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TECHNICAL
R E P O R T

Park Use and Physical
Activity in a Sample of
Public Parks in the
City of Los Angeles

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PREFACE

This study was developed in partnership with the Multicultural Area Health Education Center and the affiliated Promotoras (community advocates), as well as the City of Los Angeles Department of Recreation and Parks.

In the fall of 2003, the National Institute of Environmental Health Sciences funded the Center for Population Health and Health Disparities, a RAND Health project. RAND Health is a division of the RAND Corporation. This center forms the infrastructure for a variety of studies on the impact of neighborhoods on health. This report describes the initial findings of a study examining the role of public parks in physical activity and health. A profile of RAND Health, abstracts of its publications, and ordering information can be found at www.rand.org/health.

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EXECUTIVE SUMMARY

RAND has undertaken this study of public parks in the City of Los Angeles because of the city's significant investment in public parks and its commitment to improve them through a number of funding sources, including Proposition K (Los Angeles for Kids Program), a 30-year, \$25 million-per-year assessment-funded program to revitalize the City's parks and recreation facilities. This effort is unique in the United States and will provide an unparalleled opportunity to identify the role that parks can play in facilitating physical activity, population health, and well-being.

Many health problems can be prevented or alleviated through routine physical activity. There is a growing consensus that the environment in which we live helps determine how physically active we are on a daily basis. The goal of our study is to determine how parks promote physical activity for individuals and how well they serve the surrounding community.

We systematically measured what activities are occurring in public parks, who uses the park, and what proportion of the local population is actually served by the park. The data come from surveys of park users, surveys of households within a 2-mile radius from each park, and systematic observations of all park areas four times a day for all seven days of the week.

The 12 public neighborhood parks studied in this report, as well as a skate park and two senior citizens centers, represent only a small percentage of all the facilities managed by the City Of Los Angeles Department of Recreation and Parks. The findings may therefore not be representative of all parks. Although we found that most residents and park users had a favorable opinion of the Department of Recreation and Parks services and staff, this study was not intended to be an evaluation of these services, but an evaluation of physical activity in park settings.

MAIN FINDINGS

Residential proximity to parks is a critical determinant of park use and leisure exercise.

Most park users (81%) live within one mile of the parks, and only 19 percent of park users live more than one mile from the park. This is a key finding: *Proximity to parks matters for physical activity*. That is, even if a large park is only a few miles away from a particular neighborhood, most neighborhood residents will not use that large park. Most may not have access to even a small park within a mile radius of their homes (about 3 square miles). Smaller nearby parks could play a much more important role in the physical activity of neighborhood residents.

Males use parks more than females; children and teens use parks more than adults and seniors.

Parks do not serve everyone in the community equally, even within local neighborhoods. While this finding reflects a general difference in physical activity seen nationally between males and females and between different age groups, parks may contribute to disparities in physical activity. For this reason, it is important to consider whether facilities available in parks and the type of programming that is scheduled are attractive to different groups. In Los Angeles, neighborhood parks have been conceived as active parks, and most have a multitude of facilities that promote vigorous sports such as basketball and soccer. Baseball is not a particularly vigorous sport, but it takes up a large portion of park acreage, and is played by a relatively small number of individuals. Fewer parks have areas for moderate physical activity, such as tracks, walking paths, and trails. When these features are present, more adults and senior residents tend to use them.

Most people in the parks are sedentary. For most park users, the most common activity is sitting. Nevertheless, most have engaged in light or moderate physical activity just to get there, *since most park users walk to the park*. Parks with more users are more likely to encourage the expenditure of more energy and may result in healthier, more active neighborhood residents than parks with fewer users, even if those users spend most of their time sitting.

People report using parks frequently, yet we observed many areas in the park to be largely unused during substantial portions of the week.

The majority of neighborhood residents report that they use the parks one or more times per month. They say that it is easy or even *very easy* to get to the park. They perceive the parks to be safe or very safe, and they rate the staff as good to excellent. A large percentage of local residents report that they participate in programs sponsored by the Department of Recreation and Parks. Moreover, the majority of residents report that they use their neighborhood parks exclusively and do not often visit other parks. This again highlights the need for some type of park in every neighborhood. However, despite the important role that people say parks have played in their lives, we found during our observations that many areas of parks were empty throughout the day and sometimes even on weekends. Thus, there is reason to improve the utilization of existing parks, possibly by scheduling activities that attract people who have time during the non-peak hours. Nevertheless, overall capacity is unlikely to be sufficient to serve all residents during peak time.

Supervised activities draw more people to the park.

We counted more users in those parks with a greater number of supervised activities. This is partly because special events like sports competitions attract not just the players but also spectators. Variation in the number of users across similar types of parks serving similar populations suggests that changes in programming and events may have a significant impact on park usage and physical activity.

RECOMMENDATIONS**Optimize proximity to venues for physical activity.**

Proximity is important in determining whether or not people will use a park. Many residents are without a park within a mile of their residence, and there are far more residents than existing park space can serve. Some creative ideas are needed to develop alternative facilities, such as walking paths or trails or pocket parks, which would provide additional resources so that everybody has access to some form of physical activity venue within 1 mile of their residence, even if it is not a park. Those alternative facilities might also serve a different subgroup of residents (e.g., adults or senior citizens) better than a traditional park with playing fields.

Creating alternative facilities will require additional space not currently managed by the Department of Recreation and Parks. Land that might be adapted for recreational use includes existing city streets, greenways, commercial areas and underutilized lots, including parking lots. The Department of Recreation and Parks should collaborate with other city departments that are responsible for land use, sidewalks and streets, and housing and commercial properties to increase the use of these spaces for physical activity. Parks are desirable walking destinations. Having additional walking venues closer to residences may help individuals increase their level of physical activity.

Offer more program services to females and seniors.

More balanced programming services across user types will contribute to increased use of Los Angeles' parks. Park leadership might consider offering a greater number of organized activities that promote moderate physical activity for females, adults, and seniors. Much of park space is currently devoted to vigorous activities (e.g., basketball), which may be too active for many people. Both moderate and vigorous activities are needed, particularly for females and seniors—two groups that currently underutilize park services.

Facilitate walking and moderate to vigorous physical activity.

Moderate activity is important for everyone, and since most people like to walk, making parks an inviting place for walking should be a high priority for the communities of Los Angeles. Efforts to improve the design of parks and their facilities should focus on creating more walking paths and tracks. These could border or surround existing active spaces and/or could be created with additional features that make them attractive to a broad range of the population. Landscaping that provides shade for walkers and/or other unique points of interest could draw local residents. Paths could be added around or outside of existing parks as well, with appropriate signage to make the route attractive and to help people become aware of distances walked or steps taken. Parks could organize walking clubs and schedule regular events to encourage community members to participate. Although most residents say parks are easy to get to, the Department of Recreation and Parks could work with other city departments to increase the attractiveness and safety of sidewalks and roads around the parks to encourage more people to walk to them.

Maximize current park capacity.

Parks are underutilized particularly in the mornings and on some weekdays. This provides an opportunity to develop programming to attract residents who are not at work, including senior citizens. Senior citizens as a group use parks less often, but when they do use them, they tend to use those parks offering specific activities and facilities targeted toward seniors (e.g., senior centers). Also, the addition of more programs for women who may be home in the morning may be useful to increase their physical activity. Scheduling more supervised activities and events in the park is likely to draw more park users.

ACKNOWLEDGMENTS

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1. INTRODUCTION

NEED FOR INCREASED PHYSICAL ACTIVITY

Physical activity results in a variety of positive health outcomes, including longevity; slower decline in functioning with age; lower incidence of cardiovascular diseases, diabetes, depression, and certain cancers; and the prevention of obesity.¹ Most of these conditions, particularly cardiovascular disease, cancer, and diabetes, affect racially and ethnically diverse minority communities at rates significantly higher than the national averages. Chronic diseases are the most common health problems and represent the biggest expense in our current health care budgets. With the continuing increase in obesity, these costs are skyrocketing. In fact, obesity accounts for more chronic health problems and health care costs than smoking or problem drinking.² Since physical activity is one means of preventing and treating obesity, finding a way to increase the proportion of persons who are physically active has the potential to improve population health as well as to control health care costs.

THE ROLE OF PARKS IN PHYSICAL ACTIVITY

There is a growing consensus among experts that routine physical activity is shaped by local environments, and it is believed that communities can facilitate physical activity by improving the design of streets, parks, and thoroughfares. Making environments pedestrian-friendly and parks more attractive are believed to stimulate walking and routine exercise.

The City of Los Angeles is unique and fortunate in the level of resources it has for parks and recreation. Many other American cities do not have an extensive network of neighborhood parks with full-time staff.³ The City is also benefiting from Proposition K, (Los Angeles for Kids Program), a 30-year, \$25 million-per-year assessment-funded program to revitalize the City's parks and recreation facilities. Proposition K inspired this study, because the

¹ *Physical Activity and Health: A Report of the Surgeon General* (USDHHS, 1996), available at <http://www.cdc.gov/nccdphp/sgr/sgr.htm>.

² RAND Review, Spring 2004, available at <http://www.rand.org/publications/randreview/issues/spring2004/obesity1.html>.

³ In a separate study of parks in 6 cities across the United States, the percentage of parks with park offices for staff was only 9% in Arizona, 3% in New Orleans (before Hurricane Katrina), 26% in South Carolina and 2% in the Washington DC/Baltimore area.

improvements that are planned will make it possible to determine whether changes in the environment will indeed facilitate increases in physical activity.

However, even as the link between physical activity and health is well established, it is not clear how much parks contribute to physical activity or exactly what kind of difference they make in population health. Frederick Law Olmsted, the “father” of urban parks, thought parks should be built as places where city residents could experience the beauty of nature, breathe fresh air, and have a place for “receptive” recreation (music and art appreciation) as well as “exertive” activities (sports as well as games like chess).⁴ Parks have often been considered the centerpiece of communities and cities and are public assets that provide a venue for sports, exercise, relaxation, and social gatherings. Yet little data are available with respect to who use parks and what they do there. We do not know, for example, which facilities are necessary to optimally promote physical activity for the general population. An important principle of public health is that small changes in behavior across large numbers of people can do more for population health than a large change in the behavior of a few.⁵ Because public parks are intended to serve the whole community, they have the potential to influence population health, even if their effect on the health of any individual user is small.

RESEARCH QUESTIONS

We were interested in determining how well parks serve and influence their local communities. In particular, we wanted to answer the following questions:

- How many people use parks, and which community members do parks serve?
- What is the intensity of physical activity that occurs in parks?
- Which facilities in the park are used most, and when? Which facilitate moderate to vigorous physical activity the best?
- How do residents view parks, and what role do they feel parks play in their physical activity?

⁴ Olmsted, F. *Public Parks and the Enlargement of Towns*. In: LeGates RS, F, editor. *The City Reader*. Second ed. London: Routledge; 1870. pp. 314–320.

⁵ Rose G. *The Strategy of Preventive Medicine*. Oxford: Oxford University Press; 1992.

This report provides baseline data that can be used to understand how park improvements might affect community-level physical activity. We will repeat all the measurements after the Proposition K improvements are completed to determine their benefit.

2. METHODOLOGY

OVERVIEW

The methods we used in our survey were intended to be systematic—to minimize the possibility of bias—and replicable to facilitate their use in other locations and different time periods. We chose parks that were about to receive Proposition K improvements, and we matched each of the parks with a similar one to serve as a comparison. The criteria used to determine similarity are described below.

We developed a new observation tool, called Systematic Observation of Play and Recreation in Communities (SOPARC) for this study.⁶ We also developed questionnaires with input from the Multi-Cultural Area Health Education Center (MAHEC) and the Department of Recreation and Parks to assess how community members viewed parks. After extensive training, bilingual “promotoras” (community advocates) conducted the observations and surveys of park users and local residents.

PARK SELECTION

The research team observed 12 neighborhood parks between December 2003 and February 2005.⁷ Using a matched research design, half of these parks were considered experimental locations (i.e., they would be improved under Proposition K) and half were considered comparison locations (no changes would be undertaken). Although there was no size restriction, the neighborhood parks tended to be relatively small—between 3.4 and 16 acres. The research team selected each park based on several criteria. First, each experimental location was scheduled to receive park improvements (i.e., improved gymnasiums and playgrounds) under Proposition K.⁸ All experimental parks considered were slated to spend at least \$1 million for park improvements. To ensure that the research team had enough time to prepare for and conduct

⁶ McKenzie, TL, Cohen DA, Sehgal, A, Williamson S, Golinelli, D, “System for Observing Play and Recreation in Communities (SOPARC): Reliability and Feasibility Measures.” *Journal of Physical Activity and Health* (in press, 2005)

⁷ Two skate parks and two senior citizen centers were also observed. However, due to the differences in park characteristics for these locations, these data will be discussed in a separate section of this report.

⁸ Over a 30-year period, Proposition K will allocate \$25 million dollars each year to acquire land for public use, as well as for the improvement, construction, and maintenance of existing parks throughout the city.

the observations, the phase of the project (i.e., design, bid and award, construction) was also taken into account. Parks that had already begun construction by the start of our evaluation period were excluded. In addition, parks that were scheduled to receive improvements too far in the future (i.e., after the completion of this evaluation) were also excluded. Based on these criteria, there were only six experimental parks to evaluate: Bellevue Recreation Center, Green Meadows Recreation Center, Lafayette Community Center, Pecan Recreation Center, Van Ness Recreation Center, and Wilmington Recreation Center (see Table 2.1 for a description of the scheduled park improvements).

Comparison parks were selected based on three primary criteria. First, they could not be scheduled to receive Proposition K improvements during the years of this evaluation.⁹ Second, they had to be matched to experimental parks based on neighborhood characteristics (i.e., demographics and economic distribution). Finally, they had to have physical features similar to those of the experimental parks (i.e., similar size and type of recreational facilities). Using these three criteria, we selected the following six parks as comparison locations: Algin Sutton Recreation Center, Costello Recreation Center, Evergreen Recreation Center, Fernangeles Recreation Center, Shatto Recreation Center, and St. Andrews Recreation Center. Because of the park selection process, we may not be able to make general comments regarding other Los Angeles parks.

⁹ In a few cases, improvements were scheduled for comparison parks, but these improvements were not related to physical activity promotion and were unlikely to impact this study (e.g., improvements to child care centers).

Table 2.1
Observed Parks

Park	Group	Park Improvement(s)
Algin Sutton Recreation Center	Comparison	N/A
Green Meadows Recreation Center	Experimental	New recreation center and field improvements
St. Andrews Recreation Center	Comparison	N/A
Van Ness Recreation Center	Experimental	New modern gymnasium
Costello Recreation Center	Comparison	N/A
Pecan Recreation Center	Experimental	New gymnasium
Evergreen Recreation Center	Comparison	N/A
Wilmington Recreation Center	Experimental	Renovated gymnasium, field lighting, and other park upgrades
Shatto Recreation Center	Comparison	N/A
Lafayette Community Center	Experimental	New recreation center and outdoor park development

Selection criteria for four additional parks were modified slightly to include the Pedlow Skate Park, Monrovia Skate Park, Pan Pacific Senior Center, and the Van Nuys Senior Center. Table 2.2 indicates the park improvements and funding sources for each of these parks.

The senior citizen centers were located within very large parks in Los Angeles, one of which was 48 acres, the other 67 acres. Each of these parks included an extensive walking path that went through the entire park. These parks served neighborhoods that all shared similar population characteristics.

The skate parks chosen were very similar to each other in that they were cement-based and built as bowls in the ground, rather than raised above the ground, but each served a neighborhood with different population characteristics (Pedlow served a larger Latino population than Monrovia). Monrovia Skate Park was also located within a large recreational facility and was not in the City of Los Angeles, while Pedlow was separated from the nearby larger Balboa Park.

Table 2.2
Observed Parks

Park	Park Improvement(s)	Funding Source(s)
Pedlow Skate Park	Improved skate facility and concession building	Prop K funds
Monrovia Skate Park ¹⁰	None; comparison park	N/A
Pan Pacific Senior Center	Various improvements to the senior center facility	Quimby funds and some Prop K funds
Van Nuys Senior Center	None; comparison park	N/A

STUDY DESIGN AND DATA SOURCES

We performed systematic observations (i.e., observers followed a strict protocol to assure comparability) at each of the parks included in the study. In addition, interview surveys were also conducted with both park users and with residents living within a two-mile radius of each park. Data from the U.S. 2000 Census were used to determine various characteristics of area residents, including race/ethnicity, age, gender, and income information.

Systematic Observations

Systematic observations were conducted in each park over a seven-day period. In the event that rain interfered with a given observation, field staff returned to the park at the same time period and on the same day of the following week. Matched parks were observed within the same four-week period.

We conducted the observations using the System for Observing Play and Recreation in Communities (SOPARC). Data sheets documented the date, time, location of each scan, and the condition of the activity area. Gender, age, ethnicity, activity level, and activity type for each person in each area were also recorded. ¹¹

All potential areas for physical activity (referred to as target areas) were established with respect to location, size, and boundaries by mapping each park prior to the week of observation.

¹⁰ Monrovia Skate Park is not part of the LA City Department of Recreation and Parks.

¹¹ McKenzie, TL, Cohen DA, Sehgal A, Williamson S, Golinelli, D, "System for Observing Play and Recreation in Communities (SOPARC): Reliability and Feasibility Measures," *Journal of Physical Activity and Health* (in press, 2005).

A total of 278 areas were observed (about 23 areas per park), including grassy areas, multi-purpose fields, playgrounds, gymnasiums, tennis courts, basketball courts, handball courts, tracks, baseball diamonds, horseshoe pits, spectator stands, gymnastics-equipped areas, picnic areas, and swimming pools. Large grassy and wooded areas, such as those separated by buildings, were divided into smaller areas, so all people using them could be seen at the time of observation.

Observations were conducted in all target areas during four one-hour time periods beginning at 7:30 am, 12:30 pm, 3:30 pm, and 6:30 pm. Target areas were observed in the same rotational order during each observation period. If the observation rotation took less than a half hour, a second rotation was conducted and the results were averaged. Two observers documented the type of activity (e.g., basketball, picnicking, soccer) and each person's activity level (sedentary, walking, vigorous), gender (male or female), age group (child, teen, adult, senior), and race/ethnicity (Latino, African-American, White, or Other).

During each visit to a target area (28 visits per park), observers documented whether it was accessible, usable, provided supervision, equipment (e.g., balls for activity), and whether the activity was organized (e.g., activity lessons, sports' games like soccer). Assessors coded all people in each target area at the moment of observation. People leaving the area before the observation or entering afterwards were not counted. Occasionally people may have moved into a second target area during the observation rotation and were therefore counted twice. People sedentary at the moment of observation (e.g., standing while playing basketball) were coded as such, even if they previously or subsequently were running or walking.

Two parks had usable running tracks/walking paths. In both cases, we determined it would take approximately 10 minutes to walk around each of the tracks/paths. A specified coding station was established, where we observed everyone who passed by the location during the 10-minute interval.

Usefulness of Surveys

We conducted face-to-face interviews in either English or Spanish with both park users (n=1,038) and neighborhood residents (n=838). Only persons over the age of 18 were eligible for participation in the survey regarding their park use and physical activity. At the end of the survey, participants were also asked to complete a *Parent Survey* on behalf of their oldest child

(under the age of 18). A total of 314 park users and 196 residents also completed the Parent Survey.¹²

At parks, respondents were recruited by field staff who conducted interviews between the observation periods (7:30 am to 1:30 pm and 1:30 pm to 7:30 pm). Participants were selected from the busiest and least-busy target areas: half in each target area were selected because they were sedentary at the moment of observation and the other half because they were active. Scans for identifying respondents were done systematically, by selecting the first person on the left of the target area. Field staff selected respondents to obtain an equal balance between males and females.

Household interviews were conducted by randomly choosing a sample of addresses within a 1/4-mile buffer of the park, and within 1/2 mile to 1 mile, and within 1/4 mile and 1/2 mile, 1/2 to 1 mile, and 1 mile to 2 miles from the park. We used ArcView Software to select all possible addresses in these buffers and then randomly selected 20 in each stratum. Field staff followed a protocol to replace addresses if a household did not exist or appeared dangerous because of dogs, gates, or gang activity. In the first eight parks we studied, 63 percent of park users and 88 percent of households approached agreed to answer our survey questions.

¹² Parent survey data is reported for 11 of the 12 neighborhood parks.

3. NEIGHBORHOOD, PARK, AND RESPONDENT CHARACTERISTICS

We gathered neighborhood data because the physical appearance of the neighborhood and its social composition affects both park use and health. Characteristics of the neighborhoods may shape results. Users of parks are also likely to reflect the composition of the local neighborhoods, while park use is likely to reflect cultural preferences of these users (e.g., soccer compared to basketball among teenage boys).

We selected only parks that were receiving Proposition K improvements in the fall of 2003. Those parks were predominantly in neighborhoods with a high percentage of low-income and minority individuals.

NEIGHBORHOOD CHARACTERISTICS

Most Los Angeles neighborhood parks and recreational centers were originally designed to serve residents living within 2.0 to 2.5 miles of the park. Most study parks serve upwards of 200,000 people, although one serves over 400,000. In the past the National Parks and Recreation Association recommended that cities reserve 10 acres of land for every 1,000 individuals. However, when looking at the amount of land available in the neighborhoods studied, we found less than one acre of park space per 1,000 individuals. It is unclear whether the current parks could support the use they would have if everyone living in the service area used the park routinely.

Based on 2000 U. S. Census Data, Table 3.1 indicates the number of people living within a two-mile radius of each observed park. People were counted between the park boundary and one-half mile, within one-mile of the park, and within two miles from the park. On average, 4 percent live within one-quarter-mile of the park; six percent between one-quarter to one-half-mile, 22 percent between one-half-mile and one mile, and 68 percent between one and two miles from the parks. These estimates were derived by interpolating block group census data.

Table 3.1
Neighborhood Populations

Park	Total population in mile radius	Total population in 1-mile radius	Total population in 2-mile radius
Algin Sutton	17,175	63,457	207,984
Bellevue	26,713	88,867	348,045
Costello	11,569	25,441	100,412
Evergreen	20,606	75,292	165,935
Fernangeles	6,116	21,615	101,173
Green Meadows	16,994	63,404	227,757
Lafayette	49,392	162,087	397,095
Pecan	9,930	44,197	155,183
Shatto	40,692	146,988	403,896
St. Andrews	9,542	39,816	171,877
Van Ness	8,966	45,693	178,486
Wilmington	14,130	30,934	63,420

SOURCE: U.S. 2000 Census.

Table 3.2 displays the gender and age characteristics of individuals living within the census tracts surrounding each neighborhood park. On average, there are 4,792 people living within each census tract. The senior population of these neighborhoods ranges from 6.3 to 21.8 percent.

Table 3.2
Neighborhood Characteristics – Gender & Age

Park	Total Population	% Female	% Over 60 years of age
Algin Sutton	5,945	51.8%	6.3%
Bellevue	7,244	47.7%	10.9%
Green Meadows	4,262	51.9%	10.5%
Costello	3,880	50.0%	7.8%
Evergreen	4,995	51.0%	13.5%
Fernangeles	4,535	50.2%	14.6%
Lafayette	5,116	51.1%	9.3%
Pecan	3,445	47.2%	14.8%
Shatto	5,116	51.1%	9.3%
St. Andrews	4,160	55.4%	21.3%
Van Ness	4,813	52.5%	16.6%
Wilmington	3,262	51.7%	6.5%

SOURCE: U.S. 2000 Census.

*These parks are in the same census tract.

The parks studied serve predominantly minority populations.

Most parks included in this study are located in predominantly Latino and African-American neighborhoods. We used this census data as one of the criteria to match the experimental and comparison parks. Table 3.3 displays the both the race and ethnicity of people living in census tracts surrounding the 12 observed neighborhoods.¹³ Eight out of the 12 parks were located in neighborhoods comprised of more than 50 percent Hispanic residents.

**Table 3.3
Neighborhood Characteristics**

Park Pair	Parks	White	Black	Asian	Hispanic
1	Algin Sutton	2%	31%	2%	65%
	Green Meadows	0%	34%	0%	65%
2	St. Andrews	0%	88%	0%	11%
	Van Ness	1%	75%	1%	21%
3	Costello	1%	0%	4%	95%
	Pecan	5%	2%	12%	80%
4	Evergreen	2%	0%	3%	94%
	Wilmington	5%	5%	2%	86%
5	Bellevue	26%	3%	17%	52%
	Fernangeles	27%	1%	11%	55%
6*	Shatto	5%	4%	56%	32%
	Lafayette	5%	4%	56%	32%

SOURCE: U.S. 2000 Census.

*These parks are in the same census tracts.

¹³Other includes American Indian, Pacific Islander, Alaska Native, and Native Hawaiian.

Most parks studied are in low-income neighborhoods.
--

Each park included in this evaluation is located within an urban neighborhood setting. Table 3.4 indicates the economic characteristics of each census tract. In half of the neighborhoods, over one-third of the households are living in poverty. The median household income for all neighborhoods is approximately \$27,000 per year, and on average, the unemployment rate is 12 percent.

Table 3.4
Neighborhood Characteristics – Economics

Park	Households in poverty	Median Household Income	% Unemployed	Renter Occupied
Algin Sutton	44.3%	\$18,906	18.3%	72.8%
Bellevue	23.9%	\$29,635	13.7%	76.7%
Costello	54.9%	\$18,293	17.0%	95.1%
Evergreen	31.9%	\$24,808	10.5%	72.3%
Fernangeles	9.8%	\$44,250	13.2%	23.8%
Green Meadows	36.1%	\$21,377	14.3%	54.1%
Lafayette*	25.7%	\$26,689	6.0%	89.2%
Pecan	35.6%	\$22,143	10.7%	88.2%
Shatto *	25.7%	\$26,689	6.0%	89.2%
St. Andrews	16.6%	\$40,500	10.1%	28.3%
Van Ness	16.3%	\$32,164	13.3%	28.2%
Wilmington	41.2%	\$20,417	15.5%	75.7%

SOURCE: U.S. 2000 Census.

*These parks are in the same census tract.

Size and facilities vary by park, but do not appear to be related to the population served.

Table 3.5 displays the basic park characteristics, including the size (in acres) and the number of facilities (i.e., baseball field). The size of the parks ranges from 3.4 to 16 acres, with an average of eight acres. Most parks have a variety of facilities available for public use (e.g., gyms, basketball courts, BBQ pits, and play areas).¹⁴ Each park has on average 11.5 facilities. Department of Recreation and Parks personnel are on the premises daily, something that is not standard in many other cities. The hours of park operation and number of onsite staff hours vary across the parks.

**Table 3.5
Park Characteristics**

Park	Acres	# of Facilities
Algin Sutton	16.0	17
Bellevue	9.0	10
Costello	3.4	8
Evergreen	6.4	11
Fernangeles	10.0	9
Green	9.0	17
Lafayette	9.6	6
Pecan	4.2	7
Shatto	5.3	14
St. Andrews	8.5	12
Van Ness	8.1	16
Wilmington	6.9	11

¹⁴ Park acres and the number of facilities cited by maps published by the Department of Recreation and Parks.

TARGET AREA CLASSIFICATIONS

The research team divided each park into target areas prior to conducting any systematic observations. For this report, park spaces were categorized into 16 separate target areas, which had distinct uses. Table 3.6 summarizes the various target areas and indicates the number (and percentage) of parks that contain each area type.

Each park has at least one outdoor basketball court, playground, lawn area, sidewalk, and other target area. Baseball fields (92%) and gymnasiums (92%) are also common. Of the 12 neighborhood parks, only one has a skate park, while two have handball courts, tracks, and a senior center.

Table 3.6 Target Areas

Target Area	Definition Includes	Parks (N=12)
Gymnasium	Large, indoor space	11 (92%)
Basketball Court	Outdoor courts equipped for permanent basketball hoops	12 (100%)
Multi-purpose Field	Large outdoor space, not equipped for a specific sport	4 (33%)
Baseball Field	Outdoor field, equipped with baseball/softball diamond	11 (92%)
Playground	Swings and/or climbing equipment	12 (100%)
Tennis	Outdoor courts equipped with tennis netting	6 (50%)
Handball	Established handball court	2 (17%)
Gymnastics Equipment	Rings and/or acrobatic equipment	9 (75%)
Picnic Area	Lawn equipped with tables and/or BBQ pits	8 (67%)
Lawn	Unequipped outdoor space, not large enough for traditional organized sports competitions like football and soccer	12 (100%)
Track	Running and/or walking, paved or unpaved path	2 (17%)
Volleyball Court	Outdoor court equipped for volleyball nets	3 (25%)
Skate Park	Outdoor area designed for skate boarding	1 (8%)
Senior Center	Indoor space dedicated to senior citizens	2 (17%)
Sidewalk	Paved sidewalks throughout park	12 (100%)
Other ¹⁵	Miscellaneous spaces, uncommon to all parks	12 (100%)

¹⁵ Other target areas include a sandpit, pools, water zone, and a stage.

SURVEY RESPONDENTS

A total of 1,953 people took part in the survey, which included 852 residents and 1,050 park users.¹⁶ Table 3.7 summarizes the characteristics of all respondents by residents and park users. Slightly more females (58%) were surveyed than were males (42%).¹⁷ Approximately 75 percent of the respondents were Latino, while another 15 percent were Black. The remaining ten percent of respondents were White (5%), Asian (4%), and Other (1%).^{18,19} The average age for all residents was 40 years old, and the average age for all park users was 37 years of age.²⁰

Table 3.7
Characteristics of Survey Respondents

Park	Resident (N = 838)	Park User (N = 1038)	All Respondents (N = 1876)
Gender			
Male	314 (37.5%)	474 (45.7%)	788 (42.0%)
Female	524 (62.5%)	564 (54.3%)	1088 (58.0%)
Race/Ethnicity			
Latino	603 (72.5%)	813 (78.7%)	1416 (75.9%)
White	53 (6.4%)	35 (3.4%)	88 (4.7%)
Black	130 (15.6%)	146 (14.1%)	276 (14.8%)
Asian	38 (4.6%)	36 (3.5%)	74 (4.0%)
Other	8 (1.0%)	3 (0.3%)	11 (0.6%)
Age (mean)	39.6 years	37.0 years	-----

¹⁶ Surveys were conducted with 51 people who were not categorized as either a resident or a park user.

¹⁷ Gender data were missing for 77 survey participants.

¹⁸ The category “Other” includes all other races/ethnicities not classified as Latino, White, Black, or Asian.

¹⁹ Ethnicity/race data were missing for 88 survey participants.

²⁰ Age information was missing for 57 survey participants.

4. KEY FINDINGS

In this chapter, we describe the findings of both our observational study and our surveys. These findings are grouped according to the study questions laid out in the introduction:

- How many people use parks and which community members do parks serve?
- What is the intensity of physical activity that occurs in parks?
- Which facilities in the park are used most and when? Which facilitate moderate to vigorous physical activity the best?
- How do residents view parks? What role do they feel parks play in their physical activity?

HOW MANY PEOPLE USE PARKS AND WHICH COMMUNITY MEMBERS DO PARKS SERVE?

A total of 26,163 people were observed in the 12 neighborhood parks, with park users ranging from 638 to 4,866 people per park per week.

Table 4.1 shows the distribution of park users among the 12 neighborhood parks. Six parks were observed during the winter, three were observed in the spring, and three in autumn. The park with the most users (n=4,866) was observed during the spring; the park with the least users (n=638) was observed during the winter.

Table 4.1
Number of Park Users per Park

Park	Park Users (N=26,163)	Season
Algin Sutton	2,735	Winter
Bellevue	2,230	Autumn
Costello	1,116	Winter
Evergreen	4,866	Spring
Fernangeles	1,276	Autumn
Green Meadows	1,449	Autumn
Lafayette	3,459	Winter
Pecan	1,126	Winter
Shatto	3,125	Winter
St. Andrews	1,840	Spring
Van Ness	638	Winter
Wilmington	2,303	Spring

Table 4.2 shows the distribution of park users among the four additional parks. The number of park users observed in the skate parks was 484, and the number of park users observed in the senior centers was 3,478. The skate parks were observed during the summer, and the senior centers were observed during the autumn months.²¹

Table 4.2
Number of Park Users per Park

Park	Park Users	Season
Pedlow	267	Summer
Monrovia	217	Summer
Pan-Pacific	1,770	Autumn
Van Nuys	1,708	Autumn

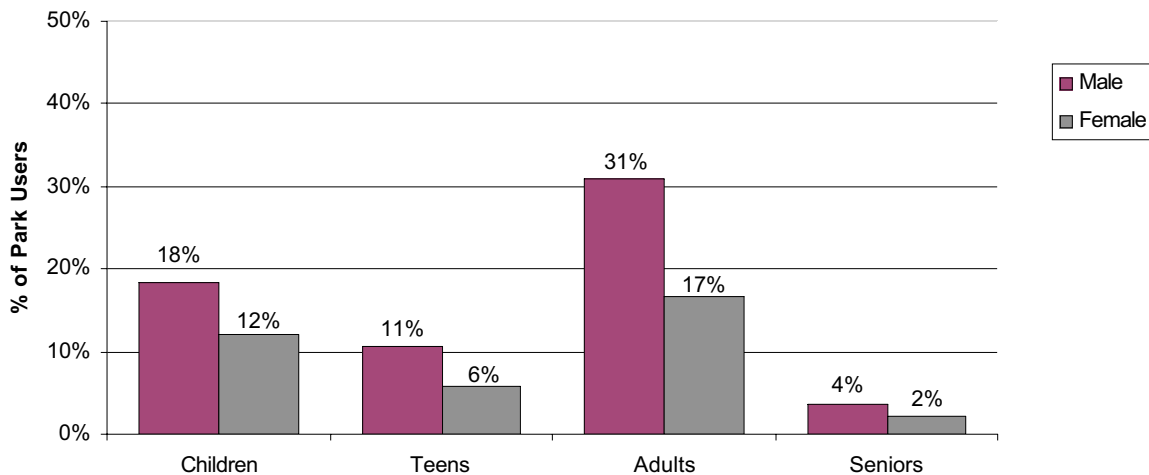
²¹ The outdoor temperature was approximately 90 degrees during the two weeks during which the skate parks were observed. This could have reduced the number of park users observed at the skate parks.

**Males use the parks more frequently than females.
Seniors seldom use parks.**

Figure 4.1 summarizes the percentage of males and females, by age group, who were observed in the parks. Males, regardless of age group, were observed more frequently than were females (63% versus 37%). Adult males (31%) were almost twice as likely as adult females (17%) to be seen. Similarly, there were almost twice as many teenage males (11%) as teenage girls (6%) in the parks. Regardless of gender, older people did not often use the parks (6% of all users).

Physical activity is important for males and females, among both the old and the young. The significantly smaller number of female users and senior users suggests that parks could increase outreach, facilities, and services for these groups.

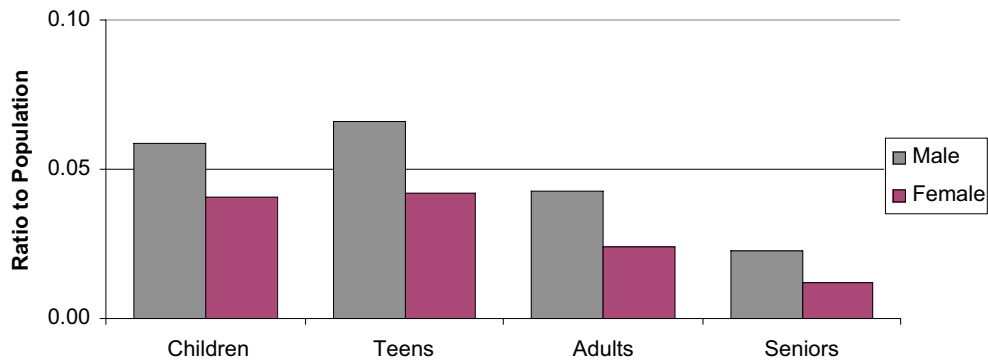
Figure 4.1
Percent of Park Users by Age Group and Gender



Children and teens use parks more than adults and seniors.

Relative to their numbers in the population living within 1-mile from the parks, teens and children were found to use parks the most, followed by adults and seniors who were found to use the parks the least (see Figure 4.2). While young people may like to be more active than older persons, physical activity is important for everyone. Physically active adults can serve as role models for children.

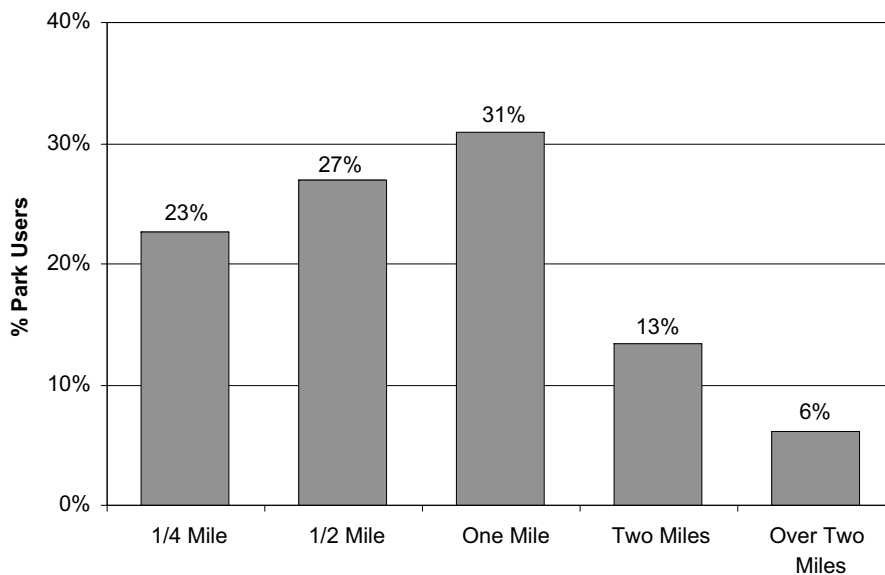
Figure 4.2
Ratio of Park Users to Local Population in a 1-mile radius



Most park users live within one mile of the park.

Park users were asked to identify the nearest intersection to their homes. Using the major cross-streets provided by respondents, we were able to calculate the distance that park users lived from the park. Figure 4.3 displays the percent of park users living within various distances from the parks. Most park users (81%) live within one mile of the parks, with only 19 percent of park users living more than one mile from the park. Because there are fewer people in the areas closer to the parks, the proportion of the population served is greatest among those who live closest.

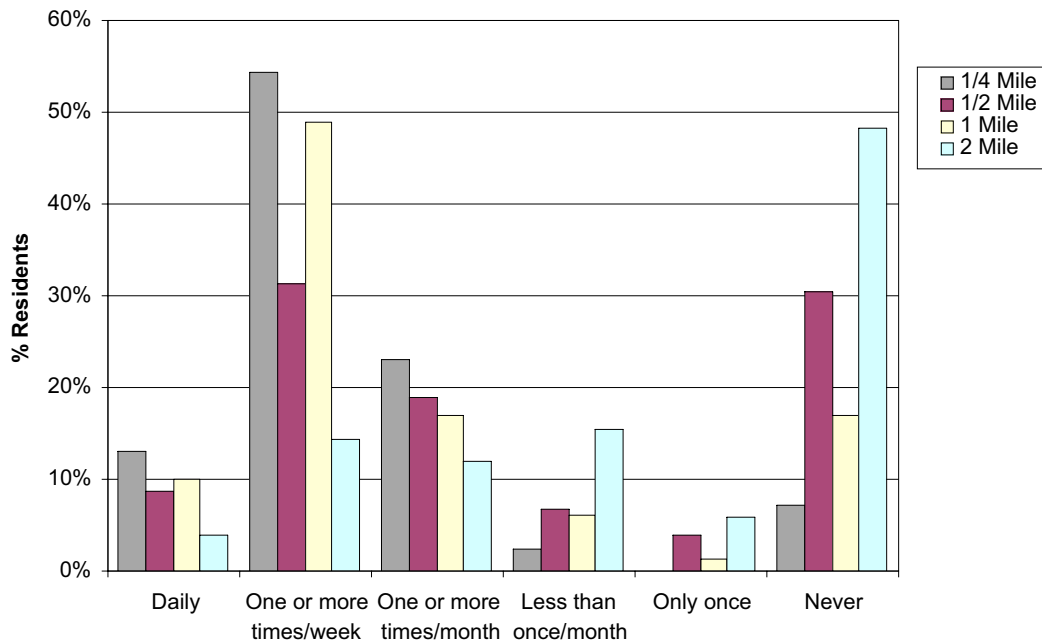
Figure 4.3
Distance Park Users Reside from Park



People living closer to parks use the parks more frequently than those residing further away.

Figure 4.4 displays the frequency of park use for residents living at various distances from the park. Respondents include all residents living within a 1/4 mile (n = 208), a 1/2 mile (n = 207), one mile (n = 231), and two miles (n = 201) from the parks. Over 65 percent of those residents living within 1/4 mile from the park indicated that they visit the park at least once per week. It was also common for residents living within the one-mile zone to visit the park almost as frequently. Residents living within the two-mile zone were more likely to have never visited the park than residents living in closer proximity to the park.

Figure 4.4
Frequency of Park Use Among Residents by Distance



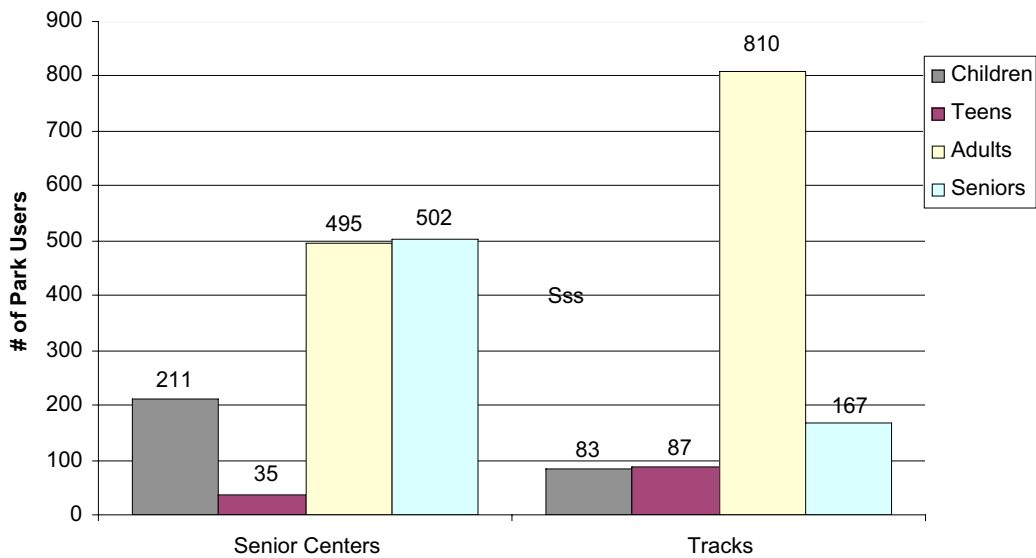
People living within one mile of the park were four times as likely to visit the park once a week or more, and had an average of 38% more exercise sessions per week than those living farther away.

We analyzed data from the first eight parks we surveyed using statistical regression models. Using responses from the survey of residents and taking into account their age, gender, race/ethnicity, distance from the park, perceptions of safety, and neighborhood socioeconomic status, we found that age (being younger), gender (being male), and distance (living within 1 mile) were positively associated with park use and the frequency of leisure exercise. People who lived within 1 mile of the park were four times as likely to visit the park once a week or more and had an average of 38 percent more exercise sessions per week than those living farther away. Concerns about park safety were not associated with either park use or frequency of exercise.

Adults and seniors were frequently observed utilizing the tracks outside the senior centers.

At the two senior centers, observations were conducted in the senior centers areas as well as on the tracks in the adjacent parks. Figure 4.5 displays the frequency of park users by target area and age group. Adults were observed most frequently on the tracks. The number of adults and older park users observed in the senior centers were similar (495 versus 502, respectively).

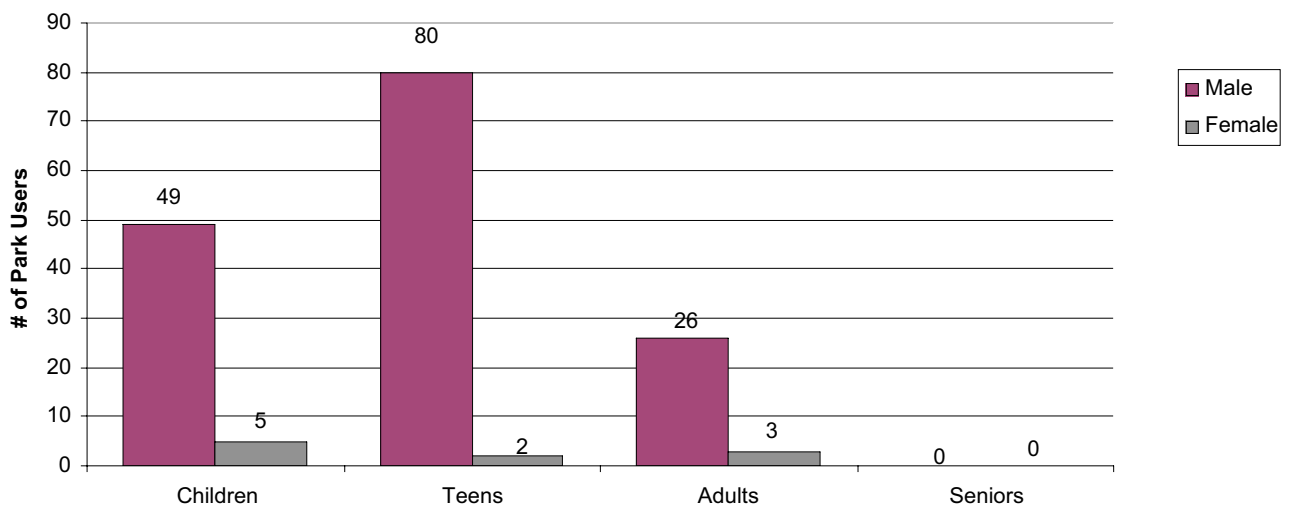
**Figure 4.5
Number of Park Users by Target Area and Age Group**



Younger males use skate parks more than females and older age groups.

Figure 4.6 summarizes the average number of males and females, by age group, who were observed in the three skate parks. Substantially more males were observed in the skate parks than were females (94% vs. 6%). Children and teens utilize the skate parks more than other age groups.

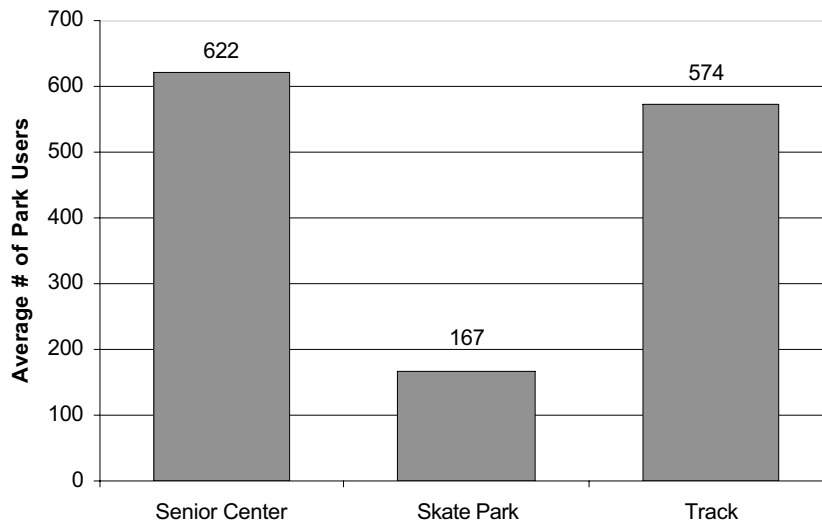
Figure 4.6
Average Number of Skate Park Users by Age Group and Gender



Skate parks are not used by as many people as some other park facilities such as senior centers, tracks, or gymnasiums.

Figure 4.7 summarizes the average number of park users observed in the two senior centers, skate parks, and tracks in the two largest parks with senior citizen centers. The average number of people observed in the two senior centers was 622. The average number of people observed on the two tracks in the large parks was 574. These counts are high relative to the average number of people observed in other target areas for the 12 neighborhood parks. These two parks, however, were more than three to four times as large as most of the other neighborhood parks. For example, in the neighborhood parks, an average of 288 people were observed in the neighborhood gymnasiums, and an average of 336 people were observed on the baseball fields.

Figure 4.7
Average Number of Park Users by Target Area



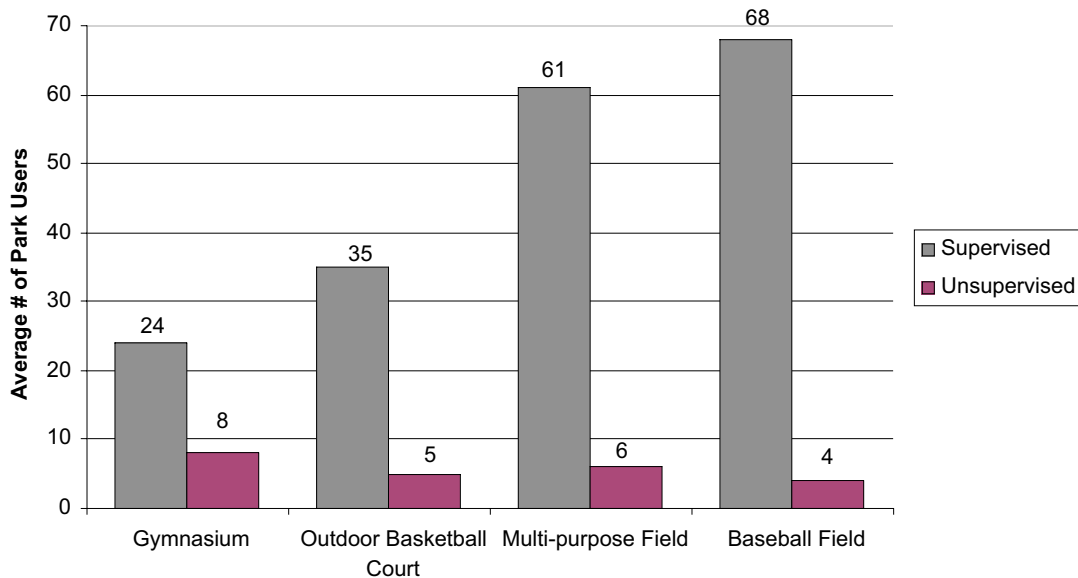
When areas are supervised, they attract more park users than when the same areas are not supervised.

Figure 4.8 compares the average number of park users observed in the 12 neighborhood parks, per observation, for the four target areas (i.e., gymnasiums, basketball courts, multi-purpose fields, and baseball fields) most commonly observed to be supervised, defined by being monitored and directed by an adult. For each of these target areas, the average number of park users was considerably higher when the area was being supervised. For example, baseball fields had an average of four park users when the area was not being supervised and 68 park users per observation when supervised.

Overall, less than two percent of all the observations conducted were organized or supervised but the percentage was considerably higher in the four areas shown in Figure 4.8. The percentage of supervised activities varied by park, even between parks that were similar in configuration and served neighborhoods in which residents were of similar racial and ethnic backgrounds and economic status. In two parks we did not observe any organized activities, while in one park, more than one out of five observations of these four areas was organized.

Figure 4.8

Number of Park Users in Four Area Types When Supervised and Unsupervised



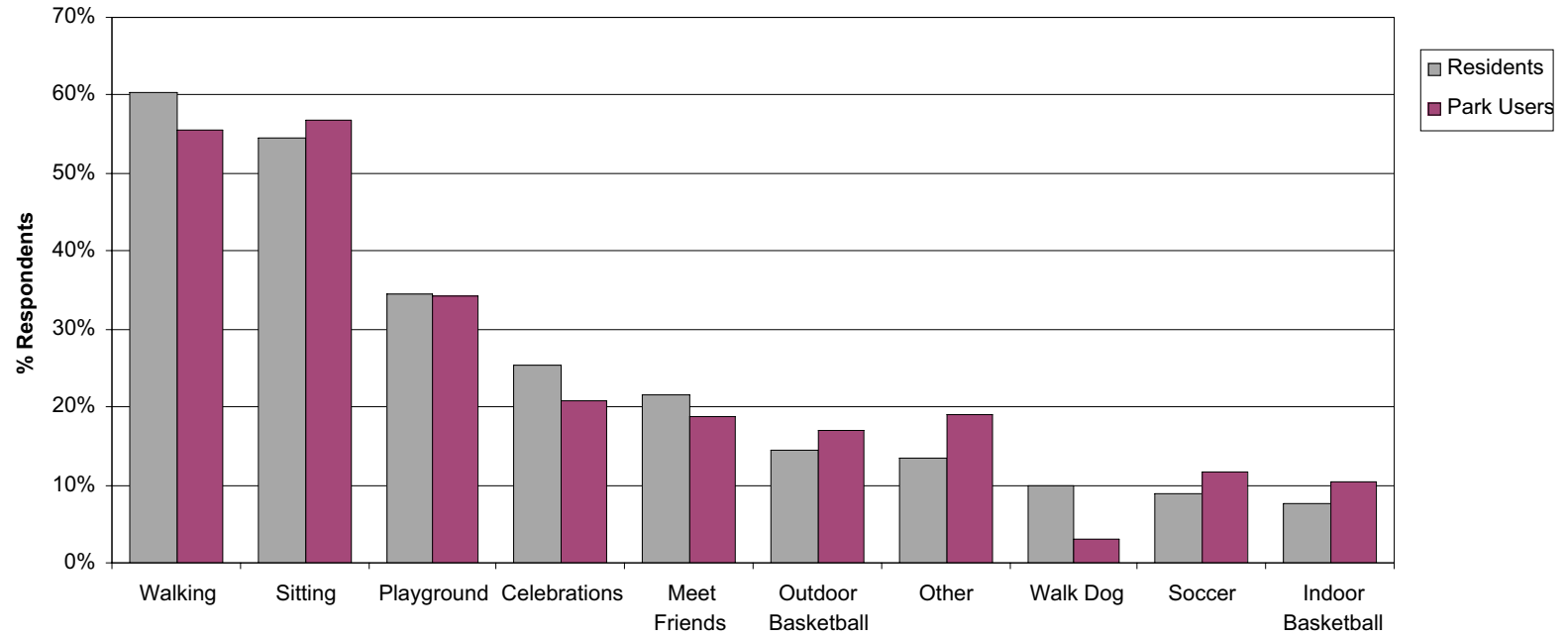
WHAT IS THE INTENSITY OF PHYSICAL ACTIVITY THAT OCCURS IN PARKS?

Walking and sitting in the park are the most frequently reported park activities by adults

Figure 4.9 displays the top 10 activities survey participants indicated they do in the park. Respondents included 634 residents who said that they use the park and 1,039 observed park users. More than 50 percent of both residents (when visiting the park) and park users most commonly used the park for walking and sitting. Residents and park users were equally as likely to utilize the playgrounds (34%). Other popular park activities included taking part in celebrations, meeting friends, playing outdoor basketball, and other activities.²²

²² Other activities included frisbee, volleyball, handball, skating, paddle tennis, reading, and a few other miscellaneous activities.

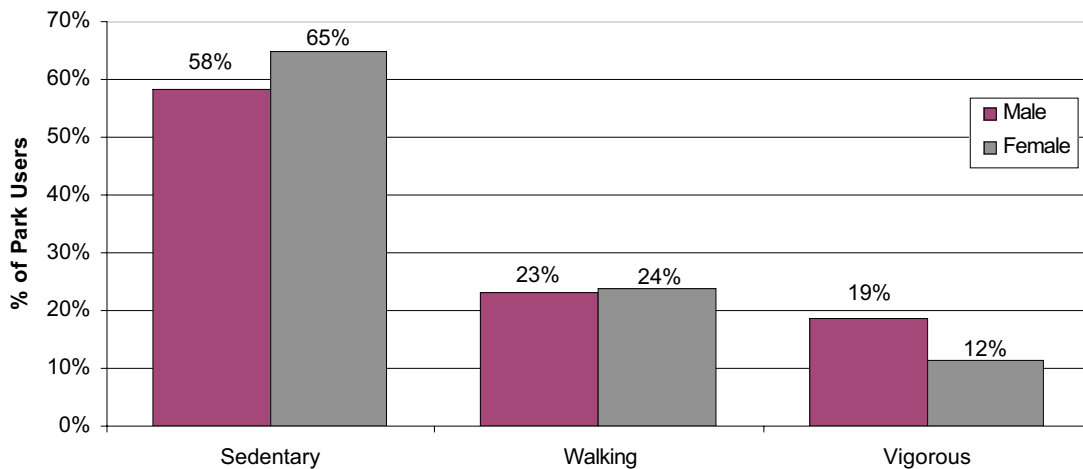
Figure 4.9
Top 10 Activities Reported by Residents and Park Users



Most people using the park are sedentary, but males are more likely than females to be engaged in moderate-to-vigorous physical activity.

Figure 4.10 shows the percentage of females and males engaging in sedentary, walking, and vigorous activities. Over half the males and females observed in the park were sedentary at the time of the scans. Females (65%) were slightly more likely to be sedentary than were males (58%). Males and female were seen walking in similar proportions, but males were more likely to engage in vigorous activity (19% versus 12%). Because of the way our data was collected, we could not determine physical activity levels by age group.

Figure 4.10
Proportion of Males and Females in Three Activity Levels



Different age groups use different areas of the park.

Table 4.3 displays the top three target areas with the highest average number of park users for each age group. We took into account that not every park had each of the facilities and calculated the average number of users by facility type. Children were seen more frequently using the playgrounds, gymnasiums, and baseball fields than any other areas. One neighborhood park had a skating area that was almost exclusively used by teens. Teens also utilized the gymnasiums and baseball fields most frequently. Two neighborhood parks had tracks, and adults were the predominant users. They represented 17 percent of female park users and 13 percent of male parks users, and little to no sedentary behavior was observed there. Seniors most frequently used the senior center, but were also often seen on tennis courts and on the track.

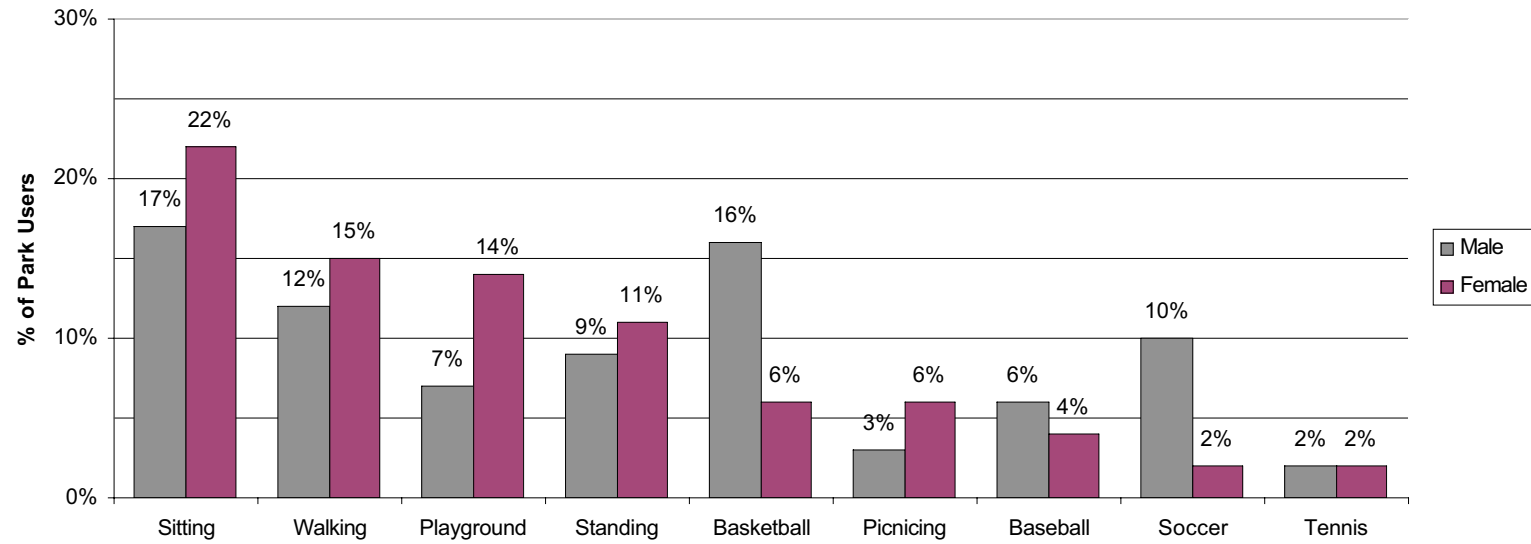
Table 4.3
Target Areas with the Highest Average Number of Park Users by Age Group
(Neighborhood Parks)

Rank	Children	Teens	Adults	Seniors
1st	Playground	Skate Park	Track	Senior Center
2nd	Gymnasium	Gymnasium	Lawn	Tennis
3rd	Baseball	Baseball	Sidewalk	Track

Males are more likely to play active sports like basketball and soccer, while females are more likely to be on the playground or sitting in the park.

Figure 4.11 displays some of the activities commonly observed at the parks. Males were most frequently seen sitting (17%), playing basketball (16%), and walking (12%). Females were most frequently seen sitting (22%), walking (15%), and on the playground (14%).

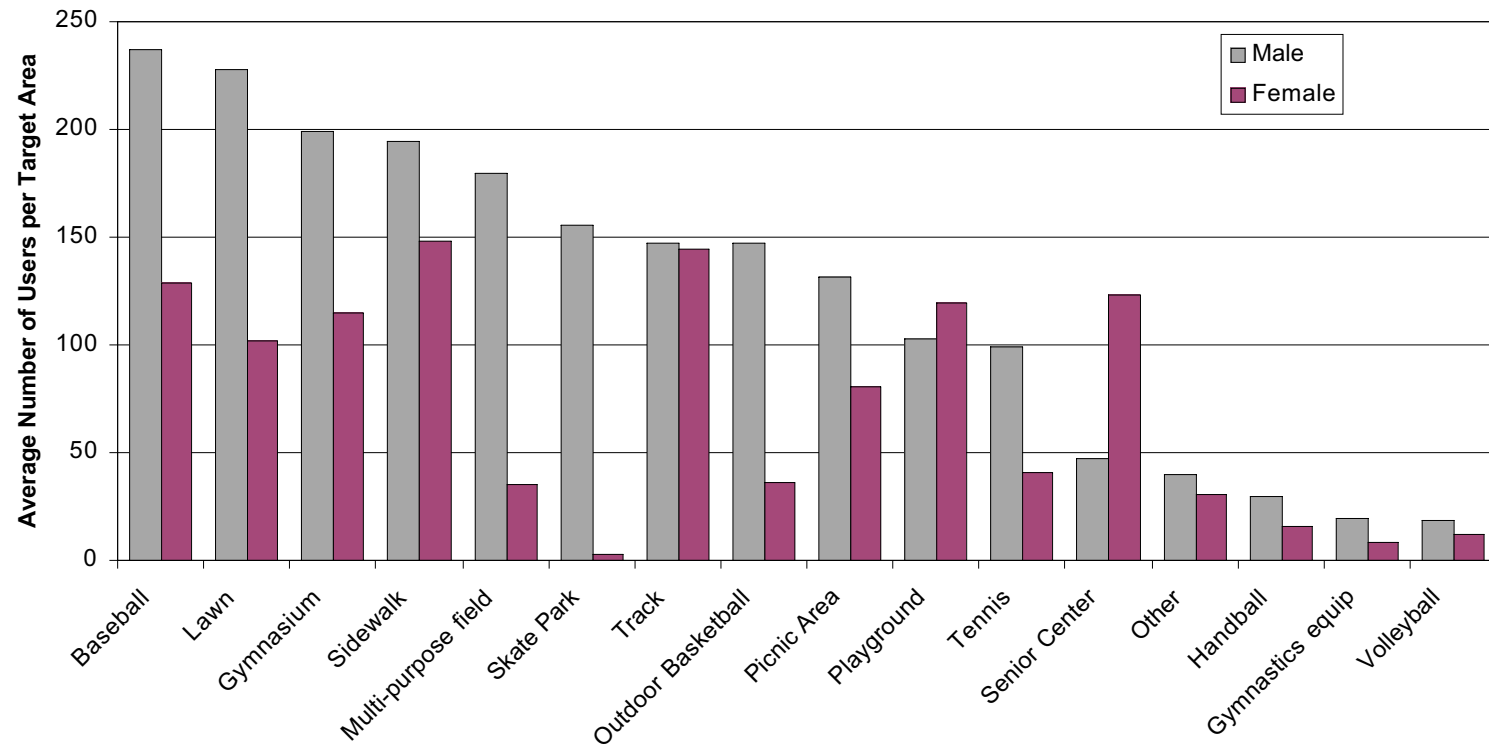
Figure 4.11
Percent of Park Users by Activity



Females use senior centers and playground more than males, but are equally likely to use the track

Figure 4.12 shows the different ways in which males and female tended to use parks. In most cases the disparities appear to be related to the fact that more males than females used parks in general, but beyond that difference, males are more likely to use skate parks, multi-purpose fields, and outdoor basketball courts, areas that support vigorous physical activity. Females used tracks, as well as playgrounds and senior citizen centers more often than males.

Figure 4.12
Average Number of Park Users by Target Area and Gender

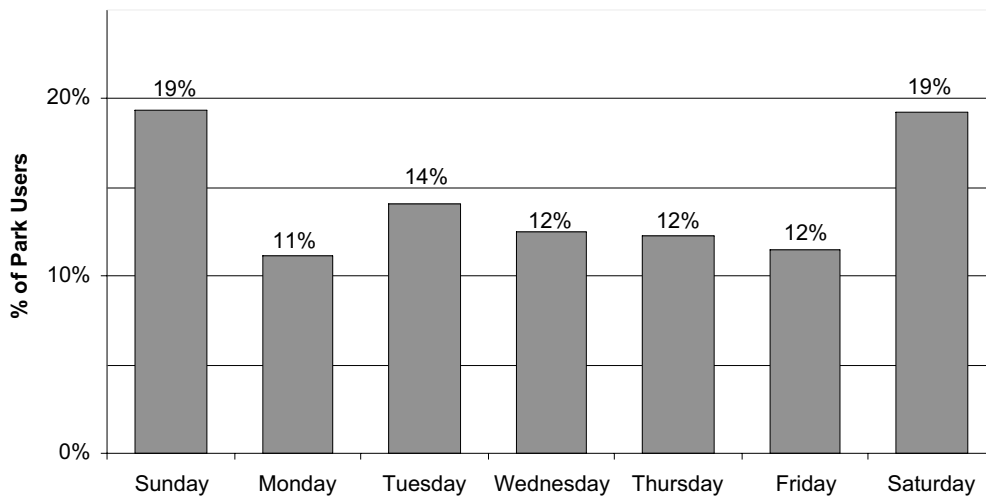


Note that the skate park (1) and senior centers (2) in this figure are located in the 12 neighborhood parks, not in the special locations.

Parks are used most on the weekends.

Figure 4.13 displays the percentage of park users by day of the week. More people were seen on Saturday and Sunday than on any single weekday. Approximately 40 percent of park users were observed on Saturday and Sunday. During the week, the percent of users ranged from 11 percent (on Monday) to 14 percent (on Tuesday).

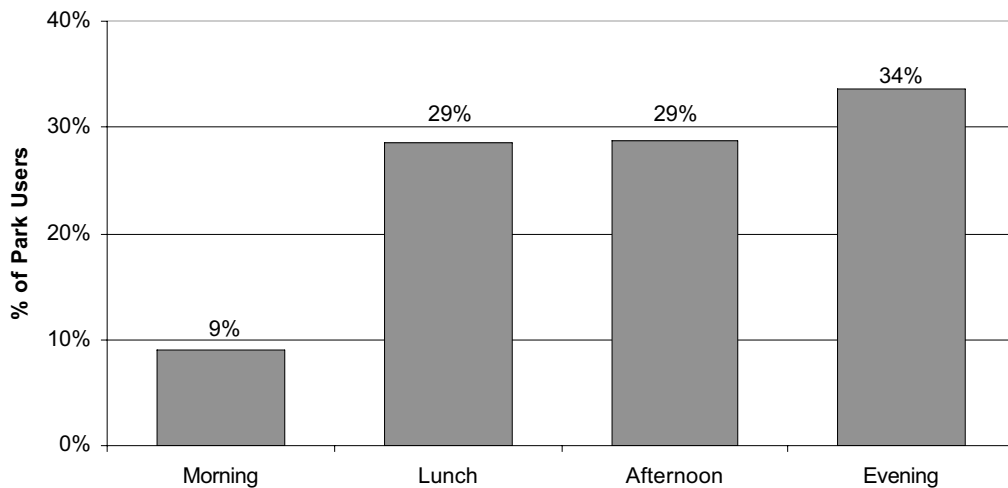
Figure 4.13
Percent of Park Users per Day of the Week



Parks are least used in the morning than other times during the day.

Every target area in each park was observed at four different times throughout the day: morning (7:30–8:30 am), lunch (11:30 am–12:30 pm), afternoon (3:30–4:30 pm), and evening (6:30–7:30 pm). Figure 4.14 displays the percent of park users observed during the four time periods. Few people were observed during the morning period (9%). About 29 percent were seen during each of the noon and afternoon periods, and 34 percent were observed during the evening period.

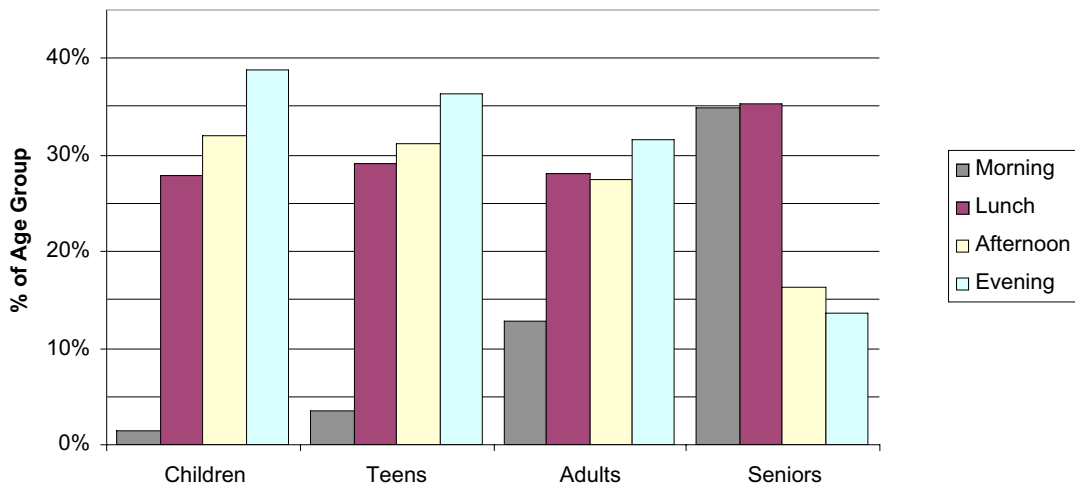
Figure 4.14
Percent of Park Users by Time Period



Senior citizens use neighborhood parks more in the morning and early afternoon, while other age groups use the park more in the afternoon and evening.

Figure 4.15 displays the proportion of park users by age group and time period. Over one-third of the children, teenagers, and adults seen in the parks were counted during the evening observation period. Very few children, teens, and adults were observed during the morning hours. The older park users, however, were seen more frequently during the morning and lunch observation periods.

Figure 4.15
Percentage of Park Users by Age Group and Time of Day

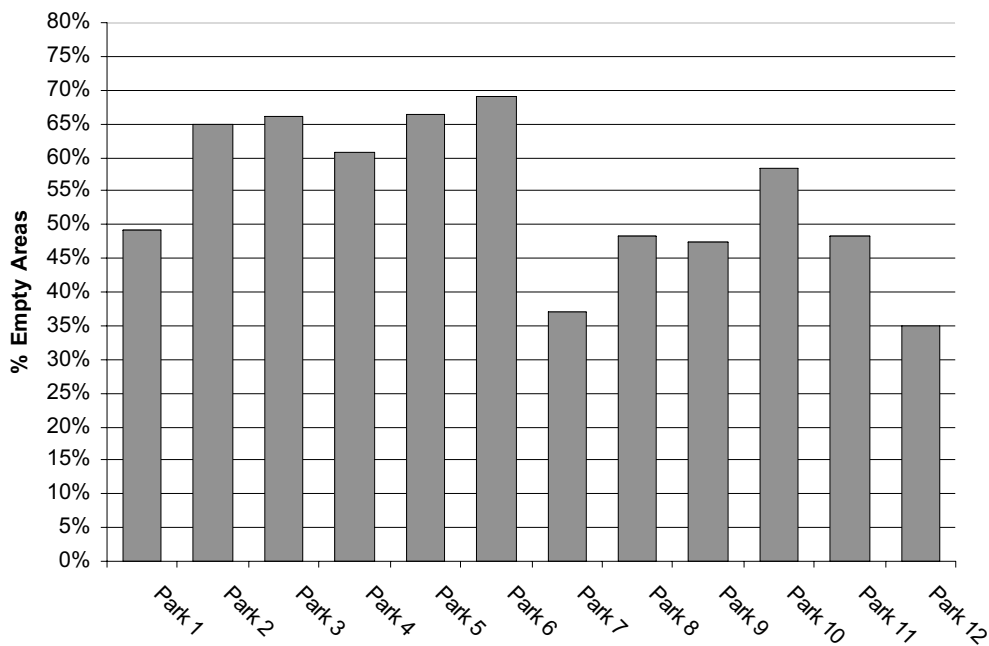


Park areas are frequently empty.

Figure 4.16 displays the percentage of empty target areas by the 12 parks. Empty areas range from 35 to 69 percent of total areas within the parks.

Although the acreage available per person in local neighborhoods is low relative to former recommendations by the National Recreation and Parks Association, which is 10 acres/1,000 persons, the existing resources are not well used. The size of a park may not be as important as the number of parks and their locations. The number of events scheduled and activities programmed is also be a critical variable in how often parks are used.

Figure 4.16 Percentage of Empty Areas by Park



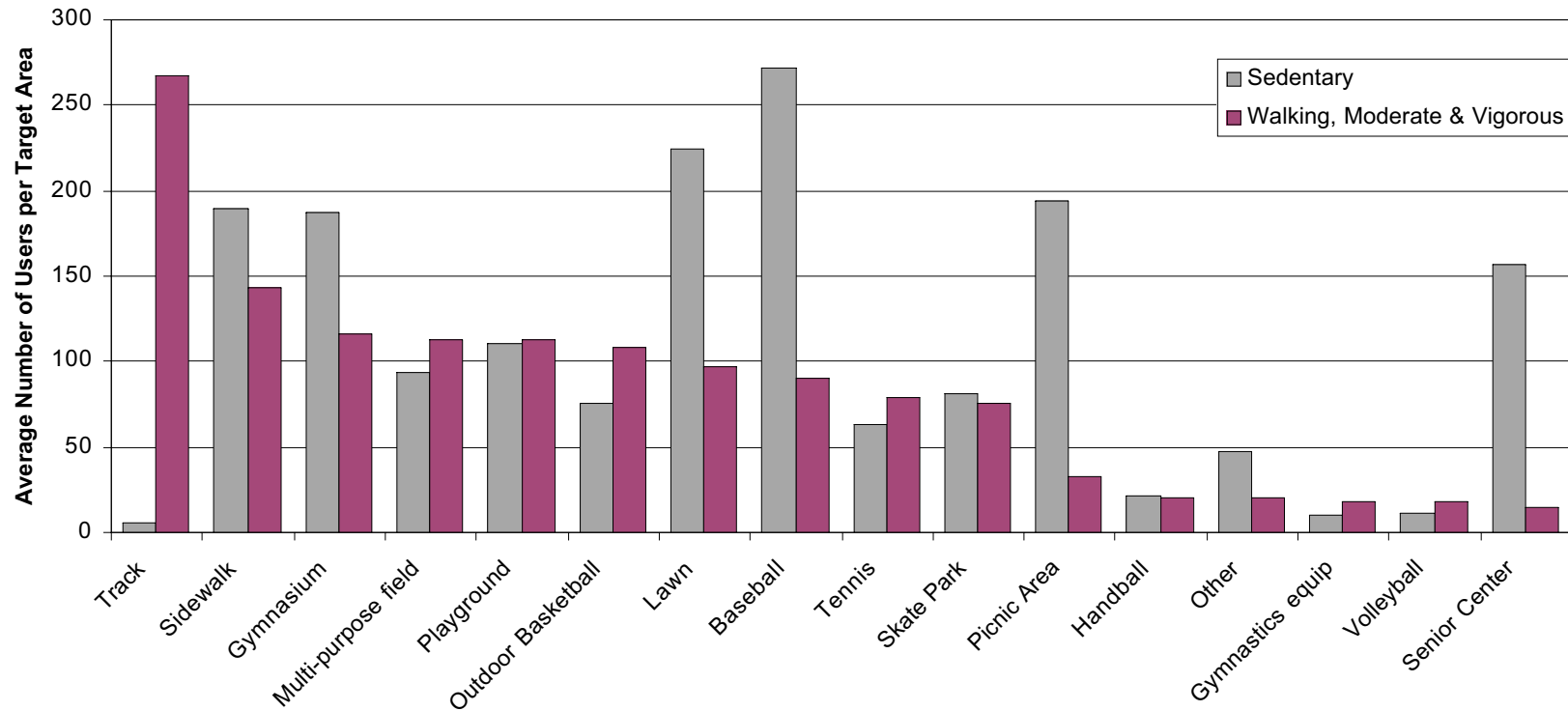
WHICH FACILITIES GENERATE MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY?

Considering the average number of users per facility, tracks are associated with the most walking and moderate-to-vigorous activity.

Outdoor tracks support the most walking and moderate-to-vigorous activity, when adjusting for the number of facilities and the average number of users. Walking paths and tracks are features that support physical activity in which most people are likely to engage. In the 10 parks without an accessible track or walking path, the average percentage of park users observed walking was 11 percent compared to 23 percent in the parks with accessible facilities for walking. The average percentage of adults walking was 16 percent in parks with walking paths versus 6 percent in parks without paths (see Figure 4.17).

Sidewalks are second in importance for facilitating walking and moderate-to-vigorous physical activity, but we also noted that many people on the sidewalk were sedentary, since they were usually watching instead of engaging in activities that took place in contiguous activity areas. Playground areas generated as much moderate-to-vigorous physical activity as that in gymnasiums and multi-purpose fields. Baseball/softball fields generated the greatest amount of sedentary activity, because of the large number of spectators they draw and because the game itself is largely sedentary.

Figure 4.17
Average Number of Park Users by Target Area and Activity Level



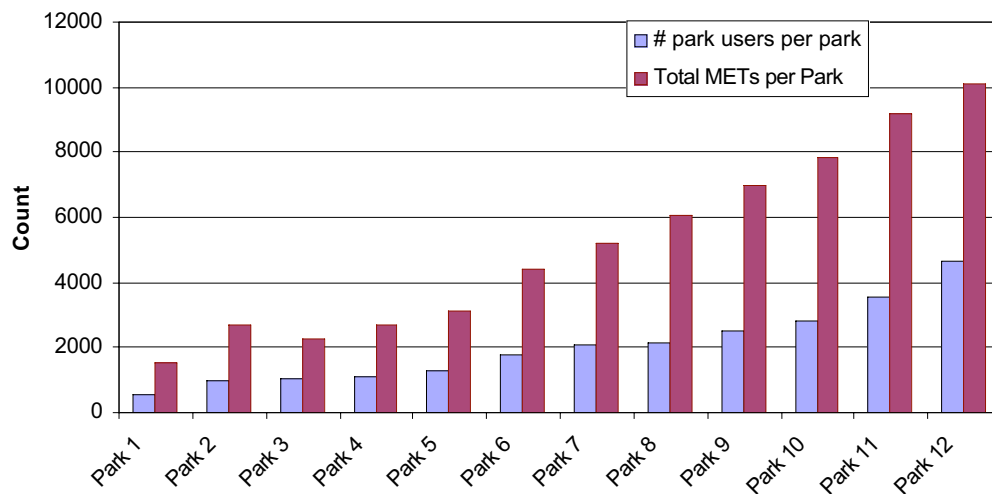
Note the skate park (1) and senior centers (2) in this figure are located in the 12 neighborhood parks, not in the special locations.

Parks attracting more people tend to produce more energy expenditure than parks serving fewer people.

Energy expenditure at a park is a combination of the intensity of activities occurring and the number of people engaging in them. We estimated the energy expended by using METs, the ratio of work metabolic rate to standard resting metabolic rate. We assigned the level of METs as 1.5 for sedentary, 3 for walking, and 6 for vigorous activity, as identified by Ainsworth et al. (See Bibliography).

The number of users in similar parks varied from 524 to 4,628 persons overall, almost a nine-fold difference. The amount of METS per park varied from 1,524 to 10,094, more than a 17-fold difference, indicating that park activities are important as well as the number of people served. Estimated MET values per park user varied from 2.2 to 3.5 METs. Parks drawing the most people tended to account for more energy expended per park (see Figure 4.18).

Figure 4.18
Users and METS Per Park

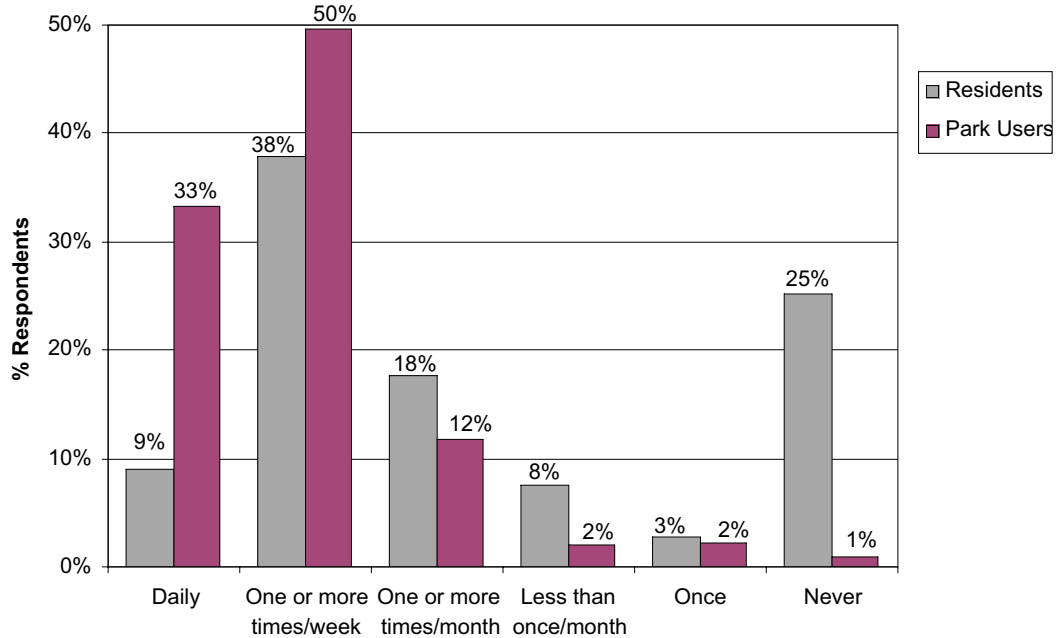


HOW DO RESIDENTS VIEW PARKS AND WHAT ROLE DO THEY FEEL PARKS PLAY IN THEIR PHYSICAL ACTIVITY?

Most residents say they use local neighborhood parks routinely.

Several survey questions were asked to gauge park utilization. Figure 4.19 displays the frequency of park use for residents and park users. Respondents include all individuals surveyed at each of the 12 neighborhood parks (n = 1,049) and residents living within a two-mile radius of each park (n = 849) who answered the question, “How often do you come to this park?” Approximately 83 percent of all park users surveyed indicated that they go to the park one or more times per week. This was the most common response for residents as well, with almost 47 percent indicating that they visit the park one or more times per week. Only 25 percent of all residents surveyed said that they never use the park. Respondents appear to be overestimating their actual park use.

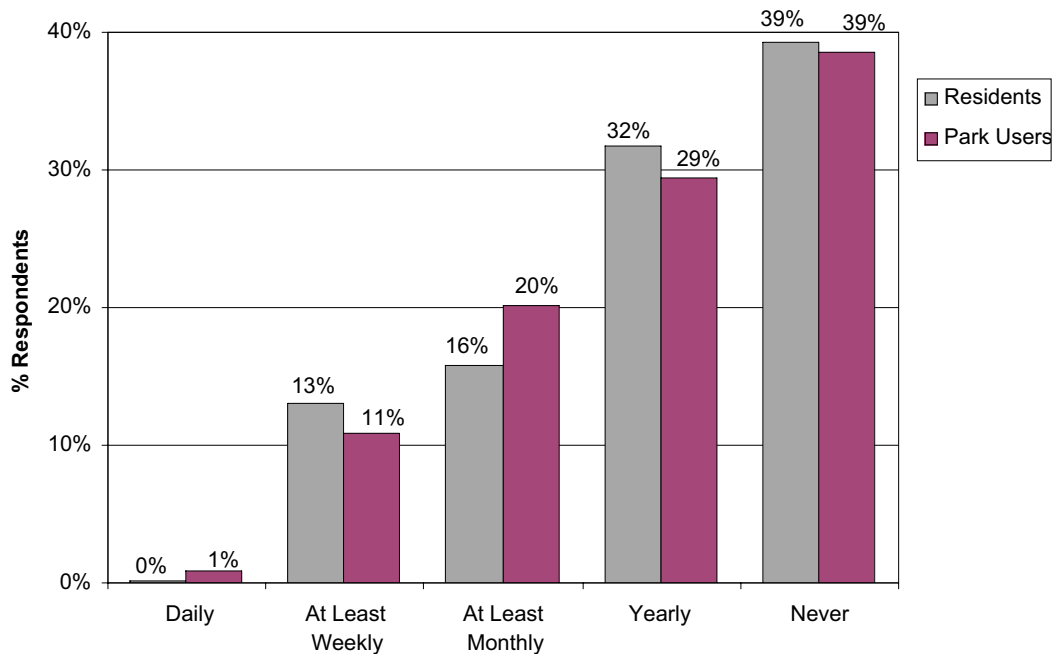
Figure 4.19
Frequency of Park Use for Residents and Park Users



Most residents use the local neighborhood park almost exclusively.

In addition to asking survey respondents about their use of a specific park, we asked participants, “How often do you go to other parks?” Figure 4.20 indicates the frequency of other park use by residents and park users. Respondents include individuals surveyed at each of the 12 neighborhood parks (n = 1,025) and residents living within a two-mile radius of each park (n = 817). Approximately 40 percent of all park users and residents indicated that they never visited any other LA City park. Close to 30 percent of residents and 30 percent of park users indicated that they went to another park about once a year. Only one resident and nine park users indicated that they went to another park on a daily basis.

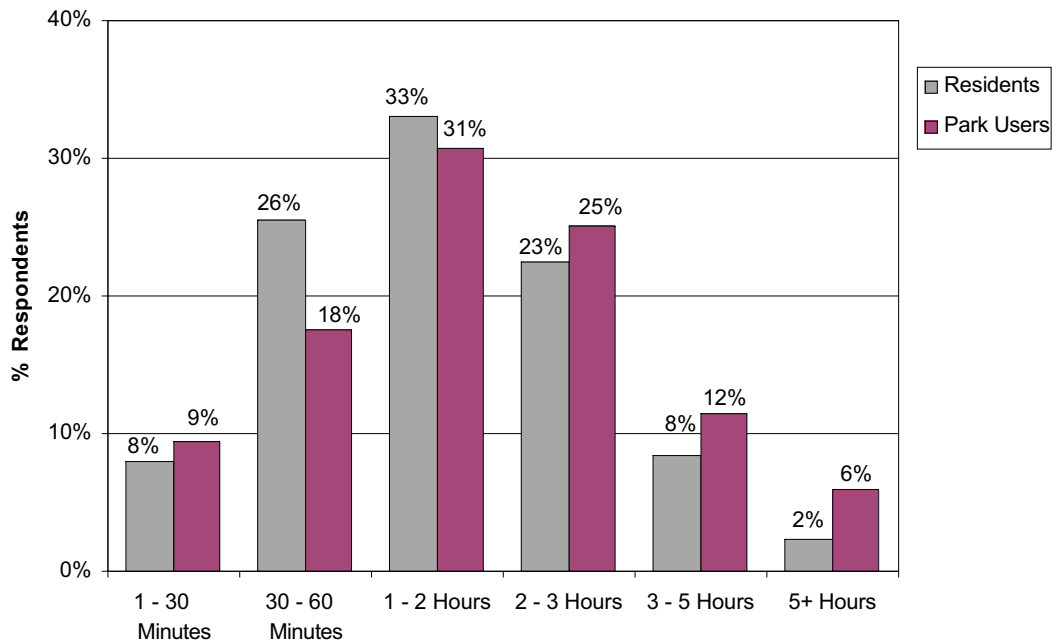
Figure 4.20
Frequency of Other Park Visits for Residents and Park Users



About two-thirds of all residents report staying more than one hour when they visit the park.

Figure 4.21 displays the findings for the question, “On a typical day when you go to the park, how long do you stay at the park?” Respondents include individuals surveyed at each of the 12 neighborhood parks (n = 1,037) and residents living within a two-mile radius of each park (n = 615) who indicated that they visit the park. About 66 percent of residents and 74 percent of park users indicated that they stay more than one hour when they visit the park.

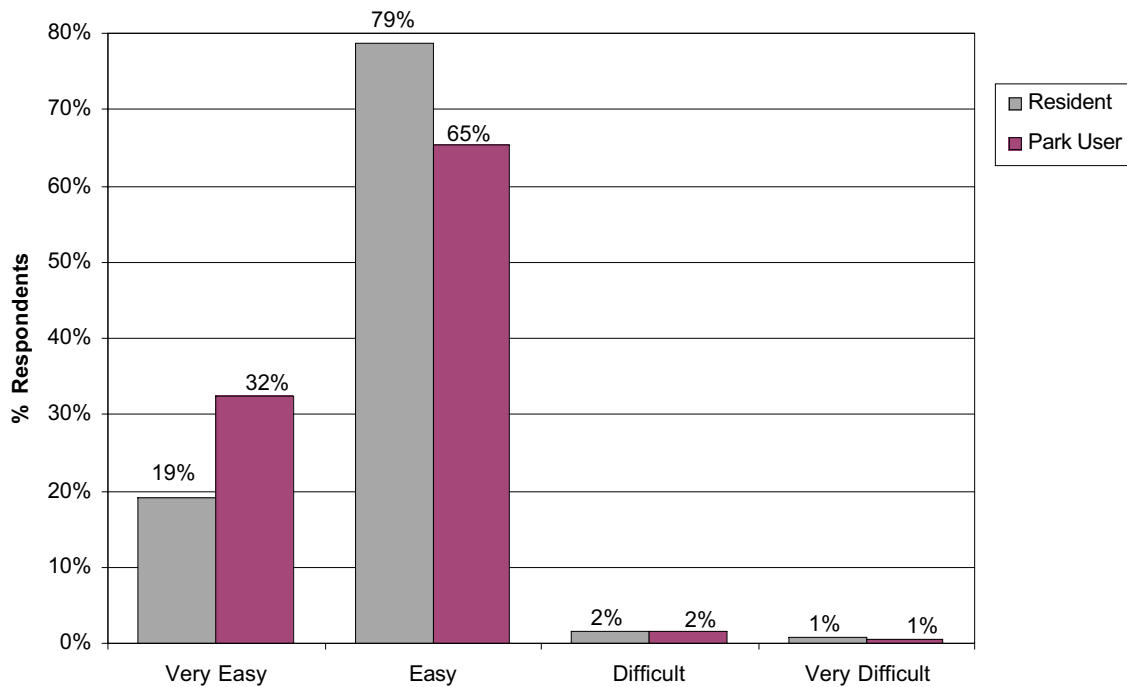
Figure 4.21
Length of Time per Park Visit for Park Users and Residents



Over 97 percent of residents find it easy to get to the park.

Survey participants were also asked, “How easy is it for you to get to the park?” Figure 4.22 indicates that it is easy for most park users and residents to get to the park they were questioned about. Few respondents indicated that it was difficult or very difficult to access the park. Respondents include individuals surveyed at each of the 12 neighborhood parks (n = 1,033) and residents living within a two-mile radius of each park (n = 608) who indicated that they visit the park.

Figure 4.22
Ease of Accessing the Park by Residents and Park Users

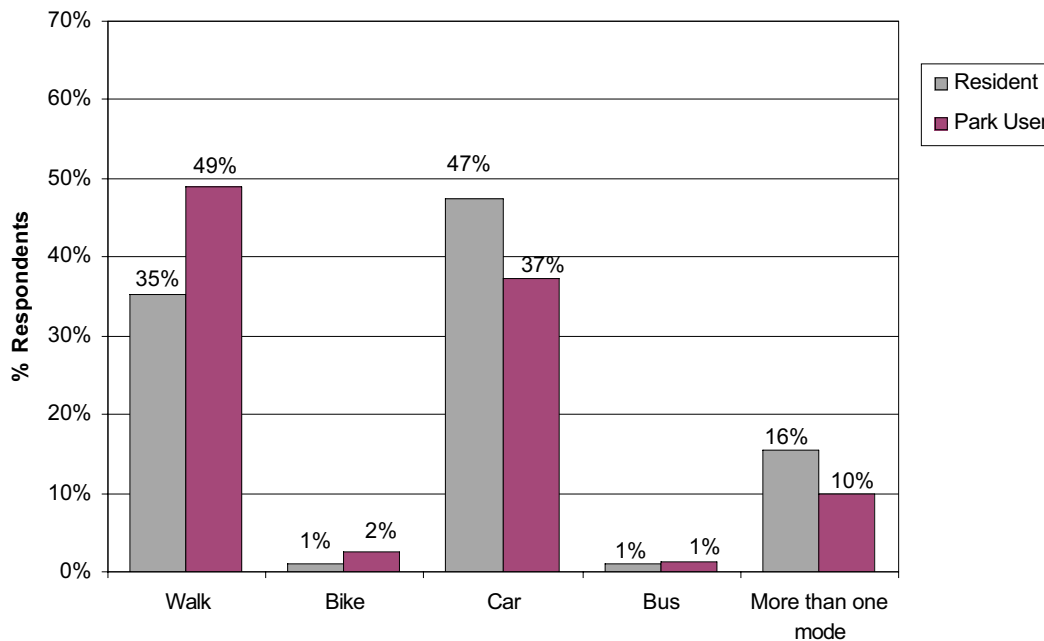


Nearly half the park users surveyed usually walk to the park.

Survey participants were asked, “How do you usually get to the park?”²³ Respondents include all individuals surveyed at 10 of the neighborhood parks (n = 906) and residents living within a two-mile radius of each park (n = 562) who indicated that they have visited the park.²⁴ Approximately half of all park users (49%) indicated that they walk to the park more than using other modes of transportation (see Figure 4.23). Residents, on the other hand, were more likely to drive a car (47%) than to use other modes of transportation to access the park. In general, people who live farther away tend to drive to the park. Sixteen percent of residents and ten percent of park users indicated that they go to the park using multiple modes of transportation.²⁵

Figure 4.23

How Park Users and Residents Get to the Park



²³ Depending on when the survey was conducted, respondents may have been asked to indicate all methods of transportation or to indicate only their primary method.

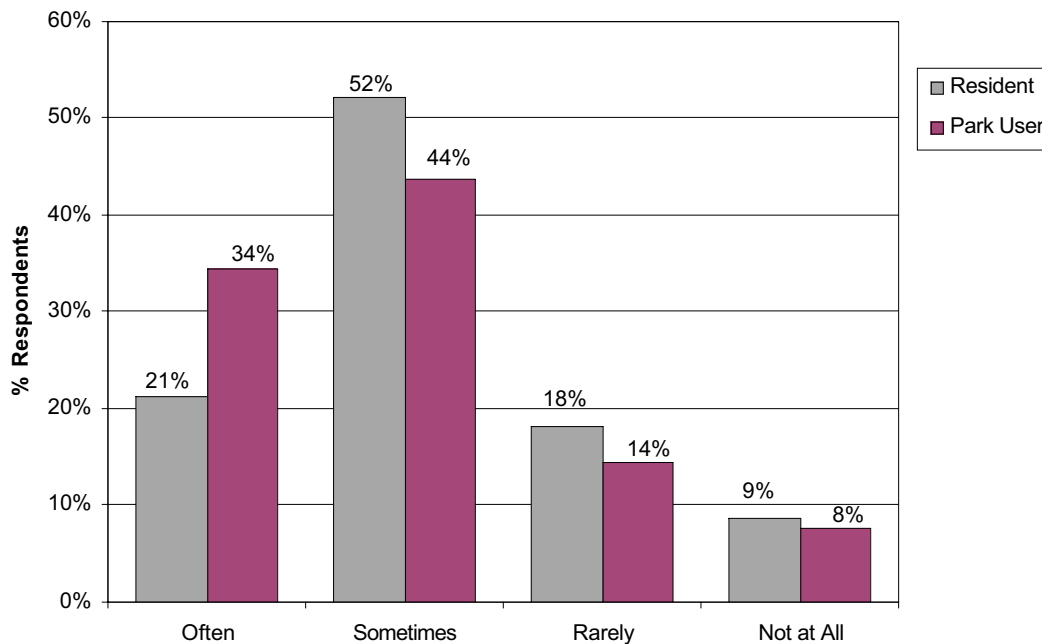
²⁴ This question was added to the survey after the evaluation was completed at the first two parks.

²⁵ Multiple modes include at least two of the following: walking, biking, car, or bus.

Parks are a venue for social activities.

To assess whether or not people are utilizing the parks for social purposes, we asked survey participants, “When you are in the park, do you meet people that you know?” Figure 4.24 displays the results for this question for 619 residents and 1022 park users who said they use the park. More than half of all residents (73%) indicated that they often or sometimes meet people they know in the park.

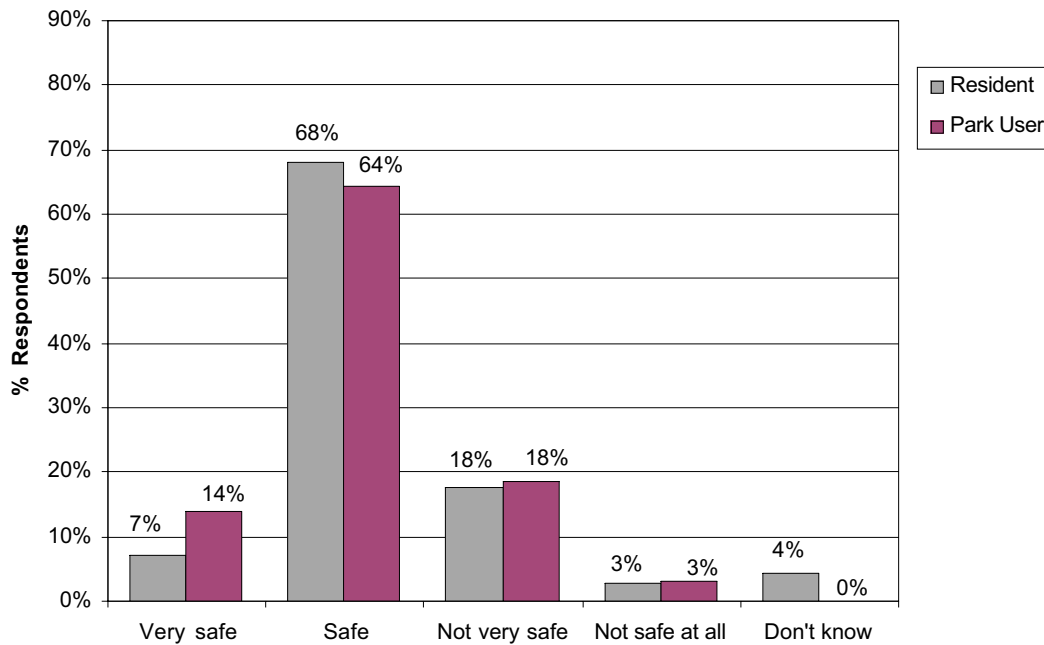
Figure 4.24
Residents and Park Users Who Meet People in the Park



Most people think the parks are safe or very safe.

To gauge whether safety was an important issue for park users and residents, we asked survey participants, “In general, how safe do you feel the park is?” Figure 4.25 reveals that most respondents perceive the park to be safe. 78% of park users and 75% of residents indicated that the parks were safe or very safe. Few respondents indicated that the park was not at all safe or that they did not know about the safety at the park. Respondents include all individuals surveyed at each of the 12 neighborhood parks (n = 1,042) and residents living within a two-mile radius of each park (n = 793) who indicated that they have visited the park.

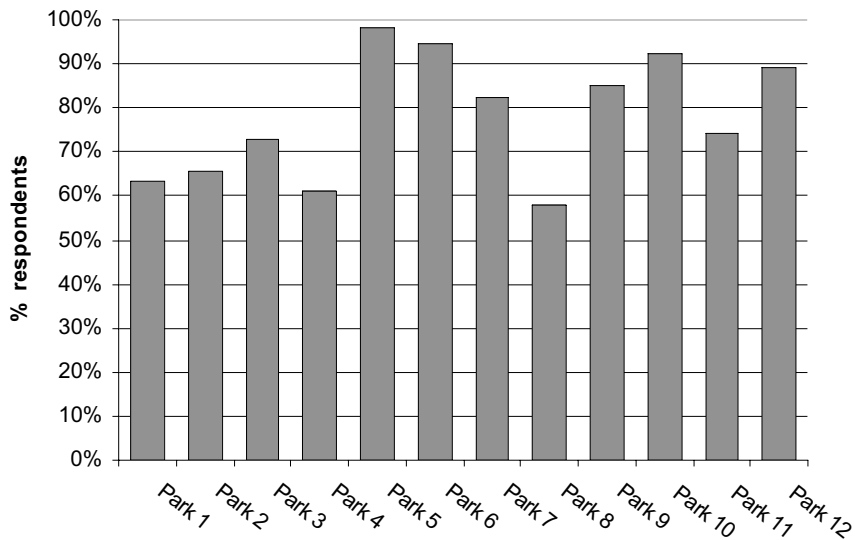
**Figure 4.25
Park Safety by Residents and Park Users**



Perceptions of safety varied by park.

Figure 4.26 reveals that most park users and residents thought the parks were safe. However, this response varied considerably by park. Figure 5.8 displays the percentage of respondents perceiving each park to be safe.²⁶ Respondents include those park users (n = 1,041) and residents (n = 758) who answered the question about park safety. Parks in neighborhoods with lower levels of poverty were perceived to be safer.

Figure 4.26
Percentage of Respondents Reporting Safe or Very Safe, by Park



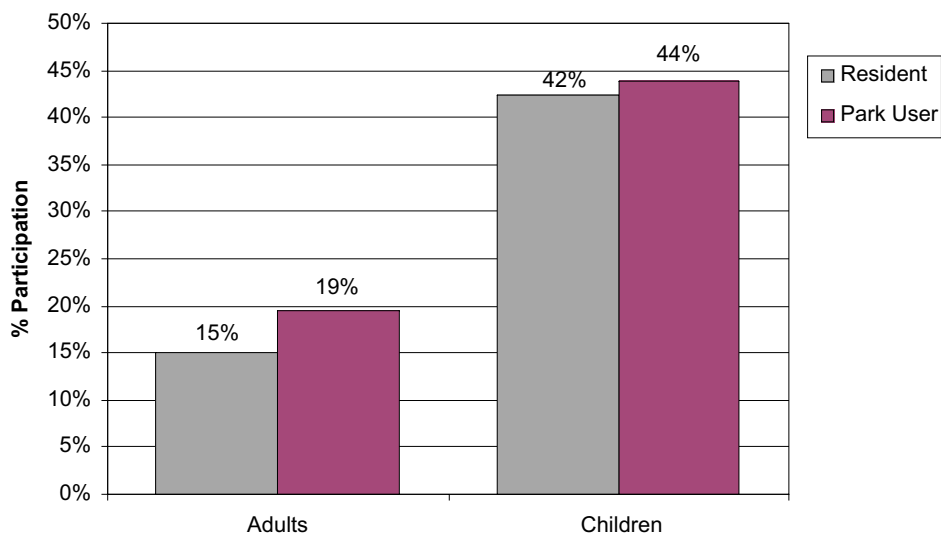
²⁶ To be classified as a safe park, a park must have been called “safe” or “very safe” by respondents.

A large percentage of children participate in Department of Recreation and Parks programs.

Survey participants were asked, “Do you participate in any of the programs sponsored by the City Department of Recreation and Parks?” After completing the survey, participants were also asked if they had any children under the age of 18. Those respondents who indicated that they had a child under the age of 18 were also asked to complete a Parent Survey on behalf of their oldest child under 18.

Figure 4.27 reports the percentage of all residents and park users who indicated that either they or their child participated in programs held by the Department of Recreation and Parks. Respondents include park users (1,016 adults and 306 children) and residents (816 adults and 191 children) at 11 of the 12 neighborhood parks.²⁷ Over 40 percent of residents and park users who completed the survey indicated that their children have participated in a program sponsored at the park.²⁸ Fifteen percent of adult residents and 19 percent of adult park users also indicated that they had participated in a program operated by the Department of Recreation and Parks.

Figure 4.27
Participation in Department of Recreation and Parks Programs

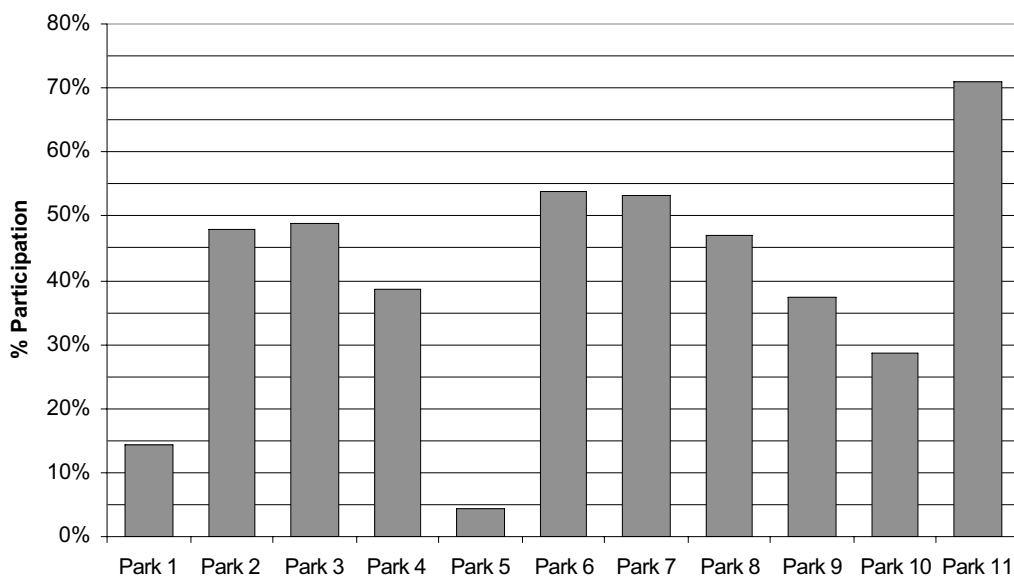


²⁷ This question was added to the survey after observations were completed at the first park. As a result, the first park was excluded from this analysis.

The percentage of children participating in Department programs varied across parks.

Figure 4.28 indicates the percentage of children who participate in Department of Recreation and Parks programs by park. Respondents include park users (n = 306) and residents (n = 191) who indicated that their oldest child (under the age of 18) had participated in park programs.²⁹ These data were collected at 11 of the 12 neighborhood parks.³⁰ At six of the 11 parks, more than 40 percent of the parents indicated that their oldest child has participated in department-operated programs.

Figure 4.28
Child Participation in Department of Recreation and Parks Programs by Park



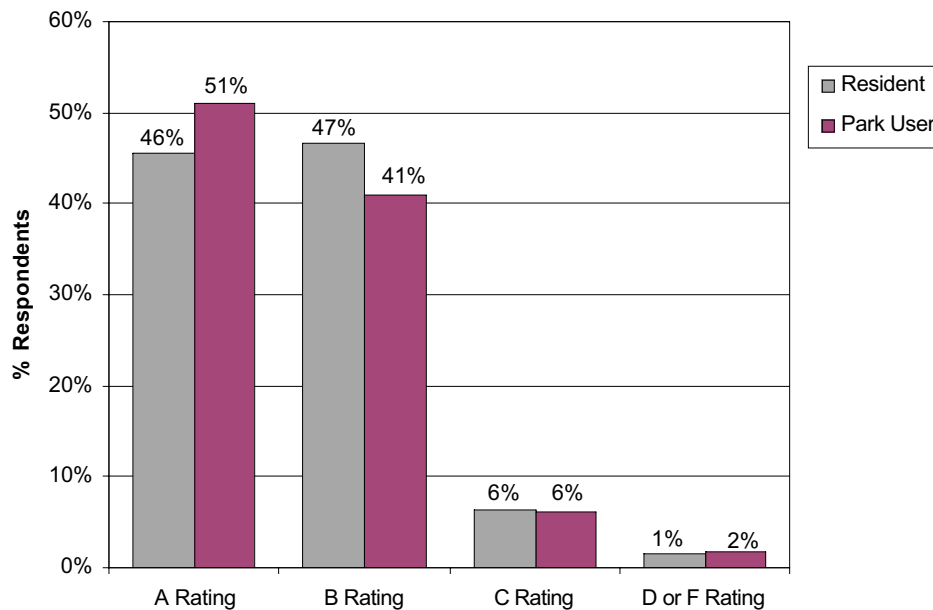
²⁹ After completing the general survey, respondents were asked if they would complete a Parent Survey on behalf of their oldest child under the age of 18.

³⁰ This question was added to the survey after observations were completed at the first park. As a result, the first park was excluded from this analysis.

Most respondent perceptions of park staff performance were high (A and B ratings).

Figure 4.29 summarizes how respondents graded the Department of Recreation and Parks staff members. Respondents include park users (n = 646) and residents (n = 412) who report going to the park and who provided a grade for the question, “How would you grade the park staff?”³¹ Just over half of the park users (51%) gave the park staff the top rating. Residents were more likely (47%) than park users (41%) to give the staff a “B” rating rather than an “A” rating. Few residents or park users gave the park staff a grade of “C” or lower.

Figure 4.29
Respondents Perception of Department Staff

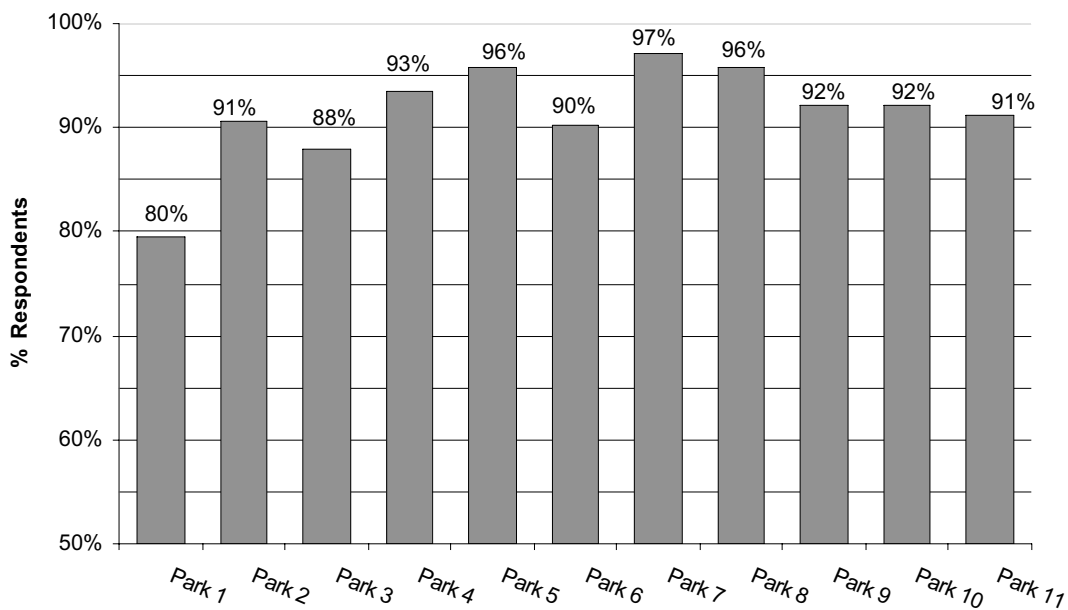


³¹ This question was added to the survey after observations were completed at the first park. As a result, the first park was excluded from this analysis.

Across all parks, respondents gave park staff high ratings (A or B ratings).

Figure 4.30 displays the percentage of respondents, by park, who rated the park staff above average (A or B grade). Respondents include park users and residents (N = 1,058) who answered the question, “How would you grade the park staff?” Data presented in the figure do not include people who indicated that they did not know the staff or those who refused to answer the question. Residents who indicated that they do not visit the park were also excluded. Data were collected at 11 of the 12 neighborhood parks for answers to this question.³² Over 90 percent of the respondents at nine out of the 11 parks rated the park staff with an A or B rating.

Figure 4.30
Percentage of All Respondents Ranking Staff Above Average (A or B Rating)

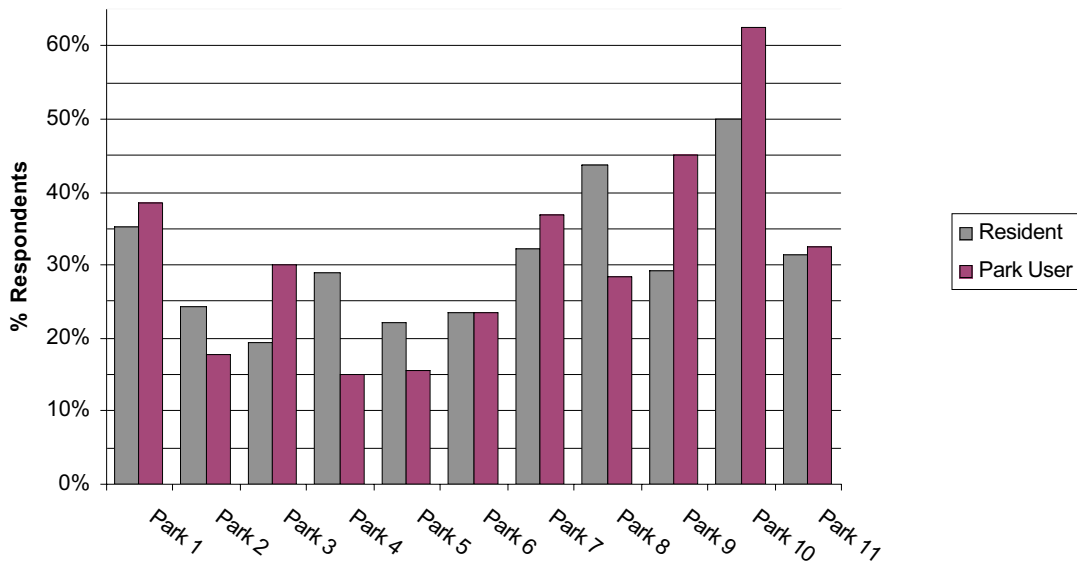


³² This question was added to the survey after observations were completed at the first park. As a result, the first park was excluded from this analysis.

How well respondents know park staff varies across the parks.

Figure 4.31 displays the percentage of respondents who do not know Department of Recreation and Parks staff members. Respondents include those who indicated that they go to the park, but did not know the park staff well enough to provide a rating to the question, “How would you grade the park staff?” These data represent 31 percent of all park users and 30 percent of all residents who participated in the survey. Data were collected at 11 of the 12 neighborhood parks for this question.³³ For half of the parks, park users were more likely to report not knowing any of the park staff than were residents surveyed in the surrounding neighborhoods. These data reflect all respondents, including those who live more than 1 mile away and may never use the local park. Respondents who lived the farthest from the park were the least likely to know the park staff.

Figure 4.31
Percentage of Respondents Who Do Not Know Staff, by Park

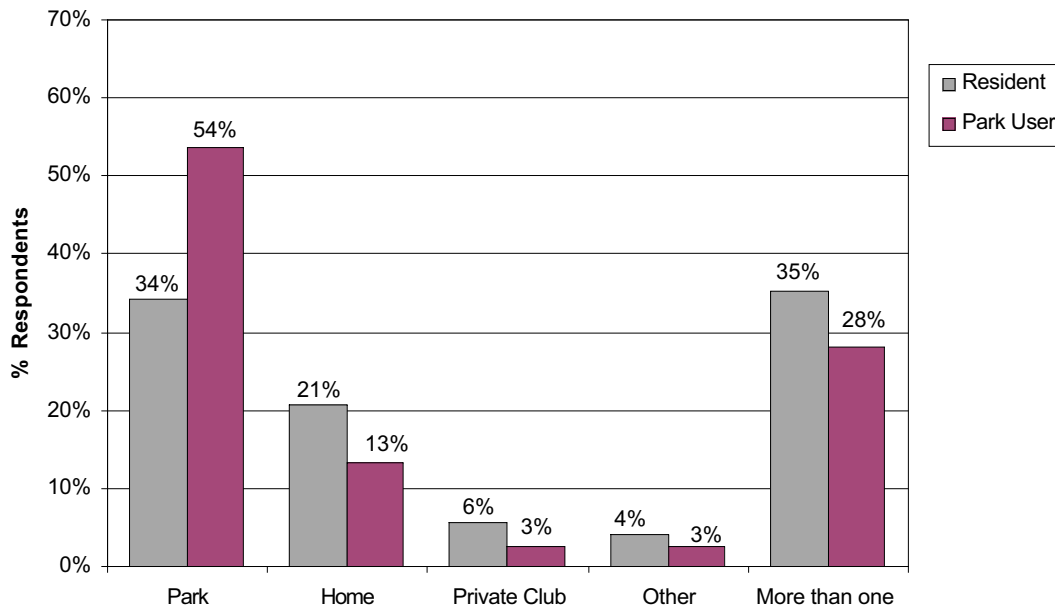


³³ This question was added to the survey after observations were completed at the first park. As a result, the first park was excluded from this analysis.

Most people exercise in the parks, while few utilize private health clubs.

Figure 4.32 displays the places where survey respondents indicate they most commonly exercise.³⁴ Respondents include all individuals surveyed at each of the 12 neighborhood parks (n = 875) and residents living within a two-mile radius of each park (n = 670) who indicated they exercise. Park users indicated they were most likely to exercise in the park (54%), while few utilized a private health club (3%) or other location (3%).³⁵ Residents were also more likely to exercise in the park (34%) than at a private health club (21%) or other location (4%). Residents were slightly more likely to indicate that they exercise in more than one location (35%) than did park users (28%). Of the people who say they exercise in more than one place, most chose home and park. Only seven percent of park users and twelve percent of residents who exercise in more than one place included a health club as one of their choices.

Figure 4.32 Where Do Park Users and Residents Exercise?



³⁴ During Year 1, participants were asked to indicate the location in which they most frequently exercised. During Year 2 of the survey, participants were allowed to mention more than one location (if applicable).

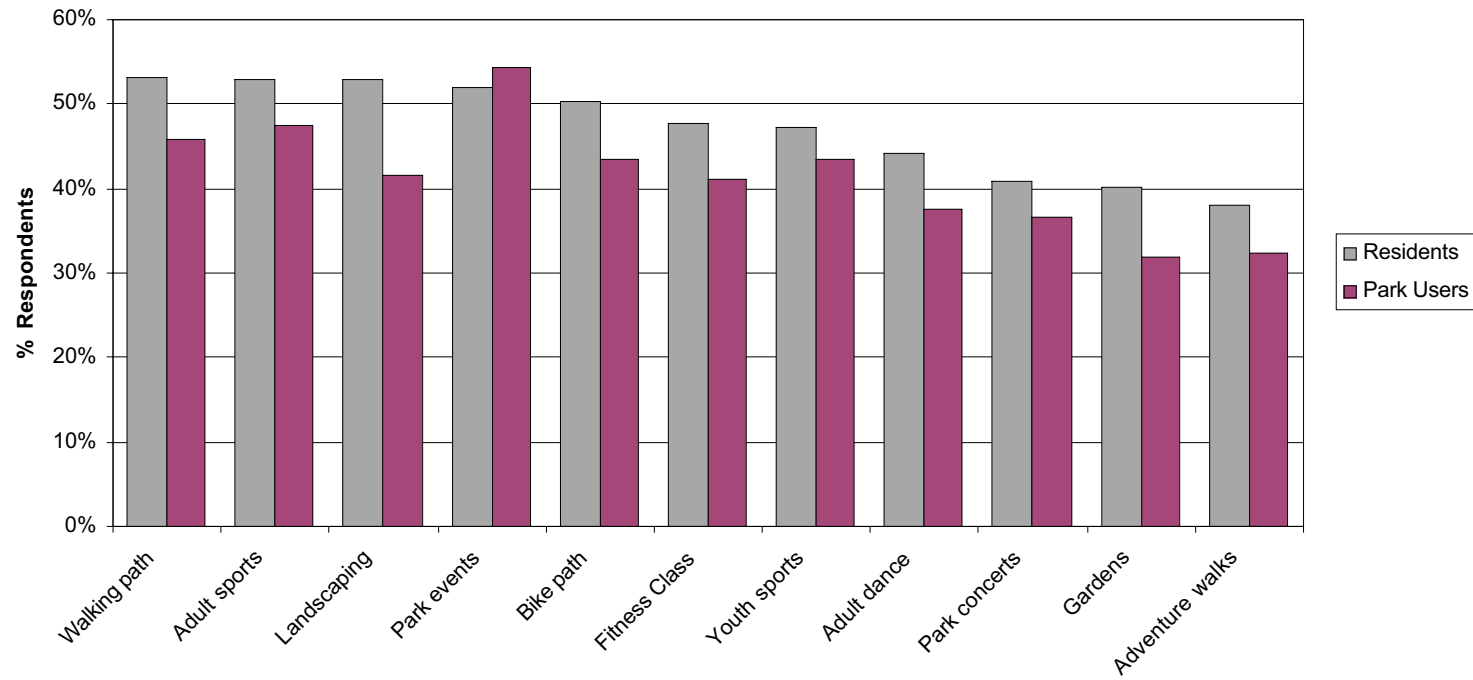
³⁵ Other locations include beach, neighborhood sidewalk, school, dance studio, and yoga studio.

Respondents desire more walking paths, sport leagues for adults, park events, bike paths, and improved landscaping.

Survey participants were asked what additional activities, programs, or facilities they would like to see in the community that would help them increase their physical activity. Respondents were read a list of possible items and were given an opportunity to add additional options. Figure 4.33 indicates the percentage of park users and residents who would like to see specific improvements. Respondents included 674 residents and 955 park users who responded to the question. Over half of all residents indicated they would like to see improvements that would help facilitate moderate physical activity: more walking paths (53%), adult sport leagues (53%), landscaping (53%), park events (52%), and bike paths (50%) in the community. Park users had similar responses to residents when it came to community improvements. Park users were also interested in more park events (54%), adult sport leagues (47%), walking paths (46%), and bike paths (43%). However, they also indicated a strong desire for more youth sport leagues (44%).

The top five additional write-in responses included the following: improvements in safety (i.e., more security); improvements to picnic areas (i.e., more tables, benches, barbecue pits); improvements to bathrooms (i.e., cleaner, open to public, lighting); more activities for children, adults, and seniors; and improvements to facilities (i.e., basketball courts, gymnasiums, and soccer fields).

Figure 4.33
Top 10 Desired Community Improvements



5. CONCLUSION AND RECOMMENDATIONS

Parks play a critical role in facilitating physical activity in low-income and minority communities. They do this not only by making facilities available and scheduling supervised activities but also by providing destinations to which people can walk—even though they may be sedentary after arriving. Most people who exercise do so in their local parks, so the frequency of exercise and frequency of park use are both associated with park proximity. Although not all people living close to parks use them, many more living farther away do not do so because of distance.

These findings suggest that communities should be designed so that all people have a park or other venue for physical activity within at least one mile of their residence. Our observation data showed that more people use specific areas that provide organized activities, suggesting that increasing the availability of structured, supervised activities will also likely increase park use. However, limitations on land availability and limited park budgets may be significant barriers to expanding parks acreage and to sponsoring parks events and programming.

Less than two percent of all areas observed were supervised, and the availability of supervised activities varied between parks that were serving similar populations. Total energy expenditure in parks was correlated with the percentage of supervised activities, suggesting that park management and programming are important factors that can promote population health.

Perceptions of safety may affect the use of recreational areas, but they did not predict park use in this study. Our analysis, however, was restricted to 12 neighborhood parks, mostly in low-income and minority neighborhoods. A larger sample of parks with greater variation might provide different results. While most residents rated parks as safe and very safe, improvement in safety was also one of the top concerns of respondents. The Department of Recreation and Parks should continue its partnership with the Los Angeles Police Department to make and keep all parks very safe.

In spite of an increasing emphasis on physical activity among girls as well as mandates of Title IX to provide equal access to sports programs by boys and girls in school settings, we observed large disparities in park use between males and females in both organized and non-organized activities. It is unlikely that perceptions of safety account for this difference, since differences in park safety perceptions did not exist by gender among the interviewed resident

sample. Although playgrounds, jogging paths, and tennis courts were used at similar rates by males and females, other areas like fields and gymnasiums that were used primarily for competitive team sports were dominated by males. When females did go to the park, they were more likely to be in areas like playgrounds, where they could supervise children, rather than on basketball courts and soccer fields where they could engage in vigorous exercise themselves. The disparity in physical activity between males and females is a national phenomenon, and the significant differences begin during childhood and adolescence. Providing women with opportunities for exercise while simultaneously supplying other sources of care for their young children will likely be necessary to close the gender gap in physical activity. Alternatively, providing more facilities, such as tracks and walking paths, may also be useful.

Few seniors used the parks we observed; however, the presence of senior citizen centers was associated with higher numbers of older individuals. This suggests that seniors may need special programs or incentives to use park facilities. However, parks with tracks appeared to draw a large proportion of older individuals.

The twelve parks that we surveyed served thousands of individuals each week. Considering the amount of time that their facilities were not in use, however, parks could have even a greater impact on the population. Facilities were largely unused during large segments of every week, especially in the mornings. Had local residents maximized the use of parks for exercise, we would have observed a lot more park users than we did. If only 55% of the population living within 1 mile of the park used it for 30 minutes of exercise daily (the amount of activity recommended for people to maintain a healthy weight and stay fit), we would expect to see an average of 1,543 people in each park every daylight hour (12 hours/day). These neighborhood parks, however, do not have the capacity to serve such a high volume of people. Clearly, the current configuration of parks cannot meet the physical activity needs of all the population, even though they have the capacity to serve many more than they currently do. While increasing and improving facilities would likely increase park use, the greatest gains in serving more people might come from increasing the number of events and organized activities scheduled in parks. Meeting this objective would require the hiring and training of more personnel, including coaches, activity supervisors, and event planners. In addition, developing alternative facilities, such as walking paths in other areas of the city, may also serve the needs of

residents to walk, and to socialize with their neighbors and friends, especially if these facilities are within closer proximity to their homes.

Local communities need to decide what is the best use of their resources by balancing the needs of all their residents. Currently most park users and residents only engage in light physical activity, even though larger health effects come from moderate to vigorous physical activity, as in playing basketball, soccer, but also by using the track. In this way, more people could become engaged in these healthy pursuits.

Our study is limited in that we observed each park and interviewed residents and park users only during 4 hours per day for 7 days of the year. These days may not be representative of total park use, and physical activity and may not capture secular variations. Our estimates, however, do provide a snapshot of park use by age, race/ethnicity, gender, and activity level.

Given the variation in park use for parks serving similar populations and the current underutilization of park facilities, it appears that parks have the potential to contribute more to physical activity than they currently do if programs are expanded and if the facilities are tailored to meet the needs of different age and gender groups. Because proximity is closely associated with park use and exercise, and because local populations report that they are interested in park use and physical activity, the identification of additional venues for physical activity, particularly walking, in areas close to residences, should be a priority. Facilitating more physical activity among larger numbers of people is critical for improving the overall health of the United States' population.

RECOMMENDATIONS

Optimize proximity to venues for physical activity.

Proximity is important in determining whether or not people will use a park. Many residents are without a park within a mile of their residence, and there are far more residents than existing park space can serve. Some creative ideas are needed to develop alternative facilities, such as walking paths or trails or pocket parks, which would provide additional resources so that everybody has access to some form of physical activity venue within 1 mile of their residence, even if it is not a park. Those alternative facilities might also serve a different subgroup of residents (e.g., adults or senior citizens) better than a traditional park with playing fields.

Creating alternative facilities will require additional space not currently managed by the Department of Recreation and Parks. Land that might be adapted for recreational use includes existing city streets, greenways, commercial areas and underutilized lots, including parking lots. The Department of Recreation and Parks should collaborate with other city departments that are responsible for land use, sidewalks and streets, and housing and commercial properties to increase the use of these spaces for physical activity. Parks are desirable walking destinations. Having additional walking venues closer to residences may help individuals increase their level of physical activity.

Offer more program services to females and seniors.

More balanced programming services across user types will contribute to increased use of Los Angeles' parks. Park leadership might consider offering a greater number of organized activities that promote moderate physical activity for females, adults, and seniors. Much of park space is currently devoted to vigorous activities (e.g., basketball), which may be too active for many people. Both moderate and vigorous activities are needed, particularly for females and seniors—two groups that currently underutilize park services.

Facilitate walking and moderate to vigorous physical activity.

Moderate activity is important for everyone, and since most people like to walk, making parks an inviting place for walking should be a high priority for the communities of Los Angeles. Efforts to improve the design of parks and their facilities should focus on creating more walking paths and tracks. These could border or surround existing active spaces and/or could be created with additional features that make them attractive to a broad range of the population. Landscaping that provides shade for walkers and/or other unique points of interest could draw local residents.

Paths could be added around or outside of existing parks as well, with appropriate signage to make the route attractive and to help people become aware of distances walked or steps taken. Parks could organize walking clubs and schedule regular events to encourage community members to participate. Although most residents say parks are easy to get to, the Department of Recreation and Parks could work with other city departments to increase the attractiveness and safety of sidewalks and roads around the parks to encourage more people to walk to them.

Maximize current park capacity.

Parks are underutilized, particularly in the mornings and on some weekdays. This provides an opportunity to develop programming to attract residents who are not at work, including senior citizens. Senior citizens as a group use parks less often, but when they do use them, they tend to use those parks offering specific activities and facilities targeted toward seniors (e.g., senior centers). Also, the addition of more programs for women who may be home in the morning may be useful to increase their physical activity. Scheduling more supervised activities and events in the park is likely to draw more park users.

Appendix

A. PARK SURVEY - SHORT QUESTIONNAIRE

Park Survey—Short Questionnaire

Interviewer ID#: _____ Date: _____ Time: _____

Participant Type: Park user mile resident mile resident 1 mile resident 2 mile resident

Gender: M F Age: _____

Race: Latino White Black Asian Other (specify _____)

INTERVIEWER TO READ STATEMENT: This survey is mainly about _____ *[Insert Name of Park]*.
Please think about this park when you answer the questions.

1. How often do you come to this park? (Check one)

- | | |
|---|--|
| <input type="checkbox"/> Daily | <input type="checkbox"/> Monthly |
| <input type="checkbox"/> A few times a week | <input type="checkbox"/> A few times a year |
| <input type="checkbox"/> 1X per week | <input type="checkbox"/> This is the first time |
| <input type="checkbox"/> A couple times per month | <input type="checkbox"/> Never (<i>Skip to #9</i>) |

2. On a typical day when you go to the park, how long do you stay at the park? (Check one)

- | | |
|---|---|
| <input type="checkbox"/> I don't go to the park | <input type="checkbox"/> More than 1, but less than 2 hours |
| <input type="checkbox"/> < 15 minutes | <input type="checkbox"/> More than 2 but less than 3 hours |
| <input type="checkbox"/> 15-30 minutes | <input type="checkbox"/> 3-5 hours |
| <input type="checkbox"/> 30-60 minutes | <input type="checkbox"/> More than 5 hours |

3. When was the first time you came to the park? (Check one)

- | | |
|---|--|
| <input type="checkbox"/> Today | <input type="checkbox"/> Between 6-12 months ago |
| <input type="checkbox"/> This month | <input type="checkbox"/> Between 1-2 years ago |
| <input type="checkbox"/> In the past 6 months | <input type="checkbox"/> More than 2 years ago |
| | <input type="checkbox"/> Never |

4. How easy is for you to get to the park? (Check one)

- | | |
|------------------------------------|---|
| <input type="checkbox"/> Very easy | <input type="checkbox"/> Very difficult |
| <input type="checkbox"/> Easy | <input type="checkbox"/> Impossible |
| <input type="checkbox"/> Difficult | <input type="checkbox"/> I don't go to the park |

5. How do you usually get to the park? (Check all)

- | | |
|-------------------------------|--|
| <input type="checkbox"/> Walk | <input type="checkbox"/> Bus or other public transport |
| <input type="checkbox"/> Bike | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Car | <input type="checkbox"/> I don't go to the park |

6. What do you usually do in this park? (Check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Baseball/softball | <input type="checkbox"/> Sitting in park (relax) |
| <input type="checkbox"/> Basketball (indoors) | <input type="checkbox"/> Skating |
| <input type="checkbox"/> Basketball (outdoors) | <input type="checkbox"/> Soccer |
| <input type="checkbox"/> Celebrations, picnics | <input type="checkbox"/> Swimming |
| <input type="checkbox"/> Frisbee | <input type="checkbox"/> Tennis |
| <input type="checkbox"/> Gymnasium activity | <input type="checkbox"/> Volleyball |
| <input type="checkbox"/> Gymnastics equipment | <input type="checkbox"/> Walking |
| <input type="checkbox"/> Handball | <input type="checkbox"/> Walking with dog |
| <input type="checkbox"/> Meet friends | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Playground | <input type="checkbox"/> I don't go to the park |

7. When you are in the park, do you meet people you know? (Check one)

- | | |
|---|---|
| <input type="checkbox"/> Yes, often | <input type="checkbox"/> Rarely |
| <input type="checkbox"/> Yes, sometimes | <input type="checkbox"/> No, not at all |

8. How would you grade the park staff with respect to their helpfulness, friendliness and professionalism? (Check one)

- | | |
|----------------------------|---|
| <input type="checkbox"/> A | <input type="checkbox"/> D |
| <input type="checkbox"/> B | <input type="checkbox"/> F |
| <input type="checkbox"/> C | <input type="checkbox"/> Don't know the staff |

9. In general, how safe do you feel the park is? (Check one)

- | | |
|---|--|
| <input type="checkbox"/> Very safe (<i>Skip to #11</i>) | <input type="checkbox"/> Not very safe |
| <input type="checkbox"/> Safe (<i>Skip to #11</i>) | <input type="checkbox"/> Not safe at all |

10. If you don't feel safe, why? (Check all)

- | | |
|--|--|
| <input type="checkbox"/> Safety hazards | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Crime or violence | <input type="checkbox"/> I think it's safe |

**11. How often do you go to other parks?
(Check one)**

- Daily
- A few times a week
- 1X per week
- A couple times per month
- Monthly
- A few times a year
- Never

**12. Which other park do you go to most often?
(Write name of park or neighborhood of park)**

13. Do you participate in any of the programs sponsored by the City Department of Recreation and Parks? (Check one)

- Yes
- No

**14. What is the nearest intersection to your home?
(INTERVIEWER NOTE: Please indicate complete street name (i.e., 49th Place or 49th Street). Also verify that these streets intersect!)**

Major Street _____

Cross Street _____

15. How long have you lived at your current address? (Check one)

- Less than 1 year
- Between 1-2 years
- Between 3-4 years
- Between 5-9 years
- More than 10 years

**16. Where do you usually exercise?
(Check all that apply)**

- Park
- Home
- Private health club
- Other _____
- I don't usually exercise

**17. In general, would you say your health is:
(Check one)**

- Excellent
- Very good
- Good
- Fair
- Poor

18. The next questions are about how you feel and how things have been with you during the past 4 weeks. As I read each statement, please give me the one answer that comes closest to the way you have been feeling. The choices are all of the time, most of the time, a good bit of the time, some of the time, a little of the time, or none of the time. How much of the time in the past four weeks have you:

(Circle One Number on Each Line)

	<u>All of the Time</u>	<u>Most of the Time</u>	<u>A Good Bit of the Time</u>	<u>Some of the Time</u>	<u>A Little of the Time</u>	<u>None of the Time</u>
a. Been a very nervous person?	1	2	3	4	5	6
b. Felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
c. Felt calm and peaceful?	1	2	3	4	5	6
d. Did you have a lot of energy?	1	2	3	4	5	6
e. Felt downhearted and blue?	1	2	3	4	5	6
f. Been a happy person?	1	2	3	4	5	6

19. During the past 4 weeks, were you limited in the kind of work or other activities as a result of your physical health? (Check one)

- Yes No

20. What is your height and weight? (INTERVIEWER NOTE: Remind respondent that the survey is anonymous)

height _____ feet _____ inches

weight _____ pounds

21. Do you engage in physical exercise during your leisure time on a regular basis? (Check one)

- Yes No (Skip to #25)

22. Is the usual length of your physical exercise sessions less than 15 minutes, between 15 and 30 minutes, between 31 and 60 minutes, or more than 60 minutes? (Check one)

- Less than 15 minutes
 15-30 minutes
 31-60 minutes
 More than 60 minutes
 Don't know

23. How many exercise sessions do you usually do in a week?

- (Insert number)
 Don't know

24. How much of this exercise is vigorous enough to cause sweating or shortness of breath? Would you say all of it, _ or more, . Less than _, or none of it? (Check one)

- All
 _ or more
 Less than 1/2
 None
 Don't know

25. Do you engage in physical exercise as part of your work on a regular basis? (Check one)

- Yes No (Skip to #27)

26. How much of this activity is vigorous enough to cause sweating or shortness of breath? Would you say all of it, _ or more, Less than _, or none of it? (Check one)

- All
 _ or more
 Less than 1/2
 None
 Don't know

27. We would like to know how we can improve the park. What additional activities, programs, or facilities would you like to see in your community that would cause you to be more physically active?

1. _____ bicycle paths
2. _____ walking paths or trails
3. _____ adult sports leagues
4. _____ adult dance classes
5. _____ more fitness classes
6. _____ more youth sports leagues
7. _____ organized adventure/walks
8. _____ park events/fairs, competitions
9. _____ park concerts/dances
10. _____ more trees/different landscaping
11. _____ garden areas
12. _____ other1 _____
13. _____ other2 _____

28. Do you have any additional comments to share about this park?

1. _____

2. _____

3. _____

29. We are also interested in learning about the use of the park by children. Do you have a child under 18 for whom you can answer a few additional questions?

- No children under 18
 Has children, but refuses to participate
 Yes, willing to participate

LINK ID# _____

(INTERVIEWER NOTE: create link ID# using the following: first initial, last initial, month (mm), day (dd), and the daily interview number (##). Make sure to insert the link ID on the top of the parent survey.)

This is the end of the questionnaire. Thank you for participating.

Appendix

B. PARENT PARK SURVEY

PARK PARENT SURVEY

Version4, 6/28/04

If you have a child under 18, can you tell us about how much your child uses this park? (If you have more than one child, please tell us about your oldest child, under 18)

Interviewer ID# _____ Date _____ Short Survey Link ID# _____

Park user _ mile resident _ mile resident 1mile resident 2 mile resident

Child's Gender M F Oldest Child's Age _____

Child's Race Latino White Black Asian Other (specify _____)

This survey is mainly about _____ [INTERVIEWER NOTE: Insert Name of Park]. Please think about this park when you answer the questions.

1. How often does your child come to this park? (Check one)

- Daily Monthly
 A few times a week A few times a year
 1X per week This is the first time
 A couple times per month Never (Skip to #8)

2. On a typical day when your child goes to this park, how long does your child stay there? (Check one)

- I don't go to the park More than 1, but less than 2 hours
 < 15 minutes More than 2 but less than 3 hours
 15-30 minutes 3-5 hours
 30-60 minutes More than 5 hours

3. When was the first time your child went to this park? (Check one)

- Today Between 6-12 months ago
 This month Between 1-2 years ago
 In the past 6 months More than 2 years ago
 Never

4. For what purpose does your child usually come to this park? (Check all that apply)

- Baseball/softball Sitting in park (relax)
 Basketball (indoors) Skating
 Basketball (outdoors) Soccer
 Celebrations, picnics Swimming
 Frisbee Tennis
 Gymnasium activity Volleyball
 Gymnastics equipment Walking
 Handball Walking with dog
 Meet friends Other _____
 Playground I don't go to the park

5. How easy is it for your child to get to the park? (Check one)

- Very easy Very difficult
 Easy Impossible
 Difficult Doesn't go to the park

6. When your child is in the park, does he/she meet people he/she knows in the park? (Check one)

- Yes, often Rarely
 Yes, sometimes No, not at all

7. Do you allow your child to go to the park alone? (Check one)

- Yes, often Rarely
 Yes, sometimes No, not at all

8. In general, do you think it is safe for your child to play in the park? (Check one)

- Very safe (Skip to #10) Not very safe
 Safe (Skip to #10) Not safe at all

9. If you don't think it is safe, why? (Check all)

- Safety hazards in the park
 Crime, violence
 Other _____
 I think it's safe

10. Does your child participate in any of the programs sponsored by the City Department of Recreation and Parks? (Check one)

- Yes No

11. How often does your child go to other parks? (Check one)

- Daily Monthly
 A few times a week A few times a year
 1X per week Never
 A couple times per month

Appendix

C. SOPARC DATA COLLECTION FORM

SOPARC OBSERVATIONS PATH CODING FORM

Date: _____ Park ID #: _____ Observer ID #: _____

Target Area#: _____ Start Time: _____ End Time: _____

Person	Gender		Age Group				Ethnicity				Activity Level	
	Female	Male	Child	Teen	Adult	Old	L	B	W	O	W	V
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Appendix

D. SOPARC PROTOCOL

SOPARC

System for Observing Play And Recreation in Communities

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SOPARC **(System for Observing Play and Recreation in Communities)**

PURPOSE

SOPARC was designed to obtain direct information on community park use, including relevant concurrent characteristics of parks and their users. It provides an assessment of park users' physical activity levels, gender, activity modes/types, and estimated age and ethnicity groupings. Additionally, it provides information on individual park activity areas, such as their levels of accessibility, usability, supervision, and organization.

Relevant Target Areas within a park are first measured, coded, and mapped. Certified assessors then visit the target areas during specific time periods on randomly scheduled days. During the RAND PARKS study, SOPARC observations will be made throughout the day, and include specified times in the morning, noon, afternoon, and evening.

RATIONALE

Physical activity and recreation are positively associated with good health. Investigations of activity participants in "open" environments (e.g., recreation and leisure settings) have been hampered by the lack of an objective tool for quantifying physical activity and user characteristics. Measurement in these settings is complicated because the number of participants and their activity modes and intensity levels change frequently.

SUMMARY

SOPARC is based on momentary time sampling techniques in which systematic and periodic scans of individuals and contextual factors within pre-determined target areas in parks are made. During a scan the activity of each individual is mechanically or electronically coded as Sedentary (i.e., lying down, sitting, or standing), Walking, or Very Active. Separate scans are made for females and males, and for estimating the age and ethnic groupings of participants. Simultaneous entries are also made for time of day, area accessibility, area usability, presence of supervision and equipment, and presence and classification of organized activities. Summary counts describe the number of participants by gender, activity modes and levels, and estimated age and gender groupings. The instrument permits physical activity level comparisons to be made among different environments or within the same setting over different time periods. Energy expenditure estimates (Kcal/kg/min) for a Target Area of park can be calculated based on previously validated constants for each level of activity.

VALIDITY & RELIABILITY

Validity

Validity of the activity codes used by SOPARC has been established through heart rate monitoring (McKenzie et al., 1991; Rowe, Schuldheism, & van der Mars, 1997). These provide support for the initial construct validity of SOPARC. Providing measures of persistent behaviors (i.e., physical activity) are taken frequently and at random, momentary time sampling techniques have shown to yield valid behavioral samples. Because only brief episodes are recorded, response and recording occur simultaneously with observations occurring at an approximate rate of one person per second.

Reliability

Reliability data for a similar instrument (SOPLAY) were collected during 14 days of field assessments in middle schools. A pair of assessors simultaneously and independently made counts of boys and girls in each activity category in selected target areas. Activity counts from a total of 186 target areas were used in the reliability analysis. Interobserver agreements for the five contextual variables were 95%, 97%, 93%, 96%, and 88%, for area accessibility, usability, presence of supervision, presence of organized activity, and provision of equipment, respectively. To examine the reliability of activity counts made by different assessors, a series of intraclass correlations were computed. Correlations were high for sedentary girls ($R=.98$) and walking girls (.95), although lower for counts of very active girls (.76). For boys, correlations were high for sedentary (.98), walking (.98), and very active (.97) behavior. It was concluded that all interobserver agreements and intraclass correlations met acceptable criteria (IOA=80%, $R=.75$) for reliable assessment.

OBSERVATION AREAS

Direct observations are made in designated **Target Areas** that represent all standard locations likely to provide opportunities for park users to be physically active. These Areas will be predetermined and identified for observations prior to baseline assessments. A map is provided to identify areas and a standard observation order for each park. Additional target areas may be added by observers on site and then documented.

During occasions of high user density, Target Areas are subdivided into smaller **Subtarget Areas** (scan spaces) so that accurate measures can be obtained. Observers use standard court or field markings to determine appropriate Subtarget Areas within each Target Area. Data from these smaller spaces are summed to provide an overall measure for each Target Area.

NOTE: A decision to subdivide a Target Area depends upon the (1) number of park users in the area and (2) the type of user activity. Fast moving activities with people clustered together and moving in diverse directions (e.g., during soccer) require smaller scan spaces.

OBSERVATION PREPARATION

1. Prior to leaving for the park, prepare observation materials including: synchronized wristwatch, counter, clipboard, sufficient SOPARC recording forms, target area map, and pencils.
2. Arrive at the park site at least 20 minutes prior to the official start of coding. Review the sequence for observing Target Areas. Visit each Target Area in order and plan how to subdivide it into Subtarget Areas if necessary. Mentally rehearse by scanning each area a few times.

SOPARC CODES and RECORDING

- Date** Enter the date (mm/dd/yyyy) of the observation.
- Park ID#** Enter the designated Park ID. This is generally a two-letter abbreviation of the park name (e.g., Pecan Park is represented by “PP”).
- Observer IF** Enter your ID code.
- Period** Check the appropriate box to indicate whether observations were made in the morning, lunch, afternoon, or evening.
- Target Area** Refers to the number of a previously designated Target Area (see the park map). If necessary, assign Sub-target Area numbers when you divide the area into multiple scan spaces.
- Start Time** Enter the start time of the scan for that designated area.
- Area Condition** Check “Yes” or “No” to describe specific conditions for each scan area.

Accessible = Code “YES” if area is accessible to the public (e.g., area is not locked or rented to a private party). Code “NO” when the area is not accessible to the public. Also code the area as NOT accessible if people have inappropriately entered the space (e.g., kids crawling through a hole in the fence when gate is locked).

Usable = Code “YES” if area is usable for physical activity (e.g., is not excessively wet or roped off for repair). For example, code “YES” when the space is usable, even though it may be locked. Code “NO” when there is insufficient lighting to use the space (e.g., no outdoor lights permitting play after sunset).

Equipped = Code “YES” if equipment (e.g., balls, jump ropes) provided by the park is present during the scan. Code “NO” if the only equipment available is permanent (e.g., basketball hoops and climbing apparatus) or owned by park users themselves (e.g., frisbee, ball, or bicycle brought by a family).

Supervised = Code “YES” if area is supervised by designated park or adjunct personnel (e.g., park rangers, playground supervisors, volunteers, sport officials, teachers). The supervisor must be in or adjacent to that specific area (e.g., available to direct park users and respond to emergencies), but does not have to be instructing, officiating, or organizing activities.

Activity Organized = Code “YES” if an organized physical activity is occurring in the scan area (e.g., a scheduled sporting event or exercise class is being lead by park staff or adjunct personnel).

Dark = Code “YES” to indicate the area has insufficient lighting to permit active play. Observers should not enter a target area unless there is sufficient lighting.

Empty = Code “YES” when there are no individuals present during the scan. Also, code “YES” when the area is dark.

- Comments** Enter relevant additional information about the condition, people, or activities within the Target Area.

Activity Write in the most prominent (primary) physical activity that females and males are doing in the area. If applicable, write in the second most prominent physical activity (secondary) that females and males are doing. A space is also provided to write in the most prominent activity attracting female and male onlookers/spectators to the area (this only applies to organized activities).

During scans of the target area, all people should be accounted for as either participating in the primary activity, secondary activity, or as a spectator.

Some physical activity modes are:

Fitness Related Codes:

aerobics (dance/step aerobics)
fitness stations
jogging/running
strengthening exercises (pull ups)
walking

Sport Related Codes:

baseball
basketball
cheer leading
dance
football
gymnastics
handball
horseshoes
soccer
tennis/racquet
tetherball
volleyball

Active Game Related Codes:

climbing/sliding
jumping (rope, hoops, hop scotch)
manipulatives/racquet activities
play area
tag/chasing games

Sedentary Related Codes:

artwork
chess/checkers/cards
lying down
picnicking (food involved)
reading
standing
sitting

Age Group Determine age according to the following criteria:

Child = Pre-pubescent children. As a general rule, include children from infancy to 12 years of age.

Teen = Youths currently in a stage of puberty. As a general rule, teenagers will range from 13 to 20 years of age.

Adult = As a general rule, people from 21 to 59 years of age are coded as adults.

Old = As a general rule, people 60 years of age and older are considered old.

Ethnicity Code whether the primary ethnicity for each individual is Latino (L), Black (B), White (W), or Other (O).

Activity Scanning left to right, determine the activity level based on the following criteria:

Sedentary (S) = Individuals are lying down, sitting, or standing in place.

Walking (W) = Individuals are walking at a casual pace.

Vigorous (V) = Individuals are currently engaged in an activity more vigorous than an ordinary walk (e.g., increasing heart rate causing them to sweat, such as jogging, swinging, doing cart wheels).

Participants Include all individuals who are participating in the primary activity in the target area (e.g., baseball). If more than one significant activity is going on, record the information for the group in the “secondary” activity.

Spectators When spectators are at an organized event, write in the name of the activity they are watching and describe their characteristics. Spectators can be watching from the sidelines or bleachers.

RECORDING PROCEDURES

1. On the observation form, enter the **Date**, **Park ID**, **Observer ID**, **Period**, and **Target Area**.
 - Observers are encouraged to complete this section prior to the start of the observation period.

2. If there are too many people to count in any area, divide it into separate **Subtarget Areas** and follow the below procedures for each Subtarget Area separately. Use letters to distinguish the Subtarget Areas (i.e., A, B, C).
 - When people move to a different Subtarget Area while you are scanning, count only those who are present at the time you are scanning. In rare cases you may count people twice or miss them as they change Subtarget Areas. Make sure that all space in each main target area is included within the Subtarget Areas.
3. Enter the **Start Time** for each area scan.
4. Record the conditions for each area (Accessible, Usable, Equipped, Supervised, Organized, Dark, and Empty).
 - When there are people in the area, continue with action #5.
 - When the area is “dark” or “empty,” complete the conditions and then move to the next Target Area.
5. Determine if there are **Females** within the target area.
 - If no females are located within the target area, write “none” and move to action #13.
6. For **Females**, decide which is the main activity in the target area and record it under **Primary Activity**. Refer to the codes listed on the SOPARC data form (or this protocol) to determine the appropriate terminology for the activity (e.g., aerobics, baseball, climbing).
 - If no females are participating in a primary activity, write “none” and move to action #11.
7. Scan the target area for **Females** who are participants in the primary activity. Use the counter to record the number of females by age and ethnicity groupings.
 - Use the top row of the counter to help with age grouping, with children on the left (chartreuse), teens (light green), adults (dark green), and seniors (gray). Use the second row of buttons is ethnicity, (tan=Latino, Black= African American, White=Caucasian, Yellow=other). Count age first, and then ethnicity, for each person.
 - Always scan from LEFT to RIGHT. Observe each person for each category in the area only once. If an observed person reappears in the scan area, do not record a second time. Do not backtrack to count new people entering the area.
8. Transfer these data to the SOPARC Observation Form and reset the counter.
9. Now scan all participating females in the primary activity and record their activity level (sedentary, walking, or vigorous).
10. Transfer these data to the SOPARC Observation Form and reset the counter.
11. Now scan the entire target area again for **Females** who are participating in a **Secondary Activity**. Describe the activity and scan for age, ethnicity, and activity level.

- If there are no females participating in the secondary activity, write “none” under Secondary Activity and move to action #12.
12. Scan the entire target area again for **Females** who are **Spectators**. Describe the activity they are watching and scan for age, ethnicity, and activity level (they will typically be sedentary, but could be walking or vigorously involved).
 - If there are no female spectators, write “none” under organized activity and move to action #13.
 13. Repeat actions #5 through #12 for **Males**, scanning first for participants in the primary activity, then secondary activity, and finally spectators.
 14. Move to the next Target Area.

RECORDING PROCEDURES FOR WALKING/JOGGING TRACKS

1. Prior to observing in the park, a research team member will walk the path/track and record the length of time, in minutes, it took to complete one full lap around it (e.g., seven minutes). The Target Area will be observed for this length of each time a scan of the area is conducted.
2. A standard location from which all scans will be made will be identified. This location is referred to as the **Coding Station** and will easily identifiable.
3. On the SOPARC Observation Form, enter the **Date, Park ID, Observer ID, Period, and Target Area.**
 - If possible, complete this section prior to the start of the observation period.
4. Enter the **Start Time** for the area scan on the SOPARC Observation Form.
5. Record the conditions for each area (Accessible, Usable, Supervised, Organized, Equipped, Dark, and Empty).
 - If the area is “dark” or “empty,” complete the conditions and then move to the next Target Area. If one or more people are in the area, continue with action #6.
6. Enter the **Start Time** and **End Time** on the Path Coding Form.
7. Count ALL people as they walk by the *coding station* and record their characteristics on the Path Coding Form. You may count some people more than once (e.g., runners), and some (e.g. slow walkers) may not pass by the area and will not be counted.
 - When two observers are present during the scan, one counts for females and the other for males.
 - When recording data on the Path Coding Form, place a one (1) in each column that represents the individual characteristics (e.g., male, adult, Latino, walking).
8. Once time has expired, transfer the data from the Path Coding Form to the SOPARC Observation Form.
 - Use CAUTION when transferring data onto the SOPARC Observation Form. If time permits after the park scans are completed, check the form for errors.
 - Attach the Path Coding Form to the SOPARC Observation Form before submitting the data.
9. Move to next Target Area.

MORNING OBSERVATION PERIOD

The objective is to obtain an accurate measure of people engaged in the park Target Areas between 7:30AM and 8:30AM. Make sure that you are in Target Area 1 and ready to begin the first rotation of scans at precisely **7:30AM** (07:30 hours).

When there is sufficient time, do a second complete rotation of scans during the time period. The second rotation always begins 30 minutes after the start of the first rotation. For the morning observation, start the second rotation at Target Area 1 at **8:00AM** (08:00 hours).

LUNCHTIME OBSERVATION PERIOD

The objective is to obtain an accurate measure of people engaged in the park Target Areas between 12:30PM and 1:30PM. Make sure that you are in Target Area 1 and ready to begin the first rotation of scans at precisely **12:30PM** (12:30 hours).

When there is sufficient time, do a second complete rotation of scans during the time period. The second rotation always begins 30 minutes after the start of the first rotation. For the lunchtime observation, start the second rotation at Target Area 1 at **1:00PM** (13:00 hours).

AFTERNOON OBSERVATION PERIOD

The objective is to obtain an accurate measure of people engaged in the park Target Areas between 3:30PM and 4:30PM. Make sure that you are in Target Area 1 and ready to begin the first rotation of scans at precisely **3:30PM** (15:30 hours).

When there is sufficient time, do a second complete rotation of scans during the time period. The second rotation always begins 30 minutes after the start of the first rotation. For the afternoon observation, start the second rotation at Target Area 1 at **4:00PM** (16:00 hours).

EVENING OBSERVATION PERIOD

The objective is to obtain an accurate measure of people engaged in the park Target Areas between 6:30PM and 7:30PM. Make sure that you are in Target Area 1 and ready to begin the first rotation of scans at precisely **6:30PM** (18:30 hours).

When there is sufficient time, do a second complete rotation of scans during the time period. The second rotation always begins 30 minutes after the start of the first rotation. For the evening observation, start the second rotation at Target Area 1 at **7:00PM** (19:00 hours).

SAMPLE OBSERVATION SCHEDULE

MORNING OBSERVATION PERIOD

7:15am	Check Target Areas and prepare SOPARC data forms
7:30am	Initiate SCAN in Target Area 1 (following established sequence)
7:50am	Complete SCAN of final Target Area
8:00 am	Initiate second rotation SCAN in Target Area 1 (continue established sequence)

KEY WORDS

Coding Station: Identified location from which scans are conducted.

Condition: Descriptive characteristics (contextual variables) of a Target Area.

Counter: Device used to record data during park observations.

Observation Period: A predetermined period of time in which scans are conducted.

Primary Activity: The activity in which a majority of individuals are participating during the observation.

Scan: A single observation movement from left to right across a Target or Sub-target Area. During a scan, each individual person in the area is counted and coded for age, ethnicity, and activity level.

Scan Space: The geographical area within a Target or Subtarget Area.

Secondary Activity: The second most prominent activity occurring in a Target Area.

SOPARC: System for Observing Play and Recreation in Communities. This research method is used to observe physical activity in area parks.

Subtarget Area: A subdivision of a predetermined Target Area. Subtarget areas are created for a specific observation time and apply only to the scan space during that specific observation period. Activity level and the number of people located in a Target Area determine whether Subtarget Areas are necessary during a given observation period.

Target Area: A predetermined observation area in which park users may potentially engage in physical activity. A number of Target Areas will be established for each park.

SPEICAL CODING CONVENTIONS

Unidentifiable Person. This coding situation applies IF a person is observed sleeping in the area, but cannot be seen directly (i.e., due to blankets or sleeping position).

Gender: Code as “male”

Activity: Code as “Sleeping”

Age Group: Code as “Adult”

Ethnicity: Code based on the “majority” of park users in the neighborhood (i.e., if the community is primarily Latino, code as such).

Activity Level: Code as “Sedentary”

Comments: In the comments section of the data form, write a notation indicating that one or more individuals could not be identified due to sleeping position.

SCORING (FOR DATA ANALYSES ONLY)

Depending on the unit of analysis (gender, area, period, school, etc.), raw counts in each activity level are aggregated (sums or means) according to the variables of interest.

Example: To calculate the most active areas for females and males at a park on a given day

Steps:

- a. Reduce data. Calculate mean activity counts from the double-scan data to provide a single count for each activity level of females and males. For multiple scans, sum these counts across periods to compute a single TIME PERIOD count for each level of user activity.
- b. Sum across the park observation day. Aggregating by area, calculate a mean for each activity level (females and males separately) across all four periods observed to arrive at single counts for females and males at each level of activity in each area. Repeat for age and gender groupings.
- c. Calculate energy expenditure rates. To estimate kilocalories/kg expended, the number of people counted in the sedentary, walking, and very active categories are multiplied by the constants .051kcal/kg/min, .096kcal/kg/min, and .144kcal/kg/min, respectively. Kilocalories/kg from each category can be summed to provide a measure of the total kilocalories/kg expended by park users in a given area. These values can be interpreted as the number of kilocalories per kg of body weight per minute expended in each area during the observed day. These energy expenditure rates are dependent on the number of people observed.

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SAMPLE SOPARC OBSERVATION FORM

DATE 6-9-04 PARK ID # AP OBSERVER ID # AA PERIOD: Morning Lunch Afternoon Evening
 TARGET AREA 3 Subtarget Area # _____ START TIME 3:34

Target Area # _____ Subtarget Area # _____

CONDITIONS OF TARGET AREA
 Accessible (i.e., not locked or rented to others) Yes No **Dark** (i.e., insufficient lighting) Yes No
 Supervised (i.e., not locked or rented to others) Yes No **Empty** (i.e., scan area is empty) Yes No
 Equipped (i.e., removable balls available) Yes No
 Usable (i.e., is not excessively wet or windy) Yes No
 Organized (i.e., team sporting event) Yes No

Comments: _____

PEOPLE	ACTIVITY	AGE GROUP			ETHNICITY				ACTIVITY LEVEL				
		Child	Teen	Adult	Old	L	B	W	O	S	W	V	
Participants	Primary Activity												
Female	<i>Soccer</i>	4				2	1	1				2	2
Male	<i>Soccer</i>	6		2		5	3	3			3	3	2
Participants	Secondary Activity												
Female	<i>cheer leading</i>	5		1		6					1	1	4
Male	<i>none</i>												
Spectators	Organized Activity												
Female	<i>Soccer</i>			6		3	1	2				6	
Male	<i>Soccer</i>			2		2						2	

Fitness Related Codes: aerobics (dance/step aerobics) fitness stations jogging/running strengthening exercises (pull ups) walking
Sport Related Codes: baseball basketball cheer leading dance football gymnastics handball horseshoes soccer tennis/racquet tetherball volleyball
Active Game Related Codes: climbing/climbing jumping (ropes, hop scotch) manipulative/racquet tag/chasing games
Sedentary Related Codes: chess/checkers/cards lying down picnic (food involved) reading standing sitting

SOPARC Data Collection Form, Revised 6/22/04

SAMPLE PATH CODING FORM & CORRESPONDING SOPARC OBSERVATION FORM

PATH CODING FORM (Sample)

**SOPARC OBSERVATIONS
PATH CODING FORM**

Date: 6-10-04 Park ID #: AP Observer ID #: AA
 Target Area #: 20 Start Time: 8:21 End Time: 8:28
Minutes

Person	Gender		Age Group				Ethnicity				Activity Level	
	Female	Male	Child	Teen	Adult	Old	L	B	W	O	W	V
1	/				/		/				/	
2	/				/		/				/	
3		/			/		/					/
4	/				/		/				/	
5	/				/		/				/	
6		/			/		/				/	
7	/				/		/				/	
8		/		/			/					/
9	/			/			/				/	
10		/			/		/				/	
11		/			/		/				/	
12												
13												

CORRESPONDING SOPARC OBSERVATION FORM (Sample)

DATE 6-10-04 PARK ID # AP OBSERVER ID # AA PERIOD: Morning Lunch Afternoon Evening
 TARGET AREA 20 Target Area # _____ Subtarget Area # _____ START TIME 8:20

CONDITIONS OF TARGET AREA
 Accessible (i.e., not locked or rented to others) Yes No **Dark** (i.e., insufficient lighting) Yes No
 Supervised (i.e., not locked or rented to others) Yes No **Empty** (i.e., scan area is empty) Yes No
 Equipped (i.e., removable balls available) Yes No
 Usable (i.e., is not excessively wet or windy) Yes No
 Organized (i.e., team sporting event) Yes No

Comments: Path Coding Form Attached.

PEOPLE	ACTIVITY	AGE GROUP				ETHNICITY				ACTIVITY LEVEL		
		Child	Teen	Adult	Old	L	B	W	O	S	W	V
Participants	Primary Activity											
Female	<u>walking</u>		<u>1</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>3</u>				<u>5</u>	<u>1</u>
Male	<u>running</u>		<u>1</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>1</u>				<u>2</u>	<u>3</u>
Participants	Secondary Activity											
Female												
Male												
Spectators	Organized Activity											
Female												
Male												

Fitness Related Codes:
 aerobics (dance/step aerobics)
 fitness stations
 jogging/running
 strengthening exercises (pull ups)
 walking

Sport Related Codes:
 baseball
 basketball
 cheer leading
 dance
 football
 gymnastics
 handball
 horseshoes
 soccer
 tennis/racquet
 tetherball
 volleyball

Active Game Related Codes:
 climbing/sliding
 jumping (rope, hop scotch)
 manipulatives/racquet
 tag/chasing games

Sedentary Related Codes:
 chess/checkers/cards
 lying down
 picnic (food involved)
 reading
 standing
 sitting

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