

PARKS AND PARK FUNDING IN LOS ANGELES: AN EQUITY-MAPPING ANALYSIS¹

Jennifer Wolch,² John P. Wilson, and Jed Fehrenbach

**Department of Geography
University of Southern California**

Abstract: An equity-mapping analysis of access to park space enjoyed by children and youth in Los Angeles (LA), and by residents according to their race, ethnicity, and socioeconomic status finds that low-income and concentrated poverty areas as well as neighborhoods dominated by Latinos, African Americans, and Asian-Pacific Islanders, have dramatically lower levels of access to park resources than White-dominated areas of the city. Further, a mapping of park-bond funding allocations by location reveals that funding patterns often exacerbate rather than ameliorate existing inequalities in park and open-space resource distributions. Given the lack of large parcels for park acquisition, these results indicate that creative strategies for providing open space—such as utilizing vacant lots, alleys, underutilized school sites, public or utility-owned property, unnecessarily wide streets, and abandoned riverbeds—will be required in the city's older neighborhoods to redress existing inequities in access to parks. [Key words: urban parks, environmental justice, equity mapping, public finance.]

INTRODUCTION

Parks and open space are fundamental to the livability of cities and their neighborhoods, and are often key to economic development (Garvin, 2000; Crompton, 2001a). But in many U.S. cities, there exists a widely perceived deficit of parkland. This is especially true in older neighborhoods and communities of color, compared with newer suburbs (Harnick, 2000). Such geographical unevenness in the distribution of amenities is increasingly recognized—both by urban geographers and urban residents—as an important indicator of environmental injustice, rooted in past histories of racial oppression and discriminatory service delivery patterns of local government. This recognition has stimulated detailed geographical analyses—sometimes known as “equity mapping” (Talen, 1998)—as well as urban social movements dedicated to improving access to parks and open space that so profoundly influence the character of everyday urban life and experience.

In Los Angeles (LA), the challenge of equity in access to parks and open space is severe. The problem involves not only *inequality* of access across subgroups of the

¹This research was generously supported by the John Randolph Haynes and Dora Haynes Foundation of Los Angeles. The authors would like to thank Christina Li, Travis Longcore, Angela Johnson Meszaros, Stephanie Pincetl, and Michael Dear for their assistance and advice with this project. Thanks also to Steve Brackmann and Jamin Johnson for their contributions to an early version of this analysis.

²Correspondence concerning this article should be addressed to Jennifer Wolch, Department of Geography, University of Southern California, Los Angeles, CA 90089-0255; telephone 213-740-0521; fax: 213-740-0056, e-mail: wolch@usc.edu

population to public parks and open space, but also *inequity* stemming from the physical and socioeconomic character of communities of color. Characterized by multifamily housing that typically lacks private yards for play and relaxation, their residents can seldom afford to frequent private recreational venues (such as golf, swim or tennis clubs, or gyms). Thus even a strictly equal distribution of parkland would not lead to equal recreational and leisure opportunities for residents.

The reasons for these dual patterns of inequality and inequity are rooted in the city's past. Los Angeles was historically conceived as a place of low-density homes, each with its own private garden. This imaginary persisted despite the fact that large districts of medium-density multifamily housing were being built in the city's central neighborhoods. Real estate developers resisted the dedication of land for public open space. Thus civic leaders set aside extraordinarily modest amounts of land for open space and park/recreational purposes. Plans to remedy the situation, as well as preserve and enhance the beaches and mountains of the city's urban edges, were mounted during the early 20th century but failed (Hise and Deverell, 2000).

As the city expanded and population density rose during the last quarter of the century, concern about lack of adequate park and recreation space for city residents grew rapidly. The question of equity in the distribution of parks became particularly acute in the city's low-income communities of color, where a relative shortage of parks and recreation facilities, along with other forms of social injustice, was revealed to be a fundamental problem as early as 1965 when federal commissions investigated the underlying causes of the Watts riots. Today, not much seems to have changed. A perceived lack of parks and open space in these same communities stands out as one of the urban region's highest-profile environmental justice issues.

In 1996, voters in the city of LA passed a park-bond measure, Proposition K, to increase and enhance park and recreation space in the city. Proposition K generates \$25 million per year for acquisition, improvement, construction, and maintenance of city parks and recreational facilities. Its fundamental purpose is to address the inadequacies and deterioration of the city's "youth infrastructure"—parks and recreation centers—and the currently unmet need for park, recreation, childcare, and community facilities. Much of the bond funding is allocated through a competitive process in which community-based organizations as well as city agencies and other public entities, may submit requests for funding for park improvement projects, parkland acquisition, and recreational and other activity programs.

Los Angeles is one of the most ethnically diverse cities in the nation (Fig. 1), with a long history of racial and environmental injustice (Pulido, 2000). Municipal service-delivery decisions are closely monitored by social and environmental justice organizations. This monitoring is critical to understanding the changing quality of life and life chances of the city's residents, and to avoiding further social polarization and environmental injustice that typically underlie social unrest. After several years of Proposition K funding, critical questions about program outcomes in the context of existing park and open space resources in the City of Los Angeles emerged as key to civic dialogue. Which areas of the city are "park-rich" and which are "park-poor"? How do these patterns relate to the distribution of children and youth, especially young people of color, and to residents of low-income households? In this context, where have Proposition K funds been

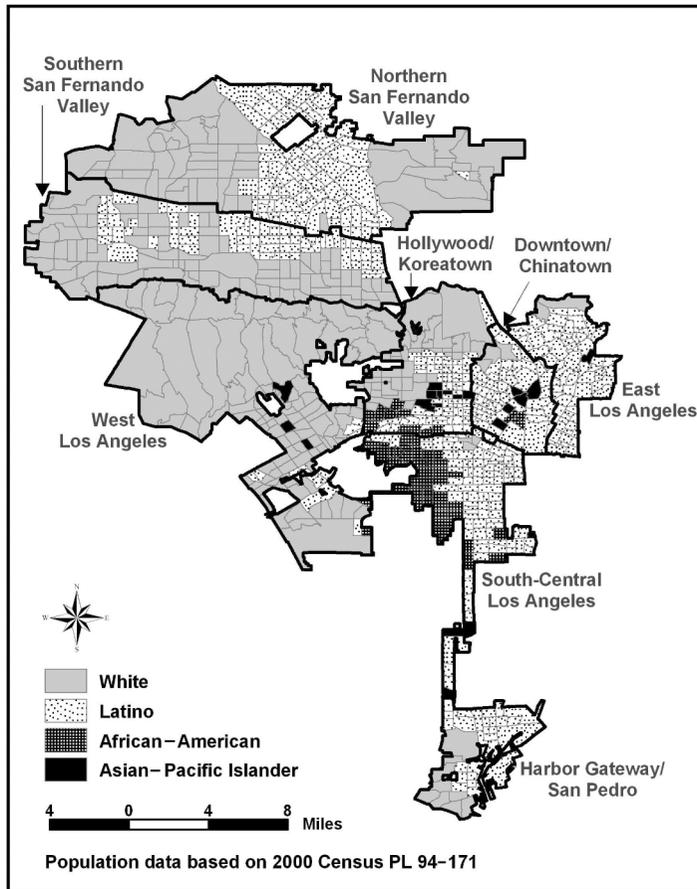


Fig. 1. Classification of City of Los Angeles census tracts based on most populous racial/ethnic group.

allocated, and to what sorts of purposes—improvements to existing parks, other sorts of recreational facilities, or new park development?

Our research addresses these fundamental questions. Through a geospatial analysis of both existing and Proposition K-funded park and open space resources in Los Angeles, along with an equity mapping exercise, we found fundamental patterns of inequality in the distribution of this vital aspect of urban livability. The analysis also revealed that applicants across the city are not uniformly successful in attracting Proposition K funding, and moreover, that Proposition K funding patterns often exacerbate rather than ameliorate existing inequalities in park and open space resource distributions in the City of Los Angeles.

In the next section of the paper, we consider the emergence of urban parks as an environmental justice issue, particularly in Los Angeles, and the challenge of providing additional park and open space resources in the context of public sector fiscal austerity characteristic of all large cities in California in the post-Proposition-13 era. We then lay

out our methods of empirical analysis, which rely on GIS and related geostatistical techniques. The following two sections report findings on equity in park accessibility, and Proposition K bond funding allocations, respectively. We conclude with a summary of the study's results and policy implications that suggest the need for a new paradigm for thinking about urban parks and open space in dense metropolitan regions.

ENVIRONMENTAL JUSTICE, URBAN PARKS, AND PARK FUNDING IN LOS ANGELES

During the last decade, environmental racism—the disproportionate exposure of people of color to environmental hazards, as well as their exclusion from benefits associated with environmental amenities—gained broad political and social attention (Albrecht, 1995), stimulating the development of a powerful social movement focused on environmental justice. As a result, since 1994, when then-President Clinton signed Executive Order 12898, all federal land management agencies were mandated to consider environmental justice in their decision-making (Tarrant and Cordell, 1999).

Nowhere, perhaps, have issues of environmental justice been more salient than in Los Angeles. Historically, LA's low-income people and communities of color faced not only economic discrimination and social marginalization, but also environmental racism. For example, in the early years of the 20th century, on the east side of Los Angeles, industrialization prompted growth in the area (Boone and Modarres, 1998). As more factories were being built, a greater need for low-wage manufacturing workers arose. While it remains unclear if historically the factories arose as a result of proximity of cheap labor or whether laborers sought homes close to new factories (Pulido et al., 1996), there is evidence that communities of color—which are typically weak politically—are preferred sites for certain types of polluting facilities such as toxic storage and disposal facilities (Pastor et al., 2001). Also, some cities deliberately created housing for minority workers in close proximity to industrial facilities. For instance, in 1912 the City of Torrance was developing into an industrial area. In the process of building industrial plants, an area situated downwind from the pollutants pouring daily from chimneys was designated by the city as the living area for the workers and their families, who were predominantly Latino (Pulido et al., 1996). Not surprisingly, people of color are currently more likely to be exposed to environmental hazards in Los Angeles and face higher rates of lifetime cancer risk (Sadd et al., 1999; Morello-Frosch et al., 2001).

Parks as an Environmental Justice Issue

Because of the wider problems of social polarization, environmental justice issues related to amenities (rather than environmental hazards) have also been both a historical and modern concern. Perhaps most significant in this regard has been the question of the provision of parks and recreation. At the turn of the century, urban parks were widely deemed to be representations of nature that would promote a better society by combating such social problems as poverty, crime, and poor health, and by providing major benefits such as better public health, social prosperity, social coherence, and democratic equality (Young, 1995). Today, many of these same reasons for building parks are offered to

justify parkland acquisition and facility construction. In addition, research reveals that outdoor play is critical to younger children's social and cognitive development (Hart, 1979; Proshanski et al., 1983; Nahban and Trimble, 1994), while for older children and youth, park-based activities have been shown as vital alternatives to passive pastimes such as computer games and television, as well as juvenile delinquency (Burgess et al., 1988).

However, in Los Angeles, low-income and minority areas have endured a history of undesirable land uses, especially industrial installations with their attendant pollution of air, water, and soil. For example, the City of Los Angeles's 1904 zoning code, the first in the nation, protected the affluent, predominantly Anglo Westside from such industrial uses. Higher-density housing, commercial, and industrial activities were allowed to locate by right in the city's eastern and southern areas in which lower-income workers, including people of color, were concentrated (Weiss, 1987). Public parks, as well as other urban services were, however, disproportionately allocated to other parts of town.

Past discrimination in housing and employment, ongoing environmental racism in the siting of industrial and other polluting facilities, and inequitable distribution of urban services, mean that low-income households and communities of color in Los Angeles are apt to be relegated to "park-poor" neighborhoods, while wealthier districts are more likely to boast plentiful parks and greenbelts provided by public funding. Since more parks and greenspace translate into higher property values (Diamond, 1980; Crompton, 2001b), this inequality translates into growing wealth disparities.

On an everyday basis, however, children and youth relegated to concrete sidewalks for playgrounds are arguably the greatest victims of this type of environmental injustice. This deficit in parklands is particularly problematic for older, high-density, low-income communities where children tend to utilize park resources more intensively than kids in newer, suburban areas where most housing units have gardens and there are more recreational opportunities in the environment (Loukaitou-Sideris, 1995). Therefore, not surprisingly, the issue of parks and recreation is commonly cited as one of the most critical among residents of the city's low-income communities of color.

Funding for LA's Urban Parks and Recreation Facilities

At the end of World War II the park system in U.S. cities, including Los Angeles, had been largely laid out and established (Young, 1995). As the population grew, so did the demand for and the price of land. This made land acquisition difficult, especially for non-tax-generating land uses such as open space. With increasing suburbanization during the 1950s through 1970s, and the concomitant decline in the property tax base of most central cities, spending on parks was drastically cut, and few communities were willing to raise taxes for the park system (Garvin and Berens, 1998).

In California, Proposition 13 and ensuing tax limitations exacerbated this situation. These measures centralized fiscal resources at the state level, reduced local funding levels and flexibility, made voter approval for local tax increases far more difficult to obtain, and created incentives for sales-tax generating commercial land uses, to the detriment of housing, employment centers, and most certainly public open space (Sokolow, 1998). Thus, in the early 1980s, the City of Los Angeles was forced to close 24 recreation

centers, reduce funding for the remaining 154 centers, and slash the weekly operating hours of many facilities (Schwadron and Richter, 1984, quoted in Loukaitou-Sideris and Stieglitz, 2002); and between 1972 and 1998 (largely the post-Proposition 13 period), the city was able to purchase less than 1,000 acres for parkland, leaving Los Angeles at the bottom of the distribution in terms of parks among West Coast cities, and most of the nation's other large metropolitan areas (Harnick, 2000). In addition, the state law designed to generate park development funds, the Quimby Act, disproportionately advantages newer, more suburban areas of the metropolitan region. The act requires developers to either pay in lieu funds or set aside land for park and recreational uses within, or in the immediate vicinity of, new subdivisions. Since subdivision projects are disproportionately located in outlying parts of the urban region, older central neighborhoods receive little in the way of Quimby resources.

There have been several strategies for getting around the hurdle of tax increases while still supplying the growing need for more open space. One popular approach has been to turn unused government land into parks and greenbelts. In LA, the Los Angeles River zone has been targeted for such a conversion. Extensive plans now exist to restore portions of the river to a more natural state, acquire additional adjacent parcels, and create a series of riverfront parks (Gumprecht, 1999; Spowers, 2000; Price, 2001). Adding needed open public space would benefit the many residents and property owners who live adjacent to or near the river, both financially and in terms of their well being. Indeed, this strategy is being actively implemented, because of pressure from a wide range of activist organizations, and with the aid of state park-bond funding.

Another strategy has been to share open space with automobiles. San Francisco was the first to utilize this strategy in 1940 when it opened a public parking garage under Union Square (Garvin and Berens, 1998). Many other cities followed suit, including Los Angeles, which created parking beneath Pershing Square in the downtown. This is not a strategy that has been widely used since, however. Lastly, public/private partnerships have become a common vehicle for park provision. In such partnerships, individual property owners as well as business improvement districts (BIDs) have joined with the public sector to acquire land and manage park facilities. Under such a partnership, the public sector might donate land while the BID might build and/or manage the park. Typically, however, these projects benefit areas that already have existing social and economic capital. In Los Angeles, such a partnership was created for Grand Hope Park in downtown LA, which is a joint operation of a BID and the city's Community Redevelopment Agency.

Proposition K and Park Funding

By the early 1990s, recognition was growing that the City of Los Angeles, with its rapid, moderate-to-low density growth pattern, had neglected to build an adequate numbers of parks and recreation facilities as its population expanded (Table 1). At about 4 acres per 1,000 residents (City of Los Angeles, Department of City Planning, 2001), provision of parklands falls far short of national standards, which range from 6.25 to 10.5 acres per 1,000 population (National Recreation and Parks Association, 2000). Moreover, certain neighborhoods within the city were even more neglected, leaving many children

TABLE 1. POPULATION AND EXISTING PARKLAND STATISTICS, CITY OF LOS ANGELES

Category	Total
Population, 2000	3,699,645
Number of children, 0–18 years, 2000	982,230
Population density (people per square mile)	7,841
Parkland (acres)—City of Los Angeles	15,686
Parkland—City of Los Angeles, as a percentage of total area	5.2
Park acres—City of Los Angeles, per 1,000 people	4.2
Park acres—City of Los Angeles, per 1,000 children	16.0
National Recreation and Parks Association standard (acres per 1,000 population)	6.25–10.5

and families with no safe place to congregate and recreate. This need for more parks and recreational facilities prompted, on November 5, 1996, a majority of qualified electors within the City of Los Angeles to adopt Proposition K—also known as “The Citywide Parks, Recreation and Community Facilities Assessment Referendum Ordinance.”

Proposition K was designed to address and deal with the inadequacies of the city’s children and youth infrastructure, which involves parks, community and recreation facilities, and childcare—all widely seen as seriously lacking in the City of Los Angeles. Proposition K generates \$25 million per year for 30 years through a real-property tax assessment. In total, Proposition K allocates \$298,850,000 over its life span for 183 projects specified within the language of the ordinance. Another \$143,650,000 will be allocated through a competitive grant process that will fund capital improvements, maintenance, and land acquisition. To be eligible for the competitive grants process applicants must fall into one of three categories: (1) government entity, (2) community-based organization (CBO), or (3) city department.³ The City of Los Angeles designated the Commission for Children, Youth, and Their Families as the agency in charge of the Los Angeles for Kids Program competitive grants process, which was established to distribute funding under the Proposition K guidelines.⁴ A citywide Community Needs Assessment conducted by the Department of Recreation and Parks and the Commission for Children,

³In addition to Proposition K funding, the Healthy Alternatives to Smoking Trust Fund provides parks and recreation funds for qualifying census tracts in the City of Los Angeles. To qualify for the Trust Fund, the tract must have a population composed of at least 26% of people younger than 18 years of age, at least 36% of youth in poverty, below-average park acreage, and not be located adjacent to any major parks or national forest land.

⁴The Commission is responsible for the administration of the open bid process along with developing the requests for proposals, and after receiving proposals, evaluating, rating, and giving recommendations to the Los Angeles for Kids Steering Committee and council. The Steering Committee and the city council then make the final decision on the distribution of the Proposition K funds. The Los Angeles for Kids Program also distributes the portion of the Healthy Alternatives to Smoking Trust Fund monies allocated for parks and recreation, as part of their Proposition K funding decisions.

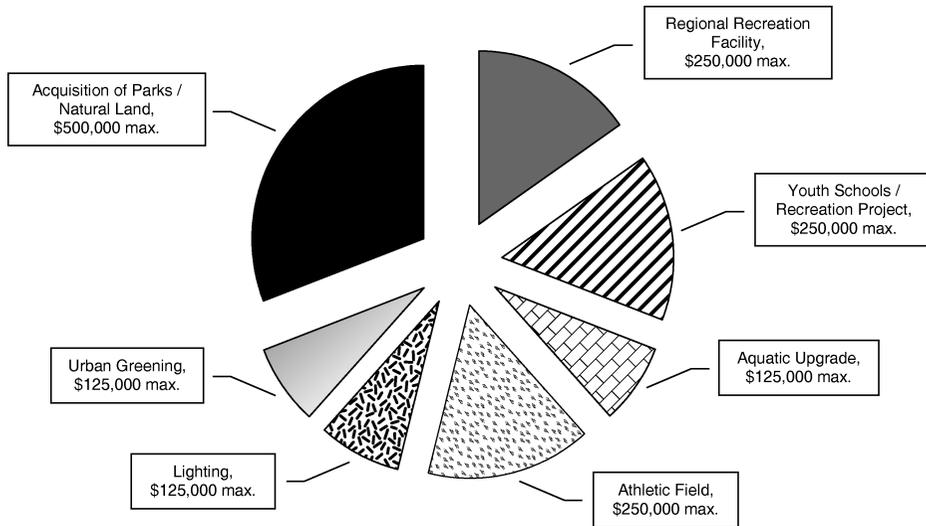


Fig. 2. Park/recreation categories most in need of additional funding and the upper funding levels designated by the Department of Recreation and Parks and the Commission for Children, Youth, and Their Families.

Youth, and Their Families identified eight categories deemed to most need additional funding (Fig. 2).⁵ The commission set strict eligibility requirements for all applicants.⁶

The goal of spending \$25 million yearly to improve park and open space resources in Los Angeles is laudable, but it is neither a simple nor an easy task. In general, Proposition K Requests for Proposals (RFPs) may be difficult for community-based organizations (CBOs) to complete, because of their length and detailed, time-consuming questions. In addition, CBOs must have a proven track record, making it difficult for new organizations to get started in the Proposition K funding system, and in some cases they must have or be able to identify additional resources to maintain facility improvements. Even if a group qualifies for consideration, their proposal still must be approved. A CBO must compete directly with the Los Angeles Recreation and Parks Department and other public agencies with extensive experience in applying for public funds.

⁵ Within the eight categories, an “individual preferred maximum grant request” has been established to distribute the grants as assessed by the commission.

⁶ As previously discussed, an applicant must either be a government entity, a CBO, or a City Department; the proposed project must be located within the City of Los Angeles; and an applicant must show that the proposed project will bring an increase in recreation services to the city’s youth population, and be accessible to the public without discrimination. Moreover, applicants must demonstrate financial management skills and the administrative ability necessary to provide programming capital once the project is complete. Finally, the applicant must show past experience in similar projects in the Los Angeles area. Once an applicant qualifies, the proposal receives a score based on the ability to meet five special criteria: demonstration of need; project design/service capability; projected outcomes/evaluation; budget justification; and administrative experience, with bonus points for meeting the needs of at-risk children. After all the proposals have been scored, the Commission for Children, Youth, and Their Families makes recommendations regarding which proposals should be funded to the Los Angeles for Kids Steering Committee and the city council, for final approval.

PARK EQUITY MAPPING ANALYSIS: DATA AND METHODOLOGY

Following the approaches of Talen (1998), Talen and Anselin (1998), Forsyth (2000), Nicholls (2001), and Lindsey et al. (2001), our analysis employed the development of a geospatial database, using information on the distribution of existing parks in the City of Los Angeles, Proposition K grant applications (both accepted and rejected) by location, and census data on the demographic and socioeconomic characteristics of the city's neighborhoods. We particularly focused on White, African American, Latino, and Asian-Pacific-Islander groups in our assessment, since they are the largest racial/ethnic segments of the population. These geographically coded data were then analyzed using Arc/Info and ArcView, to calculate access indices for various population subgroups in the city, produce associated maps, and create statistical summaries. We defined those residents living within one-quarter mile of a park edge as having "access" to a park. Although parks differ in size, with larger parks attracting users from a broader geographic area than smaller parks, being able to walk to a park/recreational facility—of whatever size—is critical for children, youth, and their families. Thus we employed a fairly conservative access indicator in our study, but one that is now widely used by national nonprofit organizations such as the Trust for Public Land.

Data Sources

Data for our analysis were derived from the following sources:

- (1) The U.S. Census Bureau's 2000 geographic data set for census tract boundaries, demographic statistics, streets, city boundaries, and zip codes (<http://www.esri.com/data/online/tiger/index.html>), and 1990 data on income and poverty (STF3).
- (2) Center for Spatial Analysis and Remote Sensing, California State University—Los Angeles park polygon shape file (<http://csars.calstatela.edu/ucicd/table.htm>)⁷
- (3) Government park Web pages (city, county, state, national).

⁷ Since the center's site provides no metadata to explain the accuracy of these data, a series of crosschecks were performed to assure data accuracy. In order to ground-truth the park polygon layer, we used the Web sites of the city, county, state, and national park agencies to confirm the existence of parks within the database. We also found there were parks in the polygon layer that did not match any of the online lists, so parks were looked up by name in a *2001 Thomas Guide for Los Angeles and Orange Counties*. Only 15 parks, all very small, from the city Web site were not found in the Thomas Guide. The parks polygon layer often summed several adjacent park acreages into a larger single park with one name, dropping the other names and boundaries, but since the location and overall park areas are accurate, this was not a major problem. A small number of parks may also have been omitted because of naming-convention discrepancies, while parks with recreation centers may have polygons that represent the area around the recreation center, not the entire park. Overall, the final coverage fairly represented the distribution of parklands and facilities within Los Angeles.

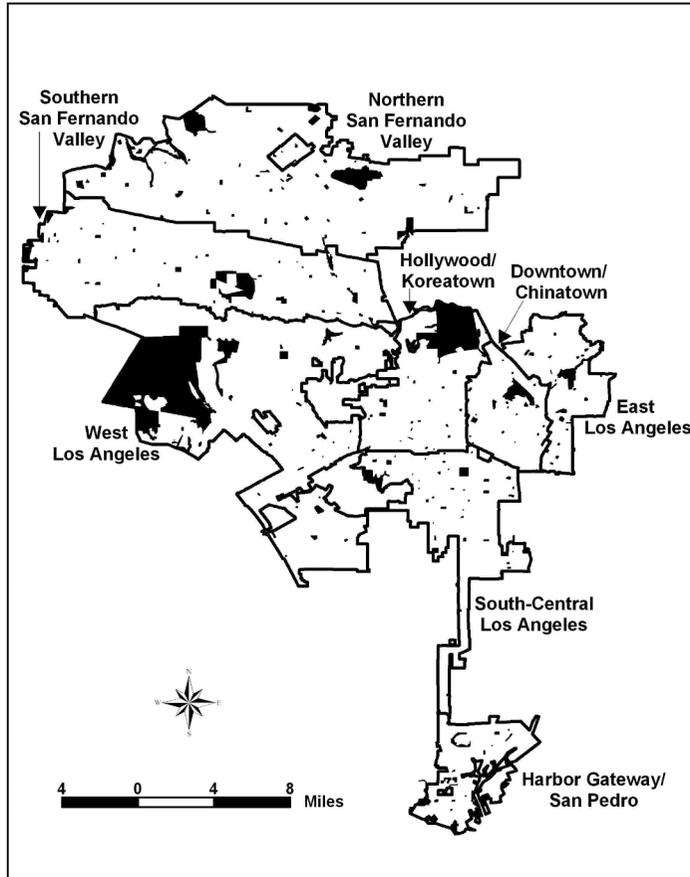


Fig. 3. Planning areas and distribution of parks in the City of Los Angeles.

(4) Round 1 and 2 granted and rejected proposals from Los Angeles City Commission on Children, Youth, and Their Families.⁸

Ultimately, the park layer consisted of 324 parks with an overall total area of 27,068 acres (Fig. 3). There are 19 parks that are less than one acre in size, 93 parks of 1–4.9 acres, 58 parks of 5–9.9 acres, 79 in the 10–25 acre range, and 75 parks that exceed 25+

⁸Names and addresses were gathered from the actual approved proposals, and rejected proposals were matched with addresses from the City of Los Angeles Recreation and Parks Web page, Los Angeles Unified School District Web page, and directories of nonprofit organizations. Some could not be located; however, 98% of accepted proposals and 90% of all rejected proposals were successfully address-matched. One problematic aspect of the Proposition K data on accepted and rejected proposals is that for CBOs, the address refers to the organization rather than the project site. However, most organizations undertake projects in their immediate vicinity; thus while some error was introduced into the analysis because of this problem, it is apt to be relatively minimal.

acres. Recalling that adjacent parks were often grouped into a single park in the layer, this size distribution may not be entirely consistent with city estimates (for example, the city reports 379 parks on its website). However, because aggregated parks functionally serve the community as one larger park, this would appear to be a fair representation of the city's park-size distribution.

Since non-city-owned parks were included in this park layer—some of them quite large—the total park acreage considered in this analysis is almost twice that actually owned by the city: 27,068 acres versus 15,686 city-owned acres.

Census Data Conversion and Creation of Park Buffers

The Census 2000 tables were joined to the polygon shapefile to provide full census tract data from the Census STF1 file, including population per tract for ethnic groups based on age. Minor manipulation was required to generate the population younger than the age of 18 by racial/ethnic group per census tract. In addition, 1990 Census STF3 data were utilized to assess socioeconomic relationships to park resources, since 2000 data concerning these features of the population had not yet been released when the analysis was performed.⁹

Park buffers (or geographic areas) were then created using the GIS, each a quarter-mile from the edges of park polygons. These buffers represent acreage accessible to children and youth in the area adjacent to the parks. A quarter-mile (half-mile round trip) is a reasonable distance for parents taking toddlers and small children to a park for everyday outings and playground opportunities, and given the reduction in children's independent mobility (Cunningham and Jones, 1999), trips of more than a quarter-mile (especially in high-traffic areas or neighborhoods where parents have safety concerns) are unlikely to be acceptable to parents. Indeed, a national survey conducted in the 1980s indicated that only 16% of seven-year olds were allowed to go farther than their block without adult supervision (Boocock, 1981), while a California survey conducted at about the same time revealed that almost 30% of 11–12 year olds had not made trips to local public spaces by themselves (Medrich et al., 1982).

Buffers and original park boundaries were reclassified into separate groups based on tract boundaries, creating accessible park acreage per census tract. These data were then dissolved into groups based on census tract boundaries, so that only one entity, and therefore acreage value, existed for accessible park acres per census tract. At this point, estimates of total acres within a quarter-mile of a park and total accessible population per tract, were calculated.

Accessibility Measures and Definition of Community Type

Accessibility of the city's existing park and open space resources was analyzed using several measures, and for specific population and socioeconomic subgroups. The population subgroups were White, Black, or African American, Hispanic or Latino, and

⁹ The overall socioeconomic characteristics evident in 1990 were still present in 2000 (SCAG, 2002).

Asian-Pacific-Islander people, both total population and population aged 18 or younger. We also used population characteristics, such as median household income or percentage of persons in poverty, to characterize the socioeconomic status of neighborhoods or major districts. The park distribution measures used included:

- (1) Park acres per 1,000 population (total population and population younger than 18);
- (2) Percent of tract (or district) population (total population and population younger than 18) within a quarter-mile of a park boundary; and
- (3) Park acres per 1,000 population (total population and population younger than 18) living within a quarter-mile buffer zone.

In order to characterize the distribution of park resources and access by racial/ethnic group, however, we created a set of mutually exclusive categories such that every tract is characterized by the group—White, African American, Latino, or Asian-Pacific Islander—that claims the largest share of total population. All Latinos (i.e. Black and White) were included in the Latino category for this analysis. Tracts are then further distinguished according to whether their dominant group constitutes fewer than 50%, 50–75%, or more than 75% of the tract population (Table 2). This categorization system suggests that Latinos and Whites comprised the dominant groups in 56% and 35% of the census tracts, respectively. Relatively few Whites (2.6% of total) are found in tracts dominated by African Americans and Asian-Pacific Islanders whereas Latinos are relatively numerous throughout the City of Los Angeles. African Americans comprised the dominant group in only 53 census tracts although substantial numbers of African Americans (50% of the total African American population) were scattered throughout the Latino-dominated tracts. Asian-Pacific Islanders were the dominant group in only 22 census tracts although relatively large numbers for these groups are scattered throughout the Latino- and White-dominated tracts (47% and 38% of total Asian-Pacific-Islander population, respectively).

This categorization system also effectively highlights the location of the city's ethnic neighborhoods, revealing the concentration of Whites in the western and southern San Fernando Valley, the Westside and Hollywood Hills, and Palos Verdes Peninsula; African Americans in the western side of South-Central, Latinos in South-Central Los Angeles, Northeast Los Angeles, the Harbor area, and parts of the Northeast San Fernando Valley; and reflecting their diversity of origins, Asian-Pacific Islanders in Koreatown and the scattered tracts of Little Tokyo, Sawtelle, Little Manila, and Chinatown (Fig. 1).

ACCESSIBILITY OF PARKS TO LA'S CHILDREN AND YOUTH

Overall, there were 7.3 park acres per 1,000 population, and 27.6 acres per 1,000 children. The park acres per 1,000 population fall within the middle of the range recommended by the National Recreation and Parks Association. However, it is vital to recall that noncity parklands were added to the parks layer since residents can utilize county, state, or federal parks—some of which are within city boundaries. Since many other communities also adjacent to parklands (such as the Santa Monica Mountains National

TABLE 2. DIVISION OF CENSUS TRACTS BY DOMINANT RACIAL/ETHNIC GROUP

Dominant group	Number of tracts	White	Latino	Black	Asian	Other
Latino						
>75%	188	39,098	653,745	35,769	36,998	4,861
50–75%	217	133,440	636,425	140,301	98,109	11,185
<50%	61	74,377	125,978	30,014	46,899	3,845
Subtotal	466	246,915	1,416,148	206,084	182,006	19,891
Black						
>75%	11	907	6,506	40,634	763	504
50–75%	31	6,873	43,455	83,573	3,956	1,598
<50%	11	5,278	15,333	19,881	3,982	743
Subtotal	53	13,058	65,294	144,088	8,701	2,845
Asian						
>75%	1	90	843	112	4,677	31
50–75%	7	3,984	7,793	1,957	18,257	189
<50%	14	12,913	16,449	3,824	26,243	582
Subtotal	22	16,987	25,085	5,893	49,177	802
White						
>75%	117	394,484	32,338	12,590	31,428	6,702
50–75%	127	351,752	102,328	25,696	70,665	10,031
<50%	53	111,663	78,525	17,551	46,420	4,558
Subtotal	297	857,899	213,191	55,837	148,513	21,231
Total	838	1,134,859	1,719,718	411,902	388,397	44,769

Recreation Area) utilize these same open spaces, however, the actual parkland rates per 1,000 population would drop significantly if their populations were added into the denominator. Moreover, as detailed below, even considering county, state, and federal parklands along with city-owned lands, many segments of LA's population still enjoy rates far below the 6.25–10.5 range suggested by the National Recreation and Parks Association.

With regard to accessibility, most residents of Los Angeles suffer from a lack of ready access to parklands. Even counting noncity owned parklands, only 29% of the city's population lives within a quarter-mile of a park facility. Thus 2,639,027 persons and 700,643 children are without easy access to park and recreational resources.

Equity in the Distribution of Park Resources

The distribution of park resources is highly uneven across racial/ethnic communities of the city. Latino and Asian-Pacific-Islander neighborhoods have the highest population densities, followed closely by African Americans; densities in all three types of neighborhoods are up to almost two to five times higher than in White-dominated neighborhoods

TABLE 3. BASIC PARK CHARACTERISTICS OF NEIGHBORHOODS BY DOMINANT RACIAL/ETHNIC GROUP

Dominant group	Total population	Population density (people/sq. mi.)	Children younger than 18 (%)	Park acres per 1,000 population	Park acres per 1,000 children
White					
>75%	477,482	5.1	16.5	31.8	192.9
50–75%	560,472	8.2	18.6	12.2	65.7
<50%	258,717	13.9	20.4	2.1	10.1
Total	1,296,671	7.2	18.2	17.4	95.7
Latino					
>75%	770,471	24.0	34.7	0.6	1.6
50–75%	1,019,460	18.4	31.8	2.6	8.2
<50%	281,113	15.7	25.3	0.9	3.7
Total	2,071,044	19.7	32.0	1.6	5.0
African-American					
>75%	49,314	16.0	26.8	1.7	6.3
50–75%	139,455	20.1	30.2	0.7	2.4
<50%	45,217	21.6	21.5	0.1	0.4
Total	233,986	19.3	27.8	0.8	2.9
Asian-Pacific Islander					
>75%	5753	23.0	17.7	0.3	1.9
50–75%	32,180	25.0	19.7	0.6	3.3
<50%	60,011	20.8	18.8	1.6	8.4
Total	97,944	22.1	19.0	1.2	6.3

(Table 3). Latino areas, with two-thirds of a million children, have almost three times as many children, living at five times the density as residents in heavily White areas. Yet those areas with 75% or more Latino population (188 tracts, with over 770,000 residents) have only 0.6 park acres per 1,000 population, and heavily African American dominated tracts (11 tracts with almost 50,000 residents) have 1.7 park acres per 1,000 population. In comparison, heavily White dominated areas (117 tracts with almost 480,000 residents) enjoy 31.8 park acres per 1,000 residents.

Accessibility and the Latino Population

Over 2 million people, including more than 660,000 children, reside in tracts in which the numerically dominant population is Latino. Overall, residents of Latino neighborhoods on average enjoy only 1.6 acres per 1,000 population, and 5 acres per 1,000 children younger than 18 (Table 3). As shown in Table 4, less than a third of the population lives within a quarter-mile of parkland in these neighborhoods. Almost 500,000 children—73%—have no easy access to park facilities. The areas with the highest shares of

TABLE 4. LATINO ACCESSIBILITY TO PARKS

Percent Latino	Population within quarter-mile buffer (%)	Number of children outside quarter-mile buffer	Park acres/1,000 population within quarter-mile buffer	Park acres/1,000 younger than 18 within quarter-mile buffer
>75%	29.9	190,894	1.9	5.5
50–75%	28.5	235,154	9.5	29.9
<50%	20.4	56,173	4.8	18.9
Total	26.7	482,221	6.0	18.4

Latino residents are the worst off in terms of park acres per 1,000 residents and children living within a quarter-mile from a park. In comparison, those tracts with moderately high shares have more park resources.

The most heavily Latino areas of Los Angeles are primarily in South-Central Los Angeles, Northeast Los Angeles, the Harbor area, and parts of the Northeast San Fernando Valley. These are some of the highest population density areas in the City. In South, Central, and Northeast Los Angeles, there are several parks in the middle of the largely-Latino census tracts, but population densities are extremely high, thus lowering per capita estimates. Parks are also limited in tracts with the highest concentrations of Latinos in the Northeast Valley and South Los Angeles (Fig. 4).

African American Access to Parks

Over 230,000 people, including over 65,068 children younger than 18, reside in tracts in which the numerically dominant population is African American. In these neighborhoods, less than a third of the population lives within a quarter-mile of parkland, and almost 50,000 children—74%—have no easy access to park facilities (Table 5). Combining all information on African-American-dominated tracts, residents of African American neighborhoods on average have only 0.8 acres per 1,000 population, the children in their districts have only 2.9 acres per 1,000—the lowest in the City (Table 3).

African American dominated neighborhoods tend to be heavily concentrated in South Central Los Angeles, Southeast Los Angeles, the Harbor Gateway, the West Adams-Baldwin Hills-Leimert Park area, and the Wilshire District. In most other parts of the city, representation of African Americans is very low, i.e., 8% or less. Throughout areas with the highest proportions of African Americans, there are several large parks; however, in most African-American-dominated areas, the number of park acres per 1,000 children is low.

Asian-Pacific-Islander Access to Parks

Park accessibility in areas of Asian-Pacific-Islander concentration varies greatly. Almost 100,000 people live in these neighborhoods, about 18,600 of whom are younger

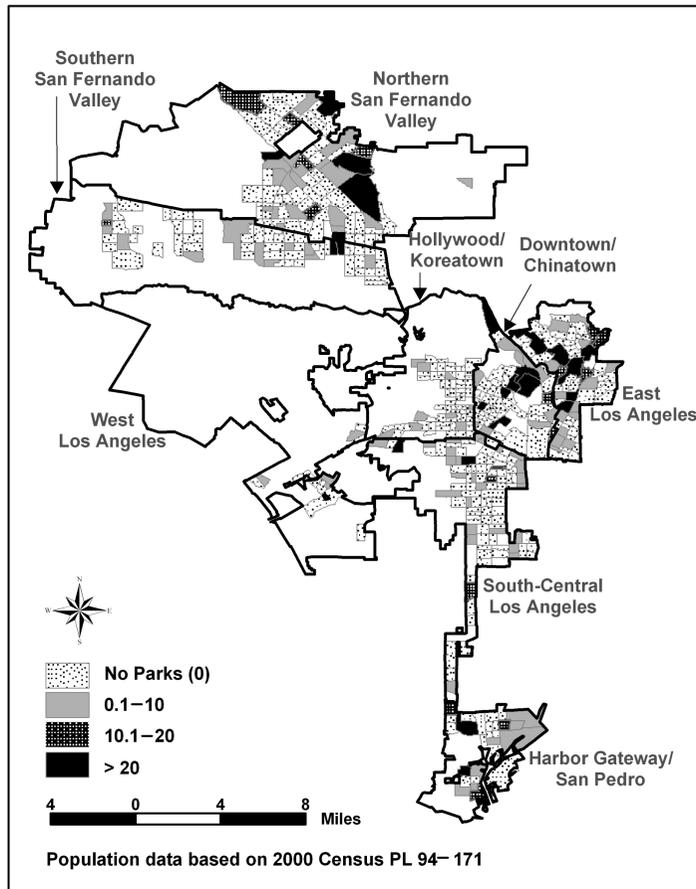


Fig. 4. Park acres per 1,000 children in Latino-dominated census tracts.

than 18. In these districts, less than 30% of the population lives within a quarter-mile of parkland, leaving 13,000 children without ready access to park facilities (Table 6). Combining all Asian-Pacific-Islander-dominated tract information, residents of these neighborhoods on average have only 1.2 acres per 1,000 residents, while children in these districts have 6.3 acres per 1,000 (Table 3). There are relatively few neighborhoods that are heavily dominated by this population subgroup, however. The Asian-Pacific-Islander-dominated areas are scattered among Koreatown, Downtown, Monterey Park, and in patches of West and South Los Angeles (Fig. 1). Park acres per 1,000 children are uneven in these areas.

White Population and Park Access

Park acres per 1,000 for the White population (total and children) are dramatically higher than for other groups, particularly in the most heavily White areas. On average, White-dominated neighborhoods enjoy 17.4 acres per 1,000 residents, and 95.7 acres per

TABLE 5. AFRICAN AMERICAN ACCESS TO PARKS

Percent African American	Population within quarter-mile buffer (%)	Number of children outside quarter-mile buffer	Park acres/1,000 population within quarter-mile buffer	Park acres/1,000 younger than 18 within quarter-mile buffer
>75%	33.5	8,849	5.0	19.2
50–75%	22.3	31,859	3.0	10.0
<50%	22.6	7,640	0.4	1.9
Total	26.2	48,348	3.1	11.4

TABLE 6. ASIAN-PACIFIC-ISLANDER ACCESS TO PARKS

Percent Asian-Pacific Islander	Population within quarter-mile buffer (%)	Number of children outside quarter-mile buffer	Park acres/1,000 population within quarter-mile buffer	Park acres/1,000 younger than 18 within quarter-mile buffer
>75%	46.2	547	0.7	4.0
50–75%	37.1	3,648	1.6	7.7
<50%	16.0	8,965	9.3	41.0
Total	26.0	13,160	4.6	21.4

1,000 children (Table 3). In part this is because White-dominated areas encompass the Santa Monica Mountains. Similarly, park acres per 1,000 population (total and younger than 18) within a quarter-mile of a park are dramatically higher than for other groups (Table 7).

In areas with less than 50% White population, which are located away from the mountains, the park-acre measures are far more modest; yet they are still considerably higher than for all but three of the nine other racial/ethnic community designations. Nevertheless, only just over one-fifth of the population in White-dominated neighborhoods has easy access to parklands. This apparent contradiction is explained, once again, by the role and location of the Santa Monica Mountains, which are relatively distant from most White neighborhoods, and the fact that many White-dominated areas exhibit lower residential densities, making distances to parks greater in general in these parts of the city. The pattern is similar when considering park acreage in relation to the distribution of children in White dominated tracts (Fig. 5). Children living in central San Fernando Valley neighborhoods, as well as those in parts of West Los Angeles, have relatively poor access to parks, in contrast to those living near the city's large open spaces. They may, however, have more private yard and play space.

TABLE 7. WHITE POPULATION ACCESS TO PARKS

Percent White	Population within quarter-mile buffer (%)	Number of children outside quarter-mile buffer	Park acres/1,000 population within quarter-mile buffer	Park acres/1,000 younger than 18 within quarter-mile buffer
>75%	21.8	59,799	140.7	800.8
50–75%	22.0	81,610	54.4	300.9
<50%	21.6	41,559	9.6	47.4
Total	22.3	182,968	78.2	426.2

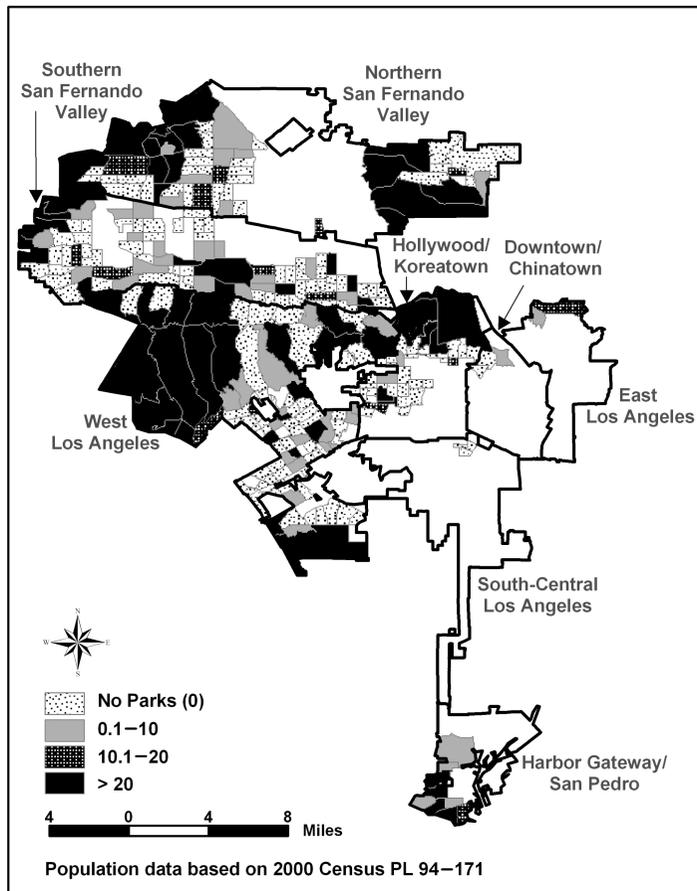


Fig. 5. Park acres per 1,000 children in White-dominated census tracts.

TABLE 8. SOCIOECONOMIC STATUS AND ACCESS TO PARKS

Socioeconomic status	Population within quarter-mile buffer (%)	Number of children outside quarter-mile buffer	Park acres/1000 population	Park acres/1,000 population within quarter-mile buffer	Park acres/1,000 younger than 18 within quarter-mile buffer
1990 median household income					
>\$40,000	20.8	136,595	21.2	102.9	517.0
\$30–40,000	20.4	146,679	5.9	28.1	129.6
\$20–30,000	27.7	195,991	1.4	5.0	17.7
<\$20,000	29.9	160,353	0.5	1.6	5.2
1990 percent in poverty					
<10%	21.4	172,753	18.9	86.8	451.5
10.1–20%	20.6	175,293	1.9	9.2	39.1
20.1–40%	29.2	250,772	1.2	3.9	12.8
>40%	36.5	40,802	1.0	2.8	7.7
Total	24.8	639,618	7.3	29.6	113.1

Park Access and Socioeconomic Status

Lower-income households have significantly inferior access to park resources when compared to those with higher incomes. More than 230,000 children lived in the 150 tracts in which 1990 household income fell below \$20,000 per year. Only 30% of children had easy access to parks, leaving 160,000 without such access (Table 8). On average, residents in such low-income neighborhoods enjoyed less than 0.5 park acres per 1,000 total population (1.6 park acres per 1,000 children), and 5.2 park acres per 1,000 children living within easy access. By contrast, neighborhoods where 1990 household incomes exceeded \$40,000 (which housed approximately 890,000 residents) boasted 21.2 park acres per 1,000 total population (102.9 park acres per 1,000 children). The share of children without quarter-mile access was lower, however, because many such households were located in lower-density areas (especially near the Santa Monica Mountains) where neighborhood services of all types are more dispersed.

Similarly, areas with high poverty concentration had much poorer access than tracts with a low incidence of poverty. Neighborhoods in which 40% or more of residents were below the federal poverty line in 1990 (with about 200,000 residents total) had about 1 acre of parkland per 1,000 residents (3 park acres per 1,000 kids), whereas areas with negligible poverty had about 19 acres per 1,000 dwellers (87 park acres per 1,000 kids). Access was dramatically inferior in the high-poverty areas; almost 300,000 young people in tracts with 20% or more in poverty had no easy access to parks.

Summary

Overall, we find striking inequities in the distribution of park space for children/youth of Los Angeles. Considering park acres per 1,000 residents, it is clear that low-income and concentrated poverty areas have relatively low levels of park resources and accessibility. Moreover, African American, Asian-Pacific Islander, and Latino-dominated neighborhoods, where almost 750,000 children live, exhibit extraordinarily low rates compared to White-dominated areas where only 235,000 children reside. In particular, in those neighborhoods that are almost exclusively Latino, the number of total park acres and accessible park acres per 1,000, are shockingly low: less than an acre per 1,000 population in park acreage, and less than 2 acres per 1,000 population living within a quarter mile of existing parks. This compares with 32 acres per 1,000 population in park acreage, and 141 acres per 1,000 residents within a quarter mile of a park in those neighborhoods in which 75% or more of the population is White.

Nonetheless, the vast majority of residents, including children, in each of the four major types of racial/ethnic neighborhoods have poor access to parklands. In White-dominated areas this is in part because of low residential density, and may be somewhat offset by the availability of private yards and gardens for play, while in other areas limited park resources combine with high density to produce a double whammy: poor accessibility and extraordinarily low park acres per person/child.

DISTRIBUTION OF PROPOSITION K RESOURCES

At the time of our analysis, Proposition K funds had been distributed in two cycles, with the first starting in 1998 and the second starting in 1999 and ending in 2000. During this period, an estimated \$38,572,059 was granted to qualified applicants.¹⁰ This total does not include seven funded projects that used the Los Angeles Department of Recreation and Parks in downtown LA as the project address, as well as the Los Angeles Children's Museum (\$9.5 million), which was a large regional project; such projects would have unrealistically skewed the analysis toward the downtown area. Regional facilities garnered the greatest dollar amount of any funding category (41%), followed by neighborhood at-risk youth facilities (28%), youth schools/recreation projects (8%), aquatic upgrades (3%), improvements to athletic fields (4%), lighting for playing fields (4%), urban greening (5%), and parks/natural lands acquisition (7%). Irregularities with the Proposition K allocation data led to the inclusion of 181 grant proposals (76 of which were accepted) totaling \$25,408,739 in Proposition K funds in our geographical analysis.¹¹

Viewing existing accessible park space within Los Angeles along with the site locations of both accepted and rejected Proposition K applications suggests that a large

¹⁰These grant data include funds allocated, and funds planned to be allocated by the Commission to projects through Proposition K (including those allocated from the Healthy Alternatives to Smoking Trust Fund dollars). It should be noted that the Commission data sources were not uniformly consistent; funding amounts reported here should be considered estimates. The grants were awarded by category, depending on the type of project to be completed.

¹¹Three funded projects, as well as 17 rejected projects, could not be geocoded and were dropped from the analysis.

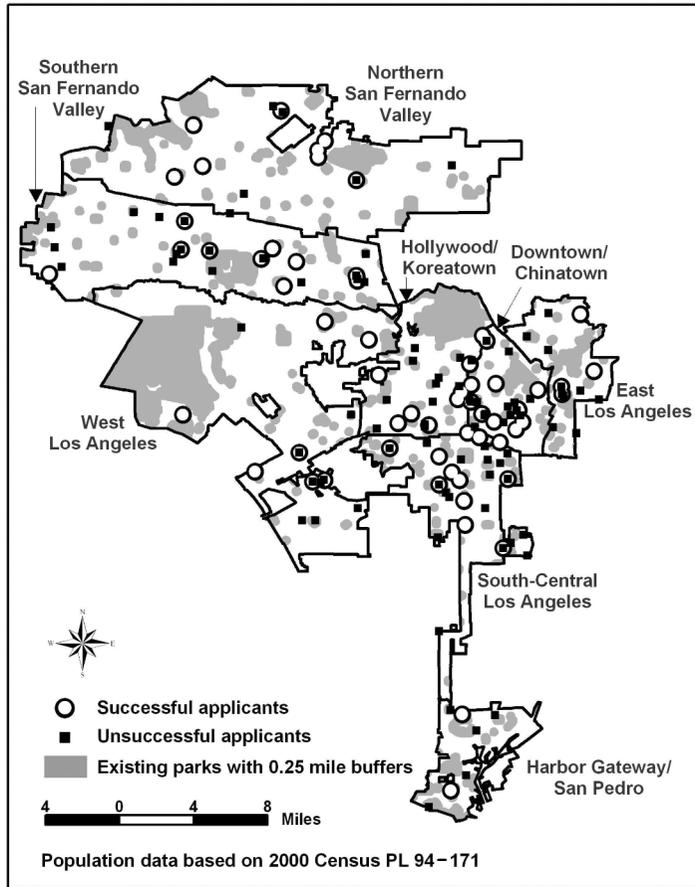


Fig. 6. Existing park space and locations of successful and unsuccessful Proposition K grant applicants.

majority of the accepted applicants are within or adjacent to existing accessible park spaces, as opposed to being associated with school sites, other government facilities, or CBO sites (Fig. 6). Most CBO applications were in partnership with an existing park/recreational facility. In some cases, the CBO's application is geographically coded as the organization's office location. But while in some instances CBOs may undertake projects a sizeable distance from their organizational base, in most cases proposed projects are likely to be located in nearby neighborhoods. Both accepted and rejected applications originated in locations widespread throughout the city, although some subregions generated fewer proposals than others.

Given the nature of the bond funding allocation process, with its mix of applicant requirements and constraints, it is difficult to identify why a particular area was or was not targeted for funding. However, our examination of funding patterns reveals that Proposition K was only moderately effective in redressing the maldistribution of park and open space resources in the city.

TABLE 9. PROPOSITION K FUNDING BY PERCENT POPULATION YOUNGER THAN 18

Population younger than 18 (quartiles)	Total population	Total children	Proposal success rate (%)	Per child spending (%)	Total Proposition K spending (\$)
0–20.8%	899,816	127,498	48	42.63	5,435,635
20.9–27.5%	952,088	231,707	50	26.90	6,233,378
27.6–33.1%	931,159	283,631	35	22.18	6,291,948
33.2–57.8%	916,582	339,394	42	21.94	7,447,778
Total	3,699,645	982,230	44	25.87	25,408,739

Proposition K Funding and the Child/Youth Population

Although Proposition K funds were disproportionately allocated—in absolute and per capita terms—to areas with larger shares of youthful residents, allocations would have had to be even more targeted to such neighborhoods to achieve parity on a per child basis. This outcome is most likely a result of the mix of criteria used in making bond-funding allocations, rather than per child parity as such. Citywide, \$25.87 in Proposition K funds was spent per person younger than 18, and areas with the least share of children and youth got the least funding on a per youth basis. In areas with the highest concentrations of young people, expenditures per young person were 15% lower than the city average (Table 9). Those census tracts where less than one-fifth of the total population was younger than 18 received twice as much on a per youth basis than did those areas with the greatest share of youngsters (in which between one-third to more than half of the population was younger than age 18). And areas with higher concentrations of youth population had lower funding proposal success rates than areas with lower concentrations of young people. Nevertheless, tracts with the highest percentage of youth residents did receive the most money in absolute terms.

Proposition K Applications and Socioeconomic Status

Proposition K funds do appear to have been targeted toward lower-income and poorer neighborhoods of the city. However, on a per child basis, spending was more evenly spread across poorer and more affluent areas (Table 10). Note that income and poverty data are derived from the 1990 census; hence spending rate figures cannot be directly compared with those presented above in Table 9, or below in Table 11.

Low-income neighborhoods generated more Proposition K proposals than more affluent areas, in absolute numbers and proposals per 100,000, and enjoyed a higher success rate. Per capita spending was also almost double that of the most affluent tracts. But the difference in funding per child was much smaller because lower-income areas have far more children. Neighborhoods with high rates of poverty also received more Proposition K funds on a per capita (almost four times as high in the highest poverty tracts than in the lowest), and per child basis (with high poverty tracts attracting over twice the per child

TABLE 10. PROPOSITION K FUNDING BY SOCIOECONOMIC STATUS

Category	# tracts	1990 total population	1990 total children	Proposal success rate	Per capita Proposition K spending	Per child Proposition K spending	Total Proposition K funding (\$)
1990 median household income							
<\$20,000	150	771,558	233,837	48%	\$9.96	\$32.85	\$7,680,996
\$20–29,999	179	990,371	274,311	46%	\$8.87	\$32.01	\$8,781,737
\$30–40,000	169	848,064	185,538	46%	\$5.23	\$23.90	\$4,433,833
>\$40,000	222	892,559	173,138	32%	\$5.06	\$26.06	\$4,512,173
1990 percent in poverty							
>40%	42	202,427	66,098	48%	\$16.75	\$51.28	\$3,389,695
20.1–40%	207	1,184,367	358,699	43%	\$8.66	\$28.59	\$10,255,172
10.1–20%	182	929,138	219,719	48%	\$6.78	\$28.68	\$6,300,740
<10%	289	1,186,620	222,308	41%	\$4.60	\$24.58	\$5,463,132
Total	720	3,502,552	866,824	44%	\$7.25	\$29.31	\$25,408,739

TABLE II. PROPOSITION K FUNDING AND RACIAL/ETHNIC NEIGHBORHOODS

Dominant race/ethnicity	# tracts	Total population	Total children	Proposal success rate (%)	Per capita Proposition K spending (\$)	Per child Proposition K spending (\$)	Total Proposition K funding (\$)
Latino							
>75%	188	770,471	267,703	38	6.26	18.02	4,823,302
50-75%	217	1,019,461	323,896	43	8.77	27.61	8,942,194
<50%	61	281,113	70,988	65	3.85	15.26	1,082,919
Total	466	2,071,045	662,587	45	7.17	22.41	14,848,415
White							
>75%	117	477,482	78,770	67	7.45	45.13	3,555,125
50-75%	127	560,472	104,403	44	4.96	26.64	2,780,869
<50%	53	258,717	52,788	14	1.44	7.04	371,650
Total	297	1,296,671	235,961	44	5.17	28.43	6,707,644
African-American							
>75%	11	49,314	13,209	0	0	0	0
50-75%	31	139,455	42,146	60	5.27	17.44	735,015
<50%	11	45,217	9,713	25	26.58	123.71	1,201,625
Total	53	233,986	65,068	36	8.28	29.76	1,936,640
Asian-Pacific Islander							
>75%	1	5,753	1,017	0	0	0	0
50-75%	7	32,180	6,331	33	6.22	31.59	200,000
<50%	14	60,011	11,266	40	16.79	89.44	1,007,609
Total	22	97,944	18,614	30	12.33	64.88	1,207,609

dollars than the lowest poverty areas). Success rates were higher in high-poverty areas as well. There were, however, only 42 tracts in the high-poverty category (with about 200,000 residents); rates of spending per child in areas with 20–40% in poverty (with almost 1.2 million residents) were somewhat higher than the rate in low poverty areas with about the same total population—but not by much (only \$4.01 or 16% on a per child basis; Table 10).

Proposition K Applications and Race/Ethnicity

The generation of Proposition K proposals, their success rates, and funding awards, were analyzed by racial/ethnic population distribution, utilizing the categorization of tracts according to the extent of domination by a particular racial/ethnic group. Numerically, the largest number of Proposition K applications came from Latino areas (117 applications or 5.6 proposals per 100,000 population), trailed by White areas (48 applications or 3.7 per 100,000 population). In comparison, other types of neighborhoods had very little involvement in Proposition K (only 11 total applicants from African-American-dominated areas, and 10 from Asian-Pacific-Islander neighborhoods). The success rates varied sharply by racial/ethnic neighborhood type also; the highest success rates were experienced in neighborhoods with 75% or more White population, and areas that were 50–75% African American also had a high rate (60% success rate), but total numbers of proposals in both of these cases were small (9 and 5 respectively). Within Latino-dominated districts, where the numbers of proposals was much larger, there was a direct relationship between success rate and percentage Latino, with areas with the highest shares of Latinos having the lowest success rates (38% versus 65% for Latino-dominated areas with less than 50% Latino population; Table 11).

The result in terms of Proposition K dollars is different, however, since proposals requested different amounts of funding. The most heavily Latino areas received \$6.26 per capita (\$18 per child younger than 18), rising to \$8.77 per capita (and \$27.61 per child) in moderately Latino-dominated areas, and a low of \$3.85 per capita (and \$15.25 per child) in Latino-dominated areas where less than 50% of the population is Latino. In White-dominated areas, per capita rates ranged from \$7.45 in areas where 75% or more of the population is White, to only \$1.44 in White-dominated areas with 50% or less White population.

However, spending per White child tells a different story: in the “Whitest” areas, Proposition K spending rose to \$45.13 per child, while in the moderately White-dominant areas, the rate per child was \$26.64. (In the less White—but still White-dominant—areas, spending was very low [only \$7.04 per child] but only one Proposition K proposal was funded here.) African American- and Asian-Pacific-Islander-dominated areas generated very few proposals, and even fewer successful ones, but because their population sizes are comparatively small, their average per capita Proposition K resources are higher than the other two groups: \$8.28 and \$12.33, respectively.

Therefore, overall, Latino dominated areas generated the highest volume of proposals, and their average per capita Proposition K allocation was \$7.17. White-dominated areas, with far fewer proposals, averaged \$5.17 per capita in Proposition K funds. African American and Asian-Pacific-Islander areas, with relatively small populations and few proposals, nonetheless fared the best in terms of per capita Proposition K spending.

Proposition K and City Districts

Not surprisingly, given the contrasts in existing park accessibility and Proposition K funding highlighted above, major subareas of the city fared quite differently with regard to Proposition K allocations (Table 12).

The north and south sections of the San Fernando Valley, East LA, South-Central, and Harbor Gateway/San Pedro districts were particularly disadvantaged in terms of Proposition K funding. The Valley districts are more affluent, and have lower shares of children in comparison to the city overall. The northern San Fernando Valley enjoyed average or above-average access to parks, whereas southern San Fernando Valley had below-average park access. The Harbor Gateway/San Pedro area—surrounding the Port of LA—is a middle-income district with a high share of children/youth, and about average access to existing parks. South-Central and East LA—two districts that are either park poor and/or have very poor access to parks, and also possess the highest shares of children, poor households, and people of color—received very low amounts of park-bond funding.

In contrast, coastal West Los Angeles and the Downtown/Hollywood districts, with minimal poverty, relatively low concentrations of young people, and average or above-average park acres and accessibility, received above-average park-bond allocations.

CONCLUSIONS

Our study has implications for urban research on environmental justice, as well as parks and open space. Environmental justice research has historically focused on disproportionate exposure to pollution, and inequitable access to the environmental policy process, but increasingly the quality of the environment in more general terms has become an issue, particularly access to environmental amenities. Work on parks and open space, and more generally access to nature, is thus critical to these emerging environmental justice debates (Wolch et al., 2002). But, in addition, urban nature offers more than just amenity value. Rather, soil, trees, and other vegetation provide ecosystem services that reduce ambient heat levels, act as pollutant and carbon dioxide sinks, and absorb polluted urban runoff, thereby helping to mitigate issues of disproportionate exposure to environmental hazards.

Just as with earlier research on environmental justice, work on parks and open space will confront the difficulties involved in defining race and ethnicity, and the direction of causality, and also the relative influence of other forces, especially social class. In this effort, recent work on race, ethnicity, and class found in the literature on leisure will be instructive (Floyd, 1998; Baas et al., 1993; Hester et al., 1999), as well as alternative approaches to environmental justice grounded in notions of White privilege (Pulido, 2000). An additional wrinkle is the issue of preferences, and how if at all they vary by race. Although one can safely assume that nobody prefers living near a polluting facility, sites and facilities generally considered as environmental amenities may elicit a range of responses from neighbors who do not see spillovers as uniformly positive, and from potential users whose preferences for particular types of parks and open spaces vary from those of influential resident groups, policy-makers, and parks/recreation managers.

Ideas about access must be broadened also, to better understand equity issues related to parks and open space. Certain types of park facilities may be close to a given

TABLE 12. DISTRICT COMPARISONS OF PROPOSITION K FUNDING

District	Total population	Total children	Park acres/1,000 population within quarter-mile buffer	1990 poverty rate	Per child Proposition K spending (\$)	Total Proposition K funding (\$)
North San Fernando Valley	653,533	193,012	31.8	9.1	14.25	2,749,730
South San Fernando Valley	703,841	169,940	17.7	9.7	22.85	3,882,937
West Los Angeles	390,463	61,748	167.1	8.2	41.68	2,573,775
Downtown/Hollywood	667,525	145,001	26.4	29.4	43.60	6,322,072
East LA	399,382	118,221	9.7	19.1	23.62	2,791,835
South-Central Los Angeles	689,539	235,483	4.1	28.5	24.26	5,713,394
Harbor/San Pedro	195,362	58,825	10.1	13.8	23.37	1,374,996
Total	3,699,645	982,230	29.1	17.2	25.87	25,408,739

community of color, but at the same time be subtly coded by race based on past links to White culture (for instance, golf), or because of long histories of past discrimination and exclusion of people of color for either the place or type of recreational pursuit that it embodies. During the Jim Crow era, for example, many park facilities were officially off-limits to non-Whites, only open to them one day per week (as was the case for swimming pools in some cities), or informally staked out by Whites who resorted to intimidation or violence to exclude people of color from “their” recreational turf. Accordingly, analysis that looks beyond acres and distance to the history and character of a city’s parks, and how they influence perceptions of access, would be of great value.

In terms of data analysis, future studies should consider all sources of parks and open space funding when attempting to assess the extent to which public policy is orchestrated to effectively address the problem of park-poor communities. Such research should also delineate parks and open space by type, especially as park type reflects active or passive uses. Historically, inner-city areas and children of color have been deemed in need of active park venues with organized programs, rather than access to nature and opportunities for spending more time exploring and playing in less-structured open space. This raises the question of who has access to which types of park facilities, and the extent to which the mix of available recreational opportunities coincides with neighborhood preferences. As suggested above, this is not a straightforward question, and deserves empirical research sensitive to issues of historical assumptions about race-specific “needs” as well as racial codings of recreational venues arising from the regional racial formation, as well as analysis of contemporary preference patterns.

The fact that green cover—trees, shrubs, and other vegetation—not only positively influences property values (Conway et al., 2002) but also shapes a variety of other aspects of urban activity and perceived quality of life, suggests areas for additional research. How, for example, does the distribution of green cover more generally influence economic development, and to what extent can greening be seen as a smart-growth strategy? Shared facilities, such as school grounds that double as local parks, should also be included in any equity assessment, since parks linked to schools, libraries, and other public facilities may make communities more functional in an overall sense, particularly for pedestrians. And, green cover as well as parks appear to be related to physical activity levels of local residents and health (deVries et al., 2003; Sallis et al., 1990). Thus studies of the relationships between access to urban parks and recreation and “active living” in various types of communities may be important to understanding the etiology of certain diseases and conditions linked to sedentary lifestyles, such as obesity, diabetes, and heart disease, which disproportionately impact people of color. Lastly, distance (or even time-distance) alone may be an inadequate measure of access in some urban communities because of the influence of real or perceived street crime. In many cities, violence in urban parks as well as on local streets means that park accessibility is more apparent than real. This suggests the need for access measures that are weighted by park-specific crime rates or measures of perceived user safety.

With respect to local policy in Los Angeles, our GIS-based equity mapping analysis revealed that low-income and concentrated poverty areas as well as neighborhoods dominated by Latinos, African Americans, and Asian-Pacific Islanders, endure dramatically lower levels of access to park resources than White-dominated areas of Los Angeles. The more general problem is that there is simply not enough park space in the City of Los

Angeles to provide children and youth reasonable access to parks and open space. This perception motivated the passage of the park-bond measure Proposition K, but its focus was mostly on the improvement of existing parks, with only a handful of investments in new properties. Despite some targeting to low-income areas and communities of color, areas with the largest shares of young people received half as much Proposition K funding on a per youth basis than areas with the least concentration of children, and more privileged subareas with the highest rates of accessibility received as much if not more bond funds. Thus public policy is structured to intensify, rather than rectify historic environmental justice problems associated with access to parks and open space.

How might local policy respond? First, aspects of the park-bond funding process could be altered to increase participation from underserved areas. Community-based organizations from low-income and especially predominantly Latino neighborhoods may require technical assistance in their efforts to prepare winning park-bond funding proposals, and the requirements for participating in such programs may need to be revised so that more organizations can become partners in planning, designing, and managing park projects. Second, the absolute scarcity of parklands suggests that Proposition K as well as other resources allocated to parks and recreation should, in the future, be focused on obtaining new park space. No matter how much work and additional resources are devoted to improving existing parks, those facilities alone cannot provide the access to parks that is so critical to the children and youth of the city. Obtaining new land is a bureaucratically complicated and expensive task, and there are many competing interests. For example, although the most recent County of Los Angeles park-bond funding program (Proposition A) was designed to be primarily for parkland acquisition, much of this funding was obtained by major regional land trusts and channeled into preserving large parcels in or adjacent to the Santa Monica Mountains, near White-dominated residential areas where it doubles as recreational space, rather than being awarded for urban facilities. This dynamic reveals the unfortunate competition for resources between habitat conservation and urban park development needs, and the way in which acquisition programs in effect provide disproportionate benefits to communities that may already be relatively park-rich.

Third, there is no simple recipe for assembling the urban parcels needed for new facilities. In many park-poor areas, there exist no large tracts of land available for park development. However, such areas often contain a variety of remnant lands, such as vacant lots, public or utility-owned property, underutilized school sites, and streets that are far wider than necessary. Moreover, the city's rivers—the Los Angeles, San Gabriel, Santa Ana, Rio Hondo, and Santa Clarita, to name only some of more prominent—flow through the heart of the region. Their restoration is a major target for local activists concerned with both environmental justice and habitat conservation. Although not all neighborhoods in need of additional park space would benefit from such restoration efforts, landscaped riverbank parks and playgrounds would provide an enormous infusion of open space and recreational opportunities for many communities now deprived of parkland. These opportunities point to the importance of taking creative if not heroic approaches to the provision of new parks and open space that utilizes such remnant land resources to provide desperately needed park accessibility for young people, especially in disadvantaged neighborhoods and communities of color. In this way, it may be possible to

reweave the fabric of older urban districts of the city to include scattered jewels of greenery and play-space for all Angelenos.

REFERENCES

- Albrecht, S. L., 1995, Equity and justice in environmental decision making. A proposed research agenda. *Society and Natural Resources*, Vol. 6, 67–72.
- Baas, J. M., Ewert, A., and Chavez, D., 1993, Influence of ethnicity on recreation and natural environment use patterns: Managing recreation sites for ethnic and racial diversity. *Environmental Management*, Vol. 17, 523–529.
- Boocock, S. S., 1981, The life space of children. In S. Keller, editor, *Building for Women*. Lexington, MA: Lexington, 16–43.
- Boone, C. and Modarres, A., 1998, Creating a toxic neighborhood in Los Angeles County. *Urban Affairs Review*, Vol. 35, 163–187.
- Burgess, J., Harrison, C. M., and Limb, M., 1988, People, parks and the urban green: A study of popular meanings and values for open spaces in the city. *Urban Studies*, Vol. 25, 455–473.
- City of Los Angeles, Department of Recreation and Parks, 2001, Retrieved May 8, 2005 from the City of Los Angeles Web site <http://www.laparks.org/dept.htm>
- Conway, D., Kahle, C., and Wolch, J. R., 2002, *Pricing the Green City: An Hedonic Analysis of Residential Property Values and Urban Landscape Features Using GIS*. Working Paper. Los Angeles, CA: University of Southern California, Lusk Center for Real Estate.
- Crompton, J. L., 2001a, *Parks and Economic Development, Planning Advisory Service Report No. 502*. Chicago, IL: American Planning Association.
- Crompton, J. L., 2001b, The impact of parks on property values: A review of the empirical evidence. *Journal of Leisure Research*, Vol. 33, 1–31.
- Cunningham, C. E. and Jones, M., 1999, The playground: A confession of failure? *Built Environment*, Vol. 25, 11–17.
- de Vries, S., Verheij, R. A., and Groenewegen, P. P., 2003, Natural environments—healthy environments? An exploration of the relationship between green space and health. *Environment and Planning A*, Vol. 35, 1717–1731.
- Diamond, D. B., 1980, The relationship between amenities and urban land prices. *Land Economics*. Vol. 56, 21–32.
- Floyd, M., 1998, Getting beyond marginality and ethnicity: The challenge for race and ethnic studies in leisure research. *Journal of Leisure Research*, Vol. 30, 3–22.
- Forsyth, A., 2000, Analyzing public space at a metropolitan scale: Notes on the potential for using GIS. *Urban Geography*, Vol. 21, 121–147.
- Garvin, A., 2000, *Parks, Recreation, and Open Space: A Twenty-First Century Agenda. Planning Advisory Service Report No. 497/498*. Chicago, IL: American Planning Association.
- Garvin, A. and Berens, C., 1998, *Urban Parks and Open Space*. Washington, DC: Urban Land Institute.
- Gumprecht, B., 1999, *The Los Angeles River: Its Life, Death, and Possible Rebirth*. Baltimore, MD: The Johns Hopkins University Press.
- Harnick, P., 2000, *Inside City Parks*. Washington DC: Urban Land Institute.

- Hart, R., 1979, *Children's Experience of Place*. New York, NY: Halsted.
- Hester, R. T., Jr., Blazej, N. J., and Moore, I. S., 1999, Whose wild? Resolving cultural and biological diversity conflicts in urban wilderness. *Landscape Journal*, Vol. 18, 137–146.
- Hise, G. and Deverell, W., 2000, *Eden by Design*. Berkeley, CA: University of California Press.
- Lindsey, G., Maraj, M., and Kuan, S. C., 2001, Access, equity, and urban greenways: An exploratory investigation. *Professional Geographer*, Vol. 53, 332–347.
- Loukaitou-Sideris, A., 1995, Urban form and social context: Cultural differentiation in the uses of urban parks. *Journal of Planning Education and Research*, Vol. 14, 89–102.
- Loukaitou-Sideris, A. and Stieglitz, O. 2002, Children in Los Angeles parks: A study of equity, quality, and children's satisfaction with neighborhood parks. *Town Planning Review*, Vol. 73, 467–488.
- Medrich, E., Rosen, J., Rubin, V., and Buckley, S., 1982, *The serious business of growing up*. Berkeley, CA: University of California Press.
- Morello-Frosch, R., Pastor, Jr., M., and Sadd, J. L., 2001, Environmental justice and southern California's "riskscape": The distribution of air toxics exposures and health risks among diverse communities. *Urban Affairs Review*, Vol. 36, 80–163.
- Nabhan, G. P. and Trimble, S., 1994, *The geography of childhood: Why children need wild places*. Boston, MA: Beacon.
- National Recreation and Parks Association, 2000, *National Park Land Standards, 2000*. Retrieved July 18, 2004 from the City of Cedar Park, Texas Web site http://www.ci.cedar-park.tx.us/Recreation/park_standards.html
- Nicholls, S., 2001, Measuring the accessibility and equity of public parks: A case study using GIS. *Managing Leisure*, Vol. 6, 201–219.
- Pastor, M., Jr., Sadd, J. L., and Hipp, J., 2001, What came first? Toxic facilities, minority move-in, and environmental justice. *Journal of Urban Affairs*, Vol. 23, 1–21.
- Price, J., 2001, A field guide to the L.A. River. *Los Angeles Weekly*, August 10–16.
- Proshanski, H., Fabian, R. K., and Kaminoff, R., 1983, Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, Vol. 3, 57–83.
- Pulido, L., 2000. Rethinking environmental racism: White privilege and urban development in Southern California. *Annals of the Association of American Geographers*, Vol. 90, 12–40.
- Pulido, L., Sidawi, S., and Vos, R. O., 1996, An archaeology of environmental racism in Los Angeles. *Urban Geography*, Vol. 17, 419–439.
- Sadd, J. L., Pastor, Jr., M., Boer, J. T., and Snyder, L. D., 1999, "Every breath you take": The demographics of toxic air releases in Southern California. *Economic Development Quarterly*, Vol. 13, 107–123.
- Sallis, J., Hovell, M., Hoffstetter, C., Elder, J., Hackley, M., Caspersen, C., and Powell, K., 1990, Distance between homes and exercise facilities related to frequency of exercise among San Diego residents. *Public Health Reports*, Vol. 105, 179–186.
- SCAG (Southern California Association of Governments), 2002, *State of the Region 2002*. Los Angeles, CA: SCAG.

- Schwadron, T. and Richter, P., 1984, *California and the American Tax Revolt: Proposition 13 Five Years Later*. Berkeley, CA and Los Angeles, CA: University of California Press.
- Solokow, A. D., 1998, The changing property tax and state-local relations. *Publius*, Vol. 28, 165–187.
- Spowers, R., 2000, The ecology of Hollywood. *Geographical Magazine*, Vol. 72, 52–58.
- Talen, E., 1998, Visualizing fairness: Equity maps for planners. *Journal of the American Planning Association*, Vol. 64, 22–38.
- Talen, E. and Anselin, L., 1998, Assessing spatial equity: An evaluation of measures of accessibility to public playgrounds. *Environment and Planning A*, Vol. 30, 595–613.
- Tarrant, M. A. and Cordell, H. K., 1999, Environmental justice and the spatial distribution of outdoor recreation sites: An application of geographic information systems. *Journal of Leisure Research*, Vol. 31, 18–331.
- Weiss, M., 1987, *The Rise of the Community Builders*. New York, NY: Columbia University Press.
- Wolch, J., Pincetl, S., and Pulido, L., 2002, Urban nature and the nature of urbanism. In M. Dear, editor, *From Chicago to L.A.: Making Sense of Urban Theory*. Thousand Oaks, CA: Sage, 367–402.
- Young, T., 1995, Modern urban parks. *Geographic Review*, Vol. 85, 535–551.