



*As many as two-thirds of the residents of America's largest cities do not have access to a nearby park, playground, or open space.*

WHY AMERICA NEEDS MORE  
CITY PARKS AND OPEN SPACE

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# THE BENEFITS OF PARKS



THE TRUST *for* PUBLIC LAND

CONSERVING LAND FOR PEOPLE

**ZONING COMMISSION**  
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# The Benefits of Parks:

Why America Needs More City Parks and Open Space

By Paul M. Sherer

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# Table of Contents

Forward: Will Rogers, <i>President</i> , Trust for Public Land	5
Executive Summary	6
America Needs More City Parks	8
U.S. Cities Are Park-Poor	
Low-Income Neighborhoods Are Desperately Short of Park Space	
Case Study: New Parks for Los Angeles	
The Public Wants More Parks	
History of America's City Parks: Inspiration, Abandonment, Revival	10
The Decline of City Parks	
A Revival Begins	
Budget Crises Threaten City Parks	
Public Health Benefits of City Parks and Open Space	12
Physical Activity Makes People Healthier	
America's Twin Plagues: Physical Inactivity and Obesity	
Access to Parks Increases Frequency of Exercise	
Exposure to Nature and Greenery Makes People Healthier	
Economic Benefits of Parks	14
Increased Property Values	
Property Values in Low-Income Urban Areas	
Property Values at the Edges of Urban Areas	
Effects on Commercial Property Values	
Economic Revitalization: Attracting and Retaining Businesses and Residents	
Tourism Benefits	
Environmental Benefits of Parks	17
Pollution Abatement and Cooling	
Controlling Stormwater Runoff	
Social Benefits of Parks	18
Reducing Crime	
Recreation Opportunities: The Importance of Play	
Creating Stable Neighborhoods with Strong Community	
Conclusion	20
Notes	21
Bibliography	24



## Forward

At the turn of the 20th century, the majority of Americans lived in rural areas and small towns, relatively close to the land. At the beginning of the 21st century, 85 percent of us were living in cities and metropolitan areas, and many of us are in desperate need of places to experience nature and refresh ourselves in the out-of-doors.

The emergence of America as an urban nation was anticipated by Frederick Law Olmsted and other 19th-century park visionaries, who gave us New York's Central Park, San Francisco's Golden Gate Park, and similar grand parks in cities across the nation. They were gardeners and designers-but also preachers for the power of parks, fired from within by the understanding that they were shaping the quality of American lives for generations to come.

In the view of these park visionaries, parks were not "amenities." They were necessities, providing recreation, inspiration, and essential respite from the city's glare and bustle. And the visionaries were particularly concerned that parks be available to all of a city's residents-especially those who did not have the resources to escape to the countryside.

As population shifted to the suburbs after World War II, this vision of parks for all faded. Many cities lost the resources to create new parks. And in the new suburbs, the sprawling landscapes of curving cul-de-sacs were broken mostly by boxy shopping centers and concrete parking lots.

The time has come for Americans to rededicate themselves to the vision of parks for all the nation's people. As the nation's leading conservation group creating parks in and around cities, the Trust for Public Land (TPL) has launched its Parks for People initiative in the belief that every American child should enjoy convenient access to a nearby park or playground.

This white paper outlines how desperate the need is for city parks-especially in inner-city neighborhoods. And it goes on to describe the social, environmental, economic, and health benefits parks bring to a city and its people. TPL hopes this paper will generate discussion about the need for parks, prompt new research on the benefits of parks to cities, and serve as a reference for government leaders and volunteers as they make the case that parks are essential to the health and well-being of all Americans.

You will find more information about the need for city parks and their benefits in the Parks for People section of TPL's Web site ([www.tpl.org/pforp](http://www.tpl.org/pforp)) where you can also sign-up for Parks for People information and support TPL's Parks for People work.

TPL is proud to be highlighting the need for parks in America's cities. Thanks for joining our effort to ensure a park within reach of every American home.

Will Rogers  
*President*, the Trust for Public Land

## Executive Summary

City parks and open space improve our physical and psychological health, strengthen our communities, and make our cities and neighborhoods more attractive places to live and work.

But too few Americans are able to enjoy these benefits. Eighty percent of Americans live in metropolitan areas, and many of these areas are severely lacking in park space. Only 30 percent of Los Angeles residents live within walking distance of a nearby park. Atlanta has no public green space larger than one-third of a square mile.

Low-income neighborhoods populated by minorities and recent immigrants are especially short of park space. From an equity standpoint, there is a strong need to redress this imbalance. In Los Angeles, white neighborhoods enjoy 31.8 acres of park space for every 1,000 people, compared with 1.7 acres in African-American neighborhoods and 0.6 acres in Latino neighborhoods. This inequitable distribution of park space harms the residents of these communities and creates substantial costs for the nation as a whole.

U.S. voters have repeatedly shown their willingness to raise their own taxes to pay for new or improved parks. In 2002, 189 conservation funding measures appeared on ballots in 28 states. Voters approved three-quarters of these, generating \$10 billion in conservation-related funding.

Many of the nation's great city parks were built in the second half of the 19th century. Urban planners believed the parks would improve public health, relieve the stresses of urban life, and create a democratizing public space where rich and poor would mix on equal terms. By the mid-20th century, city parks fell into decline as people fled inner cities for the suburbs. The suburbs fared no better, as people believed that backyards would meet the requirement for public open space.

Over the past couple of decades, interest in city parks has revived. Governments and civic groups around the country have revitalized run-down city parks, built greenways along rivers, converted abandoned railroad lines to trails, and planted community gardens in vacant lots. But with the current economic downturn, states and cities facing severe budget crises are slashing their park spending, threatening the health of existing parks, and curtailing the creation of new parks.

Strong evidence shows that when people have access to parks, they exercise more. Regular physical activity has been shown to increase health and reduce the risk of a wide range of diseases, including heart disease, hypertension, colon cancer, and diabetes. Physical activity also relieves symptoms of depression and anxiety, improves mood, and enhances psychological well-being. Beyond the benefits of exercise, a growing body of research shows that contact with the natural world improves physical and psychological health.

Despite the importance of exercise, only 25 percent of American adults engage in the recommended levels of physical activity, and 29 percent engage in no leisure-time physical activity. The sedentary lifestyle and unhealthy diet of Americans have produced an epidemic of obesity. The Centers for Disease Control and Prevention has called for the creation of more parks and playgrounds to help fight this epidemic.

Numerous studies have shown that parks and open space increase the value of neighboring residential property. Growing evidence points to a similar benefit on commercial property value. The availability of park and recreation facilities is an important quality-of-life factor for corporations choosing where to locate facilities and for well-educated individuals choosing a place to live. City parks such as San Antonio's Riverwalk Park often become important tourism draws, contributing heavily to local businesses.

Green space in urban areas provides substantial environmental benefits. Trees reduce air pollution and water pollution, they help keep cities cooler, and they are a more effective and less expensive way to manage stormwater runoff than building systems of concrete sewers and drainage ditches.

City parks also produce important social and community development benefits. They make inner-city neighborhoods more livable; they offer recreational opportunities for at-risk youth, low-income children, and low-income families; and they provide places in low-income neighborhoods where people can feel a sense of community. Access to public parks and recreational facilities has been strongly linked to reductions in crime and in particular to reduced juvenile delinquency.

Community gardens increase residents' sense of community ownership and stewardship, provide a focus for neighborhood activities, expose inner-city youth to nature, connect people from diverse cultures, reduce crime by cleaning up vacant lots, and build community leaders.

In light of these benefits, the Trust for Public Land calls for a revival of the city parks movement of the late 19th century. We invite all Americans to join the effort to bring parks, open spaces, and greenways into the nation's neighborhoods where everyone can benefit from them.



# America Needs More City Parks

## U.S. Cities Are Park-Poor

The residents of many U.S. cities lack adequate access to parks and open space near their homes. In 2000, 80 percent of Americans were living in metropolitan areas, up from 48 percent in 1940.<sup>1</sup> The park space in many of these metropolitan areas is grossly inadequate.

In Atlanta, for example, parkland covers only 3.8 percent of the city's area. Atlanta has no public green space larger than one-third of a square mile.<sup>2</sup> The city has only 7.8 acres of park space for every 1,000 residents, compared with a 19.1 acre average for other medium-low population density cities.<sup>3</sup> The story is much the same in Los Angeles, San Jose, New Orleans, and Dallas.

Even in cities that have substantial park space as a whole, the residents of many neighborhoods lack access to nearby parks. In New York City, for example, nearly half of the city's 59 community board districts have less than 1.5 acres of parkland per 1,000 residents.<sup>4</sup>

## Low-Income Neighborhoods Are Desperately Short of Park Space

Low-income neighborhoods populated by minorities and recent immigrants are especially short of park space. Minorities and the poor have historically been shunted off to live on the wrong side of the tracks, in paved-over, industrialized areas with few public amenities. From an equity standpoint, there is a strong need to redress this imbalance.

In Los Angeles, white neighborhoods (where whites make up 75 percent or more of the residents) boast 31.8 acres of park space for every 1,000 people, compared with 1.7 acres in African-American neighborhoods and 0.6 acres in Latino neighborhoods.<sup>5</sup>

This inequitable distribution of park space harms the residents of these communities and creates substantial costs to the nation as a whole. The health care costs alone are potentially enormous. Lacking places for recreation, minorities and low-income individuals are significantly less likely than whites and high-income individuals to engage in the regular physical activity that is crucial to good health.

Among non-Hispanic white adults in the United States, 34.9 percent engage in regular leisure-time physical activity, compared with only 25.4 percent of non-Hispanic black adults and 22.7 percent of Hispanic adults.<sup>6</sup> And adults with incomes below the poverty level are three times as likely as high-income adults to never be physically active.<sup>7</sup>

Even where the government or voters have allocated new money for park acquisition, there is significant risk that wealthier and better-organized districts will grab more than their fair share. The Los Angeles neighborhood of South Central—with the city's second-highest pover-

ty rate, highest share of children, and lowest access to nearby park space—received only about half as much per-child parks funding as affluent West Los Angeles from Proposition K between 1998 and 2000.<sup>8</sup>

## Case Study: New Parks for Los Angeles

With 28,000 people crammed into its one square mile<sup>9</sup> of low-rise buildings, the city of Maywood in Los Angeles County is the most densely populated U.S. city outside the New York City metropolitan area.<sup>10</sup> Its residents—96 percent are Hispanic and 37 percent are children—are often packed five to a bedroom, with entire families living in garages and beds being used on a time-share basis.

The Trust for Public Land (TPL) has been working in Maywood since 1996 to purchase, assemble, and convert six separate former industrial sites into a seven-acre riverside park. The project will double Maywood's park space.<sup>11</sup>

Before TPL began its work, the future park site was occupied by abandoned warehouses and industrial buildings, covered in garbage, graffiti, rusted metal, and barrels of industrial waste. Until the late 1980s, the parcels contained a glue factory, a transfer facility for solvents, and a truck service facility; one parcel was designated an Environmental Protection Agency Superfund site.<sup>12</sup>

TPL is preparing to acquire the final parcel and has developed preliminary designs for the site. The completed park will invite Maywood's residents to gather at its picnic benches, stroll its walking trails, relax on its lawns, and play with their children in its tot lot.

The Maywood project is a precursor of TPL's Parks for People—Los Angeles program, an ambitious new effort to create parks where they are most desperately needed.

The case for more parks in Los Angeles is among the most compelling of any American city today. Only 30 percent of its residents live within a quarter mile of a park, compared with between 80 percent and 90 percent in Boston and New York, respectively.<sup>13</sup> If these residents are Latino, African American, or Asian Pacific, they have even less access to green space.

TPL has set a goal of creating 25 new open space projects in Los Angeles over the next five years. TPL believes that a significant percentage of public park funding should be invested in underserved minority communities. To accomplish this goal, TPL will help these communities through the gauntlets of public and private fundraising, real estate transactions, strategic planning, and stewardship issues.

Los Angeles is also the site of TPL's first application of Geographical Information Systems (GIS) to assess the need for parks. TPL launched the GIS program in late 2001 in Los

Angeles and has since expanded the program to New York, Las Vegas, Boston, Charlotte, Miami, and Camden and Newark, New Jersey. TPL's GIS system uses census, demographic and other data to map out areas of high population, concentrated poverty, and lack of access to park space.

With GIS technology, TPL can now pinpoint the areas of fastest population growth, study landownership patterns, and acquire key parcels before development demand drives up property prices or destroys open space. Further, GIS helps TPL create contiguous park space, protecting natural habitats and connecting larger parks with linear greenways, rather than create a patchwork quilt of open space.<sup>14</sup>

## The Public Wants More Parks

Voters have repeatedly shown their willingness to raise their own taxes to pay for new or improved parks. In the November 2002 elections, voters in 93 communities in 22 states approved ballot measures that committed \$2.9 billion to acquire and restore land for parks and open space. Voters approved 85 percent of such referendums in these elections.<sup>15</sup> Voter support in 2002 increased from the already strong 75 percent approval rate for similar measures in November 2001.<sup>16</sup>

## History of America's City Parks: Inspiration, Abandonment, Revival

During the second half of the 19th century, American cities built grand city parks to improve their residents' quality of life. Dubbed 19th-century pleasure grounds by park historians, the parks include New York's Central Park and San Francisco's Golden Gate Park.

Municipal officials of the time saw these parks as a refuge from the crowded, polluted, stressful cities-places where citizens could experience fresh air, sunshine, and the spiritually transforming power of nature; a place for recreation; and a democratizing public space where rich and poor would mix on equal terms.

The new parks were inspired by "an anti-urban ideal that dwelt on the traditional prescription for relief from the evils of the city-to escape to the country," Galen Cranz writes. "The new American parks thus were conceived as great pleasure grounds meant to be pieces of the country, with fresh air, meadows, lakes, and sunshine right in the city."<sup>17</sup>

## The Decline of City Parks

Beginning in the Great Depression and continuing through much of the 20th century, spending on city parks declined. The well-to-do and white abandoned the cities for the suburbs,

taking public funding with them. Cities and their parks fell into a spiral of decay. Cities cut park maintenance funds, parks deteriorated, and crime rose; many city dwellers came to view places like Central Park as too dangerous to visit.<sup>18</sup>

The suburbs that mushroomed at the edges of major cities were often built with little public park space. For residents of these areas, a trip out of the house means a drive to the shopping mall.

Beginning around 1990, many city and town councils began forcing developers to add open space to their projects. Still, these open spaces are often effectively off-limits to the general public; in the vast sprawl around Las Vegas, for example, the newer subdivisions often have open space at their centers, but these spaces are hidden inside a labyrinth of winding streets. Residents of older, low- and middle-income neighborhoods have to get in their cars (if they have one) and drive to find recreation space.<sup>19</sup>

## A Revival Begins

More recently, city parks have experienced something of a renaissance which has benefited cities unequally. The trend began in the 1970s and flourished in the 1990s as part of a general renewal of urban areas funded by a strong economy. It coincided with a philosophical shift in urban planning away from designing around the automobile and a backlash against the alienating modernism of mid-20th-century public architecture, in favor of public spaces that welcome and engage the community in general and the pedestrian in particular.

Government authorities, civic groups, and private agencies around the country have worked together to revitalize run-down city parks, build greenways along formerly polluted rivers, convert abandoned railroad lines to trails, and plant community gardens in vacant lots.

The Park at Post Office Square in Boston shows how even a small but well-designed open space can transform its surroundings. Before work on the park began in the late 1980s, the square was filled by an exceptionally ugly concrete parking garage, blighting an important part of the financial district. Many buildings on the square shifted their entrances and addresses to other streets not facing the square.<sup>20</sup>

Completed in 1992, the 1.7-acre park is considered one of the most beautiful city parks in the United States. Its immaculate landscaping—with 125 species of plants, flowers, bushes, and trees—its half-acre lawn, its fountains, and its teak and granite benches lure throngs of workers during lunchtime on warm days. Hidden underneath is a seven-floor parking garage for 1,400 cars, which provides financial support for the park.<sup>21</sup>

“It clearly, without any question, has enhanced and changed the entire neighborhood,” says Serge Denis, managing director of Le Meridien Hotel Boston, which borders the park. “It’s absolutely gorgeous.” Not surprisingly, rooms overlooking the park command a premium.<sup>22</sup>

Yet despite such success stories, local communities often lack the transactional and development skills to effectively acquire property and convert it into park space. TPL serves a vital role in this capacity, working closely with local governments and community residents to determine where parks are needed; to help develop funding strategies; to negotiate and acquire property; to plan the park and develop it; and finally, to turn it over to the public.

Between 1971 and 2002, the Trust for Public Land's work in cities resulted in the acquisition of 532 properties totaling 40,754 acres. In the nation's 50 largest cities TPL acquired 138 properties totaling 7,640 acres.<sup>23</sup>

## Budget Crises Threaten City Parks

In the wake of the bursting of the economic bubble of the late 1990s, states and cities facing severe budget crises are slashing their park spending. With a projected \$2.4 billion budget shortfall in the two-year period beginning July 2003, Minnesota has cut its aid to local governments, hurting city park systems across the state. The Minneapolis Park & Recreation Board, confronting a 20 percent cut in its funding through 2004, has been forced to respond by deferring maintenance, closing wading pools and beaches, providing fewer portable toilets, and reducing its mounted police patrol program. The required program cuts "represent a huge loss to the Minneapolis Park & Recreation Board and to the children of Minneapolis," says Park Board Superintendent Mary Merrill Anderson.<sup>24</sup>

When Georgia's state legislature went into session in January 2003, lawmakers found themselves grappling with a \$650 million budget shortfall. Part of their response was to eliminate the planned \$30 million in fiscal 2003 funding for the Georgia Community Greenspace Program, after appropriating \$30 million per fiscal year in 2001 and 2002. The legislature also cut the 2004 budget from \$30 million to \$10 million. The program helps the state's fastest-growing counties set aside adequate green space—at least 20 percent of their land—amid all the new subdivisions and strip malls. Most of the affected counties are around Atlanta, among the nation's worst examples of urban sprawl.

For legislators hunting for budget-cutting targets, Georgia's \$30 million Community Greenspace Program "was like a buffalo in the middle of a group of chickens," says David Swann, program director for TPL's Atlanta office. The cut "makes a compelling argument that we need a dedicated funding source, so that green space acquisition isn't depending on fiscal cycles and the legislature."<sup>25</sup>

The federal government has also cut its city parks spending. In 1978, the federal government established the Urban Park and Recreation Recovery (UPARR) program to help urban areas rehabilitate their recreational facilities. The program received no funding in fiscal year 2003, down from \$28.9 million in both 2001 and 2002.<sup>26</sup> President Bush's budget proposal for fiscal 2004 also allocates no UPARR funding.

# Public Health Benefits of City Parks and Open Space

## Physical Activity Makes People Healthier

A comprehensive 1996 report by the U.S. Surgeon General found that people who engage in regular physical activity benefit from reduced risk of premature death; reduced risk of coronary heart disease, hypertension, colon cancer, and non-insulin-dependent diabetes; improved maintenance of muscle strength, joint structure, and joint function; weight loss and favorable redistribution of body fat; improved physical functioning in persons suffering from poor health; and healthier cardiovascular, respiratory, and endocrine systems.<sup>27</sup>

“Americans can substantially improve their health and quality of life by including moderate amounts of physical activity in their daily lives,” the report found. It also found that “health benefits appear to be proportional to the amount of activity; thus, every increase in activity adds some benefit.”<sup>28</sup>

Physical activity also produces important psychological benefits, the Surgeon General found. It relieves symptoms of depression and anxiety, improves mood, and enhances psychological well-being.<sup>29</sup>

## America’s Twin Plagues: Physical Inactivity and Obesity

Despite the well-known benefits of physical activity, only 25 percent of American adults engage in the recommended levels of physical activity, and 29 percent engage in no leisure-time physical activity, according to the Centers for Disease Control and Prevention (CDC). The problem extends to children: only 27 percent of students in grades 9 through 12 engage in moderate-to-intensive physical activity.<sup>30</sup>

The sedentary lifestyle and unhealthy American diet have produced an epidemic of obesity. Among U.S. adults between 20 and 74 years old, 27 percent were obese in 1999, nearly double the 15 percent obesity rate in 1980, according to the CDC. Similarly, the percentage of children and adolescents who are overweight has more than doubled since the early 1970s; about 13 percent of children and adolescents are now seriously overweight.<sup>31</sup>

Obese people suffer increased risk of high blood pressure, hypertension, high blood cholesterol, non-insulin-dependent diabetes, coronary heart disease, congestive heart failure, stroke, gallstones, osteoarthritis, some types of cancer (such as endometrial, breast, prostate, and colon), complications of pregnancy, poor female reproductive health (such as menstrual irregularities, infertility, and irregular ovulation), and bladder control problems. They also suffer great risk of psychological problems such as depression, eating disorders, distorted body image, and low self-esteem.<sup>32</sup>

## Access to Parks Increases Frequency of Exercise

Strong evidence shows that when people have access to parks, they exercise more. In a study published by the CDC, creation of or enhanced access to places for physical activity led to a 25.6 percent increase in the percentage of people exercising on three or more days per week.<sup>33</sup>

A group of studies reviewed in the *American Journal of Preventive Medicine* showed that “creation of or enhanced access to places for physical activity combined with informational outreach” produced a 48.4 percent increase in frequency of physical activity.<sup>34</sup>

The same group of studies showed that access to a place to exercise results in a 5.1 percent median increase in aerobic capacity, along with a reduction in body fat, weight loss, improvements in flexibility, and an increase in perceived energy.<sup>35</sup>

When people have nowhere to walk, they gain weight. Obesity is more likely in unwalkable neighborhoods, but goes down when measures of walkability go up: dense housing, well-connected streets, and mixed landuses reduce the probability that residents will be obese.<sup>36</sup>

## Exposure to Nature and Greenery Makes People Healthier

Beyond the recreational opportunities offered by parks, a growing body of research shows that contact with the natural world improves physical and psychological health.

One important study reviewed the recoveries of surgical patients in a Pennsylvania hospital. The rooms of some patients overlooked a stand of trees, while others faced a brown brick wall. A review of ten years of medical records showed that patients with tree views had shorter hospitalizations, less need for painkillers, and fewer negative comments in the nurses’ notes, compared with patients with brick-wall views.<sup>37</sup>

The benefits extend to psychological health. “The concept that plants have a role in mental health is well established,” according to a review of previous studies by Howard Frumkin in the *American Journal of Preventive Medicine*. “Horticultural therapy evolved as a form of mental health treatment, based on the therapeutic effects of gardening. It is also used today in community-based programs, geriatrics programs, prisons, developmental disabilities programs, and special education.”<sup>38</sup>

Further, “research on recreational activities has shown that savanna-like settings are associated with self-reported feelings of ‘peacefulness,’ ‘tranquility,’ or ‘relaxation,’” Frumkin writes. “Viewing such settings leads to decreased fear and anger...[and] is associated with enhanced mental alertness, attention, and cognitive performance, as measured by tasks such as proof-reading and by formal psychological testing.”<sup>39</sup>

An extensive study published in 2001 in the Netherlands set out to determine the link

between green space and health. The study overlaid two extensive databases, one with health information on more than 10,000 residents of the Netherlands, and the other a landuse database covering every 25-by-25-meter square in the nation, allowing researchers to know which people lived near city parks, agricultural land, and forests and nature areas.<sup>40</sup>

The study produced several key findings. First, “in a greener environment people report fewer health complaints, more often rate themselves as being in good health, and have better mental health,” the study found. Second, “when it comes to health, all types of green seem to be equally ‘effective’”; the study found the same benefit from living near city parks, agricultural areas, and forest.<sup>41</sup>

A ten percent increase in nearby greenspace was found to decrease a person’s health complaints in an amount equivalent to a five year reduction in that person’s age.

Important theoretical foundations were laid in this area by Harvard biologist Edward O. Wilson, who in 1984 hypothesized the existence of biophilia, “the innately emotional affiliation of human beings to other living organisms.”<sup>42</sup>

Others have extended this idea to postulate “an affinity for nature that goes beyond living things, to include streams, ocean waves, and wind.”<sup>43</sup> This affinity may stem from evolutionary roots: “For the great majority of human existence, human biology has been embedded in the natural environment,” Frumkin writes. “Those who could smell the water, find the plants, follow the animals, and recognize the safe havens, must have enjoyed survival advantages.”<sup>44</sup>

## Economic Benefits of Parks

### Increased Property Values

“The real estate market consistently demonstrates that many people are willing to pay a larger amount for a property located close to parks and open space areas than for a home that does not offer this amenity,” writes John L. Crompton, a professor at Texas A&M University who has published extensive research on parks and recreation.<sup>45</sup>

In his 2000 report, Crompton reviewed 25 studies investigating whether parks and open space contributed to property values of neighboring properties, and found that 20 of the results indicated such an increase.<sup>46</sup>

The higher value of these homes means that their owners pay higher property taxes. In some instances, the additional property taxes are sufficient to pay the annual debt charges on the bonds used to finance the park’s acquisition and development. “In these cases, the park is obtained at no long-term cost to the jurisdiction,” Crompton writes.<sup>47</sup>



Repeated studies over the years have confirmed that people prefer to buy homes close to parks, open space, and greenery. One key study looked at the effect of proximity to greenbelts in Boulder, Colorado. The study showed that, other things being equal, there was a \$4.20 decrease in the price of residential property for every foot one moved away from the greenbelt, and that the average value of homes next to the greenbelt was 32 percent higher than those 3,200 feet away.<sup>48</sup>

The same study showed that the greenbelt added \$5.4 million to the total property values of one neighborhood. That generated \$500,000 per year in additional potential property taxes, enough to cover the \$1.5 million purchase price of the greenbelt in only three years.<sup>49</sup>

In a 2001 survey conducted for the National Association of Realtors by Public Opinion Strategies, 50 percent of respondents said they would be willing to pay 10 percent more for a house located near a park or other protected open space. In the same survey, 57 percent of respondents said that if they were in the market to buy a new home, they would be more likely to select one neighborhood over another if it was close to parks and open space.<sup>50</sup>

In this time of budget austerity, one point is crucial: to protect the positive economic impact of parks, the parks must be well maintained and secure. A park that is dangerous and ill kept is likely to hurt the value of nearby homes.<sup>51</sup>

## Property Values in Low-Income Urban Areas

A University of Southern California study found that the positive relationship between park proximity and property value holds true in neighborhoods where the residents are mostly immigrants and poor. In a dense urban neighborhood, the value effect of nearby green space can be stronger than lot size itself. The study found that an 11 percent increase in the amount of green space within a radius of 200 to 500 feet from a house leads to an approximate increase of 1.5 percent in the expected sales price of the house, or an additional \$3,440 in the median price.<sup>52</sup>

Because of the increased property value, the study found that the \$200,000 purchase of a one-third-acre lot for creation of a small park would yield additional property tax revenues of \$13,000 per year. These tax revenue increases would pay for the park's cost in about 15 years with no additional taxes.<sup>53</sup>

## Property Values at the Edges of Urban Areas

As farmland and forests are swallowed up at the edges of fast-growing cities, some subdivision developers have come to realize that preserving open or natural space within a new community can increase the value of the home lots. One subdivision designer calls the concept “conservation subdivision design” and advocates designing around and preserving natural and

rustic features such as meadows, orchards, fields and pastures, stream valley habitat, and woodlands.<sup>54</sup>

## Effects on Commercial Property Values

Its name is Bryant Park, but by 1980, the 133-year-old square behind the New York Public Library was known as “Needle Park,” for the drug dealers who plied their trade behind its spiked iron fence and thick shrubbery. With an average of 150 robberies a year in Bryant Park, citizens entered at their peril.

But after a 12-year renovation, the park reopened in 1992, becoming the site of major fashion shows, a jazz festival, outdoor movies, and an outdoor café, and attracting thousands of visitors each day. Within two years of the reopening, leasing activity on neighboring Sixth Avenue had increased 60 percent over the previous year, with brokers referring to the park as the “deal-clincher.”<sup>55</sup>

The park revived demand for space in neighboring office buildings. Between 1990 and 2000, rents for commercial office space near Bryant Park increased between 115 percent and 225 percent, compared with increases of between 41 percent and 73 percent in the surrounding submarkets, according to a study conducted by Ernst & Young. The same report, which analyzed 36 neighborhood parks in all five boroughs of New York City, concluded that “commercial asking rents, residential sale prices, and assessed values for properties near a well-improved park generally exceeded rents in surrounding submarkets.”<sup>56</sup>

A similar story played out in Atlanta, where Centennial Olympic Park was built as the central space for the 1996 Summer Olympics. Property value in the immediate area was \$2 per square foot in the early 1980s; by the end of the 1990s, that value had risen to \$150 per square foot.<sup>57</sup>

## Economic Revitalization: Attracting and Retaining Businesses and Residents

In May 2001, Boeing Co. announced its decision for the location of its new corporate headquarters, after a heated three-way battle among Chicago, Dallas, and Denver. In choosing Chicago, Boeing officials cited, among other reasons, the city’s quality of life, including recreation opportunities, its downtown, and urban life.<sup>58</sup>

The choice sent Dallas into a long-overdue bout of introspection. Dallas took a good hard look at itself and decided it needed more downtown park space. “The Boeing relocation had a profound impact on people’s attitude toward the quality of life in our city in general, and the quality of our downtown environment in particular,” says Willis Winters of the Dallas Park and Recreation Department.<sup>59</sup>

Downtown Dallas is ringed by highways and lined with office towers-with estimated vacancy

rates of more than 30 percent-but bereft of green space.

“I have winced over the demise of downtown over the years, and I believe that its renaissance has to come through housing,” says Ken Hughes, a major Dallas developer who has been working on downtown green space plans. “I don’t believe people, on a permanent basis, want to live in an environment where they have no refuge from the hardness of downtown city buildings, without having any place to go out and stroll, take your dog, or just enjoy some sun.”<sup>60</sup>

Three months after Boeing’s decision, then Dallas Mayor Ron Kirk appointed a ten-person task force to study ways to revitalize downtown Dallas.<sup>61</sup> The task force delivered its findings in January 2002. Among its top recommendations: “Dramatically expand new parks and open spaces.”<sup>62</sup>

Laura Miller was elected mayor the following month and appointed the Inside the Loop Committee, which came to a similar conclusion. Working with the Park and Recreation Department, she has promoted plans to create new downtown parks for Dallas, which is the nation’s eighth-largest city. On July 10, 2003, consultants named four potential downtown park sites as the most promising among 17 proposed.<sup>63</sup> TPL has been in discussions since early 2003 with city officials, developers, and property owners about acquiring key parcels.

In using green space to revitalize itself, Dallas is following a tried-and-true model. The green space surrounding Portland, Oregon, helped build its reputation as one of the country’s most livable cities. Companies like Hewlett-Packard, Intel, and Hyundai have been drawn to the region by the forests, orchards, and creeks on the outskirts of Portland’s urban area.<sup>64</sup>

Quality of life is a determining factor in real estate values and economic vitality. A 1998 real estate industry report calls livability “a litmus test for determining the strength of the real estate investment market.... If people want to live in a place, companies, stores, hotels, and apartments will follow.”<sup>65</sup>

A vice president at computer giant Dell Corp. in Austin, Texas, observed, “People working in high-tech companies are used to there being a high quality of life in the metropolitan areas in which they live. When we at Dell go and recruit in those areas, we have to be able to demonstrate to them that the quality of life in Austin is at least comparable or they won’t come.”<sup>66</sup>

In Missouri and Illinois, civic leaders led by Missouri Senator John Danforth have used the upcoming 2004 bicentennial of the Lewis and Clark Expedition to launch an ambitious effort to revitalize St. Louis and the nearby region, in a program called St. Louis 2004. Improving quality of life is a major goal, with a central emphasis on keeping well-educated young people in the region.

As a cornerstone of the plan, Missouri and Illinois are working to create the Confluence

Greenway. The Greenway will cover a 200-square-mile area in five counties on both sides of the Mississippi River, stretching 40 miles from downtown St. Louis to the confluence of the Missouri and Mississippi Rivers near Grafton, Illinois. The Greenway traces the first stretch of the Louis and Clark Expedition. In November 2000, voters passed Proposition C, enacting a one-tenth of one-cent sales tax to generate \$23.5 million annually for parks and open space improvements in the region.<sup>67</sup>

TPL is actively involved in the project. It helped the Illinois Department of Natural Resources acquire 2,000 acres of land on Gabaret Island and Mosenthein Island on the Mississippi River. TPL also acquired and turned over to the government a 119-acre parcel in St. Louis that will serve as home for the Great River Resource Center, a regional educational and interpretive center.<sup>68</sup>

## Tourism Benefits

A park often becomes one of a city's signature attractions, a prime marketing tool to attract tourists, conventions, and businesses. Parks such as the Boston Public Garden, Baltimore's Inner Harbor, and Minneapolis's Chain of Lakes Regional Park help shape city identity and give residents pride of place.

Chain of Lakes received 5.5 million visitors in 2001, making it Minnesota's second-biggest attraction after the Mall of America.<sup>69</sup> And San Antonio's Riverwalk Park, created for \$425,000, has overtaken the Alamo as the most popular attraction for the city's \$3.5 billion tourism industry.<sup>70</sup>

Organized events held in public parks—arts festivals, athletic events, food festivals, musical and theatrical events—often bring substantial positive economic impacts to their communities, filling hotel rooms and restaurants and bringing customers to local stores.<sup>71</sup>

## Environmental Benefits of Parks

### Pollution Abatement and Cooling

Green space in urban areas provides substantial environmental benefits. The U.S. Forest Service calculated that over a 50-year lifetime one tree generates \$31,250 worth of oxygen, provides \$62,000 worth of air pollution control, recycles \$37,500 worth of water, and controls \$31,250 worth of soil erosion.<sup>72</sup>

Trees in New York City removed an estimated 1,821 metric tons of air pollution in 1994. In an area with 100 percent tree cover (such as contiguous forest stands within parks), trees can remove from the air as much as 15 percent of the ozone, 14 percent of the sulfur dioxide, 13

percent of the particulate matter, 8 percent of the nitrogen dioxide, and 0.05 percent of the carbon monoxide.<sup>73</sup>

Trees and the soil under them also act as natural filters for water pollution. Their leaves, trunks, roots, and associated soil remove polluted particulate matter from the water before it reaches storm sewers. Trees also absorb nutrients created by human activity, such as nitrogen, phosphorus, and potassium, which otherwise pollute streams and lakes.<sup>74</sup>

Trees also act as natural air conditioners to help keep cities cooler, mitigating the effects of concrete and glass that can turn cities into ovens under the summer sun. The evaporation from a single large tree can produce the cooling effect of ten room-size air conditioners operating 24 hours a day.<sup>75</sup>

## Controlling Stormwater Runoff

Trees more effectively and less expensively manage the flow of stormwater runoff than do concrete sewers and drainage ditches. Runoff problems occur because cities are covered with impervious surfaces such as roads, sidewalks, parking lots, and rooftops, which prevent water from soaking into the ground. Trees intercept rainfall, and unpaved areas absorb water, slowing the rate at which it reaches stormwater facilities. “By incorporating trees into a city’s infrastructure, managers can build a smaller, less expensive stormwater management system,” according to American Forests Urban Resource Center.<sup>76</sup>

Garland, Texas, used an innovative method to encourage private-property owners to plant more trees. It mapped all the impervious surfaces in the city and then changed the formula for charging stormwater fees to property owners. Instead of tying the fee to property value or charging a flat fee, the city now bases the fee on the property’s impervious surface and the volume of stormwater the property generates. An analysis showed that Garland’s tree cover saves it from having to handle an additional 19 million cubic feet of stormwater. Building facilities to handle that stormwater would cost \$38 million.<sup>77</sup>

American Forests (a conservation organization) estimates that trees in the nation’s metropolitan areas save the cities \$400 billion in the cost of building stormwater retention facilities.<sup>78</sup> Yet natural tree cover has declined by as much as 30 percent in many cities over the last several decades.<sup>79</sup>

## Social Benefits of Parks

Among the most important benefits of city parks—though perhaps the hardest to quantify—is their role as community development tools. City parks make inner-city neighborhoods more livable; they offer recreational opportunities for at-risk youth, low-income children, and low-income families; and they provide places in low-income neighborhoods where people can

experience a sense of community.

## Reducing Crime

Access to public parks and recreational facilities has been strongly linked to reductions in crime and in particular to reduced juvenile delinquency.

Recreational facilities keep at-risk youth off the streets, give them a safe environment to interact with their peers, and fill up time within which they could otherwise get into trouble.<sup>80</sup>

In Fort Myers, Florida, police documented a 28 percent drop in juvenile arrests after the city began the STARS (Success Through Academics and Recreational Support) Program in 1990. Fort Myers built a new recreation center in the heart of a low-income community to support STARS. Young people's school grades also improved significantly.<sup>81</sup> Importantly, building parks costs a fraction of what it costs to build new prisons and increase police-force size.

Many communities have reported success with “midnight basketball” programs, keeping courts open late at night to give youths an alternative to finding trouble. Over a one-year period, Kansas City reported a 25 percent decrease in arrests of juveniles in areas where midnight basketball programs were offered. In Fort Worth, Texas, crime dropped 28 percent within a one-mile radius of community centers where midnight basketball was offered. In the areas around five other Fort Worth community centers where the programs were not offered, crime rose an average of 39 percent during the same period.<sup>82</sup>

Research supports the widely held belief that community involvement in neighborhood parks is correlated with lower levels of crime. The Project on Human Development in Chicago Neighborhoods studied the impact of “collective efficacy,” which it defined as “cohesion among neighborhood residents combined with shared expectations for informal social control of public space.” The study found that “in neighborhoods where collective efficacy was strong, rates of violence were low, regardless of sociodemographic composition and the amount of disorder observed. Collective efficacy also appears to deter disorder: Where it was strong, observed levels of physical and social disorder were low.”<sup>83</sup>

## Recreation Opportunities: The Importance of Play

For small children, playing is learning. Play has proved to be a critical element in a child's future success. Play helps kids develop muscle strength and coordination, language, cognitive thinking, and reasoning abilities.

“Research on the brain demonstrates that play is a scaffold for development, a vehicle for increasing neural structures, and a means by which all children practice skills they will need in later life,” according to the Association for Childhood Education International.<sup>84</sup> Play also

teaches children how to interact and cooperate with others, laying foundations for success in school and the working world.

Exercise has been shown to increase the brain's capacity for learning. In 1999, researchers at the Howard Hughes Medical Institute found that voluntary running boosts the growth of new nerve cells and improves learning and memory in adult mice. The new nerve cells were concentrated in a part of the brain called the hippocampus, which plays a central role in memory formation, including spatial learning-locating objects in the environment-and consciously recalling facts, episodes, and unique events.<sup>85</sup>

TPL has been deeply involved in helping create recreational opportunities for children. Densely populated Lowell, Massachusetts, for example, has been chronically short of park space, and in the past had even paved over parks to build housing. Lowell's youth soccer league lacked a soccer field to play on, forcing it to travel to other cities to practice.

In 1994, the Lowell Parks and Conservation Trust turned to TPL for help. TPL arranged the purchase of a ten-acre former industrial site along the Merrimack River. The property, next to a working-class neighborhood, had been contaminated with petroleum hydrocarbons, semivolatile organic compounds, and polychlorinated biphenyls. After environmental mitigation, TPL helped turn the site into the Edwards Street Soccer Fields, which now gives local children critical opportunities for outdoor recreation.<sup>86</sup>

## Creating Stable Neighborhoods with Strong Community

Green spaces build community. Research shows that residents of neighborhoods with greenery in common spaces are more likely to enjoy stronger social ties than those who live surrounded by barren concrete.

A study by the University of Illinois and the University of Chicago found that for urban public housing residents, levels of vegetation in common spaces predicted the formation of neighborhood social ties. "In inner-city neighborhoods where common spaces are often barren no-man's lands, the presence of trees and grass supports common space use and informal social contact among neighbors," the study found. "In addition, vegetation and [neighborhood social ties] were significantly related to residents' senses of safety and adjustment."<sup>87</sup>

These benefits often arise in the context of community gardens. A 2003 study conducted by the University of Missouri-St. Louis for the community development organization Gateway Greening found that St. Louis neighborhoods with community gardens were more stable than other neighborhoods. In a city that lost nearly 50,000 residents between 1990 and 2000, neighborhoods with gardens did relatively better, losing 6 percent of their population over the decade compared with 13 percent for the city as a whole.<sup>88</sup>

The study also found that between 1990 and 2000, monthly rents for apartments immedi-

ately around the gardens rose a median of \$91, compared with no change in the larger U.S. Census areas surrounding the gardens and a \$4 drop for St. Louis as a whole.<sup>89</sup>

Advocates of community gardens say they increase residents' sense of community ownership and stewardship, provide a focus for neighborhood activities, expose inner-city youth to nature, connect people from diverse cultures, reduce crime by cleaning up vacant lots, and build community leaders.

"The garden can take credit for bringing the neighborhood together," says Annie Thompson in Park Slope, Brooklyn, speaking about the Garden of Union.<sup>90</sup>

This is an area where more research is needed; the evidence of these social benefits is often anecdotal. It is also difficult to isolate the benefits of a community garden from the effects of economic, demographic, and other changes on a neighborhood.

TPL has been heavily involved in preserving community gardens in New York City. In 1998, the city announced a plan to auction off 114 of its more than 700 community gardens. TPL, working with other conservation groups, open space and garden coalitions, and individual gardeners, opposed the auction. Lawsuits, public pressure, and media attention brought the city to the negotiating table. The day before the auction, the city agreed to sell 63 gardens to TPL and the remainder to the nonprofit New York Restoration Project. All 114 gardens were spared.<sup>91</sup>

## Conclusion

We at the Trust for Public Land call for a revival of the city parks movement of the late 19th century, a visionary era that produced great public spaces like New York's Central Park and San Francisco's Golden Gate Park. More than a century later, these bold and farsighted investments continue to pay dividends that enrich our lives.

While Yellowstone, Yosemite, and other wilderness parks are national treasures, Americans need more than once-a-year vacations in faraway national parks. We need parks near our homes, in the cities where 80 percent of Americans live, where we can enjoy them and benefit from them in our daily lives.

Those of us lucky enough to live near parks, open spaces, and greenways know the joys they bring: the calming views of trees and green lawns, the singing of birds, the fresh air, the scent of fallen pine needles.

Overwhelming evidence demonstrates the benefits of city parks. They improve our physical and psychological health, strengthen our communities, and make our cities and neighborhoods more attractive places to live and work.



But too few Americans are able to enjoy these benefits. The lack of places for regular exercise has contributed to America's epidemic of obesity among adults and children, an epidemic that will have dire consequences on both our health and our finances.

Building a basketball court is far cheaper than building a prison block. Yet because we have not invested in city parks, many children have nowhere to play outdoors [and may turn to crime]. A generation of children is growing up indoors, locked into a deadened life of television and video games, alienated from the natural world and its life-affirming benefits.

We call on Americans to join the effort to bring parks, open spaces, and greenways into the neighborhoods where all can benefit from them. While government plays a vital role in the creation of public parks, governments cannot do the job alone. Achieving this vision will depend on the planning and transactional skills of nonprofit groups like TPL; on the input of neighborhood groups and community leaders in designing the parks; and on the financial support and moral leadership of community-minded individuals and businesses.

Working together, we can help many more Americans experience the joys of jogging down a tree-lined path, of a family picnic on a sunny lawn, of sharing a community garden's proud harvest. We can create the green oases that offer refuge from the alienating city streets-places where we can rediscover our natural roots and reconnect with our souls.

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