

Health Element

Clark County Comprehensive Growth Management Plan

Growing Healthier

Pathways from the built environment to health:

Parks and Open Space



Introduction

Across all groups and communities, people experience health benefits from parks, which offer opportunities for physical activity and social engagement. Ensuring access to parks is widely considered an integral part of creating a community that reinforces active lifestyles.¹ The research literature summarized below identifies two primary ways that parks and open space benefit health. Parks and open space play a key role in facilitating regular physical activity, which is a core part of a healthy lifestyle. They also offer access to nature as a way to relieve stress. In addition to these two proven benefits, among the most common uses of parks is socializing, which yields health benefits to individuals and neighborhoods stemming from the social capital developed through such interaction.

Pathways

Physical activity

Physical activity is associated with reduced morbidity and mortality. Regular physical activity has multiple health benefits, including a reduced risk of all-cause mortality, heart disease, stroke, diabetes, depression, and some cancers.² In combination with an unhealthy diet, lack of physical activity is the second leading cause of death in the US.³

People who live close to parks are more likely to visit them and to achieve higher levels of physical activity. Of 13 studies on the effect of proximity to parks on physical activity, 8 conclude that there are positive associations.⁴ A study in Atlanta found that

youth who had at least one park within 1 kilometer (about .6 miles) of their home were up to 3.2 times more likely to take a walk.⁵ In another example, a

Communities should be designed so that all people have a park within at least 1 mile of their residence.

survey of residents within 2 miles of a park found that it was the place most frequently used for exercise. The same study found that those who live closer to parks visit more often and also exercise more often.⁶ The researchers concluded that communities should be designed so that all people have a park within at least 1 mile of their residence. New research suggests that programs may be more important in reducing childhood obesity than parkland itself, and that the combination of the two has the power to significantly reduce obesity.⁷ The suggestion of 1 mile access can be at the upper end of recommended park spacing. While this level of access is associated with increased physical activity, the Trust for Public Land has established a standard for equitable access of one-quarter mile to a park at least 1 acre in size.⁸

Park accessibility is associated with physical activity. In a nationwide study of US adults, greater perceived access to parks was related to more reported physical

The CDC recommends at least 150 minutes of moderate physical activity per week for adults. Children need 60 minutes of physical activity every day.

activity.⁹ In one study, adults who perceived good park access were almost twice as likely to meet physical activity recommendations.¹⁰ In a review of studies on interventions to promote physical activity, researchers concluded that “creation of or enhanced access to places

for physical activity combined with information outreach strategies is effective in

increasing levels of physical activity.” The same analysis indicated that such interventions achieved a median increase of 8.2% in energy expenditure and a median increase of 48.4% in frequency of physical activity.¹¹

Larger and more numerous parks are associated with greater levels of physical

activity. Among children, researchers found that a 1 percent increase in park acreage is associated with a 1.4 percent increase in physical activity.¹² This study determined that the total land area dedicated to parks in proximity to a child’s house accounts for 10% of the variability in physical activity. Among adults, researchers in Canada found that each additional hectare (10,000 square meters or 2.5 acres) of parkland within 1 km (about .6 miles) of a residence is associated with a 2% increase in the odds of meeting physical activity recommendations, and each additional park is associated with a 17% increase. Another study of adults found that shorter distance to parks is associated with more walking, and that larger parks are associated with meeting physical activity recommendations.¹³

Provision of playgrounds, trails, and sports facilities encourage physical activity. In a study of various features of parks, parks with more features such as sports fields and playgrounds were associated with higher levels of physical activity, and trails had the strongest relationship with physical activity.¹⁴ A 2008 study observed higher physical activity levels in parks with sport courts, playgrounds, and paths.¹⁵ According to a study of neighborhoods in Boston, San Diego, and Cincinnati, playgrounds are an indicator of

neighborhoods that broadly support health. Neighborhoods with more playgrounds are also likely to have less traffic, less crime, and better aesthetics.¹⁶ Finally, a study of parks and trails in the Portland Metropolitan Region found that users of the system achieved enough physical activity to avert \$155 million in health care costs annually due to prevented weight gain.¹⁷

Physical activity in parks is affected by safety and maintenance. Adults who observe signs of disorder such as litter or graffiti are less likely to encourage children to use parks. However, research also shows that well maintained parks can attract users.¹⁸ Park renovations have been found to increase the use of some types of facilities. Children, especially boys, are more likely to be physically active on renovated playgrounds with multicolored designs and physical structures.¹⁹

Contact with Nature

Experiencing nature improves wellbeing. A growing body of evidence demonstrates a connection between contact with nature and stress levels. Research shows that both viewing natural scenes and being in natural environments have positive effects on mental health.²⁰ Researchers have observed that even a small view of nature, such as a few trees, has the affect of relieving mental fatigue and contributing to better coping abilities.²¹ Contact with nature has also been shown to reduce the symptoms of Attention Deficit Disorder.²² A growing body of research demonstrates that opportunities for nature play are especially important for youth.²³

Disparities

Access to parks and open spaces is especially important for disadvantaged populations, such as racial/ethnic minorities, low-income families, youth, and older adults, who bear the largest burden of chronic disease.

Socioeconomic Status

Studies show that residents in lower SES neighborhoods experience more barriers to accessing parks than their wealthier counterparts. In a survey of Los Angeles residents' perception of park safety, 98% of residents in wealthy neighborhoods perceived their parks as safe, whereas just 50% of residents in the lowest SES neighborhoods felt the same.²⁴ A study of over 200 neighborhoods found that higher levels of poverty reduced the likelihood of having parks, green space, and bike paths in close proximity.²⁵ Recent research shows that areas with lower SES, large minority populations, and multi-unit housing have less access to parks programming for physical activity.²⁶

Age

Research shows that youth face more barriers to accessing parks. Park proximity is associated with physical activity among many populations, but particularly so among youth.²⁷ A study of 20,000 youth found that areas with a high percentage of minorities and lower educated populations are less likely to have a nearby exercise facility, and the odds of being overweight decrease as the number of exercise facilities increases.²⁸ In Los Angeles, researchers documented park funding patterns that exacerbate inequalities and favor neighborhoods with lower youth populations.²⁹

Race and Ethnicity

Although conditions differ in Clark County, many neighborhoods throughout the country with high percentages of racial and ethnic minorities have lower park access than White neighborhoods. Results of one study indicate that communities with higher percentages of African Americans are less likely to have parks and green spaces, but the opposite is true for communities with large Hispanic populations.³⁰ An analysis of park access in Los Angeles found that neighborhoods dominated by minorities have lower levels of park access.³¹

Conditions needed to thrive

To thrive, residents need nearby parks and open spaces to gather and recreate. To be most effective, such amenities need to be safe, well-maintained, well-designed, and have a community presence. When they meet those conditions, they promote physical activity and protective benefits against chronic diseases; they provide contact with nature which promotes good mental health; and they provide opportunities for community engagement, social capital, and cohesion.

References

- 1 Sallis JF, Cervero RB, Ascher W, Henderson KA, Kraft MK, and Kerr J. (2006) An ecological approach to creating active living communities. *Annual Review of Public Health*, 27: 297-322
- 2 Kahn EB, Ramsey LT, Brownson RC et al. (2002). The effectiveness of interventions to increase physical activity. *American Journal of Preventive Medicine*, (4S):73-107
- 3 Mokdad A.H., Marks J.S., Stroup D.F., & Gerberding J.L. (2004) Actual causes of death in the United States. *Journal of the American Medical Association*, 291 (10) 1238-1245
- 4 Kaczynski A & Henderson K. (2007) Environmental Correlates of Physical Activity: A review of evidence about parks and recreation. *Leisure Sciences*, 29 (4): 315-354
- 5 Frank L, Kerr J, Chapman J, and Sallis J. (2007) Urban form relationships with walk trip frequency and distance among youth. *American Journal of Health Promotion*, 21(4): S1-S7
- 6 Cohen DA, McKenzie TL, Sehgal MS, et al. (2007) Contribution of public parks to physical activity. *American Journal of Public Health*, 97 (3): 509-514
- 7 Wolch J, Jerrett M, Reynolds K, McConnell R, Chang r, Dahmann N, Brady K, Gilliland F, Su JG, Berhane K. Childhood obesity and proximity to urban parks and recreational resources: A longitudinal cohort study. *Health and Place*. 2010;16(3):137-57.
- 8 Shing C and Marafa L. (2006). Research update: Components of urban parks systems. *Parks and Recreation*. January 2006. 26-30
- 9 Kaczynski A & Henderson K. (2007) Environmental Correlates of Physical Activity: A review of evidence about parks and recreation. *Leisure Sciences*, 29 (4): 315-354
- 10 Brownson R, Baker E, Housemann L, et al. (2001) "Environmental and policy determinants of physical activity in the United States." *American Journal of Public Health*, 91(12): 1995-2003, 2001.
- 11 Kahn EB, Ramsey LT, Brownson RC et al. (2002). The effectiveness of interventions to increase physical activity. *American Journal of Preventive Medicine*, (4S):73-107
- 12 Roemmich J, Epstein L, Raja S, et al. (2006) Association of access to parks and recreational facilities with the physical activity of young children. *Preventive Medicine*, 43(6): 437-441
- 13 Sugiyama T, Francis J, Middleton NJ, et al. (2009) Association between recreational walking and attractiveness, size, and proximity of neighborhood open spaces. *American Journal of Public Health*, 100 (9): 1752-1757
- 14 Kaczynski AT, Potwarka LR, and Saelens BE. (2007) Association of park size, distance, and features with physical activity in neighborhood parks. *American Journal of Public Health* 98 (8): 1451-1456
- 15 Shores K, and West S. (2008) The relationship between built park environments and physical activity in four park locations. *Journal of Public Health Management and Practice*, 14 (3): e9-e16
- 16 Grow HM, Saelens BE, Kerr J, et al. (2008) Where are youth active? Roles of proximity, active transport, and built environment. *Medicine and Science in Sports and Exercise*. 40 (12): 2071-2079

- 17 Biel K. (2011). Physical activity and the intertwine: A public health method of reducing obesity and healthcare costs. Report to the Intertwine Alliance Partners. Retrieved from <http://bikeportland.org/wp-content/uploads/2011/02/IntertwinePAObesityAssessment.pdf>
- 18 Miles R. (2008) Neighborhood disorder, perceived safety, and readiness to encourage use of local playgrounds. *American Journal of Preventive Medicine*, 34 : 275-281
- 19 Ridgers ND, Stratton G, Faiclough SJ, and Twisk JW. (2007) Long-term effects of playground markings and physical structures on children's recess physical activity levels. *Preventive Medicine*, 44: 393-397
- 20 Maller C, Townsend M, Pryor A, et al. (2006) Healthy nature healthy people: 'Contact with nature' as an upstream health promotion intervention for populations. *Health Promotion International*, 21 (5): 45-54
- 21 Kuo FE. (2001) Coping with poverty: Impacts of environment and attention in the inner city. *Environment and Behavior*, 33(1) 5-34
- 22 Taylor AF, et al. (2001) Coping with ADD: The surprising connection to green play settings. *Environment and Behavior*, 33(1) 54-77
- 23 Louv R. (2005). *The Last Child in the Woods*. Chapel Hill, NC: Algonquin
- 24 Cohen DA, McKenzie TL, Sehgal MS, et al. (2007) Contribution of public parks to physical activity. *American Journal of Public Health*, 97 (3): 509-514
- 25 Powell L, Slater S and Chalupka F. (2004) The relationship between community physical activity settings and race, ethnicity and socioeconomic status. *Evidence-Based Preventive Medicine* 1 (2): 135-144
- 26 Dahmann N, Wolch J, Joassart-Marcelli P, Reynolds K, Jerrett M. The active city? Disparities in provision of urban public recreation resources. *Health and Place*. 2010 May;16(3):431-45.
- 27 Mowen AJ. (2010) "Parks, playgrounds and active living." Active Living Research. Retrieved from <http://www.activelivingresearch.org>
- 28 Gordon-Larsen P, Nelson M, Page P, et al. (2006) Inequality in the built environment underlies key health disparities in physical activity and obesity. *Pediatrics* 117(2): 114-242, 2006.
- 29 Wolch J, Wilson JP, and Fehrenbach J. (2002) "Parks and park funding in Los Angeles: An equity mapping analysis." Sustainable Cities Program: University of Southern California. Retrieved from <http://www.usc.edu/dept/geography/ESPE>
- 30 Powell L, Slater S and Chalupka F. (2004) The relationship between community physical activity settings and race, ethnicity and socioeconomic status. *Evidence-Based Preventive Medicine* 1 (2): 135-144
- 31 Powell L, Slater S and Chalupka F. (2004) The relationship between community physical activity settings and race, ethnicity and socioeconomic status. *Evidence-Based Preventive Medicine* 1 (2): 135-144

Health Element

Clark County Comprehensive Growth Management Plan

Growing Healthier

Current Conditions:

Parks and Open Space

Introduction

Parks and recreational facilities offer both individual and community benefits. They provide opportunities for physical activity which helps prevent obesity and chronic diseases such as diabetes, heart disease and cancer. Parks also offer broader individual and community benefits in the form of mental well-being, social capital, economic development, environmental protection, and an overall increase in quality of life.

Current Conditions

Jurisdictions

Clark County has established an agency structure for the provision of parks and open space. The City of Vancouver and Clark County merged resources creating a unified park planning system in 1997, and the combined Vancouver-Clark Parks and Recreation Department (VCPRD) is the largest provider of park and recreational facilities in Clark County. The Parks and Recreation Advisory Commission serves as a liaison between the general public, parks staff, and elected officials to represent community interests throughout the parks planning process. They serve as advocates and play a vital role in advancing parks planning.

The planning jurisdiction for VCPRD includes the City of Vancouver, and the Clark County urban unincorporated area plus **in-holdings** within some city jurisdictions. VCPRD's

In-holdings are properties owned by one jurisdiction within the geographic boundaries of another.

jurisdiction includes over 7,200 acres of parkland at 191 sites.¹ VCPRD's Comprehensive

Parks, Recreation and Open Space Plan was last updated in 2007, serving as a road map to provide high quality, community driven parks, trails, open space and recreational facilities throughout Vancouver and Clark County. The remaining cities within the county are responsible for urban park and recreation provision within their boundaries (with the exception of County in-holdings).

The Clark County Department of Environmental Services (DES) administers the Legacy Lands program, which establishes parks, natural areas, and corridors that protect habitat and natural areas. These lands are acquired using the county's conservation futures funds, and have led to the protection of 4,500 acres of shoreline, greenways, open space, and habitat.² Many of these sites are well-known in the community and provide opportunities for physical activity, social interaction, and contact with nature. DES also maintains county parks and trails, manages vegetation, and partners with community groups to enhance conservation efforts.

Parks

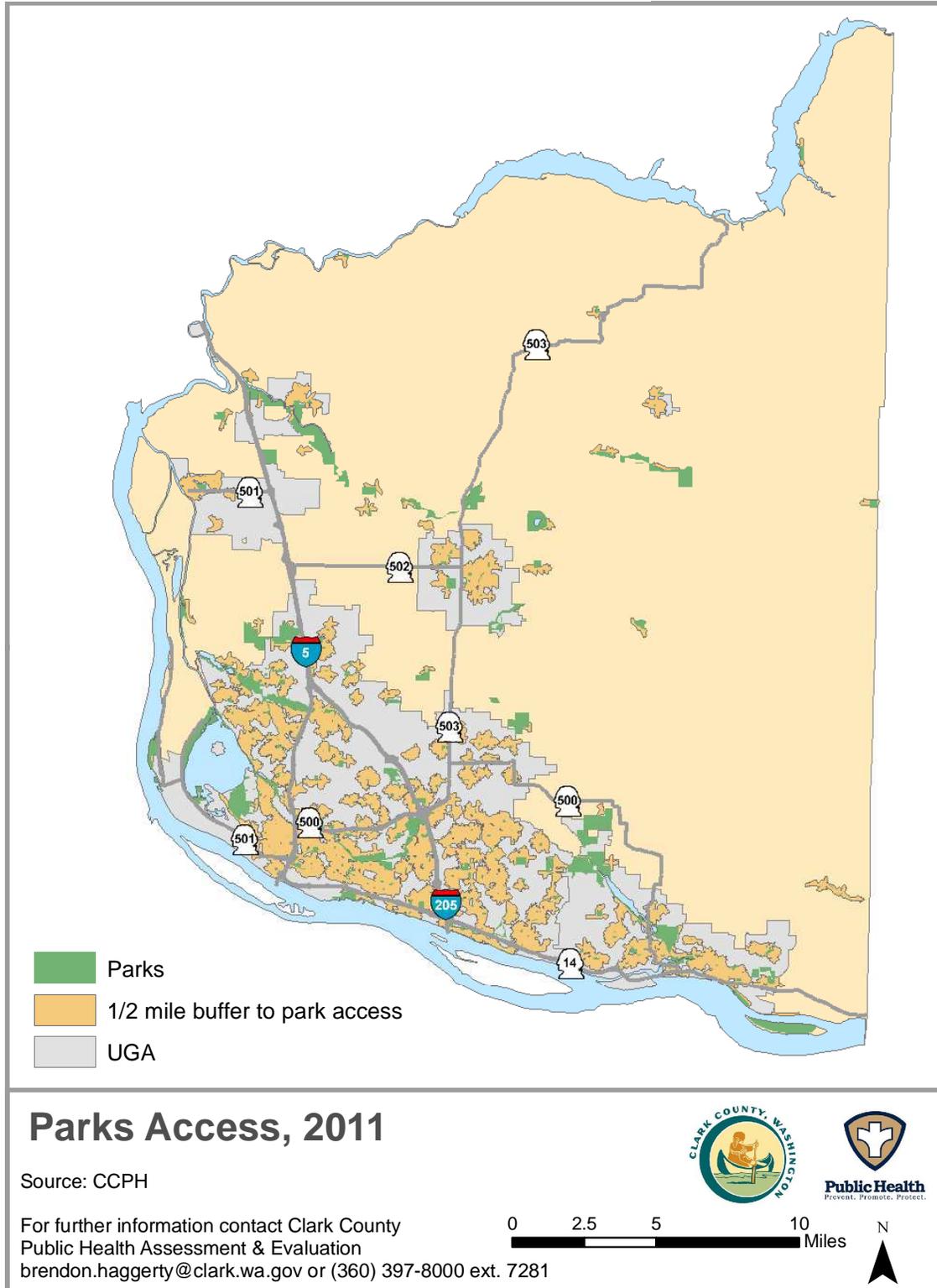
VCPRD conducted a Community Survey in 2006 of over 600 people. The purpose was to gather information regarding park and recreation preferences and usage patterns. The survey found that respondents used parks or trails an average of 50.2 times in the past 12 months.³ A more recent survey was conducted in 2010 for the Blue Ribbon Commission, established to make recommendations that would help define the future of the local and regional parks and recreation system in Clark County in the context of continual declining financial resources. The commission used one scientific telephone

survey of 400 residents and two, non-scientific on-line surveys with more than 1,000. Ninety percent of respondents stated that parks and recreation programs are important to the quality of life in Clark County, whether they were frequent users of these services or not.⁴

Research findings indicate that proximity to parks increases the likelihood of engaging in physical activity.⁵ Benefits from parks and recreational facilities can be shared by all residents if they are easily accessible. CCPH estimates that about 48% of Clark County residents live within an estimated ten minute walking distance (one-half mile) of a park access point (Map 6.1). Most of these residents live within the urban and suburban areas of the county.

VCPRD classifies parks into six categories dependent on the type of uses (table 6.1). When considering these categories as they relate to density, it is important to note that the amenities available at a ½ acre park are different than those available at a 5 acre park; therefore, the opportunities for recreation and fitness are not the same. For all park categories, a major focus of the VCPRD Comprehensive Plan is to secure a land base for future park development to serve expanding residential development. Table 6.1 shows existing and historic acreages by park type. Over time, the number of parks and the acreage of parks have increased, although some changes have resulted in properties being reassigned from one park type to another.

Map 6.1 One-half mile buffer around park access



About 48% of Clark County residents live within ½ mile of a park or open space. Source: CCPH Note: Estimates use network buffers but do not account for some barriers, such as topography. Parks analyzed do not include some easements, drainage areas, and golf courses, but do include undeveloped open spaces.

Table 6.1. Existing Park Acreage in Clark County, 1994-2006⁶

Park Type	1994		2000/2004		2006		2011	
	Quantity	Acres	Quantity	Acres	Quantity	Acres	Quantity	Acres
Neighborhood Parks	23	116	47	267	51	260	109	465
Community Parks	5	234	13	340	15	498	23	614
Urban Open Space	2	32	10	82	9	172	24	534
Regional Parks	10	1,797	12	2,300	11	1,922	12	2,314
Conservation and Greenway Systems	9	1,390	13	2,900	8	1,695	12	2,634
Special Use Areas	3	162	7	416	8	634	12	716
Total	52	3,731	102	6,305	102	5,181	191	7,277

A large majority (93%) of respondents that participated in the 2006 VCPRD Community Survey said that parks and recreation programs and services are important to quality of

life. From a list of eleven services offered by VCPRD (see box), respondents reported that neighborhood and community parks were used most frequently.⁷

VCPRD Services described in the Community Survey

- Adult programs, including fitness, sports and classes
- Youth programs, including sports, after school
- Maintaining and planting street trees in urban areas
- Trails and walking paths
- Neighborhood and community parks
- Regional parks
- Open space and natural areas
- Swimming and aquatic programs
- Sports and athletic fields

In addition to physical proximity,

park access can be defined by the amount of dedicated acreage per capita (or the number of acres of park lands divided by the population). The amount of acreage that should be available per capita is a statistical standard that is not always met where the land base is not available. VCPRD anticipates that in order to meet the needs of the

growing population in Clark County, additional parks, facilities and recreation services will be required. The acquisition standards (Table 6.2) laid out in the VCPRD Comprehensive Plan were developed following an evaluation of local needs and conditions and comparative jurisdictional standards.

Table 6.2. Acquisition Standards for Parks in the VCPRD Planning Area⁸

Park Type	Acquisition Standard
Urban park – within UGA	6 acres/1,000 population
Neighborhood park	2 acres/1,000 population
Community park	3 acres/1,000 population
Urban natural areas and open space	1 acre/1,000 population
Regional park	10 acres/1,000 population

Performance measures listed in the 2010 VCPRD Performance Snapshot indicate VCPRD does not have the financial capacity to attain the goals set to meet community needs in the areas of bike and walking trails, acquired park land, developed parks, maintenance, and administration.⁹

Recreational Facilities and Programs

Parks and recreational facilities offer residents the opportunity to socialize and connect with other members of the community. Current recreational facilities offered in Clark County include pools, gyms, community centers, a tennis center, skate parks, archery and gun ranges and off leash dog areas. Trail-related recreation, sports and outdoor activities have become more popular over the past several decades.¹⁰ The VCPRD Community Survey found that each respondent used recreation programs or facilities an average of 29 times in the past 12 months.¹¹

A coalition of organizations known as The Intertwine Alliance works to promote the thousands of miles of trails and tens of thousands of acres of park lands in the Portland-Vancouver metropolitan region. In 2011 the group commissioned a study on physical activity as part of a larger assessment of the benefits of parks and trails, including health, economic, and environmental benefits. As noted in the literature review, the study found that the physical activity achieved on the region's trails and in parks saves about \$155 million in healthcare costs.¹² These savings are based on the prevented weight-gain associated with physical activity.

VCPRD currently operates three community centers: the Firstenburg Community Center, Marshall/Luepke Center and the Vancouver Tennis Center (through a joint agreement with the Vancouver School District). There was a 13% increase in overall recreation facility use in 2010 compared with 2009. There were over 7,300 combined pass holders at all recreation facilities, a 7% increase from 2009.^{13, 14} This includes over 1,000 seniors who receive passes as a benefit of their health insurance program.¹⁵ Public input during the development of the 2007 VCPRD Master Plan indicated a desire by residents for more community centers.¹⁶

During 2010, Vancouver-Clark Parks and Recreation programs served over 700,000 registered participants, and an additional 480,000 participants through events, rentals, and free community use.¹⁷ Respondents to the VCPRD Community Survey ranked programs for youth and seniors highest on the list of possible services to expand (see

box on page 4). When given a choice of five areas for expansion, respondents gave the highest priority to building or expanding recreation programs and community centers (Table 6.3).¹⁸ This supports additional findings that providing places for social gathering is important to Clark County residents.^{19,20,21}

Table 6.3. Priority areas for VCPRD to expand services

Priority Areas	Percent
Building or expanding recreation programs and community centers	34%
Purchasing open space and natural areas	22%
Building trails and walking paths	21%
Acquiring and developing new parks	18%
Don't know/Not applicable/Refused	5%

Source: VCPRD Recreation and Open Space Plan

Joint Use

Joint use agreements are typically between two separate government entities that develop conditions for sharing the use of public property. Joint use agreements typically involve shared development and maintenance cost, offering more expanded and cost efficient opportunities for community use.²²

Where neighborhoods enjoy convenient access to local public schools, the school grounds can provide some additional recreational opportunities. As described by public health experts, school recreation areas are seen by many as a secondary service because they don't necessarily serve people in the same way as neighborhood and community parks. They typically provide equipment and space appropriate only for the age group served by the particular school, and facilities are typically closed to the

general public for recreational purposes during school hours, including afterschool care programs²³

Safety and comfort

Outdoor activities can be supported with amenities such as lighting and covered facilities. On a scale of one to five, with one being poor and five being excellent, 2006 Community Survey respondents indicated that they find the safety and security at parks and recreation facilities to be good, with a mean score of 3.6.²⁴

Funding

Funding sources for the acquisition and development of parks are park impact fees, grants, and real estate excise taxes. The availability of these sources has substantially decreased with the recent economic decline. Park maintenance is largely funded by a levy within the Great Clark Parks District, but funding has been severely impacted by the decline in land values.

Recent budget cuts highlight the fact that the funding and governance model for parks is not sustainable. The Blue Ribbon Commission was a group of local officials assembled in 2010 to examine the future of parks in Clark County. The commission reviewed the operational and funding challenges and opportunities in each jurisdiction, representing Clark County, Battle Ground, Camas, Ridgefield, Vancouver and Washougal. Following the assessment, the commission concluded that the parks system could not continue to

rely only on park impact fees, real estate excise taxes and other funding systems previously used for parks. Major recommendations that came from the Blue Ribbon Commission include exploring options for a sustainable funding structure and expanding the use of partnerships and volunteers.²⁵

Volunteers provided an estimated 50,000 hours of service in 2010 at a value exceeding \$500,000; among other activities, volunteers helped with cleaning up parks, planting trees, coaching youth sports, and assisting with senior programs.²⁶

Disparities

Access is especially important for disadvantaged populations who bear the largest burden of chronic diseases such as low-income families, youth and older adults and racial/ethnic minorities. Disadvantaged groups generally have shorter, less healthy lives than other populations.²⁷ Parks have the opportunity to mitigate some of this disparity. Activities oriented toward these populations include developing facilities and programs that address the specific needs of groups such as older residents and low-income youth and to provide recreation opportunities for persons of all ages, abilities and economic and cultural backgrounds.

Socioeconomic Status

It is important that there is equitable access to parks for low-income populations. VCPRD works to maintain and enhance scholarships and other mechanisms to support

recreation opportunities for low-income residents. Currently, about 56% of residents who are in poverty live within ½ mile of a park access point. Compared to the county as a whole (48%), and to residents who do not live in poverty (47%), residents who live in poverty are more likely to live within ½ mile of a park access point.

Age

As the percentage of the population aged 65 and older continues to grow, there will be an increased demand for opportunities to serve active seniors. Demographic trends also reveal an increase in the number of school-aged children. These trends will likely result in an increased demand for youth activities, after school programs and teen activities.²⁸ Approximately 48% of Clark County residents aged 65 years or older live within a ½ mile of a park access point. Similarly, about 48% of residents under 20 years of age live within a ½ mile of a park access point. Levels of access for the youngest and oldest residents of the county are similar to that of the rest of the population.

Race and Ethnicity

Vancouver and Clark County have growing percentages of African American, Asian American and Hispanic residents. To address this increase in diversity paired with an increase in non-native English speakers, VCPRD will explore strategies to serve all residents and market programs and services to diverse populations.²⁹ Approximately 54% of non-White Clark County residents live within ½ mile of a park access point

compared with 47% of White residents. At the county level, non-White residents have somewhat better access to parks than White residents.

Geography

Approximately 57% of residents in the UGA live within ½ mile of a park access point compared with 3% of residents who live outside of the UGA. This difference can be explained by VCPRD’s plan to only provide neighborhood parks (those that serve residents within approximately ½ mile) within Vancouver and its Urban Growth Area.

Given the nature of the rural environment, it is likely that rural residents have opportunities for accessing open space despite lower levels of park access, and that park access is dependent on vehicle access.

Table 6.6 Summary: Literature Review Findings Compared to Current Conditions

Finding	Conditions in Clark County	Level of Concern
Physical activity is associated with reduced morbidity and mortality.	81% of adults participated in some leisure time physical activity in the past month. 41% of tenth graders reported daily physical education attendance, and 44% met the physical activity recommendation of 60 minutes or more of physical activity each day.	High
People who live close to parks are more likely to visit them and to achieve higher levels of physical activity.	An estimated 48% of Clark County residents live within 1/2 mile of a park.	Medium
Park accessibility is associated with physical activity.	An estimated 48% of Clark County residents live within 1/2 mile of a park. On a list of eleven services offered by VCPRD, respondents reported that neighborhood and community parks were used most frequently.	Medium

Larger and more numerous parks are associated with greater levels of physical activity.	VCPRD maintains 191 parks totaling over 7,200 acres.	Low
Provision of playgrounds, trails, and sports facilities encourage physical activity.	VCPRD offers pools, gyms, community centers, a tennis center, skate parks and off leash dog areas.	Low
Physical activity in parks is affected by safety and maintenance.	Respondents find the safety and security at parks and recreation facilities to be good, with a mean score of 3.6 out of 5.	Medium
Experiencing nature improves wellbeing.	VCPRD provides 2,634 acres of regional natural areas, trails and greenways and 534 acres of urban natural areas	Medium
Studies show that residents in lower SES neighborhoods experience more barriers to accessing parks than their wealthier counterparts.	56% of residents who are in poverty live within ½ mile of a park or open space.	Low
Research shows that youth face more barriers to accessing parks.	Levels of access for the youngest and oldest residents of the county are similar to that of the rest of the population.	Low
Although conditions differ in Clark County, many neighborhoods throughout the country that have high percentages of predominately racial and ethnic minority neighborhoods have lower park access than white neighborhoods.	54% of non-White residents live within ½ mile of a park, compared to 47% of White residents.	Low

References

- 1 Vancouver-Clark Parks and Recreation Department. (2011). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp GIS Park Land inventory updated May 2011
- 2 Clark County Department of Environmental Services. (2011). Personal communication November 21st, 2011.

- 3 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 4 Vancouver-Clark Parks and Recreation Department. (2011). Blue Ribbon Commission Report. Retrieved from <http://www.cityofvancouver.us/parks-recreation/howweare/future.asp>
- 5 Kaczynski A and Henderson K. (2007). Environmental correlates of physical activity: A review of evidence about parks and recreation. *Leisure Sciences*, 29(4): 315-354, 2007.
- 6 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 7 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 8 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 9 Vancouver-Clark Parks and Recreation Department. (2011). 2010 Vancouver-Clark Parks and Recreation Department Performance Snapshot. Provided by VCPRD, March 16, 2011.
- 10 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 11 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 12 Biel K. (2011). Physical activity and the intertwine: A public health method of reducing obesity and healthcare costs. Report to the Intertwine Alliance Partners. Retrieved from <http://bikeportland.org/wp-content/uploads/2011/02/IntertwinePAObesityAssessment.pdf>
- 13 Vancouver-Clark Parks and Recreation Department. (2011). Vancouver-Clark Parks and Recreation Activity Summary. Provided by VCPRD, March 16, 2011.
- 14 Vancouver-Clark Parks and Recreation Department. (2011). 2010 Vancouver-Clark Parks and Recreation Department Performance Snapshot. Provided by VCPRD, March 16, 2011.
- 15 Vancouver-Clark Parks and Recreation Department. (2011). [Data File] Personal communication with David Perlick, VCPRD, March 16, 2011.
- 16 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 17 Vancouver-Clark Parks and Recreation Department. (2011). 2010 Vancouver-Clark Parks and Recreation Department Performance Snapshot. Provided by VCPRD, March 16, 2011.

- 18 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 19 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 20 Clark County Aging Readiness Task Force. (2011) Healthy Communities Workshop Summary Report. Retrieved from http://www.clark.wa.gov/planning/aging/documents/HealtyCommunity_Wksp_Report.pdf
- 21 Aging Task Force Workshop. Aging Readiness Plan. Healthy Communities Workshop, January 20, 2011. Community Comments Summary Report. Retrieved from <http://www.clark.wa.gov/planning/aging/HealthyCommunities.html>
- 22 National Policy and Legal Analysis Network to Prevent Childhood Obesity. (2009). What is a Joint Use Agreement? A Fact Sheet for Parents, Students and Community Members. Retrieved from <http://www.nplanonline.org/nplan/products/what-joint-use-agreement>
- 23 National Policy and Legal Analysis Network to Prevent Childhood Obesity (2009). What is a Joint Use Agreement? A Fact Sheet for Parents, Students and Community Members. Retrieved from <http://www.nplanonline.org/nplan/products/what-joint-use-agreement>
- 24 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 25 Vancouver-Clark Parks and Recreation Department. (2011). Blue Ribbon Commission. Retrieved from <http://www.cityofvancouver.us/parks-recreation/whoware/future.asp>
- 26 Vancouver-Clark Parks and Recreation Department. (2011). 2010 Vancouver-Clark Parks and Recreation Department Performance Snapshot. Provided by VCPRD, March 16, 2011.
- 27 Centers for Disease Control and Prevention. (2011). Morbidity and Mortality Weekly Report, January 14, 2011. Supplement/Vol. 60
- 28 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp
- 29 Vancouver-Clark Parks and Recreation Department. (2007). Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan. Retrieved from http://www.cityofvancouver.us/parks-recreation/parks_trails/planning/parkplan.asp