partially funded by a sales tax on sporting goods.[104] Arkansas and Missouri also have similar taxes dedicated to open space.

Sales Tax on Sporting Goods

Given that parks are a likely source of sales of sporting goods, it is not illogical to allocate revenue generated from a sales tax on sporting goods to parks. Although a sales tax on sporting goods may be a stretch for the city of San Francisco, it is something the state of California may want to pursue. As demonstrated in Texas and Florida, a tax on sporting goods sales represents a growing market and therefore strategic source of revenues. The Sporting Good Manufacturers Association's Recreation Market Report indicated that Americans spent just over $114.5 billion on sports equipment in 2006.[105] Recreational equipment also has the potential to generate sales tax revenue multiple times through used sporting goods stores and sales. The National Sporting Goods Association found that consumers spent $885 million on used sporting goods equipment in 2005, generating further retail sales taxes.[106]

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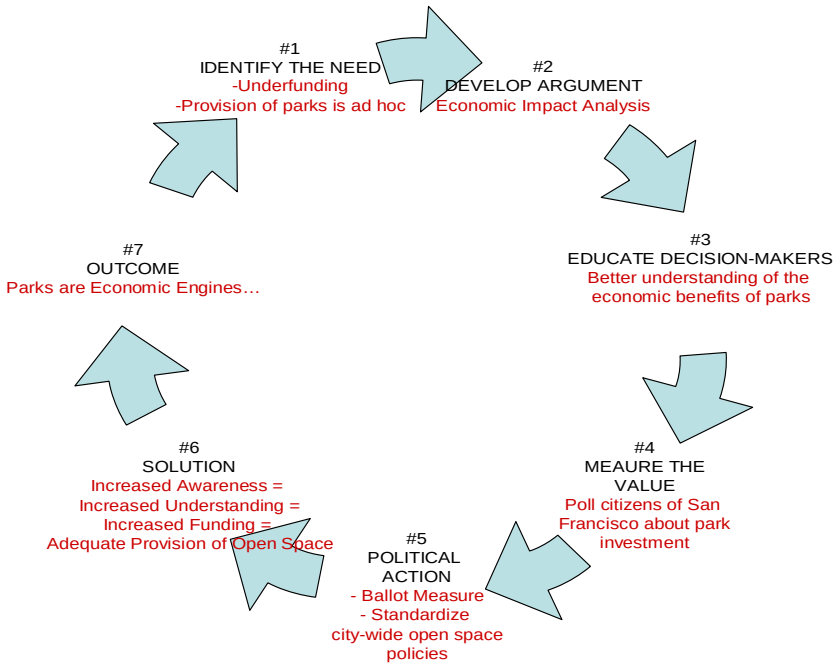
[102] Sullivan, Elizabeth. (July 1999). "More Density, More Parks". *SPUR Newsletter*. San Francisco
[103] Guthrie, Alice (City of Boulder). Email Interview. 9 February 2007.
[104] Holderman, Reed (TPL). Personal Interview. 9 April 2007
[105] 2007 SGMA Manufacturer Sales by Category, website: http://www.sgma.com/displaycommon.cfm?an=1&subarticlenbr=395, accessed: 12 April 2007
[106] National Sporting Goods Association. website: http://www.nsga.org/public/pages/index.cfm?pageid=1435 , accessed: 12 April 2007

6.4 ECONOMIC IMPACT ANALYSES AND PUBLIC POLICY

Provision of adequate funding for the protection, maintenance, and acquisition of parks is necessary for parks to have a positive impact on San Francisco's economic success. However, without having a complete picture of the benefits of parks and open space, voters and decision-makers may not understand the full value of their city's parks system. This includes developers. **Figure 6** demonstrates the importance of conducting an economic impact analysis to gain support for investing in San Francisco's parks.

It is interesting to note that communities that have tackled the maintenance conundrum with varying types of policies have one thing in common: most of the communities, whether city, regional, or state, had conducted a study looking at the economic value of their parks system.[107]

Figure 6: Economic Impact Analyses Role in formation of public policy



[107] Examples include: Texas State Parks and City of Boulder

Section 7: Recommendations

The economic success of parks, like any other type of infrastructure, is reliant on investments in its services and amenities. Such investments lead to more usage and increased revenues, while reductions in funding tend to have the opposite effect.

This section offers a number of recommendations that may serve as next steps to begin the city-wide conversation about how to best invest in San Francisco's parks. These recommendations are simply suggestions and should only be used as part of the larger recommendation that San Francisco perform its own study and analysis. Far from exhaustive, and certainly not mutually exclusive, the hope is that these recommendations will serve as a menu of options for a wide audience.

7.1 NEW DEVELOPMENT IN SAN FRANCISCO

Recommendation #1
Fact: *Despite its perception as being a built-up city, the level of development and redevelopment in certain parts of San Francisco is high.*
Reality: *San Francisco does not have a systematic approach to ensure adequate provision of open space.*
Recommendation*: Expand developer impact fees and open space requirements to other areas in the city*
Recommendation: *Explore the possibility of developing in-lieu fees equal to the amount it would cost to acquire, develop, and maintain required open space.*

Recommendation #2
Fact: *If parks are strategically placed in new developments, they can increase the value of the development by up to 20%.*
Reality: *San Francisco does not provide any incentives for developers to include greenspace in their projects.*
Recommendation: *Similar to buildings that are LEED certified, developers who practices reflect the proximity principle should be pushed to the front of the line.*

Recommendation #3
Fact: *Open space had a greater positive effect on property values in a neighborhood when it is purchased prior to construction and included in the neighborhood design.*
Reality: *The opportunity to purchase open space and then integrate it into new developments is limited in San Francisco.*
Recommendation: *Regardless, this should be a guiding practice in designing new residential and commercial properties in the areas of San Francisco undergoing redevelopment or development.*

Recommendation #4
Fact: *Proximity to well-designed parks increases property values.*
Reality: *Parks are traditionally considered a cost in development projects*
Recommendation: *The more research that is done that proves the proximity principle, the more likely it will become conventional practice for developers. The City of San Francisco should further investigate the role of developers.*

7.2 CITY-WIDE COLLABORATION

Recommendation #5
Fact: *Parks are a necessary piece of the urban fabric of San Francisco. Parks provide many benefits that include, but are not limited to: health benefits, environmental mitigation, economic development and growth, and community revitalization.*
Fact: *Parks have multiple benefits and combining resources can dissipate some of the pressure on the current budget allocated for acquisition, development, and maintenance of parks*
Reality: *City agencies that have similar goals in regards to the quality of parks in San Francisco do not work together.*
Recommendation: *The RPD should work jointly with the Department of Public Health, SF Unified School District, Mayor's Office on Community Development, SF Environment, The Visitors Bureau, and other relevant agencies on an "Investing in Our Parks" initiative.*

7.3 INCREASING THE VALUE OF THE EXPERIENCE SECTOR

Recommendation #6
Fact: *Parks are one of the biggest tourist attractions in San Francisco.*
Reality: *Parks are not included on the city's "visitor" webpage, nor on the homepage of www.onlyinsanfrancisco.com.*
Recommendation: *Make it easier for visitors to San Francisco access information about SF parks (this includes parks owned by the city, but also parks owned by other agencies, privately owned parks, and state and national parks).*
Strategy: *The City of San Francisco and Visitor's Bureau websites should have a direct link to Parks and Recreation. This should include not only city parks such as Golden Gate Park, but also state and national parks, such as the Presidio and Alcatraz.*

Recommendation #7

Fact: *There has been a drop in visitors from Germany, France, and Japan in the past two years.*

Reality: *The Mayor's Office and the San Francisco Convention and Visitors Bureau have teamed up to brand the city's values as "Uniquely San Francisco". "The city has a reputation for being one of the most tolerant, the most open-minded, diverse, and most beautiful cities in the United States"[108] and the City would like to keep it that way.*

Reality: *The City of San Francisco does not market its parks system.*

Recommendation: *A 'Valuing Parks' Campain should join the "Only in San Francisco" Campaign*

7.4 MANAGEMENT AND DATA COLLECTION

Recommendation #8

Fact: *An economic impact assessment of San Francisco's parks requires that information regarding park users is tracked, managed, and analyzed.*

Fact: *Agencies are more effective if they understand who is using their facilities and services.*

Reality: *RPD does not track this type of information*

Recommendation: *It is imperative that RPD starts tracking users. With the help of the Visitor's Bureau, RPD could also administer a survey to visitors regarding their experience in San Francisco's parks.*

[108] Tate, Ryan. (30 March 2007). "San Francisco Values to Woo Foreign Visitors". Interview with Deborah Reinow, Vice President of SF Tourism Bureau. *SF Business Time*s.

Section 8: Areas for Future Research

Parks offer many benefits – of an environmental, health, economic, and social nature. Unfortunately, there is currently no method that is able to measure all such benefits simultaneously. For instance, while the hedonic pricing model used in this report estimates the value of nearby property owners, other community members' values and other types of benefits are not taken into account. To begin, the value of recreational use by residents beyond the study area is not assessed; health benefits associated with physical activity in parks are not included; value to tourists and other visitors is not calculated; and, environmental benefits are not captured.

For the City of San Francisco to obtain a more complete understanding of the economic benefit of parks, it is suggested that following three areas of research are explored in more detail. Dedicating time and research to one or any combination of the following areas would result in a more complete picture of the economic value of parks in San Francisco.

8.1 REFINING THE HEDONIC PRICING MODEL

Due to the unreliability of the assessed value data and the limitations and constraints involved in performing such a statistical analysis, this report can only provide a theoretical framework for a city-wide hedonic pricing model. The next step in this process would be to obtain market value data from a Multiple Listing Service (MLS) and plug this new data set into the model. Furthermore, this report only includes structural characteristics in the hedonic pricing model (see **Figure 2**). Any future study should incorporate neighborhood characteristics, such as socioeconomic variables; and locational characteristics, such as proximity to the central business district (CBD).

8.2 ECONOMIC IMPACT ANALYSIS

While assessing the impact parks have on property values is a good place to begin understanding the economic value of parks, a key component that is missing from this analysis is the economic activity generated by San Francisco's parks. The scope of this analysis is expansive and could include the following areas:

- Quantifying the number of jobs generated by the parks system
- Quantifying the amount of money spent by visitors to a city park
- Calculating the value of a "recreational day"
- Surveying businesses about the role parks and open space plays when making decisions about where to locate
- Surveying *knowledge sector* workers about the importance of quality of life issues when deciding where to live

However, this type of analysis would require the Recreation and Parks Department to track and survey its users. The Recreation and Parks Department should partner with the Bureau of Tourism Research Department to calculate the number of visitors who visit San Francisco's parks, in addition to how much they spend. The Chamber of Commerce could also administer a survey to businesses in San Francisco.

8.3 COMPREHENSIVE STUDY

As defined in the introduction of this report, the economic value of a city's parks system is typically measured three different ways: the impact parks have on property values, the economic activity generated by the parks, and the health and environmental benefits parks provide. The Recreation and Parks Department should partner with SF Environment, SF Public Health Department, other city agencies, and other relevant organizations to conduct a more comprehensive study of the economic value of parks. A complete analysis would include other benefits such as: air cleansing, ground water storage, flood control, elimination of waste, alleviation of stress, community development, education, increased physical activity, and so on.

Appendix I

Proposition 13[109]

California Proposition 13 was passed in 1978. Proposition 13, officially titled the "People's Initiative to Limit Property Taxation", was a ballot initiative that amended the constitution of the state of California.

Under Proposition 13, the real estate tax on a parcel of residential property is limited to 1% of its assessed value, until the property is resold. This "assessed value", however, may only be increased by a maximum of 2% per year. If the property's market value increases rapidly, or if inflation exceeds 2%, the differential between the owner's taxes and the taxes a new owner would have to pay can be large. The property may be reassessed under certain conditions, when additions or new construction occur.

One result of Proposition 13 is that cities have less control over their own property tax revenue.

Implications for this study

Although there is some concern that Proposition 13 distorts the amount of revenue that the City of San Francisco could receive from a park's impact on surrounding property values, there is enough turnover in real estate in San Francisco that it can be considered a minor limitation. If anything, it will underestimate the amount of revenue parks generate for San Francisco, if Proposition 13 did not exist.

[109] California Constitution, Article 13(A). Website: http://www.leginfo.ca.gov/.const/.article_13A . Access Date: 22 February 2007.

Appendix II

Approximate Acreage Of Open Space Per 1,000 Residents in Various California Cities:

(The national standard is 10 acres per 1,000 residents)

San Francisco:
7.7 total acres/1,000 residents, including Golden Gate Park, the Presidio, and other areas managed by the Port Authority, Public Utility Commission, MUNI, the Department of Public Works, and San Francisco Recreation and Parks Department.
5.2 acres/1,000 residents under San Francisco Recreation and Parks Department jurisdiction.

San Jose:
18.9 acres/1,000 residents, including all public lands.
1.2 acres/1,000 residents, including just neighborhood/community parks
0.4 acres/1,000 residents of golf courses.

Oakland:
8.26 acres/1,000 residents, including all park acreage.
1.33 acres/1,000 residents, including just local-serving parks

San Diego:
18.4 acres/1,000 residents, including all public open space
11.4 acres/1,000 residents, including just local-serving parks.

Santa Cruz:

36.4 acres/1,000 residents

Approximate Acreage of Open Space Per 1,000 Residents in Large US Cities:

	Seattle	Boston	Portland	Chicago	SF
Size (miles squared)	**83.9**	**48**	**134**	**227**	**47**
Total Acreage of Rec and Park Land	**6000**	**2200**	**10000**	**7300**	**3300**
Open space per capita	**10.7**	**3.7**	**18.9**	**2.5**	**4.3**

Source: Neighborhood Parks Council, 2004. Website: www.sfnpc.org

Appendix III

Objective PI.3 Increase park, open space and recreation facilities	
Health-based Rationale [references forthcoming] ▪ Park access predicts use of parks for physical activity (associated with obesity prevention) and recreation. ▪ Contact and exposure to natural areas reduces stress, improves mental health, and facilitates recovery from illness. ▪ Social networks reduce stress, improve mental health, facilitate recovery from illness, and reduce mortality from all causes. ▪ Neighborhood social cohesion is positively associated with lower crime and better health outcomes. ▪ Recreational facilities could also increase physical activity.	
Key Indicators	**Development Targets**
a. Proportion of population with ¼ mile access to neighborhood or regional park	Proportion of population of new development within ¼ mile access of neighborhood or regional park in development is: ▪ Min: Equivalent to the current citywide proportion (73%) ▪ Benchmark: 85% of population ▪ Max: 100% of population
b. Proportion of population within ¼ mile access of a community recreational facility	Proportion of the population of new development within ¼ mile access of usable green spaces is: ▪ Min: Equivalent to the current citywide proportion (74%) ▪ Benchmark: 85% of population ▪ Max: 100% of population
c. Proportion of public parks receiving a park evaluation score of 95% or more	Park maintenance standard inspection results for new parks is: ▪ Min: Score of 85 ▪ Benchmark: Score of 90 ▪ Max: Score of 100
d. Per capita public recreational and park funding	Development contributes to Parks and Recreation funding: ▪ Min: Via an established fee or an assessment district to any actions that improve accessibility or the park quality index[64] ▪ Benchmark: 50% greater than minimum required by regulation either through infrastructure improvement or monetary contribution
Policy and Design Strategy Suggestions: ▪ Development could contribute to recreational programming via establishing a fund managed by the parks department or to a new recreational facility that is built as part of a new development ▪ Open space impact fees	

Source: SF Department of Public Health's *Healthy Development Measurement Tool*[110]

[110] SF Department of Public Health. *Healthy Development Tool*. Website: http://www.sfdph.org/phes/enchia/enchia_HDMT.htm . Access Date: 12 January 2007

Appendix IV

Atlanta's New Century Economic Development Plan: Greenspace Initiative

Action Items	Owner	Active Partners	Launch Date	Completion Date
Streamline the process for land acquisition and donations • Collaborate with City Departments and funding sources to maximize acquisition, donation and funding opportunities • Determine innovative approaches including the Land Bank Authority (Q1, 2005)	Parks	City Departments, Land Trusts, ADA	In process	2005
Implement Consent Decree provisions through acquisition and maintenance of greenspace • Collaborate with Parks and other City departments to maximize acquisition of funding opportunities (12/31/06)	Watershed	Parks, Planning, PATH Foundation, Land Trusts, ADA	In process	Ongoing
Partner with organizations to create a "World Class" park system • Identify beneficial partnerships for Atlanta's park system	Parks	Park Pride, Conservancies, Friends Groups, Foundations, ADA	In process	Ongoing
Evaluate creation of an effective governance structure to improve operations and acquisitions of the City of Atlanta parks • Increase involvement of independent private groups interested in park improvement	Mayor's Office, Parks	Parks Technical Advisory Group, Park Pride, Trust for Public Land, ADA	Q4, 2004	2006
Create standards for greenspace to be included in all major capital projects, both public and private • Evaluate and enhance existing zoning requirements for greenspace • Evaluate and create development incentives for including greenspace in capital projects	Planning	Parks, AHA, APS, ADA, APAB, Mayor's Office	Q4, 2005	Q4, 2006
Update the City's 1993 Parks, Open Space and Greenways Plan to include community vision • Identify areas of need within the City of Atlanta using TPL's Greenprint and Park's recreational programming assessments (Q1, 2007) • Integrate plans for Belt Line and Downtown development • Inventory City owned land that is suitable for greenspace • Complete and maintain inventory of parks, greenspace and greenways (Q4, 2005)	Parks	Trust for Public Land, Planning, Watershed Management, ADA, APAB, Foundations, Mayor's Office, Beltline Partnership	Q4, 2005	Q1, 2007
Identify potential sources of funding required to grow dedicated parks and greenspace • Determine feasibility of bond referendum • Identify corporate and foundation support • Identify state & federal funding sources for parks and greenspace • Evaluate current fee structure in City parks • Evaluate opportunities for sponsorship and naming rights	Parks	Finance, Foundations, Friends Groups, Parks Technical Advisory Group, Mayor's Office, ADA	Q4, 2006	2007

Source: Atlanta Development Authority's Website: http://www.atlantada.com/adaInitiatives/parksGreenSpace.jsp

Appendix V

Table 4: Miller's Guidelines for New Development

1. Elongated, rectangular parks result in higher home prices than square parks do because more homes directly face the parks and more are a short walk from the parks.
2. The smallest lots should be close to the park because the premium paid as a percentage of home price is higher on smaller lots. One benefit to homeowners is lower landscaping and maintenance costs.
3. Homes should face the park. Such homes were valued 22% higher than those more than a half-mile from the park.
4. Narrower lots result in higher overall premiums because more homes benefit from being closer to the park. Put larger lots farther from the park.
5. Small, distributed parks produce more home premium revenue than a large, consolidated park, although the extra construction and maintenance costs of smaller parks must be factored into the ultimate conclusion. Small, distributed parks bring more parks closer to more homes, which is part of the reason for the higher revenue.
6. Make the park a short walk to as many units as possible by maximizing street and pedestrian access. The park should be bounded on all four sides by a street, and a small walking path that perhaps bisects several blocks puts the park a shorter walking distance from more homes. Approximately 85% of a park's premium occurs within 800 feet of the park's edge — a three-minute walk for a child.
7. The park should be visible to neighborhood residents. This visibility enhances the community's value.
8. Space parks throughout the community. While homeowners would like easy access to all parks, they likely will not pay twice the premium for twice the park access.
9. A park provides a community gathering place, which makes it easier for neighbors to meet. A park helps create a desirable community long after the last home is sold. The trick for the builder is to show buyers the park's value while new homes are being sold.[111]

Source: http://www.housingzone.com/probuilder/article/CA462531.html

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