VanPlay
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VANCOUVER BOARD OF PARKS AND RECREATION

APPENDIX 3

SOPARC: SYSTEM FOR OBSERVING PLAY AND RECREATION IN COMMUNITIES

1. Final SOPARC Report
2. Final SOPARC PowerPoint
3. Park Selection Report

URBAN DESIGN 4 HEALTH

A Profile of Vancouver Park Users: An Analysis Using the SOPARC Tool

Task 2.9 SOPARC Observation

Prepared for: Dave Hutch, Doug Shearer, Katherine Howard
Vancouver Park Board

Prepared by: Urban Design 4 Health

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About This Report

This report was prepared by Urban Design 4 Health, Ltd. (UD4H). UD4H specializes in applied research on the interactions between land use, transportation, air quality, climate change, and public health. UD4H's mission is to support clients with innovative and objective information and tools to realize health promotion, environmental, economic, and quality of life goals that are intrinsic in efforts to build new communities and to retrofit existing ones. Learn more at www.ud4h.com.

This report was prepared in fulfillment of the deliverable for "Task 2.9: SOPARC Study" under Contract PS20160851 with the Vancouver Board of Parks & Recreation. The contents of this report are the responsibility of the authors and do not necessarily reflect the official views of the Vancouver Board of Parks & Recreation.

UD4H Authors

Mr. Eric H. Fox, MScP, Planning Associate & GIS Manager

Mr. Jim E. Chapman, MSCE, Managing Principal

Dr. Lawrence D. Frank, PhD, AICP, ASLA, President

Eric Fox was the UD4H Project Manager for the *System for Observing Play & Recreation in Communities* (SOPARC) data acquisition and managed the pre-collection preparation, coordinated tool training, supervised the collection team, cleaned, analyzed and synthesized the data and wrote this report. Jim Chapman helped with the study design and analysis approach for the SOPARC data collection and assisted with preparation and review of the analysis report. Dr. Lawrence Frank reviewed the SOPARC results and contributed to the analysis report.

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1. INTRODUCTION

The Vancouver Park Board is currently developing the *VanPlay Playbook* to guide policy and planning processes for park and recreation services in the City of Vancouver. It is intended to present a vision for public green spaces and facilities for residents to connect with their neighbours, nature and themselves. The *Playbook* will focus on reducing barriers to park and recreational services and providing meaningful experiences for the public within the constraints of population growth, rapidly changing demographics and development pressures.

As part of the process of developing the *Playbook*, data was collected by Urban Design 4 Health (UD4H) on park usage and user behaviour from a sample of the City of Vancouver's parks. This data acquisition was conducted as part of the Context Phase of *VanPlay*. The *System for Observing Play & Recreation in Communities* (SOPARC) is an observational survey audit tool[1] which was used for this effort to acquire data on community park use. The survey instrument was used to assess park user information, such as gender, estimated age group and ethnicity, as well as physical activity levels by the park users. The terms "park users," "park goers" and "park patrons" are used interchangeably throughout this memo to refer to Vancouverites and other visitors observed within Vancouver parks. The terms "surveyor," "rater" and "auditor" are also used interchangeably in this memo when discussing members of the data collection team who gathered the SOPARC data.

This memo outlines the methods used by UD4H to collect data to understand physical activity levels of children, teens, adults and seniors in parks. This memo also provides summary results of a portion of the collected data from 24 Vancouver parks of varying sizes. These data are provided to be used in the development of the *Playbook*.

[1] SOPARC Protocol: http://activelivingresearch.org/soparc-system-observing-play-and-recreation-communities

2. METHODOLOGY: PARK ELIGIBILITY & SELECTION

Several criteria were used to select the sample of parks to survey using the SOPARC instrument. There are 228 parks in the City of Vancouver, of which 24 were selected to be sampled.[2] Park eligibility for surveying was based on the following criteria:

1. park type (only Community Parks, Neighbourhood Parks and Local Parks were eligible),
2. presence of park amenity facilities or spaces for physical activity (target areas),
3. park location in a City-defined growth area for anticipated population and development growth,
4. the selected parks are located in areas with a range in income levels of nearby residents, and
5. park location near a city greenway offering increased access to pedestrian and cycling transportation links.

Eligible parks had to meet criteria 1 and 2, and at least one of criteria 3 through 5. Parks that met more than one of criteria 3, 4 and 5 were ranked higher for inclusion, although the final selection of parks was not required to meet more than one of these secondary criteria. An iterative process was undertaken to select and discard potential parks for eligibility based on other considerations such as parks being under construction or slated for redevelopment limiting potential access and usefulness of data collection at this time. Eight parks from each park classification type were selected to provide a range of park sizes with different amenities and park users (Table 1). Community Parks are large parks with various active and passive outdoor amenities, and may host community centres that attract visitors from across Vancouver. Neighbourhood Parks are medium sized parks, the most common park type, and mainly draw park users from the local neighbourhood. Finally, Local Parks are small parks with few or no amenities typically catering to residents of the immediate area within a couple blocks of the park.

Table 1: Types of eligible park classes for the SOPARC inventory.
Source: Vancouver Park Board, 2016.

Park Type	*Park Count (n)*	*Average Size (ha)*	*Size Range (ha)*	*Municipal Parkland (%)*
Community Park	57	6.4 ha (15.8 acres)	0.9 – 48.2 ha (2.2 – 119.2 acres)	33%
Neighbourhood Park	92	2.6 ha (6.5 acres)	0.1 – 38.2 ha (0.3 – 94.3 acres)	22%
Local Park	67	0.53 ha (1.3 acres)	0.0 – 4.0 ha (0.0 – 9.9 acres)	3%

The SOPARC audit protocol requires surveyors to collect data in designated target areas in order to divide the park into manageable pieces from which to consistently and accurately implement the survey. During the pre-collection preparation process, target areas were mapped using municipal geographic information systems (GIS) spatial data, including an inventory of active and passive outdoor facilities such as courts and multi-purpose sports fields. In addition, spatial distribution of parks across the city was considered to ensure adequate representation in areas throughout the city, as well as accounting for parks that had undergone recent renovation and those near other

[2] See Appendix B for a full list of SOPARC eligible parks.

park and greenway growth areas, including the Arbutus Corridor[3]. At least one park from each municipally defined growth area was selected for the SOPARC inventory.

As part of the sampling strategy, median annual household income provided by Statistics Canada was assessed as a socioeconomic status (SES) indicator to identify parks in different income classes throughout Vancouver. This helped to support a goal from the *VanPlay Playbook* to envision park and recreational services that reduce barriers and enhance equitable access to park and recreation facilities. The park selection for the SOPARC study included parks located within Census tracts of low, medium and high annual household income (Table 2). Lastly, another component of interest is understanding connectivity between parks and the ease with which residents can walk or cycle to parks. Thus, park proximity to greenways was established as a park selection criterion to incorporate parks within 100 metres of a greenway as part of the inventory. Vancouver Park Board staff provided feedback on recommended parks and confirmed the final selection of the 24 parks to be surveyed. Figure 1 shows a map of the final park selection for the SOPARC inventory. A detailed report outlining the criteria and methods used to select the parks for the SOPARC inventory can be found in a previously submitted Park Selection Memo[4] in Appendix J.

Table 2: Vancouver median annual household income by aggregated income type using a quantile data distribution.
Source: Statistics Canada, 2011.

#	*Income Type*	*Census Tracts (n)*	*Percent of Tracts*	*Median Annual Household Income Range ($)*
1	Low Income	39	33.3%	$15,117 - < $53,734
2	Moderate	39	33.3%	≥ $53,734 - $64,196
3	High	39	33.3%	≥$64,196 – $149,704
Total		117	100%	

[3] Arbutus Greenway, City of Vancouver: http://vancouver.ca/streets-transportation/arbutus-greenway.aspx
[4] SOPARC Data Acquisition: Park Inventory Selection:
Vancouver_PB_SOPARC_Park_Selection_Memo_UD4H_EF_05152017_submitted.pdf

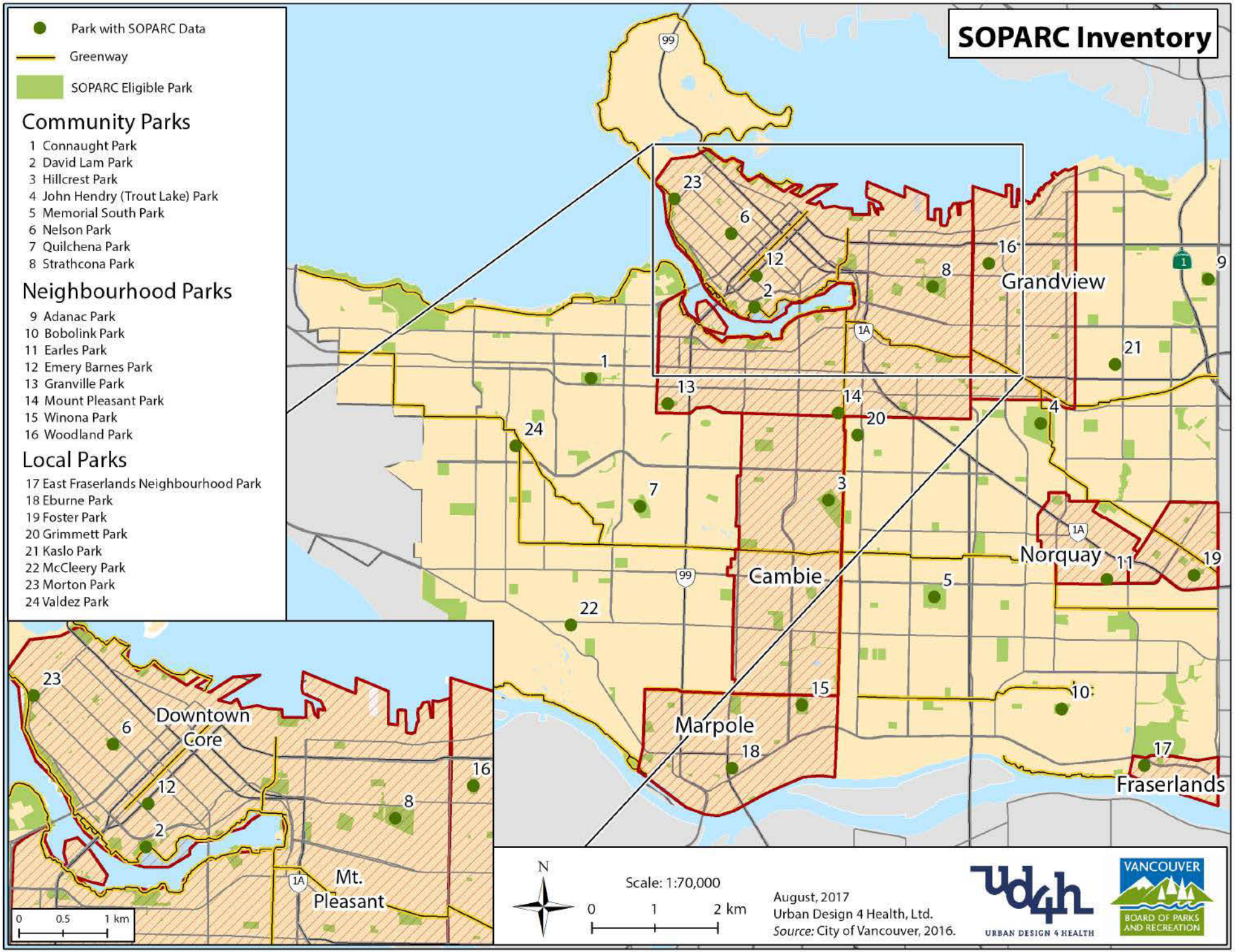

Figure 1: Map of parks for which SOPARC data was collected by park type. Cross hatched neighbourhoods denote municipality-defined growth areas.

3. METHODOLOGY: SOPARC DATA ACQUISITION

3.1 Tool Training

As part of the preparation for the implementation of the SOPARC data collection, the RAND Corporation was engaged to provide training to Vancouver Park Board staff and UD4H staff on the data collection procedures. A team from RAND, led by Dr. Deborah Cohen, provided SOPARC training materials and expert guidance on the pre-collection preparation including preparing collection devices, mapping and collection best practices. Dr. Deborah Cohen is one of the authors of the SOPARC tool and has published results from regional and national surveys in the U.S.[5] A two-day in-field training session was held on May 25th and 26th, 2017 by the RAND team to review the tool and practice using it in Vancouver parks. All UD4H and Vancouver Park Board staff received a >80% agreeability and were certified to begin SOPARC data collection.[6] No major adjustments were made to the SOPARC observational tool from its use elsewhere, other than a change to identifying ethnicities to meet Vancouver's unique demographic characteristics. This is discussed further in Section 4.4. Also two questions were added to identify park users in wheelchairs or mobility chairs.

3.2 Data Acquisition

Data for the SOPARC tool can be collected using several different types of handheld devices, manual counting tools or paper copies of the survey. For this project, software on portable tablets[7] was used to record all SOPARC data based on observation target areas. Data was acquired using the Open Data Kit (ODK), an open-sourced tool designed for field data collection that links all acquisition devices to a shared server where data is uploaded once an internet connection has been established upon survey completion. Park survey forms were developed using the Extensible Markup Language (XML) which allows surveyors to view the questions and possible responses through the ODK Collect[8] user interface application on the tablet. Two custom counter apps Age/Activity Counter[9] and Ethnicity Counter[10] were also used to allow surveyors to keep track of counts of persons by age, activity type and ethnicity for each target area.

The SOPARC data collection was performed by a team of five UD4H park surveyors familiar with parks in Vancouver. Surveyors recorded all persons at a moment in time and reported their gender, estimated age class, activity type and perceived ethnicity[11] (Table 3). Teams of two surveyors were used for most Community and Neighbourhood park types because of their larger size. For a few

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[5] McKenzie TL, Cohen DA, Sehgal A, Williamson S & Golinelli D. System for Observing Play & Recreation in Communities (SOPARC): Reliability & Feasibility Measures. *Journal of Physical Activity & Health,* 2006. 3(Suppl 1), S208-S222.

[6] Cohen, DA, Setodji, C, Evenson KR, Ward, P, Lapham S, Hillier A & McKenzie TL. How much observation is enough? Refining the Administration of SOPARC. *Journal of Physical Activity & Health,* 2011, 8(8), 1117-1123.

[7] 10" Samsung Galaxy Tablet E, running Android version 6.0.1.

[8] ODK Collect for Android, version 1.6.1.

[9] Age/Activity Counter developed by RAND Corporation used with permission.

[10] Ethnicity Counter developed by RAND Corporation used with permission.

[11] It was determined that ethnicity related characteristics were not to be reported due to the observational nature of the SOPARC data collection. More information is available in section 3.6 *Ethnicity Characteristics.*

very large parks, up to four raters were used, such as was the case for Trout Lake. Most Local Parks were performed by only one surveyor. When working in team, one surveyor operates the ODK Collect application to complete the park survey form, while the other is responsible for running both counter applications and supplying the total counts for target areas first performed for females and then for males.

Table 3: The principal characteristics of interest: gender, age and activity type.
Source: SOPARC Protocol, RAND Corporation, 2017.

Gender	*Age*	*Activity Type*
Female	Child (infancy – 12 years)	Sedentary
	Adolescent (13 - 20 years)	Moderate Activity
Male	Adult (18 – 59 years)	Vigorous Activity
	Senior (+60 years)	

3.3 Target Activity Areas & Walking Paths

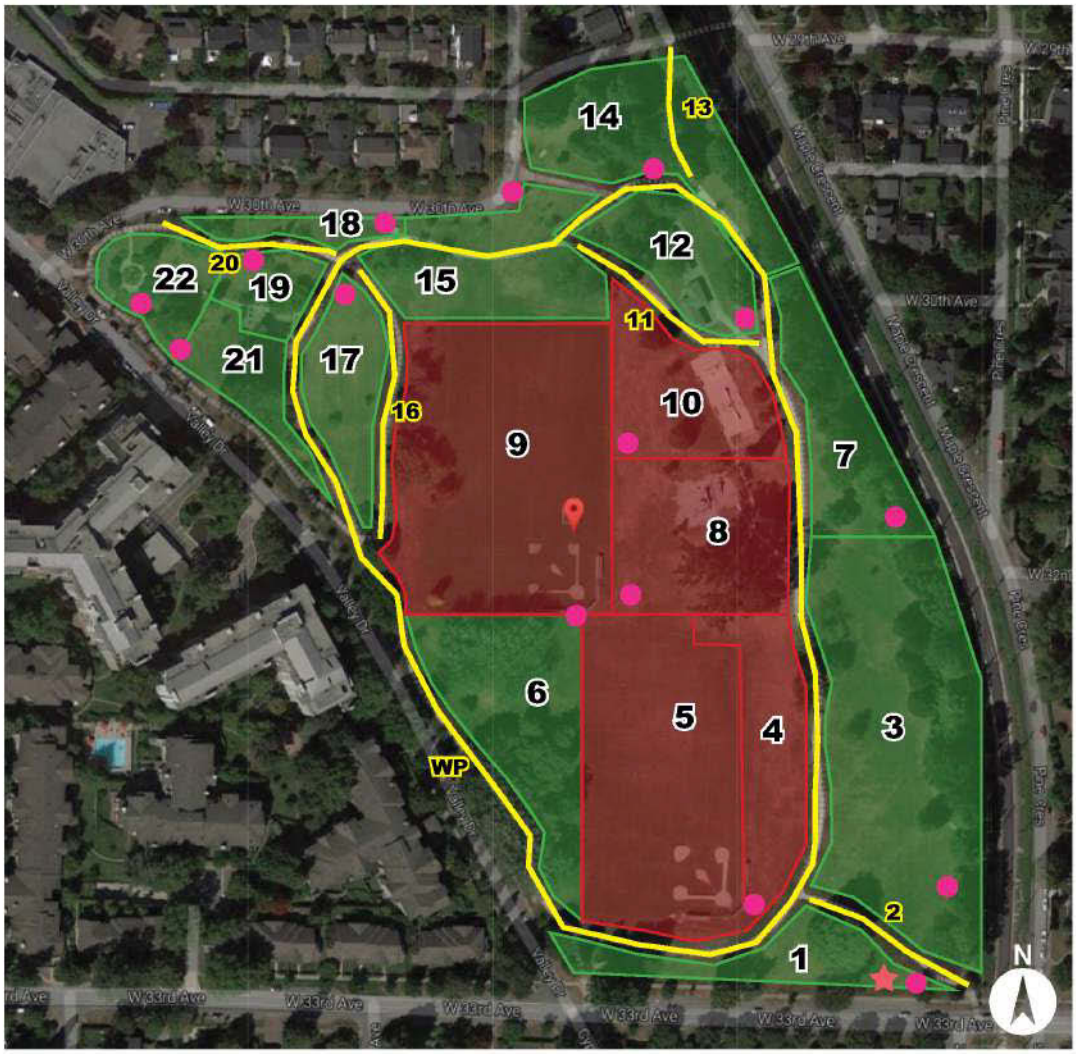
The SOPARC audit requires surveyors to collect data in each park at identified target area locations which comprise areal polygons used to split up park observation areas into smaller pieces. These target areas represent all standard locations that provide park users with the opportunity to be physically active, such as sports fields and courts, playgrounds and park trails. Park areas often associated with more sedentary activity like greenspace, plazas and sheltered picnic areas are also included in the assessment. Persons present on sidewalks bordering parks and in nearby areas are not counted as part of the inventory. A person must enter park grounds in order to be counted and that person is only counted if they are observed by the surveyor during target area scans.

Prior to data collection, all publicly accessible, outdoor areas in the 24 parks were mapped by UD4H as target areas for SOPARC surveyors to observe and count park users. Park maps were generated using Vancouver Park Board GIS inventory data of active and passive amenities, aerial and ground-level imagery[12], and in-park visits by surveyors.

Target area polygons were mapped, numbered and classified by type to allow surveyors to accurately record all park patrons in a consistent manner across the multiple collection periods and among different surveyors (Figure 2). A pre-collection field verification of the maps was performed by a surveyor taking photographs of every target area to confirm the boundaries and sightlines allowing surveyors to accurately view the entire target area without obstructions. Changes in target area delineation and ordering were then applied to the final version of the maps for surveyors to implement the collection. At the beginning of each SOPARC collection period, a photograph captured at the first observation target area to serve as a quality control measure to verify the time stamps of the data collection (Figure 3).

[12] Google Streetview was used to identify and confirm target area boundaries and types from aerial imagery.

Park ID: C-1007 | **Park Name:** Quilchena Park | **Address:** 4590 Magnolia St



Observation Point
Target Area: Greenspace
Target Area: Vigorous Activity
Target Area: Moderate/Sedentary Activity
Target Area: Plaza/Hardscape/Building
Target Area: Trail/Pathway
Take Site Picture Here
Do not score

TA #	TA Name
1	Greenspace
2	Path
3	Greenspace
4	Greenspace
5	Baseball Field
6	Greenspace
7	Greenspace
8	Playground / Greenspace
9	Baseball Field
10	Skate Park / Greenspace

TA #	TA Name
11	Path
12	Greenspace
13	Path
14	Greenspace
15	Greenspace
16	Path
17	Greenspace
18	Greenspace
19	Greenspace
20	Path

TA #	TA Name
21	Greenspace
22	Greenspace
WP	Walking Path (12 min)

Figure 2: Data collection map for Quilchena Park used to identify the boundaries of target areas.

Figure 3: Data collection photo captured at target area 1 in Quilchena Park used as a quality control measure.

Walking paths, bicycle paths and looped trails are common in parks and may be marked as significant park features designed for utilitarian transportation, leisure activity or exercise. These park features, referred to as "walking paths" are surveyed in a different way than target area observations in the SOPARC tool. Smaller paved and unpaved park footpath features were grouped with adjacent target areas or, in some cases, were identified as their own unique target areas for data collection. A total of six walking paths features were identified in five of the 24 parks surveyed (Table 4). For walking path features, a separate form was used with each record of data representing one counted individual, rather than each record being a target area for the park survey forms. Park surveyors observe people using the walking paths from a set position over the period of time[13] it takes to traverse the entire distance of the walking path.

[13] This period of time was reported during the pre-collection in-field visits where surveyors calculated the time it took to traverse the entire path at an average walking pace. In some cases, such as with circular loop walking paths, the entire path is visible from the stationary observation position, but in many cases linear paths are long and the entire space cannot be observed. It is for this reason that a time period was calculated to be able to observe every individual walking the entire length of the path and reducing the potential duplication of park patrons caused by walking and counting.

Table 4: Parks with walking paths recorded using the SOPARC tool.
Source: SOPARC Protocol, RAND Corporation, 2017.

Park Name	*Number of Walking Paths*	*Park Type*
David Lam Park	2	Community Park
John Hendry (Trout Lake)	1	Community Park
Memorial Park South	1	Community Park
Quilchena Park	1	Community Park
Strathcona Park	1	Community Park

3.4 Observation Time Periods

The SOPARC tool's data collection protocol[14] requires the collection of data from each park at various time points during the day as well as over several days during the weekday and on weekends to provide a comprehensive understanding of park usage.[15] Park data was collected over approximately a 30-minute to one hour period depending on the park size and number of amenities. Each park was visited four times per day over a three day period: two park visits during weekdays and one either on Saturday or Sunday.

The focus of the SOPARC audit tool is to assess how park visitors use the park and engage with park facilities. As a result, data was not collected during inclement weather as rain events may not provide an accurate measurement of the number of users of the park. On days when rain interrupted collection, surveyors completed the collection time point if close to finishing or did not start collection during the scheduled surveying period. Data collection did not resume until a minimum of two hours after rain had ended to allow for a more typical count of park patrons.

Data was collected at four time periods during the day to be able to capture the full range of park goers and data acquisition was only performed during certain time windows to maintain consistency (Table 5). Data was collected in late spring and early summer between May 28, 2017 and June 24, 2017, and was delayed on a total of six days due to inclement weather.

Table 5: Time windows for performing park observations during each collection day.

Time of Day	*Surveyor Time Window*	*Average Observation Time*
Morning	8AM – 11AM	9AM
Mid-Day	10:30AM – 2PM	12PM
Afternoon	2PM – 4:30PM	2:30PM
Early Evening	4:30PM – 8PM	5:30PM

[14] SOPARC Protocol: http://activelivingresearch.org/soparc-system-observing-play-and-recreation-communities
[15] Cohen, DA, Setodji, C, Evenson KR, Ward, P, Lapham S, Hillier A & McKenzie TL. How much observation is enough? Refining the Administration of SOPARC. *Journal of Physical Activity & Health,* 2011, 8(8), 1117-1123.

3.5 Type of Physical Activity

The type of physical activity level of each individual in a target area was coded as sedentary, moderate or vigorous. Sedentary activity included lying down, sitting or standing. Moderate encompassed walking, and vigorous activity included a brisk walk, running and other activity related with sports and exercise. Assigning physical activity to these categories has been validated using accelerometry data and heart rate monitors.[16, 17] These activity codes are consistent with published energy expenditure for adults (Figure 4).[18]

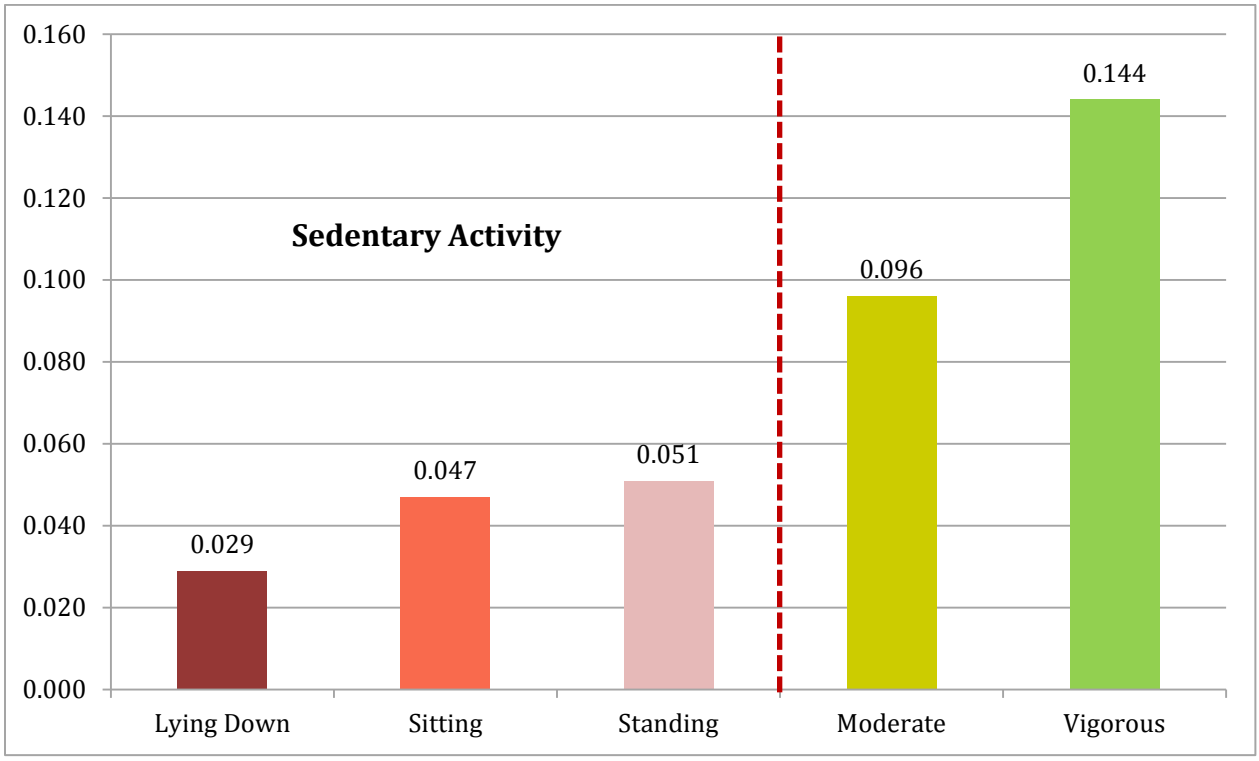


Figure 4: Estimated energy expenditure in calories per kilogram per minute (Kcal/kg/min.) by activity types.

Source: Ainsworth et al., 2000; RAND Corporation, 2017.

[16] Sallis JF, McKenzie TL, Conway TL, et al. Environmental interventions for eating and physical activity: a randomized controlled trial in middle schools. *Am J Prev Med*. 2003;24(3):209–217.
[17] McKenzie TL, Sallis JF, Nader PR, et al. BEACHES: an observational system for assessing children's eating and physical activity behaviors and associated events. *J Appl Behav Anal*. 1991;24(1):141–151.
[18] Ainsworth BE, Haskell WL, Whitt MC, et al. Compendium of physical activities: an update of activity codes and MET intensities. *Med Sci Sports Exerc*. 2000;32(9,Suppl):S498–S504.

3.6 Park Atmosphere Assessment

A park atmosphere summary report provides an overall assessment of a park's physical conditions, weather conditions, social conditions and characteristics as well as food vendors and special events. This assessment was recorded once daily at the end of the collection period. Unlike the rest of the SOPARC data collection which is collected for each target area, the park atmosphere assessment is reported at the park-level based on the overall conditions during the entire daily collection period; therefore, it is completed by a rater who was in the park for all the collection periods for that day. There are five sections: 1) "Physical Conditions" assess cleanliness and graffiti presence, 2) "Weather & Ambient Conditions" describe temperature, recent rainfall and noise level in the park, 3) "Social Conditions" characterize safety and security, drug and alcohol use and the presence of homeless and dogs, 4) "Food" describes the availability of concession stands or food vendors, and 5) "Events" allows remarks for special events and maintenance in the park which have impacted regular conditions in the park.[19,20]

3.7 Equity in Access to Park & Recreation Facilities

The Park Board is committed to reducing inequity in the delivery of parks and recreation opportunities and making the system more welcoming to everyone. It is recognized that there are inherent privileges some populations have to access and that there are many factors contributing to this. All observational data collection has pitfalls, and certainly does not seek to understand "why", but merely the "what" in a very broad sense. The data enables further insight to dig deeper, ask better questions, and addresses the barriers to access that could be the cause of the observed patterns.

3.8 Gender Characteristics

An important component of the SOPARC survey is the ability to characterize park usage by age cohort and level of activity between males and females. For example, studies using the SOPARC instrument have demonstrated that more males use parks than females in the United States.[21,22] Achieving a balance between female and male park users also supports perceived safety in public spaces, as a study by Gehl & Svarre (2013) found that "one possible indicator for whether a park is safe is the presence of a sufficient number of women."[23]

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[19] See Appendix C for the Park Atmosphere Assessment survey.

[20] See Appendix J for the full list of Park Atmosphere Assessment variables.

[21] McKenzie, TL, Cohen, DA, Sehgal, A, Williamson, S & Golinelli, D. System of Observing Play and Recreation in Communities (SOPARC): Reliability and Feasibility Measures. *Journal of Physical Activity & Health*, 2006, 3(Suppl 1), S208-S222.

[22] Evenson, KR, Jones, SA, Holliday, KM, Cohen, DA & McKenzie, TL. Park characteristics, use, and physical activity: A review of studies using SOPARC (System for Observing Play and Recreation in Communities). *Preventive Medicine*, 2016, 86, 153-166.

[23] Gehl, J. & Svarre, B. (2013). *How to Study Public Life*. Washington, DC: Island Press.

The SOPARC tool requires that surveyors record park users in each target area by recording age, activity type and level of activity first for females and then for males. The observational surveillance nature of the SOPARC tool necessitates that surveyors make educated guesses on the gender of park goers using only the female and male binary relation. The Park Board acknowledges that not all individuals identify as either female or male and, as a result, those people are not accurately reflected in this data. The data relating to gender in this study should be reviewed with the acknowledgment this limitation. Patterns revealed by this data will inform future efforts to understand the needs of all genders.

3.9 Ethnicity Characteristics

Ethnicity categories were modified from the U.S. version of the SOPARC instrument to cater to the unique demographics of Vancouver. Ethnicity classes were determined based on the makeup of the municipal population according to Statistics Canada.[24] Since the SOPARC tool is an observational assessment tool and no park patrons were interviewed, ethnicity was based on an educated guess from park surveyors. This assessment of ethnicity cannot be as detailed or accurate a profile of the population as can be obtained through an interview; however, it does give a general overview of the ethnic backgrounds of park users. After careful consideration and consultation with the community and subject matter experts, the decision was made not to include data related to ethnicity in this report due to the fact that ethnicity could not be verified via a self-reported ethnicity profile from individual park users.

[24] Statistics Canada: City of Vancouver Profile: http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Geo2=PR&Code2=01&Data=Count&SearchText=Vancouver&SearchType=Begins&SearchPR=59&B1=All&Custom=&TABID=1

4. FINDINGS: GENDER, AGE & ACTIVITY LEVEL FOR ALL PARKS

In this section, the findings from the SOPARC inventory are reviewed by gender, age and activity type for the entire sample of 24 parks. Results are presented for data collection on all three collection days unless otherwise stated. The tool allows for the description of park user descriptives in multiple ways for different days of the week, times periods during the day, by park class type or for individual parks and, thus, a large number of permutations of descriptives are possible. A full set of SOPARC variables are presented in Appendix D for all parks surveyed in the inventory.

4.1 Age & Gender

Data for park users was compiled for each park by target areas ranging from one target area in the smallest park (McCleery Park) to over fifty target areas in the largest park observed (John Hendry Park). A summation of these target area values provided overall counts for areas of interest including park users by gender, age and the type of activity they were engaged in at the time of the data collection.

A total of 18,285 people were observed in all 24 surveyed parks for over 97 total audit hours. The gender breakdown of park users was approximately 54.0% male and 46.0% female (Table 6). Park users were predominately (60.3%) adults 20 to 59 years old, followed by children up to 12 years old (25.2%), seniors 60 years or older (8.4%) and adolescents aged 13 to twenty years (6.1%) (Figure 5). Park users were made up of males and females at similar rates for each age class with children exhibiting the largest difference at 61% male and only 39% female.

Table 6: Total count of park patrons by gender for all observation target areas in all parks on all three collection days for all four daily time periods.

Gender	*Target Areas[25] (n)*	*Minimum*	*Maximum*	*Total Park Users*	*Mean*	*Standard Deviation*	*Percentage*
Female	3,797	0	55	8,409	2.21	4.56	46.0%
Male	3,797	0	52	9,876	2.60	4.95	54.0%
Total	3,797	0	90	18,285	4.82	8.60	100.0%

[25] Total target areas in the SOPARC inventory comprising all target areas in each park on every collection day and at each observation period. If a park had three mapped target areas, it would have 36 total target areas in the inventory where three target areas are multiplied by three data collection days multiplied by four observation time points during the day. Even if a target area was empty of park users, it was still recorded as zero park users.

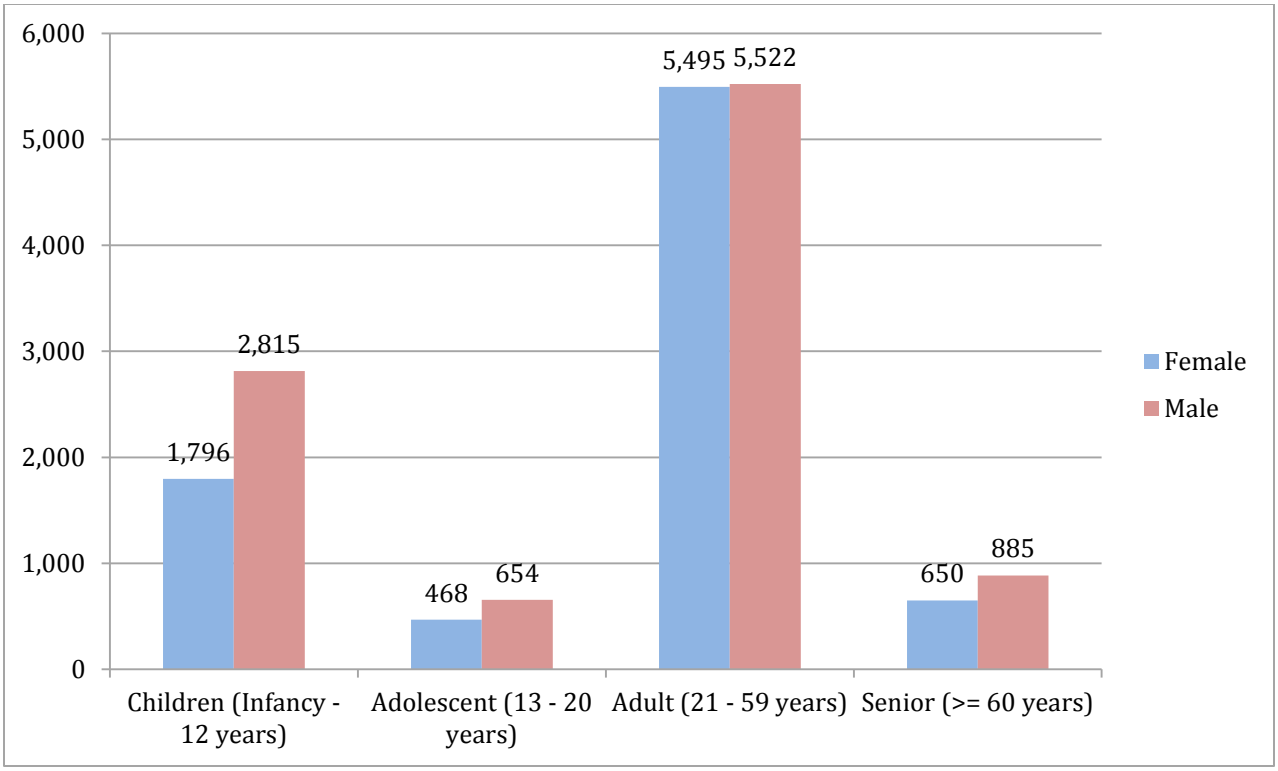

Figure 5: Total number of park patrons by age and gender engaging in all types of activity for all parks on all three collection days for all four daily time periods.

4.2 Activity Type

The majority of park users were observed engaging in sedentary activity (59.0%), with 32.6% of park users exhibiting moderate physical activity and only 8.3% at vigorous activity levels. Females had higher sedentary levels at 62.7% versus 55.9% for males, while males had higher levels of moderate and vigorous activity at 2.5% higher and 4.3% higher respectively (Figure 6).

Of all park users engaged in sedentary activity, 60.3% were adults, 25.2% were children, 8.4% were seniors and 6.1% were adolescents. Figure 7 shows these values for sedentary park users by age and gender displaying the largest difference between females and males for adults, at 70.4% for female versus 58.9% male, and children with a higher percentage of sedentary males at 24.6% compared to females at 16.3%. Park goers engaged in moderate physical activity show a similar pattern to that of sedentary activity with adults comprising the majority of the persons counted engaged in moderate activity (Figure 8). Adult females had higher percentages of moderate activity and slightly higher for seniors as well. Vigorous activity shows a different trend with adult and child males representing approximately 45% of vigorous activity compared with 54.6% and 37.3% of females in the same age classes (Figure 9).

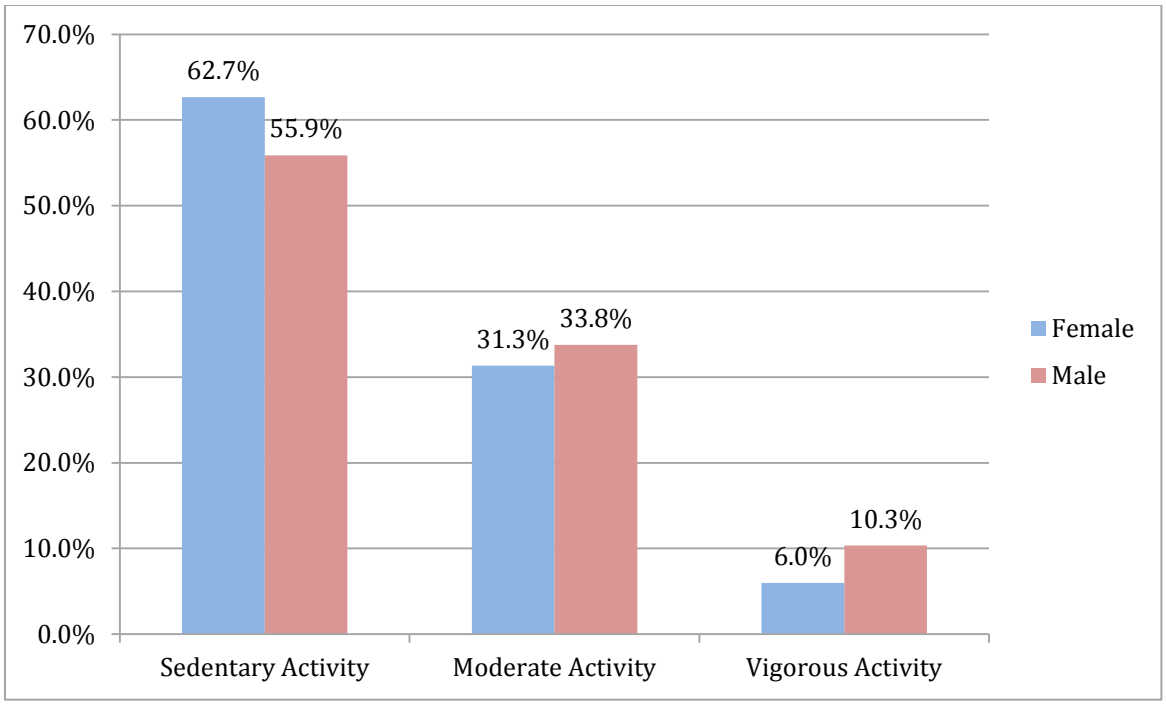

Figure 6: Percentage of park goers engaging in sedentary activity, moderate activity and vigorous activity by gender for all parks on all three collection days for all four daily time periods.

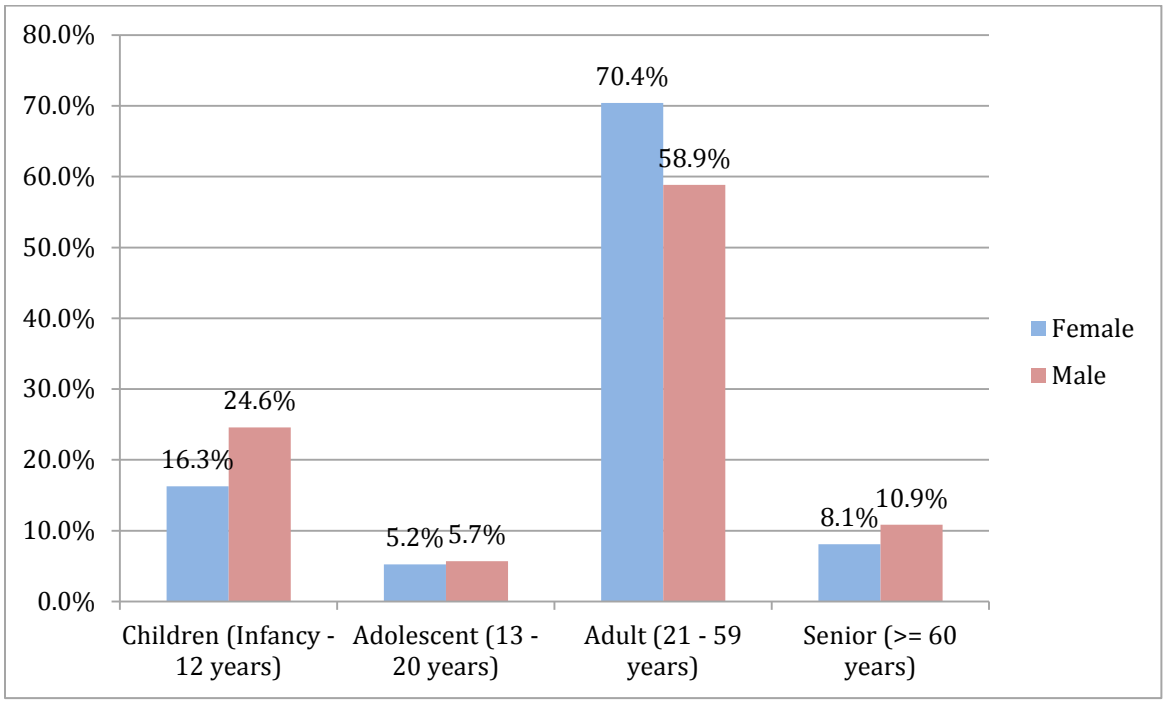

Figure 7: Percentage of park patrons engaged in sedentary activity by age and gender for all parks on all three collection days for all four daily time periods.

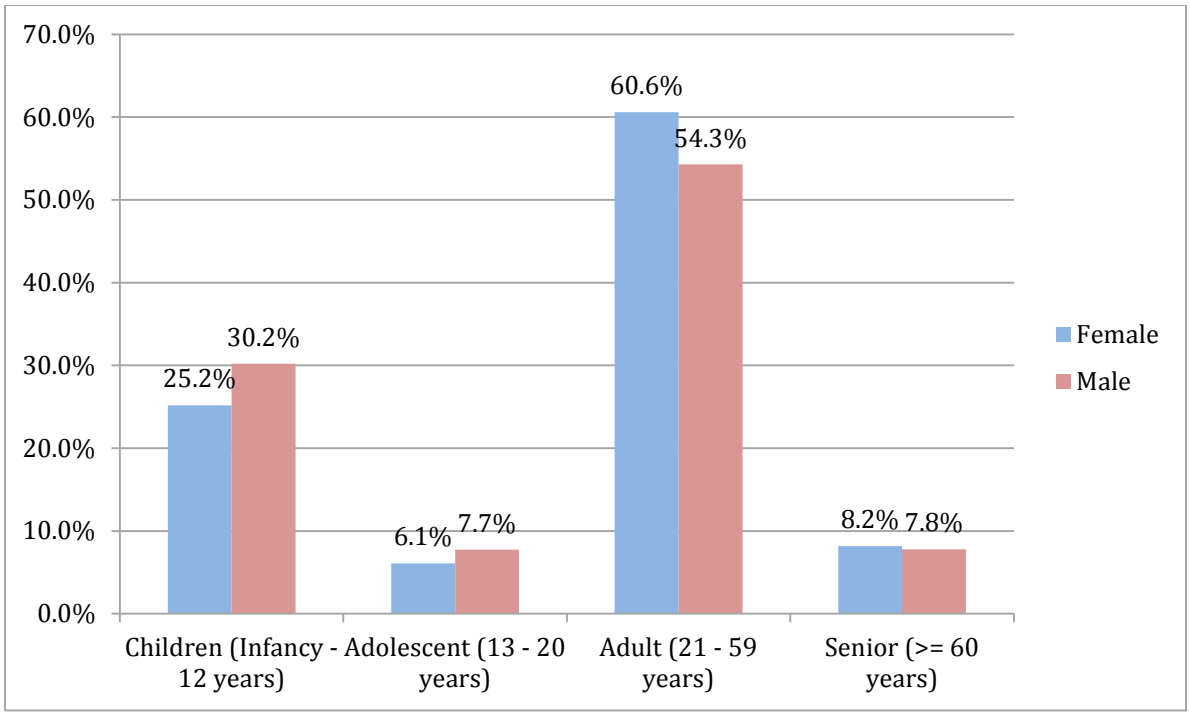

Figure 8: Percentage of park patrons engaged in moderate physical activity by age and gender for all parks on all three collection days for all four daily time periods.

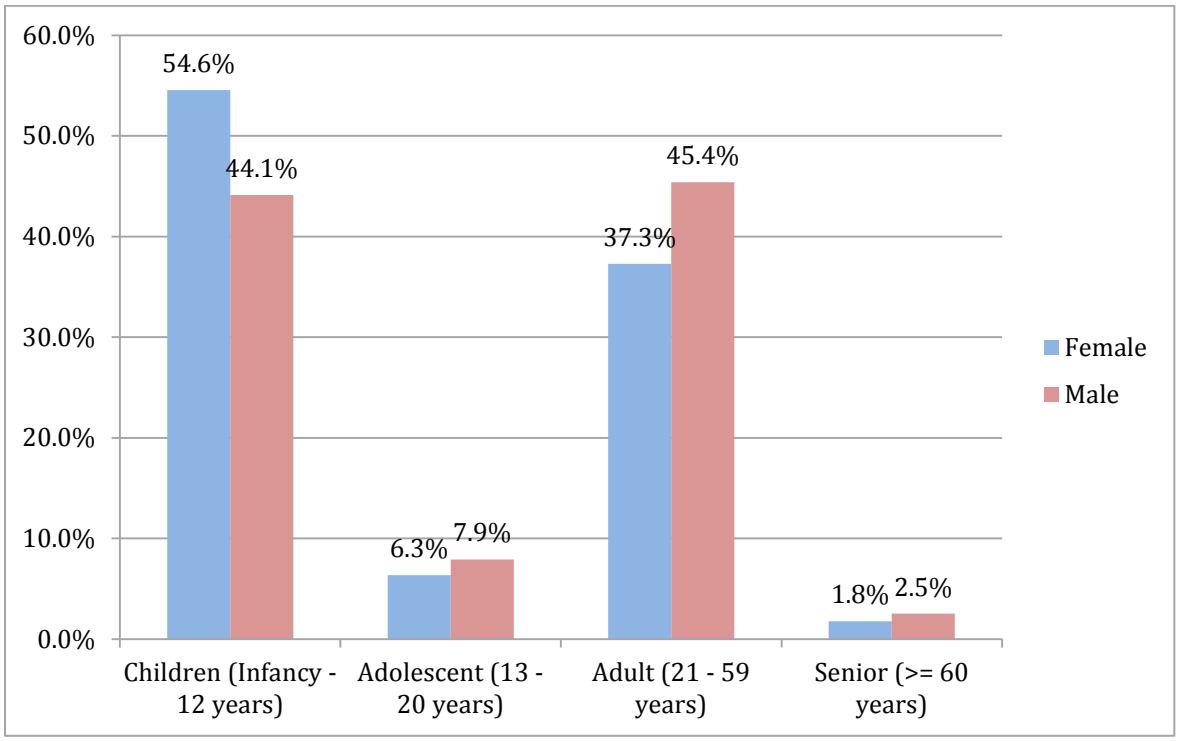

Figure 9: Percentage of park patrons engaged in vigorous physical activity by age and gender for all parks on all three collection days for all four daily time periods.

4.3 Park Atmosphere Assessment

The park atmosphere assessment survey was completed for each park summarizing the overall physical and social conditions during the last survey period of the day. A total of 77 park atmosphere assessments were done, one for each day when SOPARC data was acquired.[26] Graffiti was found to be present in only 13% of parks on data acquisition days, while 61% had "a little" litter present (Table 7). Table 8 outlines a variety of conditions observed in all parks over all survey days. At least one person was present smoking tobacco about 46% of the time, while the consumption of alcohol and marijuana was the same at about 21% of the time over the three observation days for each park. At least one park user was in a wheelchair or mobility chair about 33% of the time over all survey days for all parks. People that appeared to be homeless were observed being present in parks about 27.3% of time over all survey days for all parks (Table 9).

Table 7: Amount of litter and graffiti present in parks on all survey days for all parks observed.

Variable	*Amount*			
	None	A Little	Moderate	A Lot
Litter	31.2%	61.0%	7.8%	0.0%
Graffiti	87.0%	10.4%	2.6%	0.0%

Table 8: Safety, social conditions, wheelchair use and food availability in parks on all survey days for all observed parks.

Variable	*Not Present*	*Present*
Park staff engaged in maintenance	63.6%	36.4%
Law enforcement (police, park ranger, private security)	88.3%	11.7%
Physical conflict	100.0%	0.0%
Intimidating groups of people	100.0%	0.0%
People smoking tobacco	54.5%	45.5%
People drinking alcohol	79.2%	20.8%
People using marijuana	79.2%	20.8%
People using drugs (other than marijuana)	98.7%	1.3%
Park user with a wheelchair or mobility chair	67.5%	32.5%
Food, drink or snack vendors in park	84.4%	15.6%

Table 9: Amount of apparently homeless individuals present in parks on all survey days for all observed parks.

Variable	*None*	*1-2 persons*	*3-5 persons*	*6-10 persons*	*> 10 persons*
Homeless individuals in park	72.7%	22.1%	2.6%	1.3%	1.3%

4.4 Gross Population Density

The number of users of a park is a function of a wide variety of factors that may serve as attractive elements including park size, park amenities available and perceived safety. The number of

[26] A park atmosphere assessment form was completed for each park on each day (n = 3). Five additional forms were completed due to rain delays over the course of the inventory bringing the total number of park atmosphere assessment surveys to 77.

residents nearby the park is also a key contributor to park usage as park users typically visit parks close to their home during their leisure time. Gross residential population density was calculated for each park in the inventory based on 2016 Census tract data.[27] Parks were assigned population density values, in square kilometres, based on the Census tract that intersected the majority of the park polygon. Parks located in the Downtown Urban Core (DUC) (further explained in Section 5.1) tended to have some of the highest population densities (Emery Barnes Park at nearly 32,000 people per square kilometre) with the rest of the parks in the Downtown Peninsula at around 20,000 persons per square kilometre (Figure 10). The DUC parks outside of the Downtown Peninsula had lower population densities ranging from 11,689 (Granville Park) to only 3,065 persons per square kilometre (Strathcona Park). The average population density in square kilometres across the surveyed parks was 8,247 persons per square kilometre, 33% higher than the mean citywide population density. However, the median population density in square kilometres was only 5,503 per square kilometres, 15% lower than the median citywide population density of 6,498 per square kilometres.

[27] Statistics Canada, 2016.

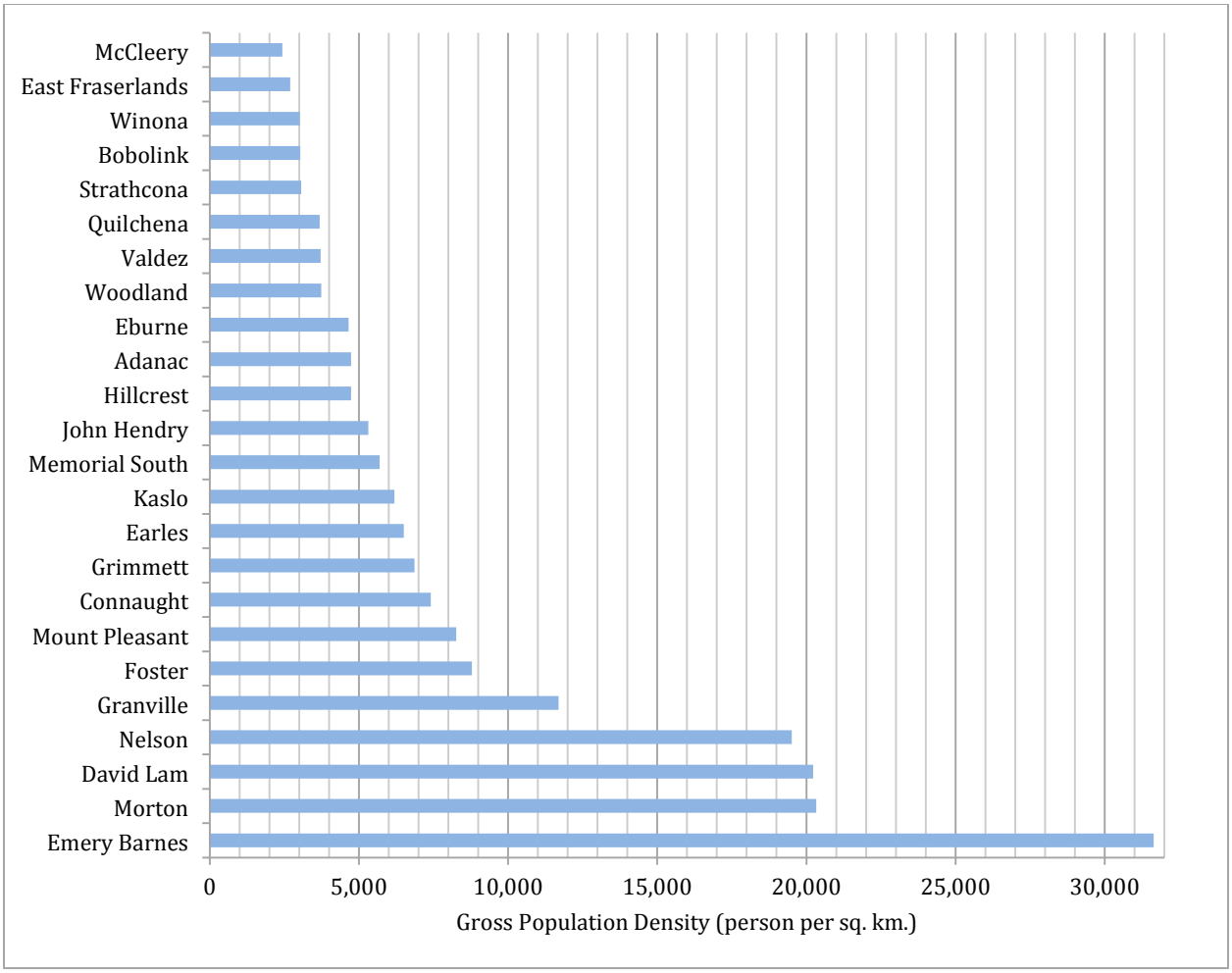

Figure 10: Gross 2016 residential population density using persons per square kilometre for all parks wholly contained by Census tracts.
Source: Statistics Canada, 2016.

5. FINDINGS: GENDER, AGE & ACTIVITY LEVEL FOR PARKS BY LOCATION, TYPE & OBSERVATION TIME

In addition to examining the overall results of the SOPARC inventory for all parks at the city-wide level, it was important to understand the differences between park goers and their activity levels between the three classes of parks evaluated: 1) Community Parks, 2) Neighbourhood Parks, and 3) Local Parks. Community Parks are much larger and had more park users than Neighbourhood Parks and Local Parks combined. However, there are some exceptions, namely two Neighbourhood Parks (Emery Barnes Park and Mt. Pleasant Park) had a high number of park users, similar to that of Community Parks. This section also evaluates the results of the SOPARC inventory based on parks in the DUC versus the rest of Vancouver as well as observation results by day of the week and time of the day.

Table 10 shows the five parks with the most people present during the SOPARC inventory, as well as the five parks with the fewest. Not surprisingly, the parks with the fewest people are all Local Parks, while the parks with the most are all Community Parks, with the exception of Emery Barnes Park. John Hendry (Trout Lake) was the largest park observed by area and the most used, with 5,904 persons observed over the three collection days. A total area of 31.4 hectares of parkland, among all parks in the inventory, were observed by raters over the collection period resulting in approximately 583 observed park patrons per hectare of parkland.

For most of the parks observed, the ratio of females to males remains relatively even near 50% for each. The main exception was Memorial South Park, where 68.1% of park users were male compared to only 31.9% female. McCleery Park and East Fraserlands Park also had lower percentages of females than males, but the sample was very low with only a total four and eight persons observed in the park over the three day period respectively.

Table 10: The top five most used parks and bottom five least used parks from the SOPARC inventory for all ages and activity levels on all three collection days for all four daily time periods.

Category	*Rank*	*Park Name*	*Park Type*	*Sample*		
				Total[28]	*Female*	*Male*
Most Users	1	John Hendry (Trout Lake)	Community	5,904	3,070 (52.0%)	2,834 (48.0%)
	2	David Lam	Community	2,241	1,080 (48.2%)	1,161 (51.8%)
	3	Memorial South	Community	1,959	624 (31.9%)	1,335 (68.1%)
	4	Emery Barnes	Neighbourhood	1,699	790 (46.5%)	909 (53.5%)
	5	Connaught	Community	1,346	646 (48.0%)	700 (52.0%)
Fewest Users	1	McCleery	Local	4	1 (25.0%)	3 (75.0%)
	2	East Fraserlands	Local	8	3 (37.5%)	5 (62.5%)
	3	Foster	Local	15	8 (53.3%)	7 (46.7%)
	4	Kaslo	Local	28	16 (57.1%)	12 (42.9%)
	5	Eburne	Local	40	22 (55.0%)	18 (45.0%)

Table 11 displays the five parks with the highest amounts of sedentary activity and the five parks with the highest amounts of moderate and vigorous physical activity combined (MVPA). When moderate and vigorous activity were combined, over 75% of park users in Adanac Park were engaged in MVPA, over 66% in Bobolink Park and around 55% in Quilchena Park , Winona Park and Grimmett Park. Three parks with the highest percentage of MVPA also have high vigorous activity levels over 20% (average of 8.3% vigorous activity for all parks observed), while the remaining two have high moderate activity levels at 47%, (average of 32.6% moderate activity for all parks observed). The least active parks all have rates of sedentary activity above 60%, ranging from the highest in John Hendry Park (Trout Lake) at 67.3% to Connaught Park at 61.4%. John Hendry Park had a near average rate of moderate activity for all parks, but a rate of only 3.7% for vigorous activity, less than half the average among all parks. John Hendry Park is the largest park in the inventory by area and was observed to have more than 2.5 times as many park users as the next most populous park (David Lam Park). With this level of park users, a majority are sitting, standing and walking yielding reasonable levels of moderate physical activity, but reduced vigorous activity overall despite the presence of some activity-promoting facilities. Morton Park had a moderate activity rate slightly above the average at 35.5%, but a vigorous rate of only 1.8% likely due to the small size of the park, and lack of amenities promoting/enabling vigorous activity.

[28] Total count of observed persons in each park including both female and male among all ages and activity types across all three collection days and at all four daily time periods.

Table 11: The top five most active parks and bottom five least active parks from the SOPARC inventory with more than 100[29] total park goers, summed over the three days of data collection.

Category	*Rank*	*Park Name*	*Park Type*	*Activity Type*			
				Sedentary	*Moderate*	*Vigorous*	*MVPA*[30]
Most Active[31]	1	Adanac	Neighbourhood	24.8%	54.6%	20.6%	75.2%
	2	Bobolink	Neighbourhood	33.9%	33.0%	33.0%	66.0%
	3	Quilchena	Community	44.9%	47.0%	8.2%	55.2%
	4	Winona	Neighbourhood	44.9%	28.5%	26.6%	55.1%
	5	Grimmett	Local	44.9%	47.2%	7.9%	55.1%
Average				38.7%	42.1%	19.3%	61.3%
Least Active[32]	1	John Hendry (Trout Lake)	Community	67.3%	29.0%	3.7%	32.7%
	2	Mt. Pleasant	Neighbourhood	64.8%	26.4%	8.9%	35.3%
	3	Emery Barnes	Neighbourhood	63.9%	30.8%	5.4%	36.2%
	4	Morton	Local	62.7%	35.5%	1.8%	37.3%
	5	Connaught	Community	61.4%	27.9%	10.7%	38.6%
Average				64.0%	29.9%	6.1%	36.4%

5.1 Downtown Urban Core Parks

Four parks were observed for the data collection in Vancouver's Downtown Peninsula: David Lam Park, Nelson Park, Emery Barnes Park and Morton Park. Additionally, three parks surveyed were located in close proximity to the Downtown Peninsula: Granville Park, Mt. Pleasant and Strathcona. Together, these seven parks comprise those located in Vancouver's Downtown Urban Core (DUC) representing some of the highest densities of development, people and jobs in metropolitan Vancouver (Figure 11). This section contrasts SOPARC gender, age and activity level variables between DUC parks and the parks in the rest of the City.

[29] Selected in order to discard some local parks with much lower sample sizes.
[30] Moderate and vigorous physical activity (MVPA) combined.
[31] Moderate and vigorous physical activity (MVPA) combined.
[32] Sedentary activity.

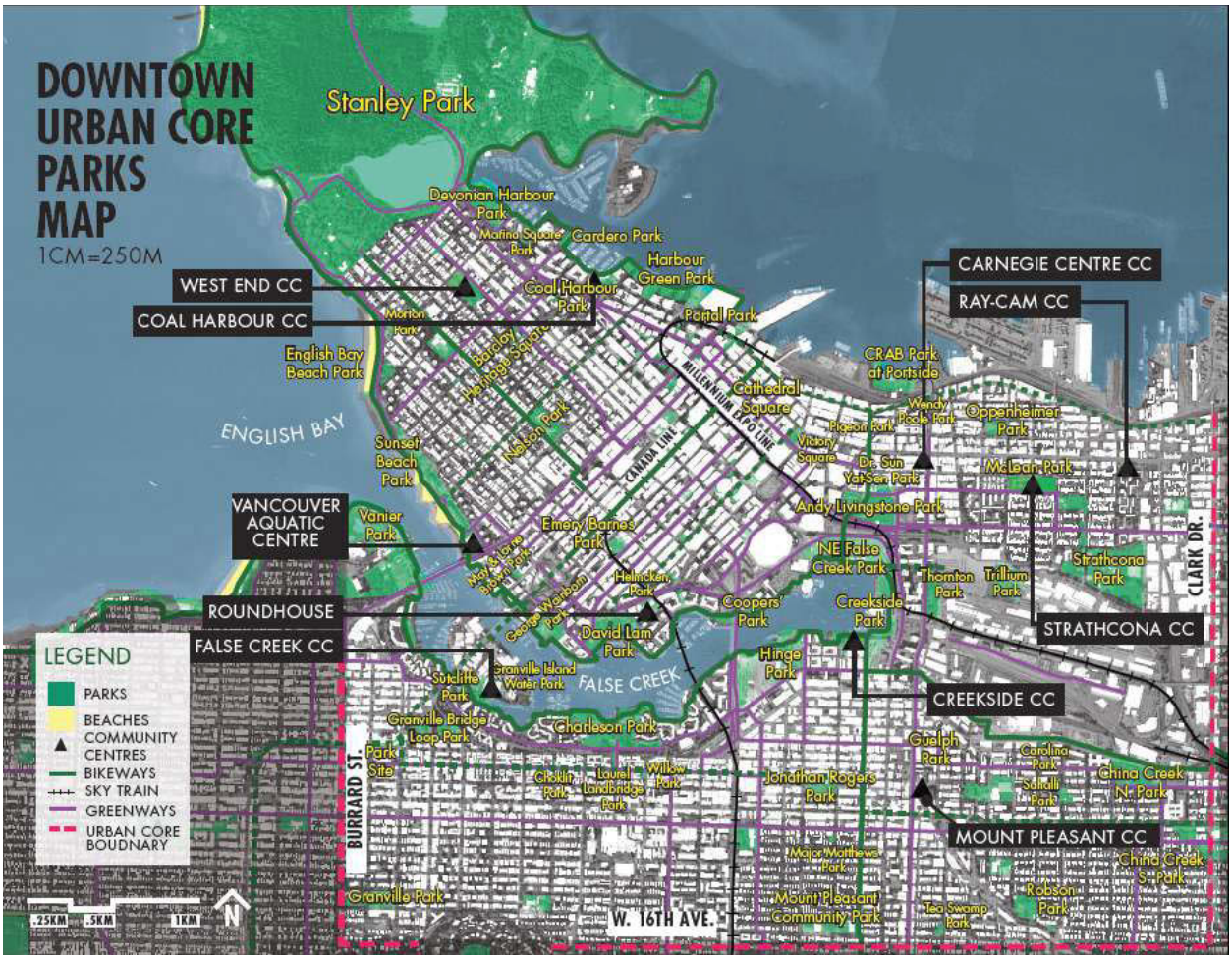

Figure 11: Map of parks in the DUC of Vancouver.
Source: Vancouver Park Board, 2017.

A total of 6,201 park users were observed in the DUC parks over the four daily time points on each of the three collection days, comprising 33.9% of the total users observed for the city-wide data collection. The SOPARC results, in terms of demographics and activity levels, for these DUC parks are similar to those across the rest of the parks, except the number of park users was higher than average. This was expected given their location in this densely populated area of the City. Slightly more female park users were observed in the DUC parks (47.5%) as compared to all surveyed parks (46.0%). The reverse was true for males, 52.5% (DUC parks, Table 12) versus 54.0% (all parks).

The DUC parks had age demographics that varied only slightly from the entire SOPARC sample for adults (59.2%) and children (26.9%) compared to 60.3% and 25.2% respectively. However, DUC parks had a higher percentage of seniors (12.1%) compared to 8.4% from all SOPARC surveyed parks, and a percentage of adolescents (1.8%) that was more than three times lower than for all parks (6.1%). Strathcona Park had the highest percentage of adult park users (77.2%), followed by Nelson Park (73.4%) and Morton Park (72.2%). David Lam Park had the highest percentage of park users that were children (45.1%), while Strathcona Park had the lowest percentage (7.6%). Emery Barnes Park had the highest percentage of seniors (24.5%), while all parks had less than 3.3% of

park users in the adolescent age range. The child and adolescent park user population was low at Nelson Park despite the presence of Lord Roberts Annex Elementary School on the park parcel. This may be due to the school having its own separated play facilities and only serving kindergarten through grade three.

Table 12: Total park patrons by gender and age on all survey days and all four daily time periods for DUC parks.

Park Name	*Sample*						
	Total	*Female*	*Male*	*Child*	*Adolescent*	*Adult*	*Senior*
David Lam	2,241	1,080 (48.2%)	1,161 (51.8%)	1,011 (45.1%)	52 (2.3%)	1,031 (46.0%)	147 (6.6%)
Nelson	639	291 (45.5%)	348 (54.5%)	107 (16.7%)	9 (1.4%)	469 (73.4%)	54 (8.5%)
Strathcona	302	98 (32.5%)	204 (67.5%)	23 (7.6%)	8 (2.6%)	233 (77.2%)	38 (12.6%)
Emery Barnes	1,699	790 (46.5%)	909 (53.5%)	238 (14.0%)	16 (0.9%)	1,028 (60.5%)	417 (24.5%)
Mt. Pleasant	698	356 (51.0%)	342 (49.0%)	200 (28.7%)	16 (2.3%)	465 (66.6%)	17 (2.4%)
Granville	287	168 (58.5%)	119 (41.5%)	58 (20.2%)	0 (0.0%)	200 (69.7%)	29 (10.1%)
Morton	335	165 (49.3%)	170 (50.7%)	33 (9.9%)	11 (3.3%)	242 (72.2%)	49 (14.6%)
Total	6,201	2,948 (47.5%)	3,253 (52.5%)	1,670 (26.9%)	112 (1.8%)	3,668 (59.2%)	751 (12.1%)

Physical activity levels also followed a similar trend as the entire SOPARC inventory with 57.5% of DUC park users engaged in sedentary activity, 33.6% in moderate activity and 8.9% in vigorous activity (Table 13). DUC park users were only marginally more active than the entire sample with an average of 42.5% of users engaged in MVPA, compared with 40.9% for the entire sample, across all parks. Strathcona Park had the highest level of vigorous activity at 16.9% and the highest level of MVPA at 55.0%. Morton Park had the lowest level of vigorous activity at 1.8% due to its small size with limited facilities, followed by Emery Barnes at 5.4%, with both parks having the lowest levels of MVPA at 37.3% and 36.1% respectively.

Table 13: Total park patrons by physical activity on all survey days and all four daily time periods for DUC parks.

Park Name	*Sample*	*Activity Type*							
	Total	*Sedentary*	*%*	*Moderate*	*%*	*Vigorous*	*%*	*MVPA*	*%*
David Lam	2,241	1183	52.8%	797	35.6%	261	11.6%	1,058	47.2%
Nelson	639	344	53.8%	247	38.7%	48	7.5%	295	46.2%
Strathcona	302	136	45.0%	115	38.1%	51	16.9%	166	55.0%
Emery Barnes	1,699	1085	63.9%	523	30.8%	91	5.4%	614	36.1%
Mt. Pleasant	698	452	64.8%	184	26.4%	62	8.9%	246	35.2%
Granville	287	154	53.7%	98	34.1%	35	12.2%	133	46.3%
Morton	335	210	62.7%	119	35.5%	6	1.8%	125	37.3%
Total	6,201	3,564	57.5%	2,083	33.6%	554	8.9%	2,637	42.5%

5.2 Community Parks

A total of 14,058 park users were observed in all eight of the Community Parks over the three collection days and during the four daily time periods. This represented 76.9% of all park users observed in the SOPARC inventory.

5.2.1 Age & Gender

John Hendry Park (Trout Lake) had the highest number of park users at slightly over 5,900 persons observed. The next highest were David Lam Park and Memorial South Park, at just over and just under 2,000 people respectively (Table 14). Adults were the majority of park goers in Community Parks, with an average of 59.1%, except for David Lam Park where they represented only 46.0%. This may be due to the high number of school children present from Elsie Roy Elementary School during weekdays. Females and males made up approximately half of the park users at Community Parks, except for lower rates of females in Hillcrest Park and Memorial South Park at only 30.0% and 31.8% respectively. Seniors and adolescent populations ranged between 2.5% and 12.6%, and 1.4% and 14.6% respectively.

Table 14: Total park patrons by gender and age on all survey days and all four daily time periods for each Community Park.
[1] Downtown Urban Core (DUC) park.

Park Name	*Sample*						
	Total	*Female*	*Male*	*Child*	*Adolescent*	*Adult*	*Senior*
Connaught	1,346	646 (48.0%)	700 (52.0%)	217 (16.1%)	197 (14.6%)	899 (66.8%)	33 (2.5%)
David Lam[1]	2,241	1,080 (48.2%)	1,161 (51.8%)	1,011 (45.1%)	52 (2.3%)	1,031 (46.0%)	147 (6.6%)
Hillcrest	1,288	386 (30.0%)	902 (70.0%)	424 (32.9%)	120 (9.3%)	699 (54.3%)	45 (3.5%)
John Hendry (Trout Lake)	5,904	3,070 (52.0%)	2,834 (48.0%)	1,340 (22.7%)	412 (7.0%)	3,768 (63.8%)	384 (6.5%)
Memorial South	1,959	624 (31.9%)	1,335 (68.1%)	591 (30.2%)	184 (9.4%)	992 (50.6%)	192 (9.8%)
Nelson[1]	639	291 (45.5%)	348 (54.5%)	107 (16.7%)	9 (1.4%)	469 (73.4%)	54 (8.5%)
Quilchena	379	152 (40.1%)	227 (59.9%)	60 (15.8%)	54 (14.2%)	221 (58.3%)	44 (11.6%)
Strathcona[1]	302	98 (32.5%)	204 (67.5%)	23 (7.6%)	8 (2.6%)	233 (77.2%)	38 (12.6%)
Total	14,058	6,347 (45.1%)	7,711 (54.9%)	3,773 (26.8%)	1,036 (7.4%)	8,312 (59.1%)	937 (6.7%)

5.2.2 Activity Type

Similar to the averages presented in the sections above for the entire SOPARC inventory, sedentary activity was the dominate activity type observed in Community Parks, with 63.5% of females and 56.4% of males engaged in sedentary activity (Figure 12). Women had slightly lower levels of moderate activity than men, and almost half as many females were engaged in vigorous physical activity than males. Table 15 shows activity type for each of the eight Community Parks with high levels of MVPA in Quilchena Park (55.2%) and Strathcona Park (55.0%). See Appendix E for more information on activity levels in Community Parks.

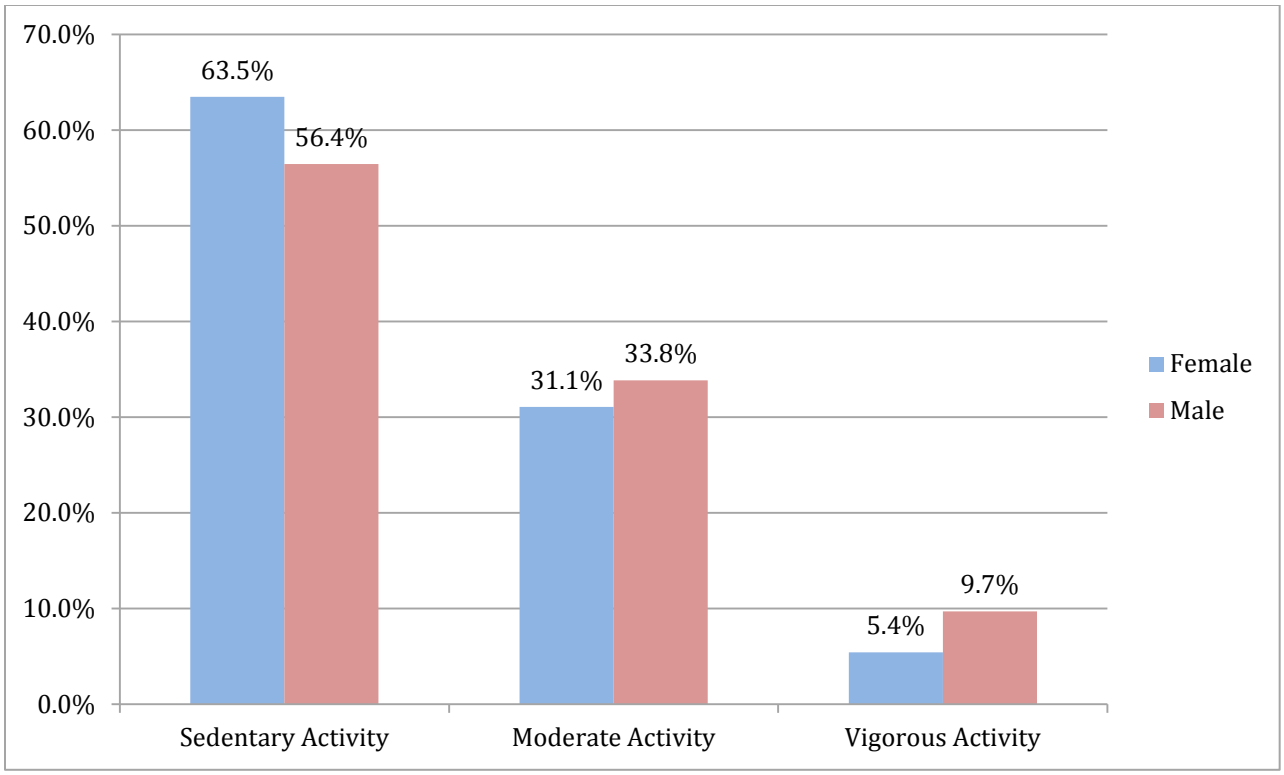

Figure 12: Percentage of park goers engaging in sedentary activity, moderate activity and vigorous activity by gender for Community Parks on all three collection days for all four daily time periods.

Table 15: Total park patrons by physical activity on all survey days and all four daily time periods for each Community Park.
[1] DUC park.

Park Name	*Sample*	*Activity Type*							
	Total	*Sedentary*	*%*	*Moderate*	*%*	*Vigorous*	*%*	*MVPA*	*%*
Connaught	1,346	826	61.4%	376	27.9%	144	10.7%	520	38.6%
David Lam[1]	2,241	1,183	52.8%	797	35.6%	261	11.6%	1058	47.2%
Hillcrest	1,288	724	56.2%	479	37.2%	85	6.6%	564	43.8%
John Hendry (Trout Lake)	5,904	6,324	67.3%	2,724	29.0%	351	3.7%	3075	52.1%
Memorial South	1,959	1,146	58.5%	602	30.7%	211	10.8%	813	41.5%
Nelson[1]	639	344	53.8%	247	38.7%	48	7.5%	295	46.2%
Quilchena	379	170	44.9%	178	47.0%	31	8.2%	209	55.1%
Strathcona[1]	302	136	45.0%	115	38.1%	51	16.9%	166	55.0%
Total	14,058	8,381	59.6%	4,583	32.6%	1,094	7.8%	5,677	40.4%

5.2.3 Walking Paths

As outlined in Section 3.5 above, park user counts were recorded differently from the rest of the SOPARC instrument for specific looped or linear pathways meant for exercise, leisure walking or utilitarian transportation. These walking path features were identified only in five parks during the pre-collection mapping process. Table 16 shows the counts of park users by gender and age. David Lam Park had the most walking path users. The walking path at Strathcona Park had the fewest users and was empty at most time periods when data was collected.

Walking was the most common activity on walking paths, averaging 50.8% overall among all parks with walking paths, followed by cycling at 29.3% and running at 13.0% (Table 17). Among the 1,258 park users recorded on walking paths during data collection periods, none were observed using wheelchairs or mobility chairs. However, SOPARC surveyors reported park goers using accessibility vehicles when completing the Park Atmosphere Assessment form, which notes anyone seen at any time in any part of a park.

Table 16: Gender and age counts of park users observed on walking paths on all survey days and all four daily time periods in Community Parks.
[1] DUC park.

Park Name	*Total*	*Female*	*Male*	*Children*	*Adolescent*	*Adult*	*Senior*
David Lam[1]	700	302 (43.1%)	398 (56.9%)	82 (11.7%)	25 (3.6%)	469 (67.0%)	124 (17.7%)
John Hendry (Trout Lake)	394	234 (59.4%)	160 (40.6%)	48 (12.2%)	10 (2.5%)	281 (71.3%)	55 (14.0%)
Memorial South	95	31 (32.6%)	64 (67.4%)	7 (7.4%)	4 (4.2%)	56 (59.9%)	28 (29.5%)
Quilchena	65	37 (56.9%)	28 (43.1%)	5 (7.7%)	0 (0.0%)	47 (72.3%)	12 (18.5%)
Strathcona[1]	4	1 (25.0%)	3 (75.0%)	0 (0.0%)	0 (0.0%)	3 (75.0%)	1 (25.0%)
Total	1,258	605 (48.1%)	653 (51.9%)	142 (11.3%)	39 (3.1%)	856 (68.0%)	220 (17.5%)

Table 17: Counts of park users observed on walking paths by activity type on all survey days and all four daily time periods in Community Parks.
[1] DUC park.

Park Name	*Sedentary*	*Walking*	*Running*	*Cycling*	*Skating*	*Wheelchair*
David Lam	27 (3.9%)	282 (40.3%)	54 (7.7%)	309 (44.1%)	14 (2.0%)	0 (0.0%)
John Hendry (Trout Lake)	26 (6.6%)	242 (61.4%)	74 (18.8%)	52 (13.2%)	0 (0.0%)	0 (0.0%)
Memorial South	3 (3.2%)	66 (69.5%)	24 (25.3%)	2 (2.1%)	0 (0.0%)	0 (0.0%)
Quilchena	3 (4.6%)	47 (72.3%)	11 (16.9%)	4 (6.2%)	0 (0.0%)	0 (0.0%)
Strathcona	0 (0.0%)	2 (50.0%)	1 (25.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
Total	59 (4.7%)	639 (50.8%)	164 (13.0%)	368 (29.3%)	14 (1.1%)	0 (0.0%)

5.3 Neighbourhood Parks

In eight Neighbourhood Parks, 3,626 park users were observed over the three collection days and during the four daily time periods, comprising 19.8% of all park users observed in the SOPARC inventory. Approximately 47.8% of Neighbourhood Park users were female, while 52.2% were male.

5.3.1 Age & Gender

Emery Barnes Park had the highest number of park users at nearly 1,700 persons observed, followed by Mt. Pleasant Park at just under 700 people (Table 18). Both Emery Barnes Park and Mt. Pleasant Park are more heavily used than some Community Parks, such as Quilchena Park and Strathcona Park. Adults were the majority of park goers in Neighbourhood Parks with an average of 63.8% of park users, except for Bobolink Park where they represented only 41.1%. A slightly lower percentage of females (47.8%) than males (52.2%) made up of the park users, except for higher rates of females in Granville Park at 58.5%. Seniors remained at levels of between about 5% and 15% except for Emery Barnes Park where seniors were 24.5%. As park usage is an important factor

determining the designation of whether a park is a Community Park, Neighbourhood Park or a Local Park, further consideration may be warranted in adjusting the designation of these two parks from Neighbourhood Parks to Community Parks.

Table 18: Total park patrons by gender and age on all survey days and all four daily time periods for each Neighbourhood Park.
[1] DUC park.

Park Name	*Sample*						
	Total	*Female*	*Male*	*Child*	*Adolescent*	*Adult*	*Senior*
Bobolink	224	119 (53.1%)	105 (46.9%)	104 (46.4%)	17 (7.6%)	92 (41.1%)	11 (4.9%)
Earles	86	23 (26.7%)	63 (73.3%)	19 (22.1%)	10 (11.6%)	52 (60.5%)	5 (5.8%)
Emery Barnes[1]	1,699	790 (46.5%)	909 (53.5%)	238 (14.0%)	16 (0.9%)	1,028 (60.5%)	417 (24.5%)
Granville[1]	287	168 (58.5%)	119 (41.5%)	58 (20.2%)	0 (0.0%)	200 (69.7%)	29 (10.1%)
Adanac	141	45 (31.9%)	96 (68.1%)	22 (15.6%)	4 (2.8%)	95 (67.4%)	20 (14.2%)
Mt. Pleasant	698	356 (51.0%)	342 (49.0%)	200 (28.7%)	16 (2.3%)	465 (66.6%)	17 (2.4%)
Winona	263	124 (47.1%)	139 (52.9%)	33 (12.5%)	2 (0.8%)	221 (84.0%)	7 (2.7%)
Woodland	228	110 (48.2%)	118 (51.8%)	45 (19.7%)	2 (0.9%)	162 (71.1%)	19 (8.3%)
Total	3,626	1,735 (47.8%)	1,891 (52.2%)	719 (19.8%)	67 (1.8%)	2,315 (63.8%)	525 (14.5%)

5.3.2 Activity Type

Similar to the averages presented in sections above for the entire SOPARC inventory, sedentary activity was the dominate activity type observed in parks at 61.7% of females and 54.2% of males (Figure 13). As with Community Parks, women had slightly lower levels of moderate activity than men. A little more than half as many females were engaged in vigorous physical activity than males. Table 19 shows activity type for each of the eight Neighbourhood Parks, with high levels of MVPA in Adanac Park (75.2%). Adanac and Bobolinks Park had the lowest level of sedentary activity in the entire SOPARC sample at only 24.8% and 33.9% respectively. See Appendix F for more information on activity levels in Neighbourhood Parks.

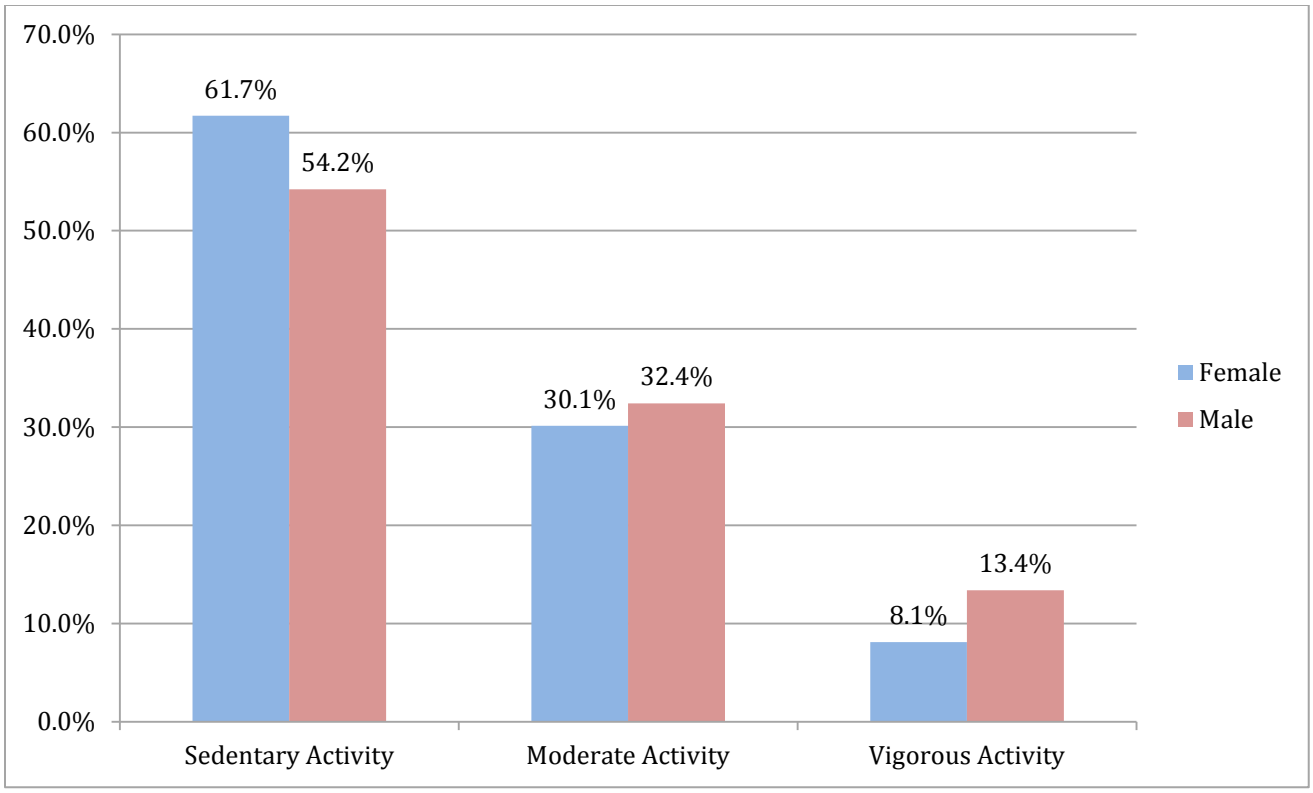

Figure 13: Percentage of park goers engaging in sedentary activity, moderate activity and vigorous activity by gender for Neighbourhood Parks on all three collection days for all four daily time periods.

Table 19: Total park patrons by gender and age on all survey days and all four daily time periods for each Neighbourhood Park.

[1] DUC park.

Park Name	*Sample*	*Activity Type*							
	Total	*Sedentary*	*%*	*Moderate*	*%*	*Vigorous*	*%*	*MVPA*	*%*
Bobolink	224	76	33.9%	74	33.0%	74	33.0%	148	66.1%
Earles	86	30	34.9%	43	50.0%	13	15.1%	56	65.1%
Emery Barnes[1]	1,699	1,085	63.9%	523	30.8%	91	5.4%	614	36.1%
Granville[1]	287	154	53.7%	98	34.1%	35	12.2%	133	46.3%
Adanac	141	35	24.8%	77	54.6%	29	20.6%	106	75.2%
Mt. Pleasant	698	452	64.8%	184	26.4%	62	8.9%	246	35.2%
Winona	263	118	44.9%	75	28.5%	70	26.6%	145	55.1%
Woodland	228	146	64.0%	62	27.2%	20	8.8%	82	36.0%
Total	3,626	2,096	57.8%	1,136	31.3%	394	10.9%	1,530	42.2%

5.4 Local Parks

In the eight Local Parks, 601 park users were observed over the three collection days and during the four daily time periods, comprising 3.3% of all park users observed in the SOPARC inventory. Local Parks had far less visitors in comparison to Community and Neighbourhood Parks with some having less than 10 park users each such as, McCleery Park and East Fraserlands Park. Unlike with Community and Neighbourhood Parks, Local Parks had slightly more females than males, at 54.4% compared to 45.6%.

5.4.1 Age & Gender

Morton Park had the highest number of park users, with 335 persons observed, followed by Grimmett Park at just under 130 people (Table 20). Morton Park is located in the densely populated West End and is a popular tourist destination. Even though Morton Park is classified as a Local Park with slightly more than 0.2 hectares (about 0.5 acres) of park area, it had more park users than the Community Park Strathcona Park, and all Neighbourhood Parks except for the populated Emery Barnes Park and Mt. Pleasant Park.

Adults tended to be the majority of park goers in Local Parks, with an average of 64.9% of park users. Exceptions included East Fraserlands Neighbourhood Park (37.5%) and Kaslo Park (32.1%) with low numbers of park users, as well at Grimmett Park where they represented only 46.5%. More females (54.4%) than males (45.6%) used these parks. The highest rate of use by females was in Valdez Park (65.9%).

Table 20: Total park patrons by gender and age on all survey days and all four daily time periods for each Local Park.
[1] DUC park.

Park Name	*Sample*						
	Total	*Female*	*Male*	*Child*	*Adolescent*	*Adult*	*Senior*
East Fraserlands	8	3 (37.5%)	5 (62.5%)	4 (50.0%)	0 (0.0%)	3 (37.5%)	1 (12.5%)
Eburne	40	22 (55.0%)	18 (45.0%)	0 (0.0%)	0 (0.0%)	34 (85.0%)	6 (20.0%)
Foster	15	8 (53.3%)	7 (46.7%)	1 (6.7%)	2 (13.3%)	9 (60.0%)	3 (20.0%)
Grimmett	127	83 (65.4%)	44 (34.6%)	64 (50.4%)	0 (0.0%)	59 (46.5%)	4 (3.1%)
Kaslo	28	16 (57.1%)	12 (42.9%)	11 (39.3%)	5 (17.9%)	9 (32.1%)	3 (10.7%)
McCleery	4	1 (25.0%)	3 (75.0%)	0 (0.0%)	0 (0.0%)	2 (50.0%)	2 (50.0%)
Morton[1]	335	165 (49.3%)	170 (50.7%)	33 (9.9%)	11 (3.3%)	242 (72.2%)	49 (14.6%)
Valdez	44	29 (65.9%)	15 (34.1%)	6 (13.6%)	1 (2.3%)	32 (72.7%)	5 (11.4%)
Total	601	327 (54.4%)	274 (45.6%)	119 (19.8%)	19 (3.2%)	390 (64.9%)	73 (12.1%)

5.4.2 Activity Type

Sedentary activity was still the dominate activity type observed in parks, with a gender split of 52.3% of females and 51.8% of males (Figure 14). Vigorous activity remained low, at less than 7% of park users being this active. Moderate physical activity was approximately 41%, about 10% higher than the average percentage of users engaged in moderate activity for Community Parks and Neighbourhood Park at 32% and 31% respectively. Women in Local Parks had lower rates of vigorous activity than men, however, a slightly higher percentage of moderate activity. Table 21 shows activity type for each of the eight Local Parks with a higher range of activity levels due to the small sample size for parks with sparse park usage. See Appendix G for more information on activity levels in Local Parks.

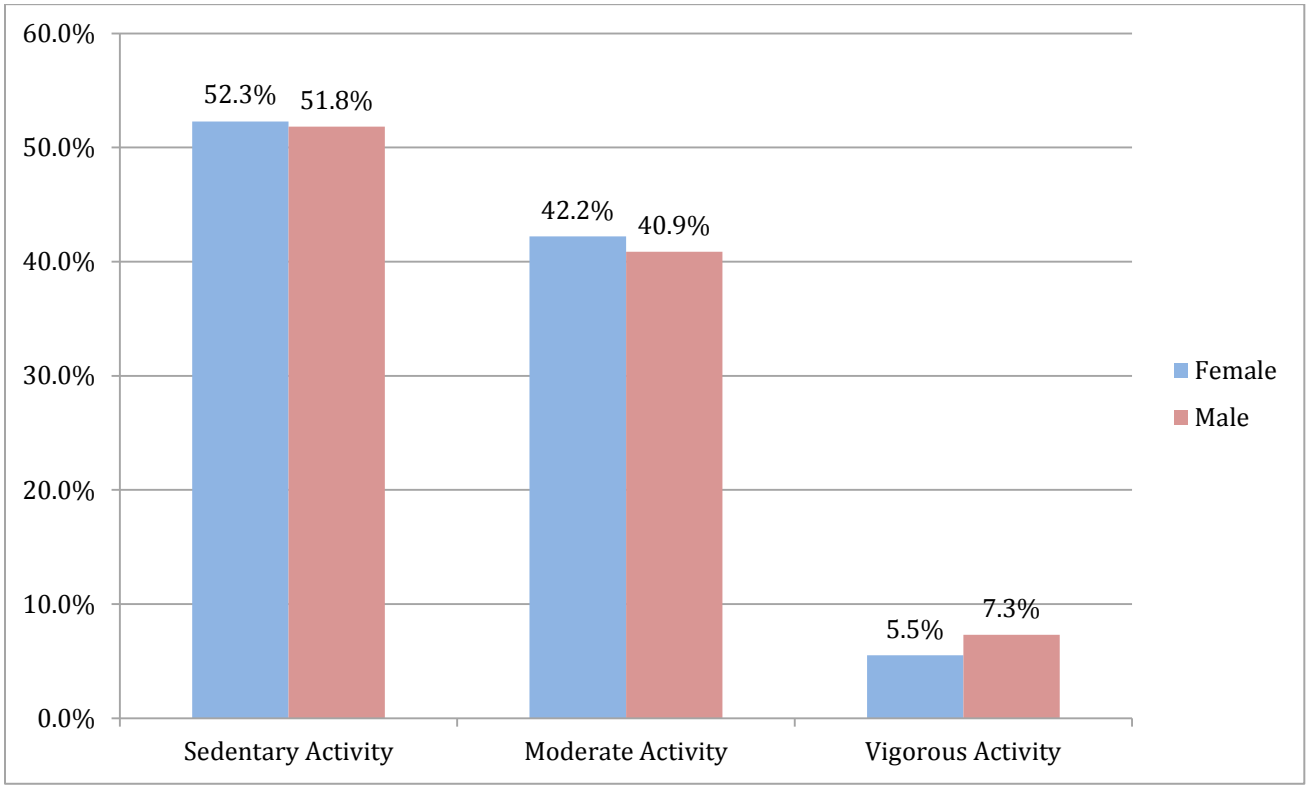

Figure 14: Percentage of park goers engaging in sedentary activity, moderate activity and vigorous activity by gender for Local Parks on all three collection days for all four daily time periods.

Table 21: Total park patrons by gender and age on all survey days and all four daily time periods for each Local Park.
[1] DUC park.

Park Name	*Sample*	*Activity Type*							
	Total	*Sedentary*	*%*	*Moderate*	*%*	*Vigorous*	*%*	*MVPA*	*%*
East Fraserlands	8	1	12.5%	7	87.5%	0	0.0%	7	87.5%
Eburne	40	16	40.0%	19	47.5%	5	12.5%	24	60.0%
Foster	15	5	33.3%	9	60.0%	1	6.7%	10	66.7%
Grimmett	127	57	44.9%	60	47.2%	10	7.9%	70	55.1%
Kaslo	28	10	35.7%	9	32.1%	9	32.1%	18	64.3%
McCleery	4	0	0.0%	2	50.0%	2	50.0%	4	100.0%
Morton[1]	335	210	62.7%	119	35.5%	6	1.8%	125	37.3%
Valdez	44	14	31.8%	25	56.8%	5	11.4%	30	68.2%
Total	601	313	52.1%	250	41.6%	38	6.3%	288	47.9%

5.5 High Physical Activity Parks

Based on the results of the SOPARC inventory, the parks with the highest levels of physical activity among the sample were identified. This set of parks ranged in size from large Community Parks to small Local Parks located within and outside of the DUC. Three main criteria were used to evaluate overall level of park user activity with regards to identifying active parks:

1. must have at least one active outdoor park amenity (e.g. courts, multi-purpose sports fields, etc.) for Neighbourhood Parks and Local Parks and at least three active amenities for Community Parks
2. must have a sample of greater than 100 park users over all SOPARC observation periods[33]
3. must have an observed overall percent of park users engaged in physical activity at the moderate plus vigorous (MVPA) levels of greater than 55%.

Using these qualification criteria, six parks, representing a quarter of the SOPARC sample, were identified as demonstrating high levels of physical activity (Table 22). Strathcona Park, despite having the lowest number of park users among Community Parks, has a high number of active park facilities including baseball diamonds, basketball courts and a running track. It was the sole park included among active parks located in the DUC. Adanac Park, Bobolink Park and Winona Park were among the most active parks ranging from 55.1% MVPA to 75.2% among park users.

[33] This criterion discarded some of the smaller Local Parks with limited sample sizes.

Table 22: Identified parks with high levels of physical activity that meet active facility and sampled park user criteria.
[1] DUC park.

Park Name	*Park Classification*	*Active Facilities (n)*	*Park Users (n)*	*MVPA (%)*
Adanac	Neighbourhood Park	1	141	75.2%
Bobolink	Neighbourhood Park	3	224	66.0%
Grimmett	Local Park	1	127	55.1%
Quilchena	Community Park	4	379	55.2%
Strathcona[1]	Community Park	8	302	55.0%
Winona	Neighbourhood Park	2	263	55.1%

Table 23 shows the remaining 18 parks in the inventory with respect to the qualification criteria established to identify active and passive parks. John Hendry (Trout Lake) Park had the highest number of park users, but the lowest level of MVPA at only 32.7%; however, the number of park users did not necessarily determine park user activity levels. David Lam Park and Nelson Park had high numbers of park users and relatively higher average MVPA at 47.2% and 46.3% respectively. It is important to note that activity levels comprise the overall observed levels of activity among all park users not distinguishing between gender, age cohort, day of the week or time of day. Other parks surveyed as part of the inventory demonstrated high levels of MVPA among certain demographic cohorts in certain areas of the park that have been reviewed in this report.

Table 23: Identified passive parks based on the activity level, active facilities and sample criteria.
[1] DUC park.

Park Name	*Park Classification*	*Active Facilities (n)*	*Park Users (n)*	*MVPA (%)*
Connaught	Community Park	5	1,346	38.6%
David Lam[1]	Community Park	4	2,241	47.2%
Earles	Neighbourhood Park	2	86	65.1%
East Fraserlands	Local Park	1	8	87.5%
Eburne	Local Park	1	40	60.0%
Emery Barnes[1]	Neighbourhood Park	2	1,699	36.2%
Foster	Local Park	1	15	66.7%
Granville[1]	Neighbourhood Park	3	287	46.3%

Hillcrest	Community Park	4	1,288	43.8%
John Hendry (Trout Lake)	Community Park	5	5,904	32.7%
Kaslo	Local Park	2	28	64.2%
McCleery	Local Park	0	4	100.0%
Memorial South	Community Park	6	1,959	41.5%
Morton[1]	Local Park	1	335	37.3%
Mount Pleasant	Neighbourhood Park	4	698	35.3%
Nelson[1]	Community Park	2	639	46.2%
Valdez	Local Park	0	44	68.2%
Woodland	Neighbourhood Park	3	228	36.0%

5.6 Weekdays & Weekends

Park usage varied across weekdays and weekends. Data was collected on two weekdays and one weekend day. Weekday results are shown as average values over the two collected weekdays. More park users were observed on weekends in comparison to weekdays. Over 70% of total park users were in parks during weekend observations, with the remainder, just under 29%, there on a weekday.

5.6.1 Age & Gender

Females were more likely to visit parks during weekdays, representing 49.2% of park users in comparison to only 43.3% during weekends. In contrast, 50.8% of park users were males on weekdays and increasing to 56.7% on weekends.

On weekdays, 27.0% of female users and 33.7% of male users were children. Their populations on weekends decreased to 24.7% for males and by nearly half for females (16.1%). The presence of adolescents in parks also decreased by over 50% for females, from 7.9% of users on weekdays to only 3.4% on weekends. Males showed a similar trend decreasing from 8.8% on weekdays to 5.0% on weekends. Senior park users stayed relatively similar between the two times of week, increasing from 7.3% on weekdays to 8.2% on weekends for females and decreasing from 9.5% of weekdays to 8.6% on weekends for males. Adults represented the majority of park users on both weekdays and weekends, however, this age cohort increased their presence for both genders from 57.9% on weekdays to 72.3% on weekends for females and similarly from 48.1% to 61.7% for males. Given adults form the majority of the workforce population, these results may indicate that fact that some

adults have less time to visit parks during weekdays due to work commitments, while young children not in school may be more likely to visit parks during weekdays.

Table 24 shows weekday versus weekend park use by gender for each park in the inventory. Park use tends to be higher on weekends than on weekdays, with the exception of Quilchena Park and Adanac Park and a few Local Parks with smaller sample sizes such as, Eburne Park and Foster Park. Among the parks in the Downtown Peninsula, David Lam Park and Nelson Park had a relatively equal number of park users on weekends versus weekdays, whereas Morton Park and Emery Barnes Park had more users on the weekend at 61.7% and 79.9% respectively. With the exception of Earles Park, Granville Park and Eburne Park, female park users represented a significantly smaller portion of park users on weekends as compared to weekdays. On weekends females represented as little as 25.4% of park users at Hillcrest Park, 28.2% at Strathcona Park, and about 32% in Quilchena Park and Memorial South Park.

Table 24: Total park users by gender for weekday versus weekend SOPARC observations.
[1] DUC park.

Park Name	*Weekday*[34]						*Weekend*					
	Total	*%*	*Female*	*%*	*Male*	*%*	*Total*	*%*	*Female*	*%*	*Male*	*%*
Connaught	294	27.9%	158	53.7%	136	46.3%	759	72.1%	331	43.6%	428	56.4%
David Lam	755	50.8%	377	50.0%	378	50.0%	732	49.2%	326	44.5%	406	55.5%
Hillcrest	166	14.8%	72	43.1%	95	56.9%	956	85.2%	243	25.4%	713	74.6%
John Hendry (Trout Lake)	1,105	23.0%	627	56.7%	479	43.3%	3,694	77.0%	1,817	49.2%	1,877	50.8%
Memorial South	411	26.5%	127	30.9%	284	69.1%	1,138	73.5%	370	32.5%	768	67.5%
Nelson	218	51.6%	102	46.9%	116	53.1%	204	48.4%	87	42.6%	117	57.4%
Quilchena	143	60.6%	61	42.7%	82	57.3%	93	39.4%	30	32.3%	63	67.7%
Strathcona	89	41.8%	32	35.4%	58	64.6%	124	58.2%	35	28.2%	89	71.8%
Bobolink	73	48.3%	40	54.8%	33	45.2%	78	51.7%	39	50.0%	39	50.0%
Earles	19	42.5%	5	27.0%	14	73.0%	25	57.5%	15	60.0%	10	40.0%
Emery Barnes	285	20.1%	134	46.9%	151	53.1%	1,133	79.9%	525	46.3%	608	53.7%
Granville	86	43.0%	50	57.6%	37	42.4%	114	57.0%	69	60.5%	45	39.5%
Adanac	55	64.0%	16	29.1%	39	70.9%	31	36.0%	13	41.9%	18	58.1%
Mt. Pleasant	162	30.1%	85	52.3%	77	47.7%	375	69.9%	187	49.9%	188	50.1%
Winona	31	13.4%	19	61.3%	12	38.7%	201	86.6%	86	42.8%	115	57.2%
Woodland	56	32.2%	27	48.6%	29	51.4%	117	67.8%	56	47.9%	61	52.1%
East Fraserlands	2	23.1%	1	33.3%	1	66.7%	5	76.9%	2	40.0%	3	60.0%
Eburne	15	54.7%	8	51.7%	7	48.3%	12	45.3%	7	58.3%	5	41.7%
Foster	6	66.7%	4	58.3%	3	41.7%	3	33.3%	1	33.3%	2	66.7%
Grimmett	44	52.1%	31	71.3%	13	28.7%	40	47.9%	21	52.5%	19	47.5%
Kaslo	9	43.6%	6	70.6%	3	29.4%	11	56.4%	4	36.4%	7	63.6%
McCleery	1	14.3%	0	0.0%	1	100.0%	3	85.7%	1	33.3%	2	66.7%
Morton	92	38.3%	45	48.4%	48	51.6%	148	61.7%	74	50.0%	74	50.0%
Valdez	13	39.7%	8	64.0%	5	36.0%	19	60.3%	13	68.4%	6	31.6%

As with the overall representation of park users, adult users comprised the majority of park users on both weekdays and weekends, except on weekdays in David Lam Park, Bobolink Park, Grimmett Park and Kaslo Park (Table 25). Adolescent park users represented over 10% of park users during weekdays only at Connaught Park, Earles Park and Memorial South Park at 32.7%, 24.3% and 15.8% respectively, and at Quilchena Park, Earles Park and Hillcrest Park on weekends at 24.7%, 12.0% and 11.0%. Senior park users had the highest percentage on weekdays at Morton Park (19.0%) and at Emery Barnes Park (30.1%) on weekends. Adult park patrons tended to be more numerous on weekends, representing more than 80% of park users at Connaught Park, Strathcona

[34] Mean of the two weekday collection days.

Park, Granville Park, Winona Park, Eburne Park, Morton Park and Foster Park on these observation days.

Table 25: Total park users by age for weekday versus weekend SOPARC observations.
[1] DUC park.

Park Name	*Weekday*[35]				*Weekend*			
	Child	*Adolescent*	*Adult*	*Senior*	*Child*	*Adolescent*	*Adult*	*Senior*
Connaught	78 (26.6%)	96 (32.7%)	108 (36.6%)	12 (4.1%)	61 (8.0%)	5 (0.7%)	684 (90.1%)	9 (1.2%)
David Lam[1]	419 (55.5%)	18 (2.4%)	276 (36.6%)	42 (5.5%)	173 (23.6%)	16 (2.2%)	479 (65.4%)	64 (8.7%)
Hillcrest	48 (28.6%)	8 (4.5%)	102 (61.1%)	10 (5.7%)	329 (34.4%)	105 (11.0%)	496 (51.9%)	26 (2.7%)
John Hendry (Trout Lake)	266 (24.1%)	110 (10.0%)	647 (58.6%)	82 (7.4%)	808 (21.9%)	192 (5.2%)	2,474 (67.0%)	220 (6.0%)
Memorial South	117 (28.5%)	65 (15.8%)	168 (40.9%)	61 (14.7%)	357 (31.4%)	54 (4.7%)	656 (57.6%)	71 (6.2%)
Nelson[1]	38 (17.5%)	2 (0.9%)	160 (73.3%)	18 (8.3%)	31 (15.2%)	5 (2.5%)	150 (73.5%)	18 (8.8%)
Quilchena	19 (13.3%)	16 (10.8%)	94 (65.7%)	15 (10.1%)	22 (23.7%)	23 (24.7%)	33 (35.5%)	15 (16.1%)
Strathcona[1]	9 (10.1%)	4 (4.5%)	67 (74.7%)	10 (10.7%)	5 (4.0%)	0 (0.0%)	100 (80.6%)	19 (15.3%)
Bobolink	36 (48.6%)	6 (7.5%)	28 (38.4%)	4 (5.5%)	33 (42.3%)	6 (7.7%)	36 (46.2%)	3 (3.8%)
Earles	7 (37.8%)	5 (24.3%)	7 (37.8%)	0 (0.0%)	10 (40.0%)	3 (12.0%)	12 (48.0%)	0 (0.0%)
Emery Barnes[1]	62 (21.8%)	1 (0.2%)	184 (64.5%)	39 (13.5%)	114 (10.1%)	15 (1.3%)	663 (58.5%)	341 (30.1%)
Granville[1]	22 (25.6%)	0 (0.0%)	52 (59.9%)	13 (14.5%)	14 (12.3%)	0 (0.0%)	96 (84.2%)	4 (3.5%)
Adanac	8 (13.6%)	2 (3.6%)	37 (67.3%)	9 (15.5%)	7 (22.6%)	0 (0.0%)	21 (67.7%)	3 (9.7%)
Mt. Pleasant	62 (38.4%)	6 (3.4%)	91 (56.0%)	4 (2.2%)	76 (20.3%)	5 (1.3%)	284 (75.7%)	10 (2.7%)
Winona	12 (38.7%)	1 (1.6%)	18 (56.5%)	1 (3.2%)	9 (4.5%)	1 (0.5%)	186 (92.5%)	5 (2.5%)
Woodland	11 (19.8%)	1 (1.8%)	38 (68.5%)	6 (9.9%)	23 (19.7%)	0 (0.0%)	86 (73.5%)	8 (6.8%)
East Fraserlands	1 (33.3%)	0 (0.0%)	1 (66.7%)	0 (0.0%)	3 (60.0%)	0 (0.0%)	1 (20.0%)	1 (20.0%)
Eburne	0 (0.0%)	0 (0.0%)	13 (86.2%)	2 (13.8%)	0 (0.0%)	0 (0.0%)	10 (83.3%)	2 (16.7%)
Foster	1 (8.3%)	1 (16.7%)	3 (50.0%)	2 (25.0%)	0 (0.0%)	0 (0.0%)	3 (100.0%)	0 (0.0%)
Grimmett	23 (51.7%)	0 (0.0%)	20 (44.8%)	2 (3.4%)	19 (47.5%)	0 (0.0%)	20 (50.0%)	1 (2.5%)
Kaslo	4 (41.2%)	2 (23.5%)	3 (29.4%)	1 (5.9%)	4 (36.4%)	1 (9.1%)	4 (36.4%)	2 (18.2%)
McCleery	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	2 (66.7%)	1 (33.3%)
Morton[1]	11 (12.0%)	4 (4.3%)	60 (64.7%)	18 (19.0%)	11 (7.4%)	3 (2.0%)	121 (81.8%)	13 (8.8%)
Valdez	1 (8.0%)	0 (0.0%)	10 (80.0%)	2 (12.0%)	4 (21.1%)	1 (5.3%)	12 (63.2%)	2 (10.5%)

[35] Mean of the two weekday collection days.

5.6.2 Activity Type

Activity levels tended to remain relatively similar between weekday and weekend park use with more MVPA (58.5%) than sedentary activity (40.3%) during weekdays, as opposed to roughly even MVPA (49.9%) and sedentary activity (50.1%) on weekends on average. Some of the Community Parks, including Quilchena Park and Strathcona Park, had relatively even levels of sedentary activity and MVPA on weekdays, and then higher levels of MVPA on weekends. In contrast others, like Memorial South Park and Hillcrest Park, had majority levels of MVPA among park users on weekdays and majority sedentary activity on weekends (Figure 15 and Figure 16). The parks with the most users, such as John Hendry (Trout Lake) Park, David Lam Park and Emery Barnes Park, had relatively similar distributions of activity type between weekday and weekend park patrons. The parks with the highest overall MVPA levels, including Adanac Park, Bobolink Park and Winona Park, remained similar between weekday and weekend use, except for the latter which dropped from 57.2% MVPA on weekends to only 48.4% on weekdays.

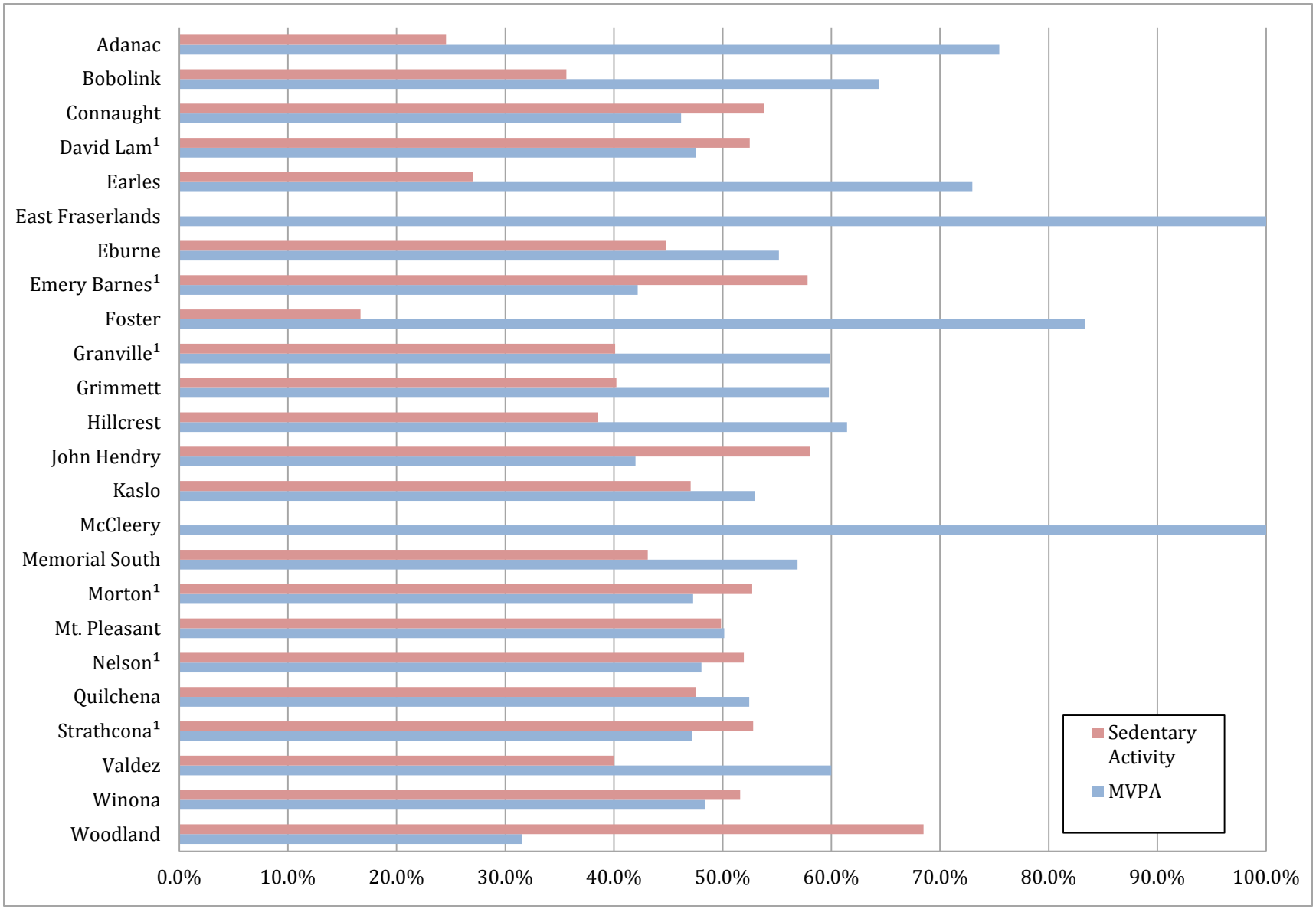

Figure 15: Activity type for weekday SOPARC observations by park.
[1] DUC park.

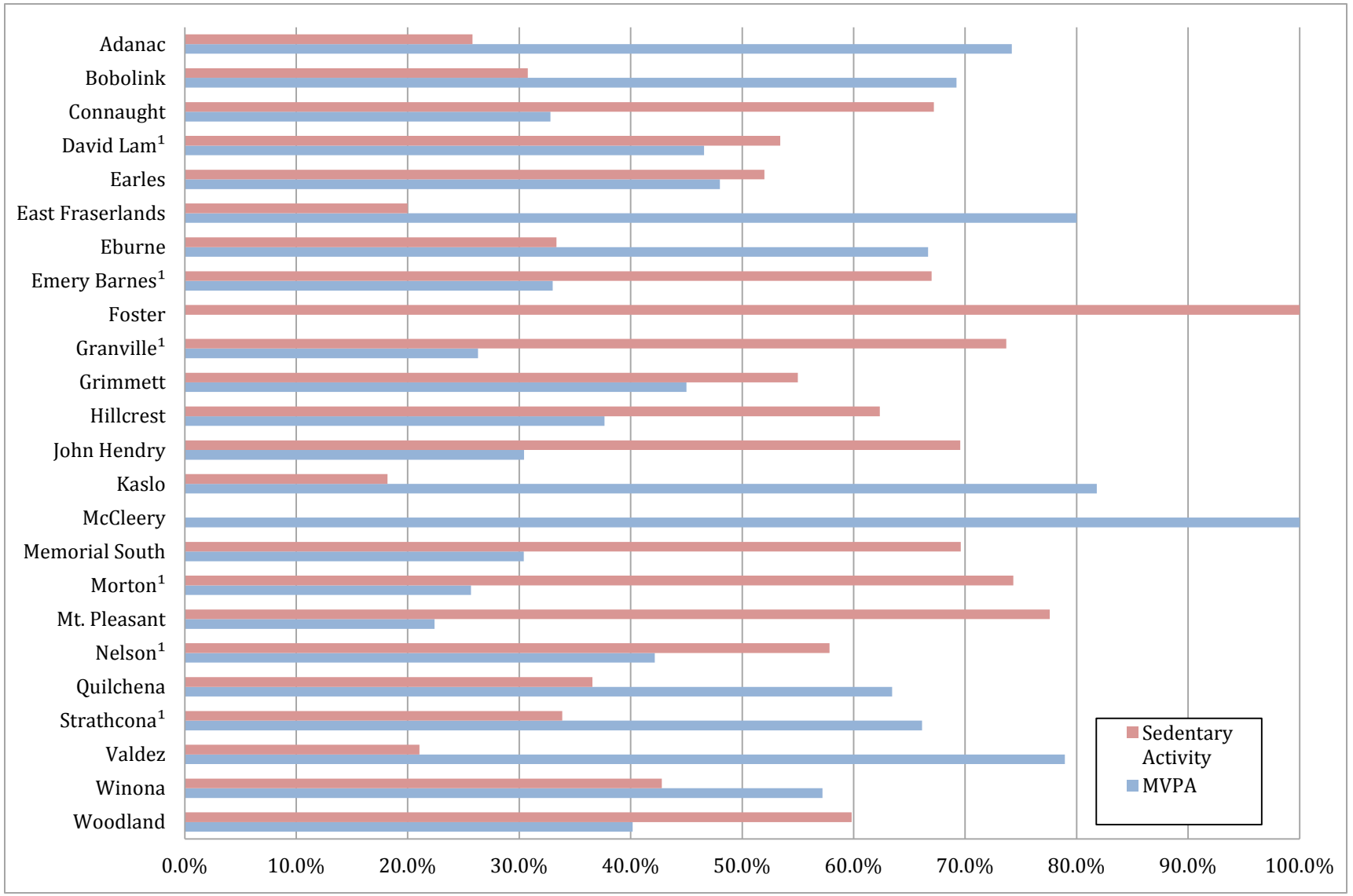

Figure 16: Activity type for weekend SOPARC observations by park.
[1] DUC park.

5.7 Time of Day

Park usage among males and females, as well as age cohort, also varied based on the time of day. SOPARC observations were conducted at four time points during the day: morning, mid-day, afternoon and early evening[36]. The total number of park users was relatively stable during mid-day, afternoon and early evening observations representing between 26% and 30% of total park users each. Parks were used far less during the morning period, with only 16.1% of total park users between 8AM and 11AM.

5.7.1 Age & Gender

Female park usage, across all parks, as a percentage of both sexes was highest during the mid-day period at 49.5% compared to 50.5% males. The morning observation period saw females at 45.6% versus 54.4% for males, while the afternoon period recorded females at 46.2% versus 53.8% for males. Male park users were most commonly present during the early evening period, at 57.1% compared to only 42.9% female.

Connaught Park had the highest percentage of morning park users among the four time period collection points at 30.5% (Table 26). The average percentage of park users during this period was around 15%. The percentage of female park users during the morning was highest at Valdez Park (81.8%), Bobolink Park (64.3%) and Granville Park (60.9%) and was the lowest at Hillcrest Park (26.2%) and Strathcona Park (29.5%).

The parks with the fewest park users, McCleery Park and East Fraserlands Neighbourhood Park, had no morning or mid-day park users with only a few park users in the afternoon and early evening periods. The mid-day observations around lunchtime had the highest presence of female park users over the four time points with eight parks (33.3% of the inventory) having over 55% females. Strathcona Park and Hillcrest Park had the lowest percentage of female park users consistently below 35% at all observed time points. The early evening period tended to have the lowest percentage of female park users. In contrast, six parks had female park users in the early evening above the 50% threshold -- Granville Park (60.6%), Mount Pleasant Park (50.6%), Grimmett Park (80.0%) and Eburne Park (61.1%), Kaslo Park (60.0%) and Valdez Park (64.7%).

[36] Morning: 9AM-11AM; mid-day: 10:30AM-2PM; afternoon: 2PM-4:30PM; early evening: 4:30PM-8PM.

Table 26: Total park users by gender for all four SOPARC observation time periods.
[1] DUC park.

Park Name	*Morning*			*Mid-Day*			*Afternoon*			*Early Evening*		
	Total (%)	*Female (%)*	*Male (%)*	*Total (%)*	*Female (%)*	*Male (%)*	*Total (%)*	*Female (%)*	*Male (%)*	*Total (%)*	*Female (%)*	*Male (%)*
Connaught	30.5%	46.8%	53.2%	27.6%	55.4%	44.6%	30.7%	45.8%	54.2%	11.2%	39.1%	60.9%
David Lam[1]	26.1%	53.4%	46.6%	20.6%	42.3%	57.7%	23.1%	45.9%	54.1%	30.3%	49.4%	50.6%
Hillcrest	15.7%	26.2%	73.8%	25.0%	31.7%	68.3%	25.9%	29.7%	70.3%	33.5%	30.6%	69.4%
John Hendry	9.6%	49.3%	50.7%	35.9%	56.3%	43.7%	28.8%	52.3%	47.7%	25.7%	46.6%	53.4%
Memorial South	19.2%	38.6%	61.4%	15.4%	29.9%	70.1%	26.4%	30.9%	69.1%	39.1%	29.9%	70.1%
Nelson[1]	23.6%	39.7%	60.3%	19.9%	50.4%	49.6%	30.4%	47.4%	52.6%	26.1%	44.9%	55.1%
Quilchena	16.9%	59.4%	40.6%	9.0%	44.1%	55.9%	44.1%	39.5%	60.5%	30.1%	28.9%	71.1%
Strathcona[1]	14.6%	29.5%	70.5%	19.9%	26.7%	73.3%	26.2%	35.4%	64.6%	39.4%	34.5%	65.5%
Bobolink	12.5%	64.3%	35.7%	21.0%	66.0%	34.0%	31.7%	43.7%	56.3%	34.8%	50.0%	50.0%
Earles	18.0%	35.0%	65.0%	20.7%	17.4%	82.6%	32.4%	52.8%	47.2%	28.8%	25.0%	75.0%
Emery Barnes[1]	10.3%	34.3%	65.7%	24.1%	47.2%	52.8%	31.0%	51.8%	48.2%	34.6%	45.0%	55.0%
Granville[1]	24.1%	60.9%	39.1%	14.3%	65.9%	34.1%	23.4%	49.3%	50.7%	38.1%	60.6%	39.4%
Adanac	8.5%	50.0%	50.0%	45.4%	20.3%	79.7%	19.9%	39.3%	60.7%	26.2%	40.5%	59.5%
Mt. Pleasant	7.2%	54.0%	46.0%	14.0%	54.1%	45.9%	30.4%	49.5%	50.5%	48.4%	50.6%	49.4%
Winona	29.7%	42.3%	57.7%	42.6%	52.7%	47.3%	9.9%	53.8%	46.2%	17.9%	38.3%	61.7%
Woodland	8.3%	47.4%	52.6%	20.6%	59.6%	40.4%	35.1%	42.5%	57.5%	36.0%	47.6%	52.4%
East Fraserlands	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	62.5%	40.0%	60.0%	37.5%	33.3%	66.7%
Eburne	9.8%	50.0%	50.0%	24.4%	40.0%	60.0%	22.0%	55.6%	44.4%	43.9%	61.1%	38.9%
Foster	6.7%	0.0%	100.0%	20.0%	66.7%	33.3%	33.3%	60.0%	40.0%	40.0%	50.0%	50.0%
Grimmett	7.9%	50.0%	50.0%	42.5%	66.7%	33.3%	26.0%	54.5%	45.5%	23.6%	80.0%	20.0%
Kaslo	17.9%	40.0%	60.0%	7.1%	50.0%	50.0%	21.4%	66.7%	33.3%	53.6%	60.0%	40.0%
McCleery	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%!	100.0%	25.0%	75.0%
Morton[1]	19.0%	46.0%	54.0%	27.4%	48.4%	51.6%	32.8%	54.1%	45.9%	20.8%	44.9%	55.1%
Valdez	25.0%	81.8%	18.2%	11.4%	60.0%	40.0%	25.0%	54.5%	45.5%	38.6%	64.7%	35.3%

Table 27 shows park user age groups over the four time period observations for all parks in the inventory. Adults made up the majority of park users at all observation periods averaging 55.1% during the morning, 59.6% for the mid-day, 58.0% in the afternoon and increasing to 62.9% in the early evening.

The child age cohort was the second most numerous portion of park users hovering at just over 20% in each of the time points, with the highest proportion during the afternoon period (23%). Several parks stand out as having higher portions of children present: 1) David Lam Park during the morning (59.9%), mid-day (54.0%) and afternoon (48.1%) periods, 2) Bobolink Park during morning (53.6%), mid-day (57.4%) and afternoon (52.1%) and 3) Grimmett Park in the morning (50.0%), mid-day (50.0%), afternoon (48.5%) and early evening (53.3%).

The portion of park users that were seniors remained relatively constant throughout the day, averaging 11.1% in the morning, 10.3% at mid-day, 8.3% in the afternoon and 10.4% in the early evening. Although there was a range through the parks, seniors tended to comprise their highest portion of park users during the morning period especially for Quilchena Park (23.4%), Strathcona Park (22.7%), Eburne Park (50.0%) and Kaslo Park (20.0%).

Adolescent park users ranged from a low of 3.1% in the morning to a high of 6.6% in the afternoon. Among parks demonstrating high numbers of adolescents, Kaslo Park had the highest percentage of adolescents during the morning (20.0%) and afternoon (33.3%) periods, while Connaught Park also had the high numbers of adolescent park use during the morning (15.9%) and mid-day (29.8%) periods. Yet other parks had higher portions of adolescents present as the day went on such as, Quilchena Park increasing from 7.8% in the morning to 19.3% in the early evening, and Earles Park from 10.0% in the morning to 15.6% in the early evening.

Table 27: Total park users by age for all four SOPARC observation time periods.
[1] DUC park.

Park Name	*Morning*				*Mid-Day*				*Afternoon*				*Early Evening*			
	Child (%)	*Adolescent (%)*	*Adult (%)*	*Senior (%)*	*Child (%)*	*Adolescent (%)*	*Adult (%)*	*Senior (%)*	*Child (%)*	*Adolescent (%)*	*Adult (%)*	*Senior (%)*	*Child (%)*	*Adolescent (%)*	*Adult (%)*	*Senior (%)*
Connaught	23.4%	15.9%	60.7%	0.0%	7.8%	29.8%	60.5%	1.9%	16.2%	2.4%	78.2%	3.1%	16.6%	7.3%	67.5%	8.6%
David Lam[1]	59.9%	0.7%	34.4%	5.0%	54.0%	2.2%	38.0%	5.9%	48.1%	2.3%	43.4%	6.2%	24.0%	3.8%	63.4%	8.7%
Hillcrest	30.2%	1.5%	61.9%	6.4%	30.7%	15.5%	49.4%	4.3%	29.4%	12.3%	54.4%	3.9%	38.5%	6.0%	54.3%	1.2%
John Hendry	24.2%	1.1%	61.7%	13.1%	27.4%	6.5%	59.8%	6.3%	19.9%	7.6%	65.6%	6.9%	18.6%	9.2%	68.3%	3.9%
Memorial South	42.3%	2.1%	43.4%	12.2%	28.6%	8.6%	51.5%	11.3%	25.9%	9.9%	54.2%	10.1%	27.7%	12.9%	51.5%	7.8%
Nelson[1]	23.2%	0.7%	66.9%	9.3%	11.0%	0.8%	83.5%	4.7%	22.2%	3.6%	63.4%	10.8%	9.0%	0.0%	83.2%	7.8%
Quilchena	7.8%	7.8%	60.9%	23.4%	44.1%	11.8%	38.2%	5.9%	16.2%	13.8%	59.9%	10.2%	11.4%	19.3%	60.5%	8.8%
Strathcona[1]	0.0%	0.0%	77.3%	22.7%	5.0%	0.0%	83.3%	11.7%	1.3%	5.1%	88.6%	5.1%	16.0%	3.4%	66.4%	14.3%
Bobolink	53.6%	0.0%	28.6%	17.9%	57.4%	0.0%	42.6%	0.0%	52.1%	7.0%	36.6%	4.2%	32.1%	15.4%	48.7%	3.8%
Earles	15.0%	10.0%	60.0%	15.0%	4.3%	4.3%	87.0%	4.3%	41.7%	13.9%	44.4%	0.0%	31.3%	15.6%	50.0%	3.1%
Emery Barnes[1]	14.3%	0.6%	66.9%	18.3%	11.2%	0.7%	64.0%	24.1%	14.8%	2.1%	55.4%	27.7%	15.1%	0.2%	60.8%	23.9%
Granville[1]	34.8%	0.0%	47.8%	17.4%	22.0%	0.0%	68.3%	9.8%	17.9%	0.0%	68.7%	13.4%	11.9%	0.0%	84.4%	3.7%
Adanac	16.7%	0.0%	75.0%	8.3%	7.8%	1.6%	79.7%	10.9%	28.6%	0.0%	46.4%	25.0%	18.9%	8.1%	59.5%	13.5%
Mt. Pleasant	48.0%	0.0%	52.0%	0.0%	28.6%	2.0%	65.3%	4.1%	23.6%	0.5%	73.6%	2.4%	29.0%	3.8%	64.8%	2.4%
Winona	0.0%	0.0%	100.0%	0.0%	20.5%	0.0%	76.8%	2.7%	15.4%	0.0%	80.8%	3.8%	12.8%	4.3%	76.6%	6.4%
Woodland	31.6%	0.0%	68.4%	0.0%	10.6%	4.3%	72.3%	12.8%	18.8%	0.0%	75.0%	6.3%	23.2%	0.0%	67.1%	9.8%
East Fraserlands	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	60.0%	0.0%	20.0%	20.0%	33.3%	0.0%	66.7%	0.0%
Eburne	0.0%	0.0%	50.0%	50.0%	0.0%	0.0%	80.0%	20.0%	0.0%	0.0%	88.9%	11.1%	0.0%	0.0%	94.4%	5.6%
Foster	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	66.7%	33.3%	0.0%	40.0%	60.0%	0.0%	16.7%	0.0%	50.0%	33.3%
Grimmett	50.0%	0.0%	50.0%	0.0%	50.0%	0.0%	42.6%	7.4%	48.5%	0.0%	51.5%	0.0%	53.3%	0.0%	46.7%	0.0%
Kaslo	40.0%	20.0%	20.0%	20.0%	0.0%	0.0%	50.0%	50.0%	16.7%	33.3%	50.0%	0.0%	53.3%	13.3%	26.7%	6.7%

McCleery	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%
Morton[1]	14.3%	4.8%	63.5%	17.5%	12.1%	0.0%	71.4%	16.5%	7.3%	3.7%	78.0%	11.0%	7.2%	5.8%	72.5%	14.5%
Valdez	9.1%	9.1%	72.7%	9.1%	0.0%	0.0%	100.0%	0.0%	27.3%	0.0%	54.5%	18.2%	11.8%	0.0%	76.5%	11.8%

5.7.2 Activity Type

The largest percentage of users engaged in sedentary activity, by time of day ranged from a high of 51.4% observed during the afternoon period to a low of 42.6% during the mid-day time point. Vigorous physical activity on average ranged from only 8.2% during the afternoon to 15.2% during the early evening. MVPA increased from 44.5% in the afternoon to 57.0% in the early evening. Park users at Adanac Park demonstrated consistently high percentages of MVPA, over 50% for all four time periods. Sedentary activity was above 50% for park users at Woodland Park throughout the day. Figure 17 shows the percentage of park patrons engaged in MVPA for each park at during the morning and mid-day periods. Levels of MVPA vary by park with some parks (East Fraserlands Neighbourhood Park and McCleery Park) exhibiting no park visitors MVPA during these periods. Figure 18 describes the percentage of park users engaged in MVPA for the afternoon and early evening recording periods. Downtown Parks during this period showed similar levels of MVPA between the two time periods with the early evening period demonstrating only slightly higher percentages of MVPA.

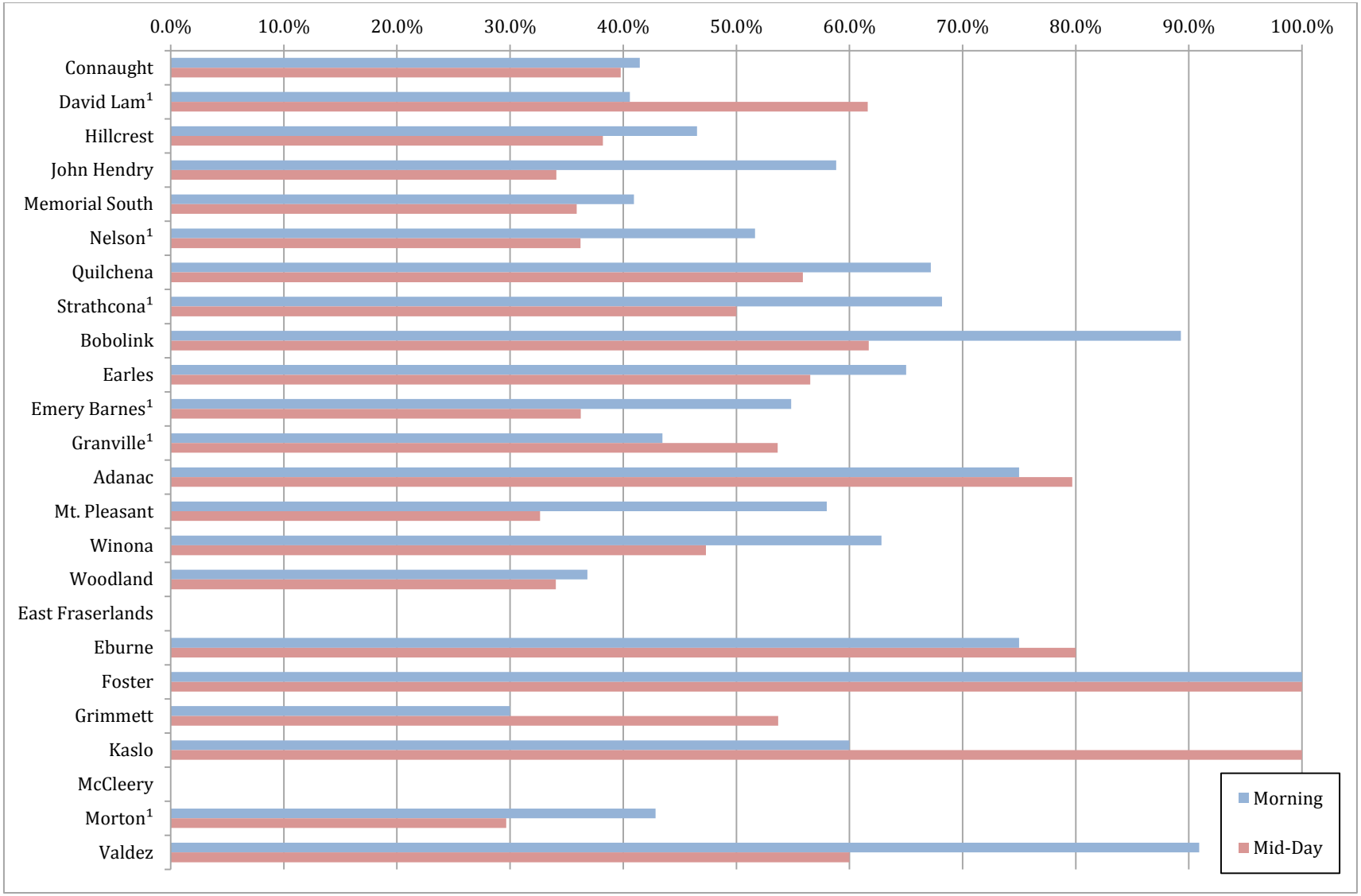

Figure 17: Percentage of park users engaged in MVPA during the morning and mid-day observation points.

[1] DUC park.

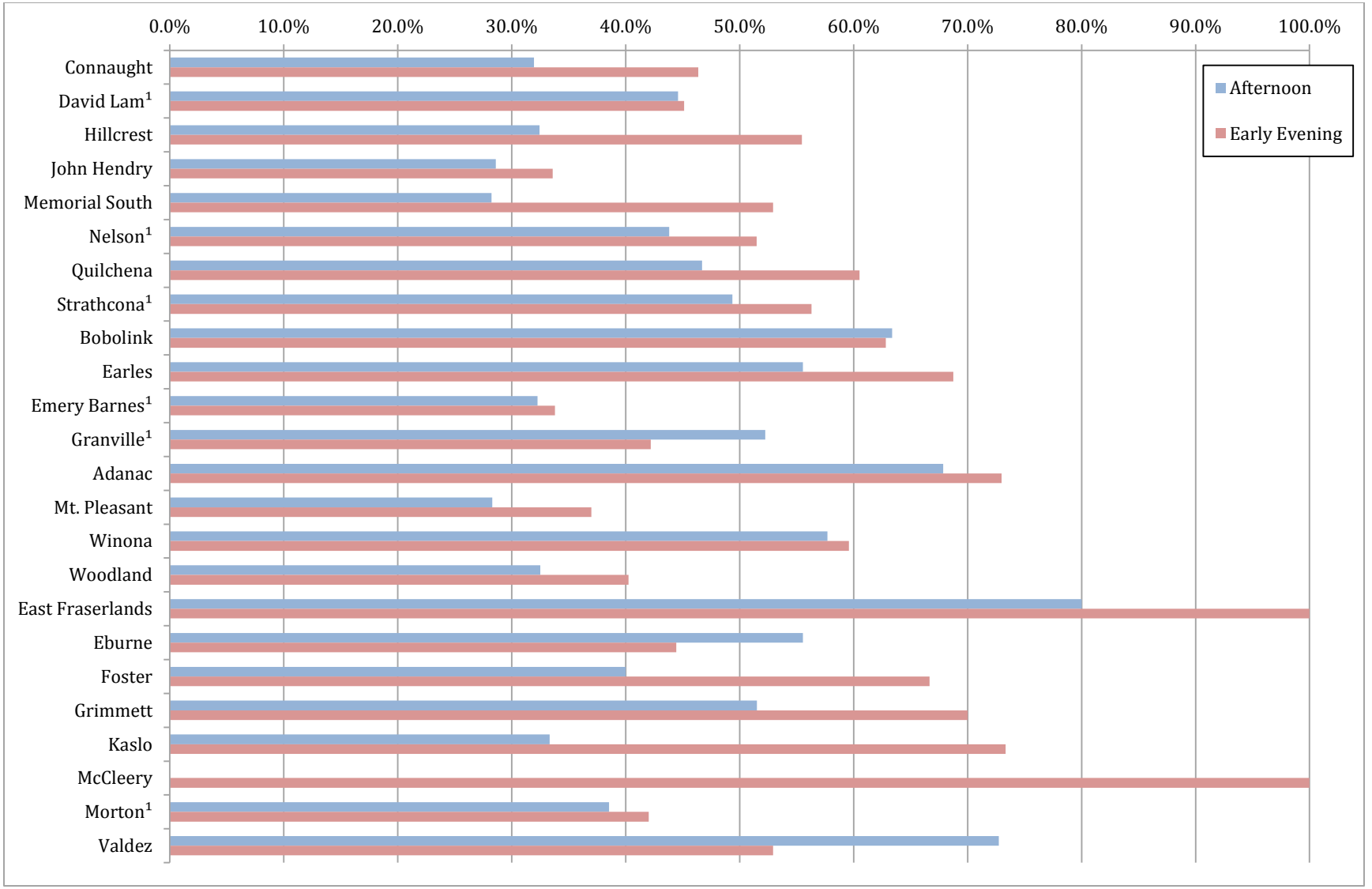

Figure 18: Percentage of park users engaged in MVPA during the afternoon and early evening observation points.
[1] DUC park.

5.8 Main Types of Park Activity

As part of the data collection process, the main park activity in each target area for both genders is identified. This allows for the evaluation of the most common types of active and passive park activities engaged in by park goers. Table 35 in Appendix I shows all possible activity types used when evaluating park user behaviour in park target areas.

5.8.1 Age, Gender & Activity

Activity types were classified into a series of active and passive types and evaluated based on their respective frequencies. Overall, females were less likely to be engaged in active behaviour in parks in comparison to males. Among activity types, females were engaged in active behaviour in target areas 39.3% of the time and passive behaviour 60.7% of the time, versus 48.8% and 51.2% respectively for males.[37] The following were the park activities most popular among all park patrons: 1) sitting (31.0%), 2) playground activities (14.0%), 3) walking (13.4%), and 4) standing (11.5%).

Figure 19 illustrates the type of park activity visitors are engaging in (comprising at least 0.5% of all activity types from either gender) for all parks over all collection days and times of day. For active behaviour, females had higher percentages of playground activity (17.6%) compared to males (11.3%) and the same levels of jogging/running (0.7% for both genders) and nearly the same for walking (13.3% versus 13.5% for males), frisbee (1.3% to 1.4% for males) and cycling (0.7% to 0.6% for males). In the case of playground activities, adult mothers or female childcare givers may or may not be active in these areas when supervising young children. A far higher percentage of males more than females participated in baseball (10.4% to 1.9% for females), skating (0.7% to 0.1% for females), basketball (1.6% to 0.2% among females), soccer (5.1% to 1.9% for females) and tennis (1.9% to 0.8% for females). Females had higher percentages of all passive activity including sitting (33.4% to 29.2% for males), standing (12.7% to 10.5% for males), picnicking (8.1% to 5.4% for males) and lying down (2.4% versus 1.9 % among males).

[37] Note that these values relate to main activity type by target area and should be used secondarily to the sedentary, moderate and vigorous activity types that are recorded individually for each park goer. One or more persons may be recorded per target area and the main activity type is chosen.

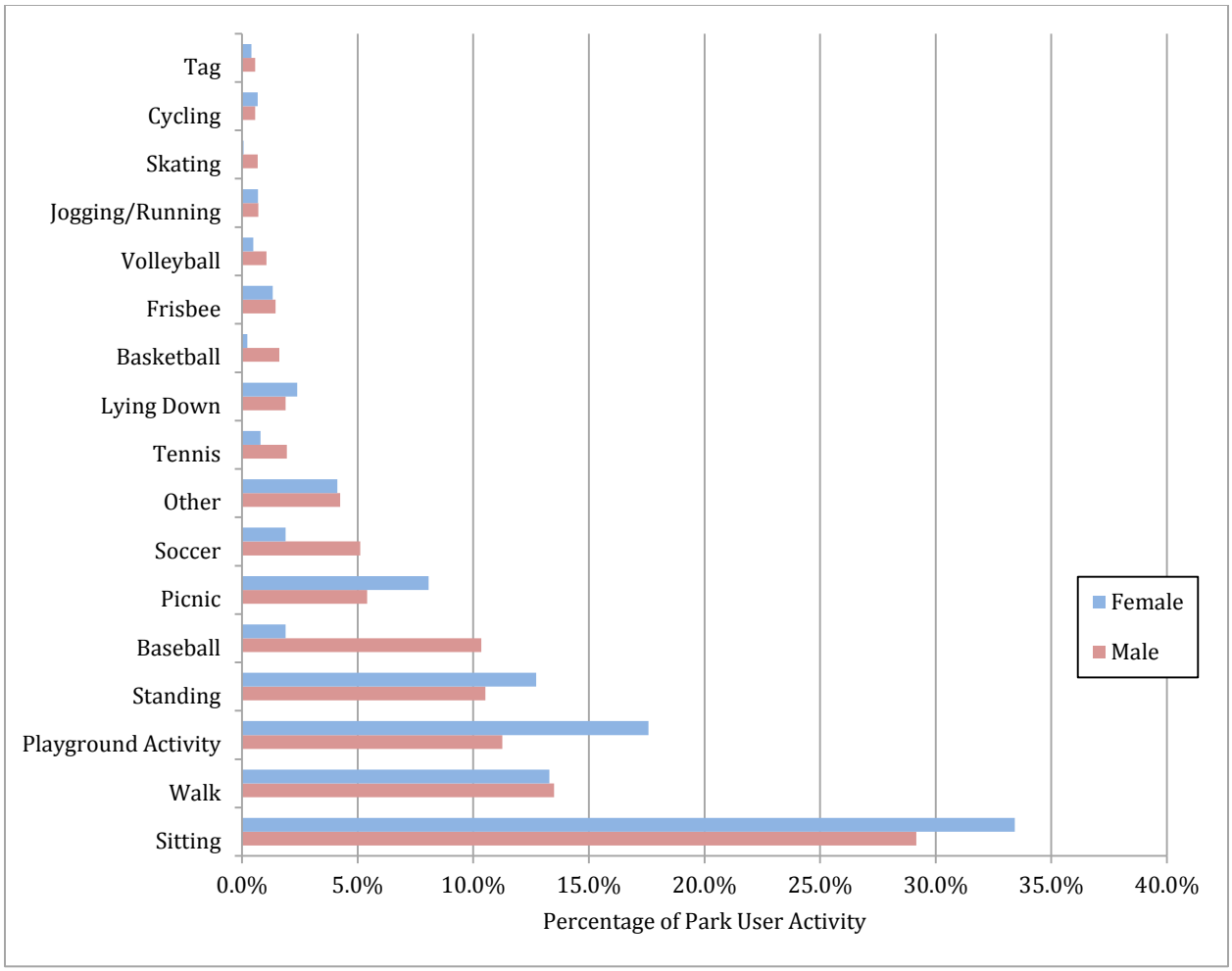

Figure 19: The most common types of park user activity with over 0.5% participant by either gender for all parks.

Table 28 shows activity types aggregated to selected common areas in parks for all inventoried parks. Males and females show similar activity characteristics, except for those areas of the park most conducive to vigorous activity, namely courts and sports fields. In these areas, males have about double the percentage of park users present in comparison to females.

Table 29 shows the total park users for the top five passive activity types by gender and age for all inventoried parks. As expected, seniors display the highest level of passive activity among all age cohorts at 68.0%, with nearly 50% of senior park activity being sitting. Children have the lowest levels of passive activity types at just under 40%, followed by adolescents at 46.1%, and then adults at 61.2%. Walking was the primary active park activity among seniors at 21.6%, and lowest among adolescents at 9.1% (Table 30). Playground activity was highest among children at 29.4% while a majority of active activity for adolescents was baseball at 20.1%.

Table 28: Activity types aggregated to areas in parks by gender.

Activity Area in Park	*Female (%)*	*Male (%)*	*Total (%)*
Rest of Park	3.0%	3.7%	3.3%
Paths & Trails	33.5%	31.7%	32.5%
Lawns	26.7%	25.3%	25.9%
Courts	1.9%	4.1%	3.0%
Sports Fields	4.1%	8.0%	6.1%
Play Areas	30.9%	27.4%	29.0%
Total	100.0%	100.0%	100.0%

Table 29: Top five passive activity types by gender and age for all parks.

Passive Activity Type	*Sample*						
	Total	*Female*	*Male*	*Child*	*Adolescent*	*Adult*	*Senior*
Sitting	5,343 (31.0%)	2,537 (33.4%)	2,806 (29.2%)	943 (21.1%)	168 (17.3%)	3,561 (34.4%)	671 (46.9%)
Standing	1,978 (11.5%)	966 (12.7%)	1,012 (10.5%)	325 (7.3%)	108 (11.1%)	1,387 (13.4%)	158 (11.0%)
Picnicking	1,133 (6.6%)	612 (8.1%)	521 (5.4%)	249 (5.6%)	79 (8.2%)	724 (7.0%)	81 (5.7%)
Lying Down	362 (2.1%)	181 (2.4%)	181 (1.9%)	22 (0.5%)	4 (0.4%)	302 (2.9%)	34 (2.4%)
Other	721 (4.2%)	313 (4.1%)	408 (4.2%)	241 (5.4%)	88 (9.1%)	362 (3.5%)	30 (2.1%)
Total	9,537 (55.4%)	4,609 (60.7%)	4,928 (51.2%)	1,780 (39.9%)	447 (46.1%)	6,336 (61.2%)	974 (68.0%)

Table 30: Top five active activity types by gender and age for all parks.

Active Activity Type	*Sample*						
	Total	*Female*	*Male*	*Child*	*Adolescent*	*Adult*	*Senior*
Walking	2,307 (13.4%)	1,009 (13.3%)	1,298 (13.5%)	455 (10.2%)	88 (9.1%)	1,455 (14.1%)	309 (21.6%)
Playground Activity	2,417 (14.0%)	1,334 (17.6%)	1,083 (11.3%)	1,313 (29.4%)	59 (6.1%)	973 (9.4%)	72 (5.0%)
Baseball	1,139 (6.6%)	143 (1.9%)	996 (10.4%)	485 (10.9%)	195 (20.1%)	447 (4.3%)	12 (0.8%)
Soccer	635 (3.7%)	143 (1.9%)	492 (5.1%)	266 (6.0%)	47 (4.9%)	311 (3.0%)	11 (0.8%)
Tennis	246 (1.4%)	60 (0.8%)	186 (1.9%)	11 (0.2%)	8 (0.8%)	211 (2.0%)	16 (1.1%)
Remaining Types	931 (5.4%)	294 (3.9%)	637 (6.6%)	150 (3.4%)	125 (12.9%)	618 (6.0%)	38 (2.7%)
Total	7,675 (44.6%)	2,983 (39.3%)	4,692 (48.8%)	2,680 (60.1%)	522 (53.9%)	4,015 (38.8%)	458 (32.0%)

5.9 National Benchmarks

Future analyses of these data may be considered to compare Vancouver park user characteristics with park users in other municipalities in Metro Vancouver, as well as other cities in Canada and North America. Park-level results from a national SOPARC study, surveying parks in 25 cities in the United States and performed by the RAND Corporation, are expected to be released to local government and park officials in 2018. The results of this large-scale study could be utilized to develop national descriptive statistics and standards from which the results in Vancouver could be compared. Many socio-demographic characteristics of Vancouver, such as ethnic makeup, vary dramatically with U.S. cities, however, being able to rank and contrast Vancouver park users with U.S. national benchmark park user activity would provide unique insights on how the City compares to other jurisdictions.

6. CONCLUSION

During the late spring and early summer of 2017, Urban Design 4 Health conducted an in-field, observational inventory to gain insight into the gender and age makeup of park users and their physical activity levels while in the park. The SOPARC data collection protocol was used to collect data on a sample of 24 parks (about 10.5% of all SOPARC eligible parks in the City of Vancouver) in Vancouver.

UD4H park surveyors observed over 18,000 park goers during nearly 100 hours of data collection. It was observed that roughly equal numbers of females and males visited the parks with some exceptions in certain parks. The results showed that over 50% of park users were adults, followed by between 20% and 25% of users being children. Due to the age of the children, it would be expected that a majority of these children were accompanied by at least one adult, except for cases of organized sports activities, such as soccer or when parks were nearby elementary schools, such as with the case of David Lam Park.

Gender, demographics and activity levels for parks in the Downtown Urban Core (DUC) were similar to those across the rest of the city, however, the number of park users was much higher than average due to the high population density. DUC parks had a higher percentage of seniors and a percentage of adolescents more than three times lower than the rest of the non-DUC parks, while activity levels remained relatively similar between the two geographic areas.

A significant overall finding of the study was that males were more likely to be engaged in moderate physical activity and vigorous physical activity than females in Community Parks and Neighbourhood Parks, and MVPA combined in Local Parks. Among Neighbourhood Parks, only about half as many females were engaged in vigorous physical activity in comparison to males. Over 60% of park users were engaged in sedentary activity and were more likely to in larger parks, such as John Hendry Park (Trout Lake) and Connaught Park (both larger Community Parks), and Emery Barnes Park and Mt. Pleasant Park (both larger Neighbourhood Parks). The Neighbourhood Parks of Adanac Park, Bobolink Park and Winona Park had the highest levels of MVPA at about 75%, 66% and 55% respectively, and the highest levels of vigorous activity among park users from over 20% to over 30%. Overall MVPA was also highest in these same parks, as well as Quilchena Park, Strathcona Park and Grimmett Park. Emery Barnes Park, Mt. Pleasant Park and Morton Park were heavily used containing a much higher number of park goers than the rest of the parks in their size classification. Park usage is only one of several criteria used to determine park class designation. Nevertheless, further investigation of a future adjustment to the park type designation for these parks, based on the results of this study, may be considered.

Park usage was much higher on weekends in comparison to weekdays as over 70% of park users observed during the study were present in parks during the weekend compared to 30% on weekdays. During weekdays, females represented nearly an even proportion of park users at 49.2%. They dropped down to only 43.3% on weekends when more males were present in parks. Adults represented the majority of park users on both weekdays and weekends, however, this age cohort increased their presence from roughly half on weekdays to nearly two thirds of all park users on weekends, likely due to weekday daytime workforce constraints. Park users were more active during weekdays, per levels of MVPA, (58.5%) compared to 50.1% on weekends.

Park usage remained relatively constant during mid-day, afternoon and early evening at 26.3%, 28.0% and 29.6% of all park users, but was far less during morning observation periods at only 16.1%. Females comprised their highest portion of park users at around 50% during the mid-day period reducing to 46% during the morning and afternoon periods and dropped to 42.9% during the early evening over male park users. Sedentary activity was highest during the afternoon observation period (over 50% of park users) and was the lowest at the mid-day time point (42.6%). The early evening was the time period with the highest levels of MVPA with vigorous physical activity nearly doubling between the afternoon and early evening period.

The most common types of active park activities among visitors were walking, playground activity, baseball, soccer and tennis, while the most common passive park activities were sitting, standing and picnicking. Overall, females were less likely to be engaged in active behaviour in parks in comparison to males. For some park activities like baseball, basketball, soccer, tennis and skating, males had more than double the percentage of persons engaging in these activities compared to females.

Future analyses of these data may be considered to compare Vancouver park user characteristics with park users in other municipalities in Metro Vancouver, as well as other cities in Canada and North America. Using a sample of Vancouver parks, these data have provided a valuable understanding of park user characteristics across the City. Park user information has reinforced some assumptions about how people are using city parks and offered evidence to suggest some parks are outperforming their peers in the same classification. The results of this study help aid park officials and planners to ensure park facilities and infrastructure promote healthy lifestyles targeting access to all ages and abilities.

7. APPENDIX A: PARKS WITH SOPARC DATA INVENTORY

Table 31 contains a complete list of all possible Community, Neighbourhood and Local parks from which the SOPARC data collection could be performed.

Table 31: Complete Inventory of Community, Neighbourhood and Local Parks with collected SOPARC data.

Park Name	*Park Type*
Adanac Park	NEIGHBOURHOOD
Bobolink Park	NEIGHBOURHOOD
Connaught Park	COMMUNITY
David Lam Park	COMMUNITY
Earles Park	NEIGHBOURHOOD
East Fraserlands Neighbourhood Park North	LOCAL
Eburne Park	LOCAL
Emery Barnes Park	NEIGHBOURHOOD
Foster Park	LOCAL
Granville Park	NEIGHBOURHOOD
Grimmett Park	LOCAL
Hillcrest Park	COMMUNITY
John Hendry (Trout Lake) Park	COMMUNITY
Kaslo Park	LOCAL
McCleery Park	LOCAL
Memorial South Park	COMMUNITY
Morton Park	LOCAL
Mount Pleasant Park	NEIGHBOURHOOD
Nelson Park	COMMUNITY
Quilchena Park	COMMUNITY
Strathcona Park	COMMUNITY
Valdez Park	LOCAL
Winona Park	NEIGHBOURHOOD
Woodland Park	NEIGHBOURHOOD

8. APPENDIX B: INVENTORY OF ALL SOPARC ELIGIBLE PARKS

Table 32 contains a complete list of all possible Community, Neighbourhood and Local parks from which the SOPARC data collection could be performed.

Table 32: Complete Inventory of Community, Neighbourhood and Local Parks

Park Name	*Park Type*	*Recommended*
Park Site on Jervis St. at Pacific St	LOCAL	Not Recommended
Aberdeen Park	NEIGHBOURHOOD	Not Recommended
Adanac Park	NEIGHBOURHOOD	Recommended
Alexandra Park	LOCAL	Not Recommended
Alice Townley Park	LOCAL	Not Recommended
Almond Park	NEIGHBOURHOOD	Not Recommended
Andy Livingstone Park	COMMUNITY	Not Recommended
Angus Park	LOCAL	Not Recommended
Arbutus Greenway Park	NEIGHBOURHOOD	Not Recommended
Arbutus Park	LOCAL	Not Recommended
Arbutus Village Park	LOCAL	Not Recommended
Ash Park	LOCAL	Not Recommended
Balaclava Park	COMMUNITY	Not Recommended
Barclay Heritage Square Park	NEIGHBOURHOOD	Not Recommended
Bates Park	LOCAL	Not Recommended
Beaconsfield Park	NEIGHBOURHOOD	Not Recommended
Bobolink Park	NEIGHBOURHOOD	Recommended
Braemar Park	NEIGHBOURHOOD	Not Recommended
Brewers Park	COMMUNITY	Not Recommended
Burrard View Park	NEIGHBOURHOOD	Not Recommended
Callister Park	NEIGHBOURHOOD	Not Recommended
Cambie Park	NEIGHBOURHOOD	Not Recommended
Cambridge Park	LOCAL	Not Recommended
Captain Cook Park	NEIGHBOURHOOD	Not Recommended
Cardero Park	LOCAL	Not Recommended
Cariboo Park	NEIGHBOURHOOD	Not Recommended
Carleton Park	NEIGHBOURHOOD	Not Recommended
Carnarvon Park	COMMUNITY	Not Recommended
Carolina Park	LOCAL	Not Recommended
Cartier Park	NEIGHBOURHOOD	Not Recommended
Cedar Cottage Park	NEIGHBOURHOOD	Not Recommended
Chaldecott Park	NEIGHBOURHOOD	Not Recommended
Champlain Heights Park	COMMUNITY	Not Recommended
Charles Park	NEIGHBOURHOOD	Not Recommended
Charleson Park	COMMUNITY	Not Recommended
China Creek North Park	NEIGHBOURHOOD	Not Recommended
China Creek South Park	NEIGHBOURHOOD	Not Recommended
Choklit Park	LOCAL	Not Recommended
Clark Park	COMMUNITY	Not Recommended
Clinton Park	COMMUNITY	Not Recommended
Coal Harbour Park	NEIGHBOURHOOD	Not Recommended
Collingwood Park	NEIGHBOURHOOD	Not Recommended
Columbia Park	NEIGHBOURHOOD	Not Recommended
Connaught Park	COMMUNITY	Recommended
Coopers' Park	COMMUNITY	Not Recommended
Crab Park	COMMUNITY	Not Recommended
Creekside Park	NEIGHBOURHOOD	Not Recommended

Creekway Park	LOCAL	Not Recommended
David Lam Park	COMMUNITY	Recommended
Deering Island Park	NEIGHBOURHOOD	Not Recommended
Delamont Park	NEIGHBOURHOOD	Not Recommended
Devonian Harbour Park	NEIGHBOURHOOD	Not Recommended
Devonshire Park	LOCAL	Not Recommended
Douglas Park	COMMUNITY	Not Recommended
Dusty Greenwell Park	LOCAL	Not Recommended
Earles Park	NEIGHBOURHOOD	Recommended
Ebisu Park	NEIGHBOURHOOD	Not Recommended
Eburne Park	LOCAL	Recommended
Elm Park	NEIGHBOURHOOD	Not Recommended
Emery Barnes Park	NEIGHBOURHOOD	Recommended
English Bay Beach Park	COMMUNITY	Not Recommended
Everett Crowley Park	NEIGHBOURHOOD	Not Recommended
Falaise Park	NEIGHBOURHOOD	Not Recommended
Foster Park	LOCAL	Recommended
Fraser River Park	NEIGHBOURHOOD	Not Recommended
Fraser River Trail Park	LOCAL	Not Recommended
Fraserview Park	NEIGHBOURHOOD	Not Recommended
Garden Park	COMMUNITY	Not Recommended
Gaston Park	NEIGHBOURHOOD	Not Recommended
General Brock Park	NEIGHBOURHOOD	Not Recommended
George Park	NEIGHBOURHOOD	Not Recommended
George Wainborn Park	NEIGHBOURHOOD	Not Recommended
Gladstone-riverside Park	LOCAL	Not Recommended
Glen Park	NEIGHBOURHOOD	Not Recommended
Gordon Park	COMMUNITY	Not Recommended
Grandview Park	COMMUNITY	Not Recommended
Granville Loop Park	NEIGHBOURHOOD	Not Recommended
Granville Park	NEIGHBOURHOOD	Recommended
Grays Park	NEIGHBOURHOOD	Not Recommended
Grimmett Park	LOCAL	Recommended
Guelph Park	NEIGHBOURHOOD	Not Recommended
Hadden Park	COMMUNITY	Not Recommended
Harbour Green Park	COMMUNITY	Not Recommended
Hastings Community Park	COMMUNITY	Not Recommended
Hastings Mill Park	NEIGHBOURHOOD	Not Recommended
Heather Park	NEIGHBOURHOOD	Not Recommended
Hillcrest Park	COMMUNITY	Recommended
Hinge Park	COMMUNITY	Not Recommended
Humm Park	NEIGHBOURHOOD	Not Recommended
Jean Beaty Park	LOCAL	Not Recommended
Jericho Beach Park	COMMUNITY	Not Recommended
John Hendry (Trout Lake) Park	COMMUNITY	Recommended
Jonathan Rogers Park	COMMUNITY	Not Recommended
Jones Park	COMMUNITY	Not Recommended
Kaslo Park	LOCAL	Recommended
Kensington Park	COMMUNITY	Not Recommended
Kerrisdale Centennial Park	NEIGHBOURHOOD	Not Recommended
Kerrisdale Park	NEIGHBOURHOOD	Not Recommended
Killarney Park	COMMUNITY	Not Recommended
Kingcrest Park	COMMUNITY	Not Recommended
Kinross Ravine Park	LOCAL	Not Recommended
Kitsilano Beach Park	COMMUNITY	Not Recommended
Langara Park	LOCAL	Not Recommended

Laurel Landbridge Park	LOCAL	Not Recommended
Locarno Park	NEIGHBOURHOOD	Not Recommended
Locarno Beach Park	COMMUNITY	Not Recommended
Macdonald Park	NEIGHBOURHOOD	Not Recommended
Maclean Park	NEIGHBOURHOOD	Not Recommended
Major Matthews Park	LOCAL	Not Recommended
Malkin Park	LOCAL	Not Recommended
Maple Grove Park	COMMUNITY	Not Recommended
Margaret Pigott Park	LOCAL	Not Recommended
Marina Square Park	NEIGHBOURHOOD	Not Recommended
Marpole Park	LOCAL	Not Recommended
May & Lorne Brown Park	LOCAL	Not Recommended
Mcbride Park	NEIGHBOURHOOD	Not Recommended
Mccleery Park	LOCAL	Recommended
Mcgill Park	LOCAL	Not Recommended
Mcspadden Park	NEIGHBOURHOOD	Not Recommended
Melbourne Park	NEIGHBOURHOOD	Not Recommended
Memorial South Park	COMMUNITY	Recommended
Memorial West Park	COMMUNITY	Not Recommended
Moberly Park	COMMUNITY	Not Recommended
Montgomery Park	NEIGHBOURHOOD	Not Recommended
Morton Park	LOCAL	Recommended
Mosaic Creek Park	LOCAL	Not Recommended
Mount Pleasant Park	NEIGHBOURHOOD	Recommended
Musqueam Park	NEIGHBOURHOOD	Not Recommended
Nanaimo Park	NEIGHBOURHOOD	Not Recommended
Nat Bailey Stadium Park	COMMUNITY	Not Recommended
Nelson Park	COMMUNITY	Recommended
New Brighton Park	COMMUNITY	Not Recommended
Norquay Park	COMMUNITY	Not Recommended
Oak Meadows Park	COMMUNITY	Not Recommended
Oak Park	COMMUNITY	Not Recommended
Oppenheimer Park	COMMUNITY	Not Recommended
Oxford Park	NEIGHBOURHOOD	Not Recommended
Pandora Park	COMMUNITY	Not Recommended
Park Site On Blenheim	LOCAL	Not Recommended
Park Site On Puget Drive	LOCAL	Not Recommended
Park Site On Shaughnessy Street	NEIGHBOURHOOD	Not Recommended
Park Site On Trafalgar Street	LOCAL	Not Recommended
Park Site On Trinity Street	LOCAL	Not Recommended
Point Grey Park site at Stephens	LOCAL	Not Recommended
Point Grey Park site at Trafalgar	LOCAL	Not Recommended
Point Grey Park site at Trutch	LOCAL	Not Recommended
Price Park	NEIGHBOURHOOD	Not Recommended
Prince Edward Park	NEIGHBOURHOOD	Not Recommended
Prince Of Wales Park	NEIGHBOURHOOD	Not Recommended
Quadra West Park	LOCAL	Not Recommended
Quilchena Park	COMMUNITY	Recommended
Ravine Park	LOCAL	Not Recommended
Renfrew Community Park	COMMUNITY	Not Recommended
Renfrew Ravine Park	NEIGHBOURHOOD	Not Recommended
Riley Park	COMMUNITY	Not Recommended
Riverfront Park	NEIGHBOURHOOD	Not Recommended
Riverview Park	LOCAL	Not Recommended
Robson Park	COMMUNITY	Not Recommended
Rosemary Brown Park	NEIGHBOURHOOD	Not Recommended

Rosemont Park	LOCAL	Not Recommended
Ross Park	NEIGHBOURHOOD	Not Recommended
Roundhouse Turntable Plaza Park	NEIGHBOURHOOD	Not Recommended
Rupert Park	COMMUNITY	Not Recommended
Sahalli Park	NEIGHBOURHOOD	Not Recommended
Salsbury Park	NEIGHBOURHOOD	Not Recommended
Seaforth Peace Park	NEIGHBOURHOOD	Not Recommended
Shannon Park	NEIGHBOURHOOD	Not Recommended
Shaughnessy Park	LOCAL	Not Recommended
Slocan Park	COMMUNITY	Not Recommended
Spanish Banks Beach Park	COMMUNITY	Not Recommended
Sparwood Park	NEIGHBOURHOOD	Not Recommended
Strathcona Linear Park	NEIGHBOURHOOD	Not Recommended
Strathcona Park	COMMUNITY	Recommended
Sun Yat-sen Gardens Park	LOCAL	Not Recommended
Sunnyside Park	NEIGHBOURHOOD	Not Recommended
Sunrise Park	NEIGHBOURHOOD	Not Recommended
Sunset Beach Park	COMMUNITY	Not Recommended
Sunset Park	COMMUNITY	Not Recommended
Sutcliffe Park	COMMUNITY	Not Recommended
Tatlow Park	NEIGHBOURHOOD	Not Recommended
Tea Swamp Park	NEIGHBOURHOOD	Not Recommended
Tecumseh Park	NEIGHBOURHOOD	Not Recommended
Templeton Park	COMMUNITY	Not Recommended
Thornton Park	NEIGHBOURHOOD	Not Recommended
Thunderbird Park	LOCAL	Not Recommended
Tisdall Park	NEIGHBOURHOOD	Not Recommended
Trafalgar Park	NEIGHBOURHOOD	Not Recommended
Trillium Park	NEIGHBOURHOOD	Not Recommended
Valdez Park	LOCAL	Recommended
Vanier Park (Cultural Harmony Grove)	NEIGHBOURHOOD	Not Recommended
Vanier Park	COMMUNITY	Not Recommended
Victoria Park	NEIGHBOURHOOD	Not Recommended
Volunteer Park	LOCAL	Not Recommended
W.C. Shelley Park	NEIGHBOURHOOD	Not Recommended
Wendy Poole Park	LOCAL	Not Recommended
West Point Grey Park	COMMUNITY	Not Recommended
Westmount Park	LOCAL	Not Recommended
William Mackie Park	NEIGHBOURHOOD	Not Recommended
Willow Park	LOCAL	Not Recommended
Winona Park	NEIGHBOURHOOD	Recommended
Woodland Park	NEIGHBOURHOOD	Recommended
East Fraserlands Neighbourhood Park North	LOCAL	Recommended
McAuley Park	LOCAL	Not Recommended
West End Minipark - Bute and Haro	LOCAL	Not Recommended
West End Minipark - Cardero and Burnaby	LOCAL	Not Recommended
West End Minipark - Cardero and Comox	LOCAL	Not Recommended
West End Minipark - Broughton and Comox	LOCAL	Not Recommended
West End Minipark - Broughton and Nelson	LOCAL	Not Recommended
West End Minipark - Chilco and Comox	LOCAL	Not Recommended
West End Minipark - Gilford and Haro NE	LOCAL	Not Recommended
West End Minipark - Gilford and Haro SW	LOCAL	Not Recommended
West End Minipark - Jervis and Burnaby	LOCAL	Not Recommended
West End Minipark - Nicola and Pendrell	LOCAL	Not Recommended
Langara Golf course Walkway	LOCAL	Not Recommended
6th and Fir	NEIGHBOURHOOD	Not Recommended

Park Site On Quesnel Drive	LOCAL	Not Recommended

9. APPENDIX C: PARK ATMOSPHERE ASSESSMENT

Daily Park Atmosphere Assessment

Park atmosphere will be assessed right after the final park observation on **EACH** day. The assessment is at the park level, not the individual target area. As you walk the park during the four daily scheduled observations, be mindful of these items in order to record them accurately at the end of the day.

All fields are required.

Park Name: **Date & Time:**
Park ID: **Observer:**

Physical Conditions

1. **How much litter did you see in the park?** *(Check one)*
   - ☐ None
   - ☐ A little
   - ☐ Moderate
   - ☐ A lot

2. **How much graffiti did you see in the park?** *(Check one)*
   - ☐ None
   - ☐ A little
   - ☐ Moderate
   - ☐ A lot

Weather & Ambient Conditions

3. **Describe the weather by marking Yes or No for each of the 4 items below.** *(Check one response for each item)*
   - **a. Windy** ☐ Yes ☐ No
   - **b. Pleasant** ☐ Yes ☐ No
   - **c. Too cold** ☐ Yes ☐ No
   - **d. Too hot** ☐ Yes ☐ No

4. **How much has it rained in the last 3 days?** *(Check one)*
   - ☐ None
   - ☐ Some
   - ☐ A lot or all

5. **Describe the noise level in the park today.** *(Check one)*
   - ☐ Very quiet
   - ☐ Pleasant sounds

☐ Somewhat noisy

☐ Uncomfortably noisy

Social Conditions

Did you observe any item below during any part of the observation day?

(Check one response for each item)

6. Park staff involved in maintenance

☐ Yes ☐ No

7. Any law enforcement person, such as a police officer, park ranger, or private security officer

☐ Yes ☐ No

8. Any physical conflict *(e.g., people fighting)*

☐ Yes ☐ No

9. Intimidating groups of people (*e.g. gang activity, people begging, exclude homeless)*

☐ Yes ☐ No

10. People smoking tobacco

☐ Yes ☐ No

11. People drinking alcohol

☐ Yes ☐ No

12. People using marijuana

☐ Yes ☐ No

13. People using illegal substances other than marijuana *(must witness illegal substance usage, not just suspected people under the influence)*

☐ Yes ☐ No

14. Dogs off leash, but with an obvious owner present *(exclude any dog park area)*

☐ Yes ☐ No

15. Stray dogs *(e.g., no obvious owner, no collar)*

☐ Yes ☐ No

16. How many apparently homeless individuals were present during the observation day?

☐ None

☐ 1 - 2

☐ 3 - 5

☐ 6 - 10

☐ More than 10

17. How many tents or bulk items (e.g. shopping carts) did you observe in the park?

☐ None

☐ 1 - 2

☐ 3 - 5

☐ 6 - 10

☐ More than 10

18. Did you observe anyone with a wheelchair, scooter (not recreational) or another mobility device?

☐ Yes ☐ No

Presence of mobile food/drink/snack vendors

Did you observe any concession stands or food/drink/snack vendors in or around the park?

19. Did you observe any food/drink/snack vendors in the park? *(Check one)*

☐ Yes ☐ No *(skip #18)*

a. Is the food or beverages being sold by vendors in the park primarily…? *(Check all that apply)*

- ☐ Candy, cookies, soda, ice cream, chips
- ☐ Fresh fruit/nuts/vegetables
- ☐ Meals (sandwiches, tacos, etc.)
- ☐ Combination of healthy and unhealthy snacks

20. Did you observe any food/drink/snack vendors around the park? *(Check one)*

☐ Yes ☐ No *(skip #19)*

a. Is the food or beverages being sold by vendors around the park primarily…? *(Check all that apply)*

- ☐ Candy, cookies, soda, ice cream, chips
- ☐ Fresh fruit/nuts/vegetables
- ☐ Meals (sandwiches, tacos, etc.)
- ☐ Combination of healthy and unhealthy snacks

Events and construction

21. Was there a major event (e.g., festival, large sports program) in progress at the park? *(Check one)*

☐ Yes ☐ No

a. If yes, please describe the event: _____

22. Was there major maintenance/construction impeding park use? *(Check one)*

☐ Yes ☐ No

a. If yes, please describe the construction or maintenance: _____

10. APPENDIX D: SOPARC INVENTORY DESCRIPTIVES

Table 33 shows descriptive statistics for all SOPARC count variables on all three data collection days and during all four time periods for all park types observed.

Table 33: Descriptive statistics for all SOPARC count variables on all survey days for all observed parks.

VARIABLE	*N*	*RANGE*	*MIN*	*MAX*	*SUM*	*MEAN*	*ST DEV*
COUNT OF SEDENTARY ACTIVITY - FEMALE - CHILDREN	3797	25	0	25	858	0.23	1.01
COUNT OF SEDENTARY ACTIVITY - FEMALE - TEENAGER	3797	16	0	16	276	0.07	0.71
COUNT OF SEDENTARY ACTIVITY - FEMALE - ADULT	3797	28	0	28	3,711	0.98	2.59
COUNT OF SEDENTARY ACTIVITY - FEMALE - SENIOR	3797	23	0	23	426	0.11	0.72
COUNT OF MODERATE ACTIVITY - FEMALE - CHILDREN	3797	11	0	11	663	0.17	0.72
COUNT OF MODERATE ACTIVITY - FEMALE - TEENAGER	3797	10	0	10	160	0.04	0.39
COUNT OF MODERATE ACTIVITY - FEMALE - ADULT	3797	21	0	21	1,596	0.42	1.02
COUNT OF MODERATE ACTIVITY - FEMALE - SENIOR	3797	4	0	4	215	0.06	0.27
COUNT OF VIGOROUS ACTIVITY - FEMALE - CHILDREN	3797	11	0	11	275	0.07	0.48
COUNT OF VIGOROUS ACTIVITY - FEMALE - TEENAGER	3797	7	0	7	32	0.01	0.16
COUNT OF VIGOROUS ACTIVITY - FEMALE - ADULT	3797	10	0	10	188	0.05	0.37
COUNT OF VIGOROUS ACTIVITY - FEMALE - SENIOR	3797	1	0	1	9	0.00	0.05
COUNT OF SEDENTARY ACTIVITY - MALE - CHILDREN	3797	45	0	45	1,357	0.36	1.70
COUNT OF SEDENTARY ACTIVITY - MALE - TEENAGER	3797	20	0	20	315	0.08	0.73
COUNT OF SEDENTARY ACTIVITY - MALE - ADULT	3797	30	0	30	3,248	0.86	2.26
COUNT OF SEDENTARY ACTIVITY - MALE - SENIOR	3797	17	0	17	599	0.16	0.83
COUNT OF MODERATE ACTIVITY - MALE - CHILDREN	3797	20	0	20	1,007	0.27	1.06
COUNT OF MODERATE ACTIVITY - MALE - TEENAGER	3797	25	0	25	258	0.07	0.68
COUNT OF MODERATE ACTIVITY - MALE - ADULT	3797	16	0	16	1,810	0.48	1.19
COUNT OF MODERATE ACTIVITY - MALE - SENIOR	3797	5	0	5	260	0.07	0.32
COUNT OF VIGOROUS ACTIVITY - MALE - CHILDREN	3797	11	0	11	451	0.12	0.59
COUNT OF VIGOROUS ACTIVITY - MALE - TEENAGER	3797	9	0	9	81	0.02	0.24
COUNT OF VIGOROUS ACTIVITY - MALE - ADULT	3797	15	0	15	464	0.12	0.70
COUNT OF VIGOROUS ACTIVITY - MALE - SENIOR	3797	2	0	2	26	0.01	0.09
COUNT OF POPULATION - TOTAL	3797	90	0	90	18,285	4.82	8.60

POPULATION - ALL AGES & ACTIVITY TYPE							
COUNT OF POPULATION - FEMALE - ALL AGES & ACTIVITY TYPE	3797	55	0	55	8,409	2.21	4.56
COUNT OF POPULATION - MALE - ALL AGES & ACTIVITY TYPE	3797	52	0	52	9,876	2.60	4.95
COUNT OF CHILDREN - FEMALE - ALL ACTIVITY TYPE	3797	25	0	25	1,796	0.47	1.61
COUNT OF TEENAGERS - FEMALE - ALL ACTIVITY TYPE	3797	24	0	24	468	0.12	0.99
COUNT OF ADULTS - FEMALE - ALL ACTIVITY TYPE	3797	32	0	32	5,495	1.45	3.08
COUNT OF SENIORS - FEMALE - ALL ACTIVITY TYPE	3797	23	0	23	650	0.17	0.81
COUNT OF SEDENTARY ACTIVITY - FEMALE - ALL AGES	3797	40	0	40	5,271	1.39	3.55
COUNT OF MODERATE ACTIVITY - FEMALE - ALL AGES	3797	25	0	25	2,634	0.69	1.56
COUNT OF VIGOROUS ACTIVITY - FEMALE - ALL AGES	3797	11	0	11	504	0.13	0.63
COUNT OF CHILDREN - MALE - ALL ACTIVITY TYPE	3797	45	0	45	2,815	0.74	2.52
COUNT OF TEENAGERS - MALE - ALL ACTIVITY TYPE	3797	27	0	27	654	0.17	1.22
COUNT OF ADULTS - MALE - ALL ACTIVITY TYPE	3797	31	0	31	5,522	1.45	3.05
COUNT OF SENIORS - MALE - ALL ACTIVITY TYPE	3797	17	0	17	885	0.23	0.95
COUNT OF SEDENTARY ACTIVITY - MALE - ALL AGES	3797	48	0	48	5,519	1.45	3.58
COUNT OF MODERATE ACTIVITY - MALE - ALL AGES	3797	33	0	33	3,335	0.88	1.97
COUNT OF VIGOROUS ACTIVITY - MALE - ALL AGES	3797	15	0	15	1,022	0.27	0.97
COUNT OF CHILDREN - TOTAL POPULATION - ALL ACTIVITY TYPE	3797	70	0	70	4,611	1.21	3.70
COUNT OF TEENAGERS - TOTAL POPULATION - ALL ACTIVITY TYPE	3797	28	0	28	1,122	0.30	1.77
COUNT OF ADULTS - TOTAL POPULATION - ALL ACTIVITY TYPE	3797	55	0	55	11,017	2.90	5.49
COUNT OF SENIORS - TOTAL POPULATION - ALL ACTIVITY TYPE	3797	37	0	37	1,535	0.40	1.60
COUNT OF SEDENTARY ACTIVITY - TOTAL POPULATION - ALL AGES	3797	74	0	74	10,790	2.84	6.54
COUNT OF MODERATE ACTIVITY - TOTAL POPULATION - ALL AGES	3797	40	0	40	5,969	1.57	2.99
COUNT OF VIGOROUS ACTIVITY - TOTAL POPULATION - ALL AGES	3797	18	0	18	1,526	0.40	1.29

11. APPENDIX E: ACTIVITY LEVEL IN COMMUNITY PARKS

Sedentary, moderate and vigorous activity levels by age for Community Parks (Figure 20, Figure 21 and Figure 22).

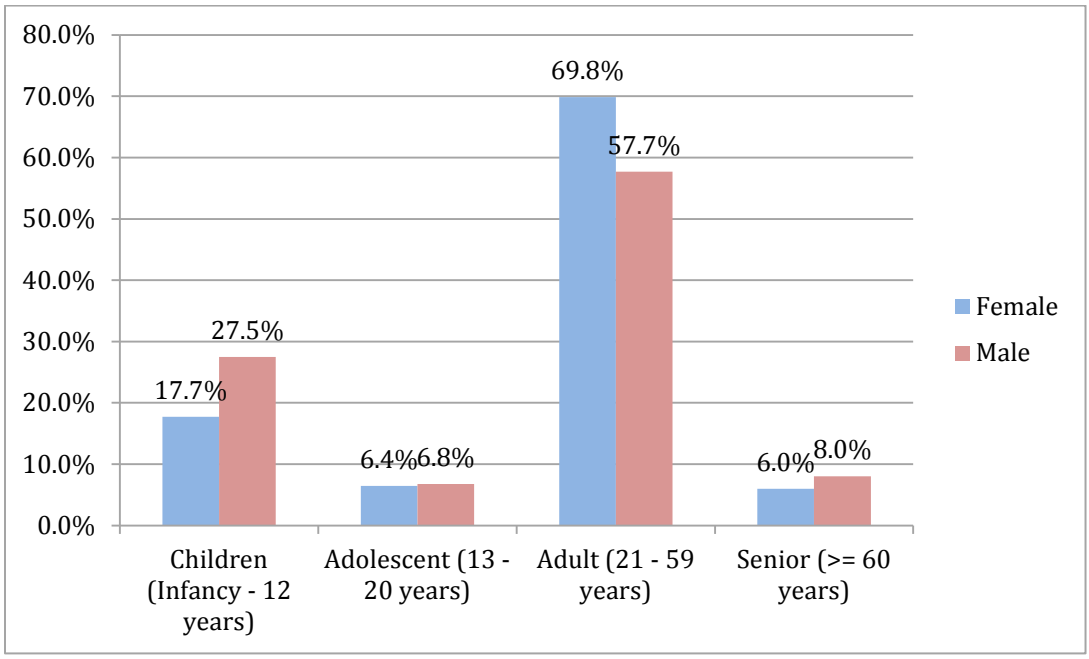

Figure 20: Percentage of park patrons engaged in sedentary activity by age and gender for Community Parks on all three collection days for all four daily time periods.

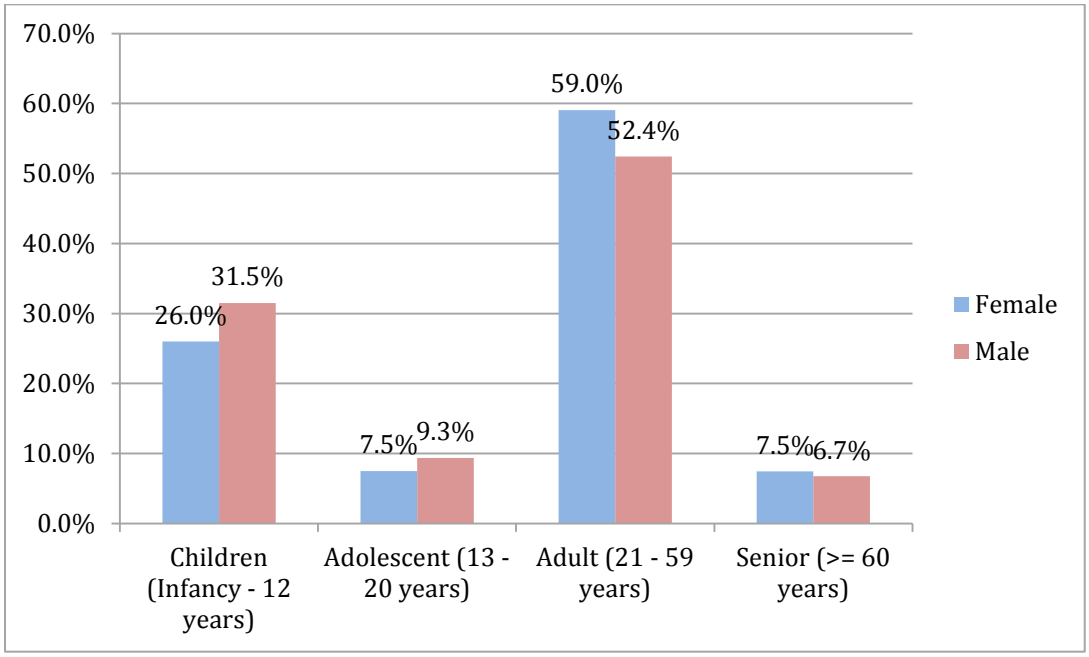

Figure 21: Percentage of park patrons engaged in moderate activity by age and gender for Community Parks on all three collection days for all four daily time periods.

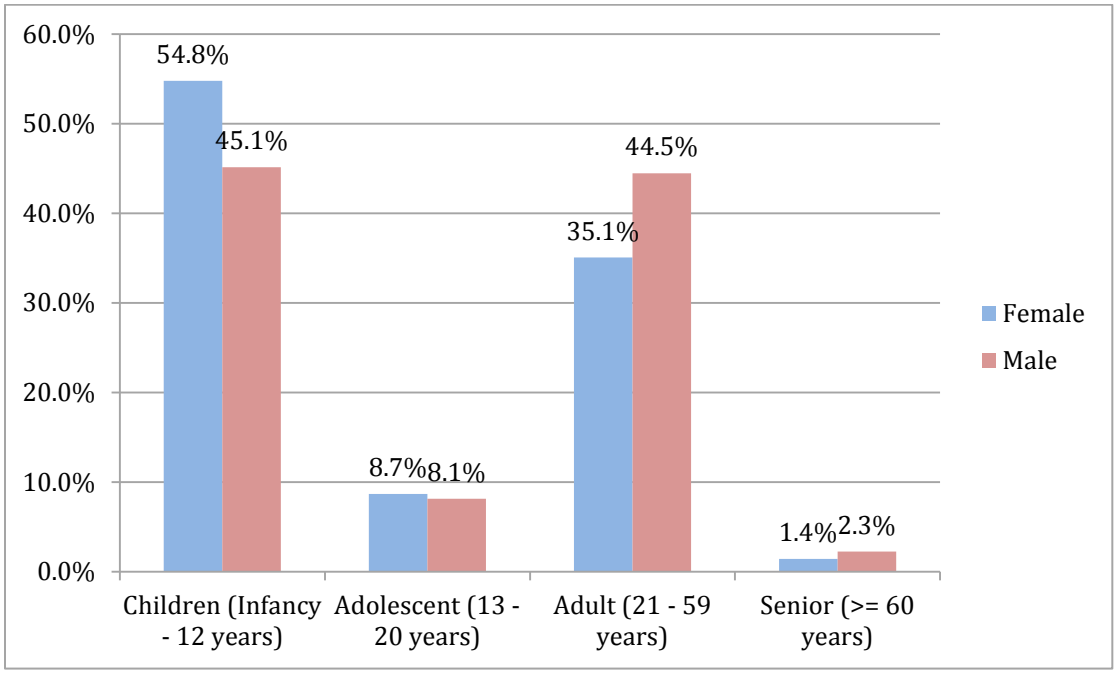

Figure 22: Percentage of park patrons engaged in vigorous activity by age and gender for Community Parks on all three collection days for all four daily time periods.

12. APPENDIX F: ACTIVITY LEVELS IN NEIGHBOURHOOD PARKS

Sedentary, moderate and vigorous activity levels by age for Neighbourhood Parks (Figure 23, Figure 24 and Figure 25).

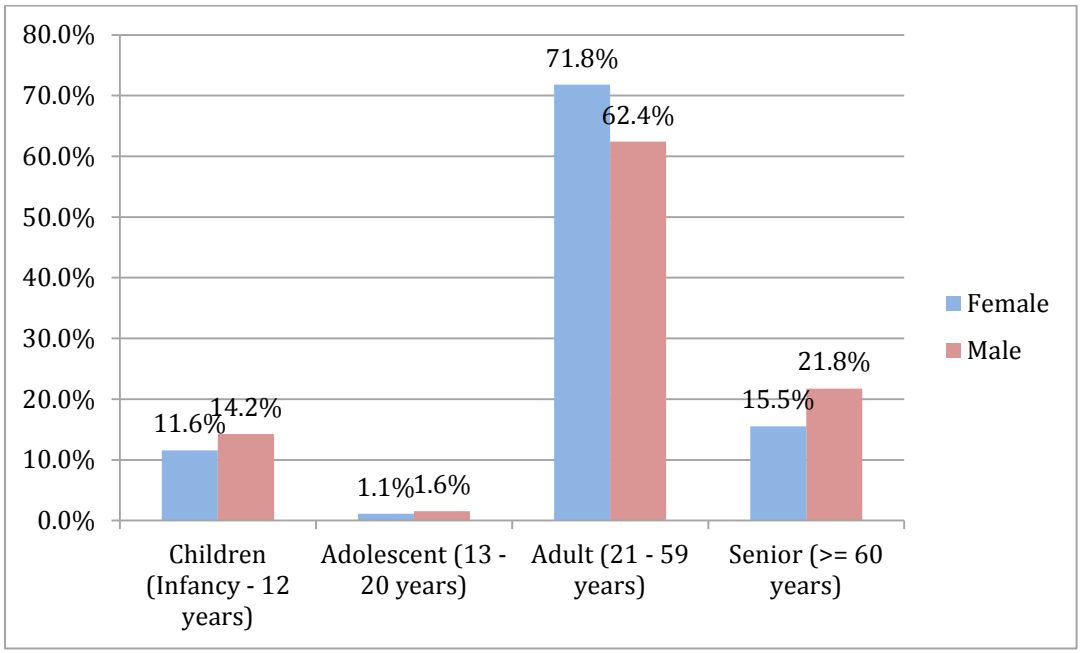

Figure 23: Percentage of park patrons engaged in sedentary activity by age and gender for Neighbourhood Parks on all three collection days for all four daily time periods.

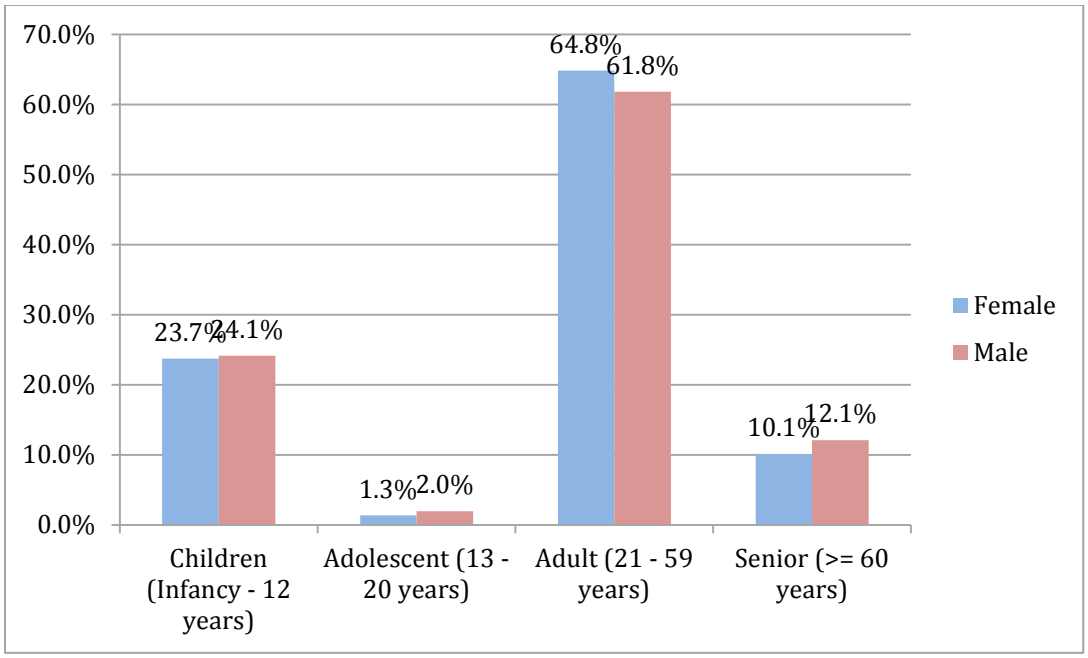

Figure 24: Percentage of park patrons engaged in moderate activity by age and gender for Neighbourhood Parks on all three collection days for all four daily time periods.

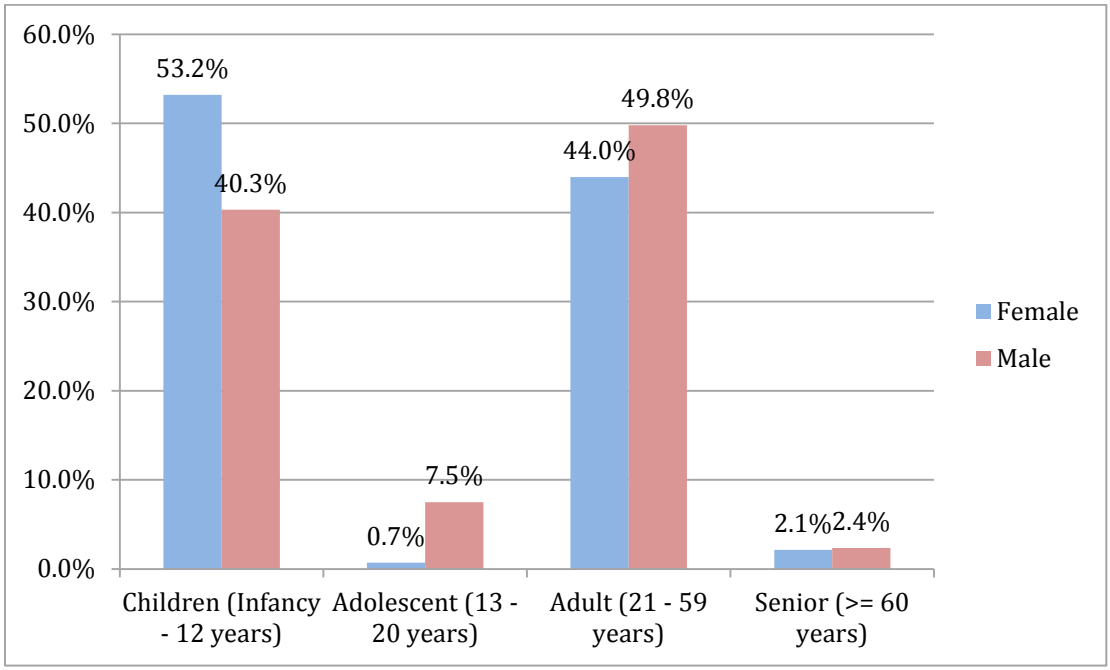

Figure 25: Percentage of park patrons engaged in vigorous activity by age and gender for Neighbourhood Parks on all three collection days for all four daily time periods.

13. APPENDIX G: ACTIVITY LEVELS IN LOCAL PARKS

Sedentary, moderate and vigorous activity levels by age for Local Parks (Figure 26, Figure 27 and Figure 28).

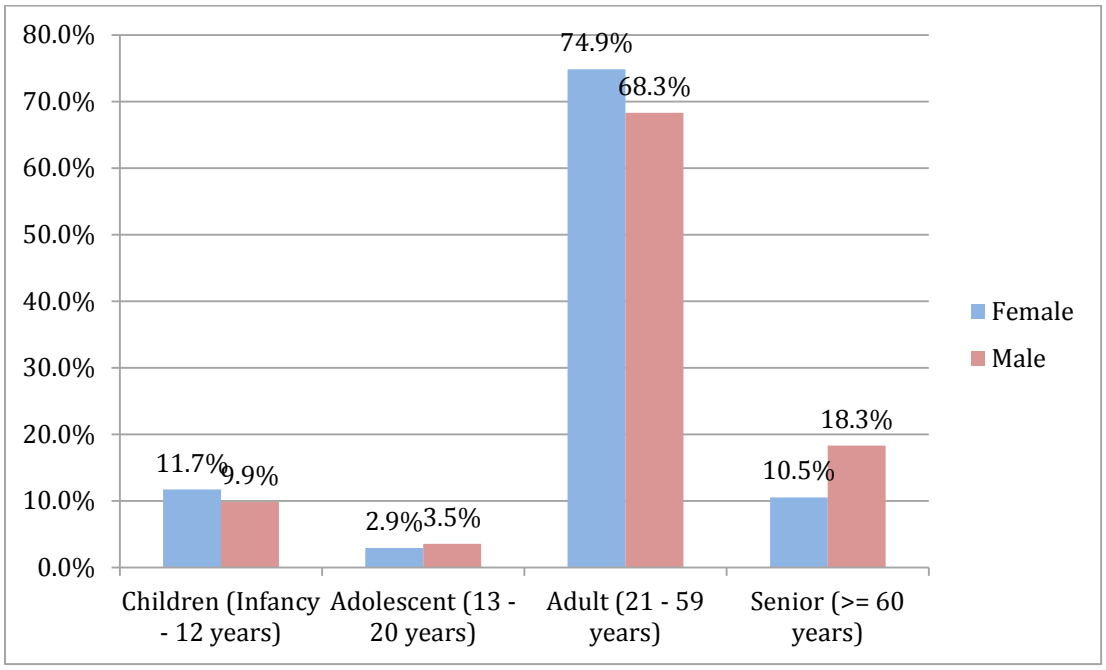

Figure 26: Percentage of park patrons engaged in sedentary activity by age and gender for Local Parks on all three collection days for all four daily time periods.

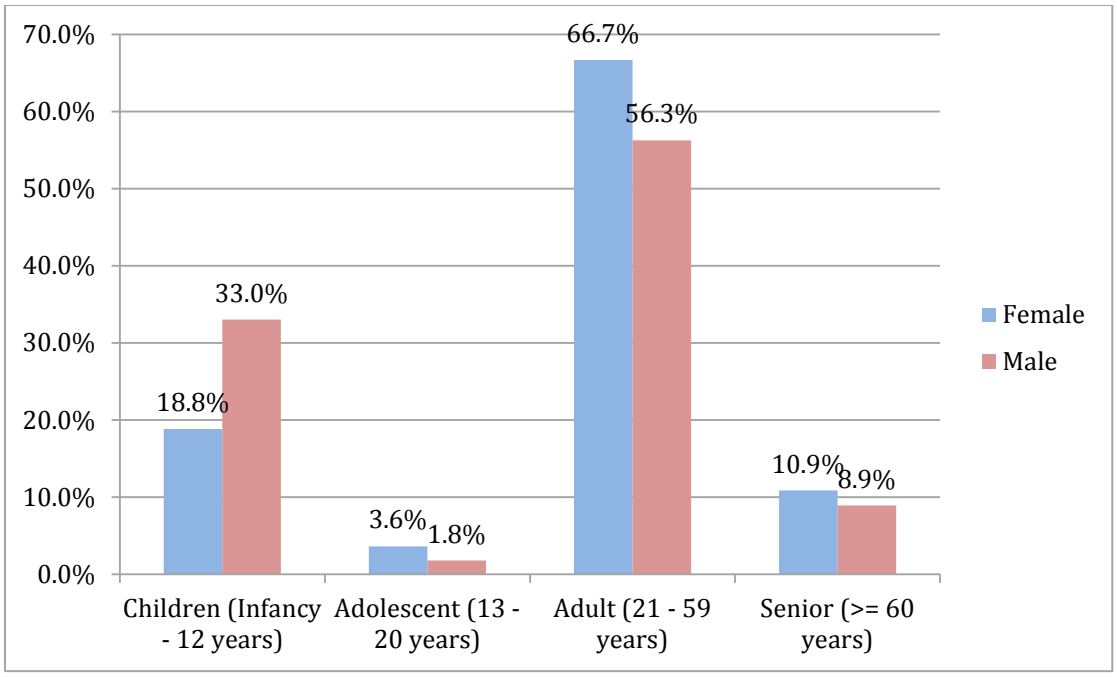

Figure 27: Percentage of park patrons engaged in moderate activity by age and gender for Local Parks on all three collection days for all four daily time periods.

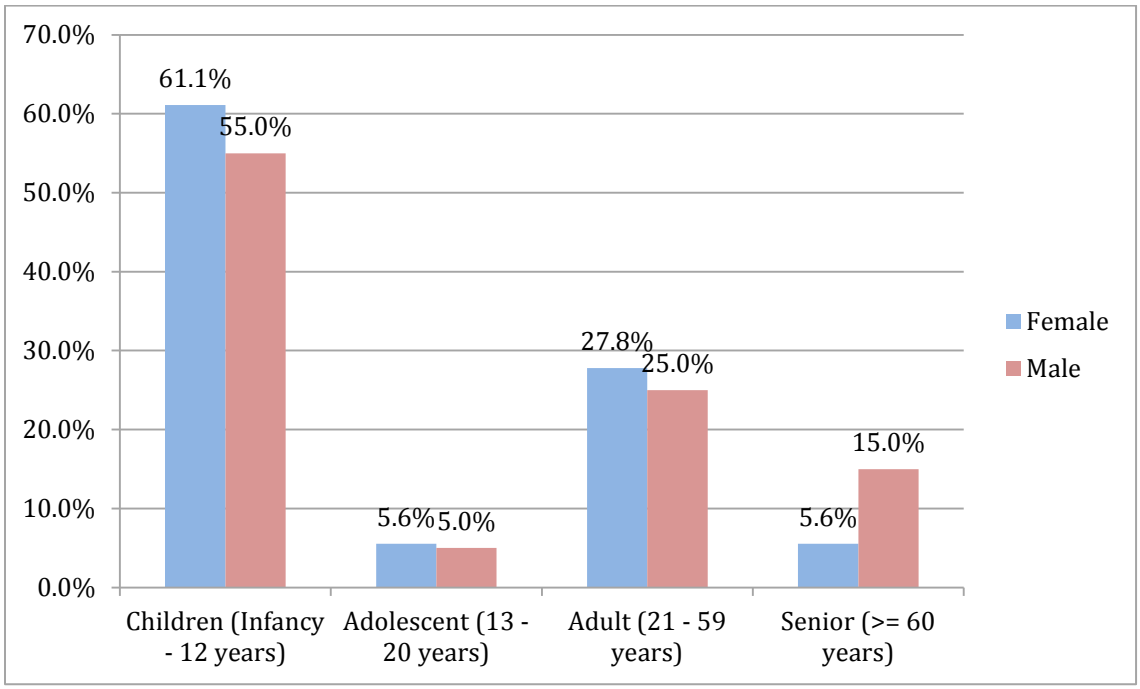

Figure 28: Percentage of park patrons engaged in vigorous activity by age and gender for Local Parks on all three collection days for all four daily time periods.

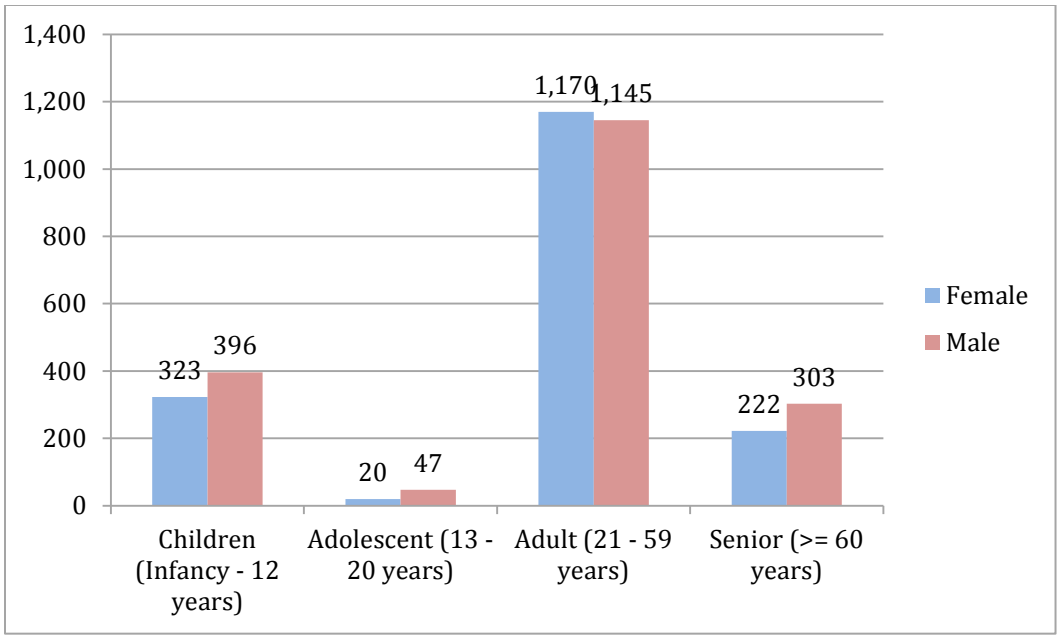

Figure 29: Total number of park patrons by age and gender engaging in all types of activity for Neighbourhood Parks on all three collection days for all four daily time periods.

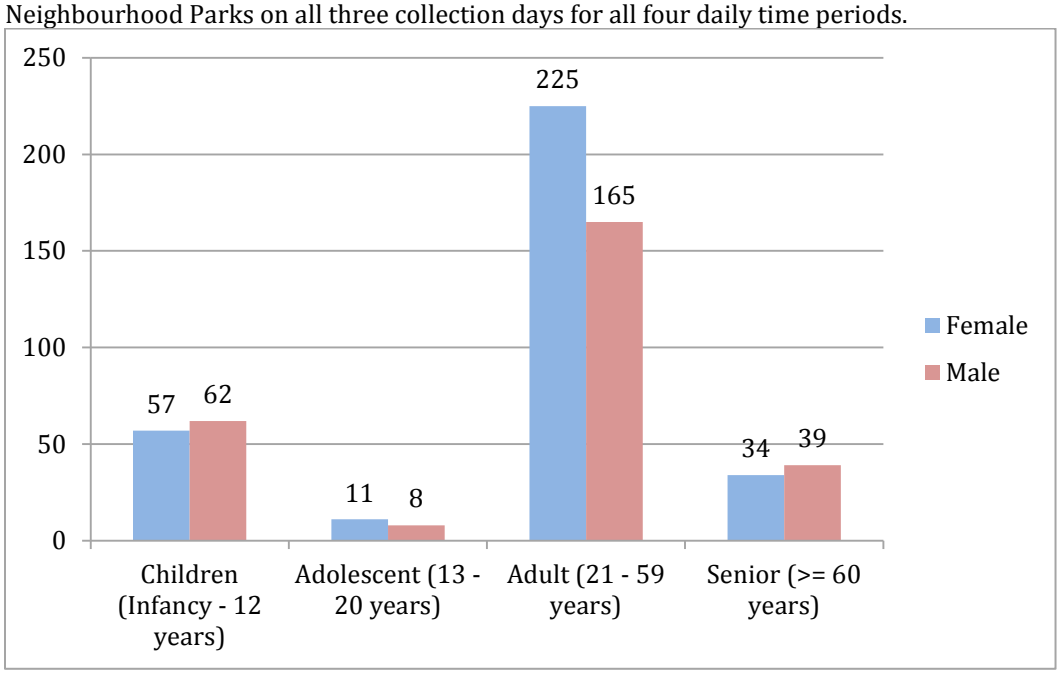

Figure 30: Total number of park patrons by age and gender engaging in all types of activity for Local Parks on all three collection days for all four daily time periods.

14. APPENDIX H: PARK ATMOSPHERE ASSESSMENT

Table 34 describes the variables collected for the Park Atmosphere Assessment performed once per day for each park.

Table 34: Variables obtained for the Park Atmosphere Assessment supplementary to the SOPARC inventory.

VARIABLE NAME	*VARIABLE DESCRIPTION*	*MEASUREMENT LEVEL*
start	OBSERVATION START TIME (UTC) (-7 FOR PACIFIC TIME ZONE)	Nominal
end	OBSERVATION END TIME (UTC) (-7 FOR PACIFIC TIME ZONE)	Nominal
deviceid	OBSERVATION COLLECTION DEVICE ID 1	Scale
city	NAME OF OBSERVATION CITY	Nominal
park	PARK ID (UD4H)	Nominal
observer	OBSERVER FULL NAME	Nominal
litter	AMOUNT OF LITTER PRESENT IN THE PARK	Nominal
graffiti	AMOUNT OF GRAFFITI PRESENT IN THE PARK	Nominal
wther_wind	WEATHER - WINDY	Nominal
wther_plea	WEATHER - PLEASANT	Nominal
wther_cold	WEATHER - TOO COLD	Nominal
wther_hot	WEATHER - TOO HOT	Nominal
wther_rain	WEATHER - AMOUNT OF RAIN IN LAST 3 DAYS	Nominal
noise	NOISE LEVEL IN THE PARK	Nominal
staff_main	PARK STAFF ENGAGED IN MAINTENANCE	Nominal
staff_secu	PRESENCE OF LAW ENFORCEMENT PERSON, SUCH AS POLICE OFFICER, PARK RANGER, PRIVATE SECURITY	Nominal
soc_conf	SOCIAL CONDITIONS - PHYSICAL CONFLICT	Nominal
soc_igroup	SOCIAL CONDITIONS - INTIMIDATING GROUPS OF PEOPLE	Nominal
soc_tobacc	SOCIAL CONDITIONS - PEOPLE SMOKING TOBACCO	Nominal
soc_alcoho	SOCIAL CONDITIONS - PEOPLE DRINKING ALCOHOL	Nominal
soc_pot	SOCIAL CONDITIONS - PEOPLE USING MARIJUANA	Nominal
soc_illega	SOCIAL CONDITIONS - PEOPLE USING DRUGS (OTHER THAN MARIJUANA)	Nominal
dog_owned	PRESENCE OF DOGS, WITH OBVIOUS OWNER, OFF LEASH (EXCLUDING DOG PARK AREAS OR OFF LEASH AREAS)	Nominal
dog_stray	PRESENCE OF STRAY DOGS	Nominal
nohome	NUMBER OF APPARENTLY HOMELESS INDIVIDUALS IN PARK DURING OBSERVATION DAY	Nominal
tents	NUMBER OF TENTS OR BULK ITEMS (E.G. SHOPPING CARTS) OBSERVED INTHE PARK	Nominal
access	PRESENCE OF ANYONE WITH A WHEELCHAIR, SCOOTER (NOT RECREATIONAL) OR ANOTHER MOBILITY DEVICE IN THE PARK	Nominal
vendin	CONCESSION - PRESENCE OF ANY FOOD/DRINK/SNACK VENDORS IN THE PARK	Nominal
vendin_typ	CONCESSION - PRIMARY TYPE OF FOOD OR BEVERAGE SOLD BY VENDORS IN THE PARK	Nominal
vendadj	CONCESSION - PRESENCE OF ANY FOOD/DRINK/SNACK VENDORS AROUND THE PARK	Nominal
vendadj_ty	CONCESSION - PRIMARY TYPE OF FOOD OR BEVERAGE SOLD BY VENDORS AROUND THE PARK	Nominal
event	MAJOR EVENT TAKING PLACE IN THE PARK DURING OBSERVATION	Nominal
event_desc	DESCRIPTION OF MAJOR EVENT TAKING PLACE IN THE PARK DURING OBSERVATION	Nominal
const	MAJOR CONSTRUCTION/MAINTENANCE IMPEDING PARK USE IN THE PARK DURING OBSERVATION	Nominal
const_desc	DESCRIPTION OF MAJOR CONSTRUCTION/MAINTENANCE IMPEDING PARK USE IN THE PARK DURING OBSERVATION	Nominal
meta_insta	META INSTANCE UNIQUE ID	Nominal

device_id	OBSERVATION COLLECTION DEVICE ID 2	Nominal
observe_id	OBSERVER ID (UD4H)	Nominal
obser_name	OBSERVER NAME	Nominal
obser_date	OBSERVATION DATE	Scale
obser_day	OBSERVATION DAY OF THE WEEK	Nominal
park_name	PARK NAME	Nominal
park_type	PARK TYPE	Nominal
park_typet	PARK TYPE DESCRIPTION	Nominal
obser_d_pt	OBSERVATION DAY ID	Nominal
atmo_extra	FLAG FOR USE OF ADDITIONAL PARK ATMOSPHERE ASSESSMENT REPORT BECAUSE NOT ALL TIME POINTS COULD BE COMPLETED ON THE SAME DAY	Nominal

15. APPENDIX I: PARK USER ACTIVITY TYPES

Table 35: Park user activity types and classification type from the SOPARC tool.

Type of Activity	*Classification Type*
aerobics	Active
baseball	Active
basketball	Active
catch	Active
climbing	Active
cycling	Active
dance	Active
football	Active
frisbee	Active
gymnastics	Active
jog run	Active
lying down	Passive
manipulatives	Active
martial arts	Active
other	Passive
picnic	Passive
playact	Active
read	Passive
sit	Passive
skate	Active
soccer	Active
stand	Passive
strengthen	Active
swim	Active
tag	Active
tennis	Active
volleyball	Active
walk	Active

16. APPENDIX J: PARK SELECTION REPORT

Who Uses Vancouver Parks & Their Activity Levels:
A Park User Profile Using the SOPARC Tool

VanPlay | Vancouver Park Board | Vancouver, BC | February 7, 2018

Eric H. Fox, MScP
Planning Associate & GIS Manager
Urban Design 4 Health, Inc. * www.ud4h.com

URBAN DESIGN 4 HEALTH

Presentation Outline

1. Natural Environment & Health
2. Inventory in Vancouver Parks
   A. Tool Overview
   B. Park Selection Method
   C. Data Acquisition
   D. Findings
3. Lessons for *VanPlay*
4. Questions

Natural Environment Impacts on Humans

Biophilia: "*Humans have an instinctive affiliation for and need connection with the natural world*"

- E.O. Wilson, 1984

Role of Health

- **Health** as a consideration in park and recreation planning processes
- Importance of **green infrastructure** investment
  - Benefits to physical and psychological wellbeing
- Research indicates exposure to **green space**[1]:
  - Encourages physical activity
  - Reduces stress
  - Improves mental health
  - Promotes restoration

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[1] Ulmer, JM, Wolf, KL, Backman, DR, Tretheway, RL, Blain, CJ, O'Neil-Dunne, J & Frank, LD. (2016). Multiple Health Benefits of Urban Tree Canopy: The Mounting Evidence for a Green Prescription. Health & Place, 42, 54-62.

SOPARC Overview

System for Observing Play & Recreation in Communities

- Observational surveillance audit instrument
- Evaluates park user **demographics** and **activity levels**
- Key variables of interest:
  - Demographics:
    - Gender
    - Age cohort: Youth, Adolescent, Adult, Senior
    - Ethnicity
  - Health:
    - Level of Physical Activity
    - Type of Activity (e.g. sitting (passive) or running (active))

Source: McKenzie TL, Cohen DA, Sehgal A, Williamson S & Golinelli D. System for Observing Play & Recreation in Communities (SOPARC): Reliability & Feasibility Measures. *Journal of Physical Activity & Health,* 2006. 3(Suppl 1), S208-S222.

SOPARC Overview

- First time used for a major Park & Recreation Planning process
- National SOPARC Study underway in the U.S.
- Has not been used in any other Canadian city

SOPARC Team

VANCOUVER BOARD OF PARKS AND RECREATION

Dave Hutch
Research & Planning Manager

Doug Shearer
Senior Planner

Katherine Howard
Project Manager

DESIGNWORKSHOP

Amanda Jeter
Overall Project Manager

RAND CORPORATION

Dr. Deborah Cohen
SOPARC Advisor

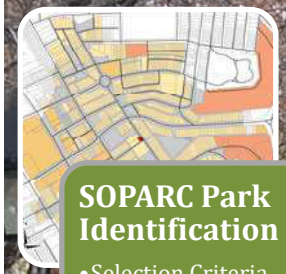
ud4h URBAN DESIGN 4 HEALTH

Eric Fox
Project Manager

Data Collection Team (n=5)
In-Field Surveyors

ud4h | UD4H.com VanPlay

SOPARC Analysis Process



SOPARC Park Identification

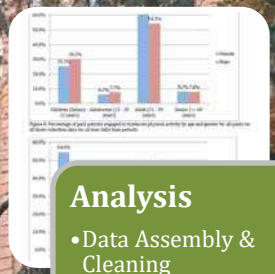
- Selection Criteria
- Base Data Review

Pre-Collection Preparation

- Mapping Park Target Areas
- Pre-Collection Park Visits
- SOPARC Training

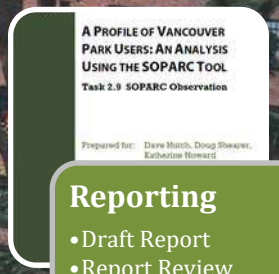
Data Acquisition

- In-Field Collection
- Data Uploading & Progress Reporting



Analysis

- Data Assembly & Cleaning
- Developing Descriptives
- Data Interpretation



Reporting

- Draft Report
- Report Review
- Final Report
- Presentation of Findings

SOPARC Selection Criteria

1. Eligible Park Type
   I. Community, Neighbourhood, Local Parks
      a) Destination, Urban Plazas not considered

Table 1: Types of eligible park classes for the SOPARC inventory.
Source: Vancouver Park Board, 2016.

Park Type	*Park Count (n)*	*Average Size (ha)*	*Size Range (ha)*	*Municipal Parkland (%)*
Community Park	57	6.4 ha (15.8 acres)	0.9 – 48.2 ha (2.2 – 119.2 acres)	33%
Neighbourhood Park	92	2.6 ha (6.5 acres)	0.1 – 38.2 ha (0.3 – 94.3 acres)	22%
Local Park	67	0.53 ha (1.3 acres)	0.0 – 4.0 ha (0.0 – 9.9 acres)	3%

2. Presence of outdoor park amenity facilities for opportunity for physical activity[1]
3. Parks in City-defined growth areas

[1] Local Parks not included.

SOPARC Selection Criteria

4. Socio-economic status (SES) indicator
   I. A range of income levels of nearby residents

Table 2: Vancouver median annual household income by aggregated income type using a quantile data distribution.
Source: Statistics Canada, 2011.

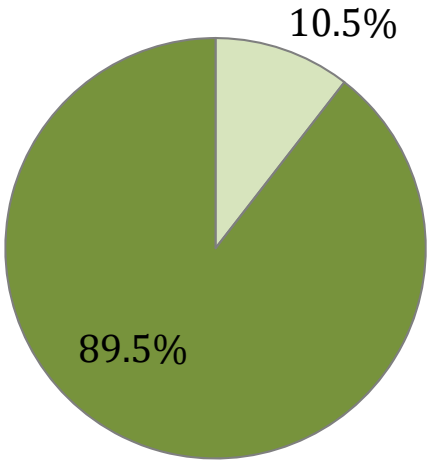
#	*Income Type*	*Census Tracts (n)*	*Percent of Tracts*	*Median Annual Household Income Range ($)*
1	Low Income	39	33.3%	$15,117 - < $53,734
2	Moderate	39	33.3%	≥ $53,734 - $64,196
3	High	39	33.3%	≥$64,196 – $149,704
Total		117	100%	

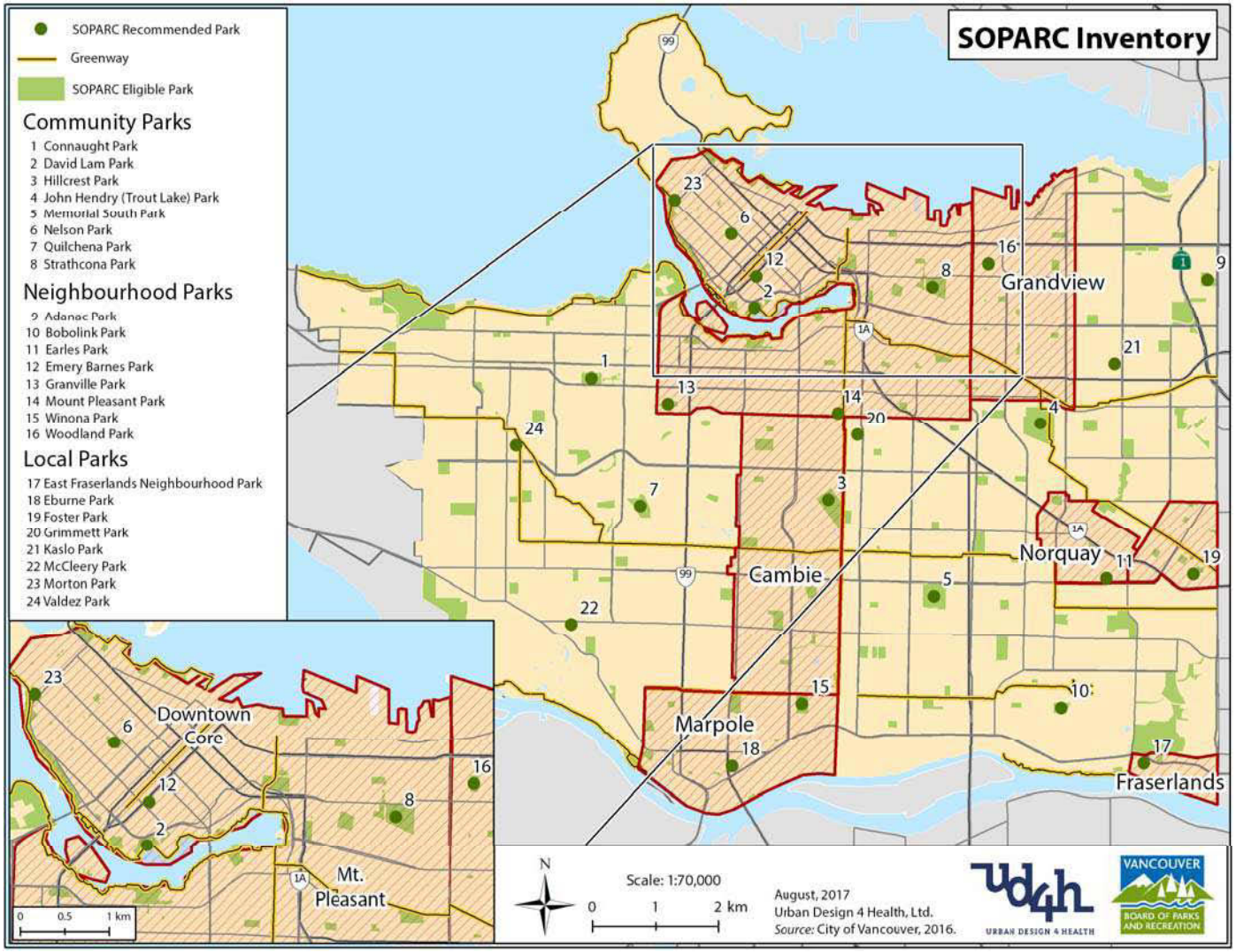
5. Close proximity (100 m) to a Greenway
6. Relatively even geographic coverage across the city

Parks Selected for SOPARC

SOPARC Sample

n = 24





Pre-Collection Preparation

- Mapping SOPARC Target Areas (TAs)
- Pre-collection park visits
- SOPARC tool training

Park ID: C-1007 | **Park Name:** Quilchena Park | **Address:** 4590 Magnolia St

Observation Point
Target Area: Greenspace
Target Area: Vigorous Activity
Target Area: Moderate/Sedentary Activity
Target Area: Plaza/Hardscape/Building
Target Area: Trail/Pathway
Take Site Picture Here
Do not score

TA #	TA Name
1	Greenspace
2	Path
3	Greenspace
4	Greenspace
5	Baseball Field
6	Greenspace
7	Greenspace
8	Playground / Greenspace
9	Baseball Field
10	Skate Park / Greenspace

TA #	TA Name
11	Path
12	Greenspace
13	Path
14	Greenspace
15	Greenspace
16	Path
17	Greenspace
18	Greenspace
19	Greenspace
20	Path

TA #	TA Name
21	Greenspace
22	Greenspace
WP	Walking Path (12 min)

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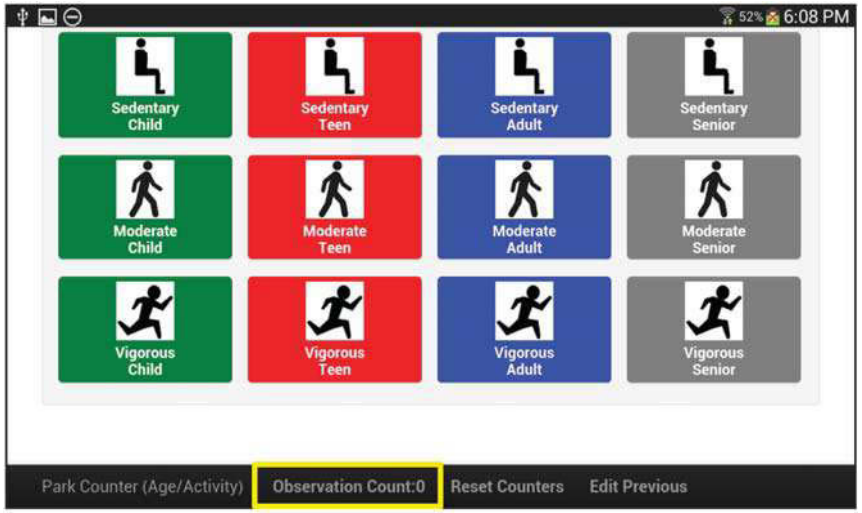
Data Acquisition

Equipment:

- Portable tablets
- Cameras
- Paper maps

Software:

- Open Data Kit
  - Custom XML forms
- Google Cloud Platform
- Custom counters



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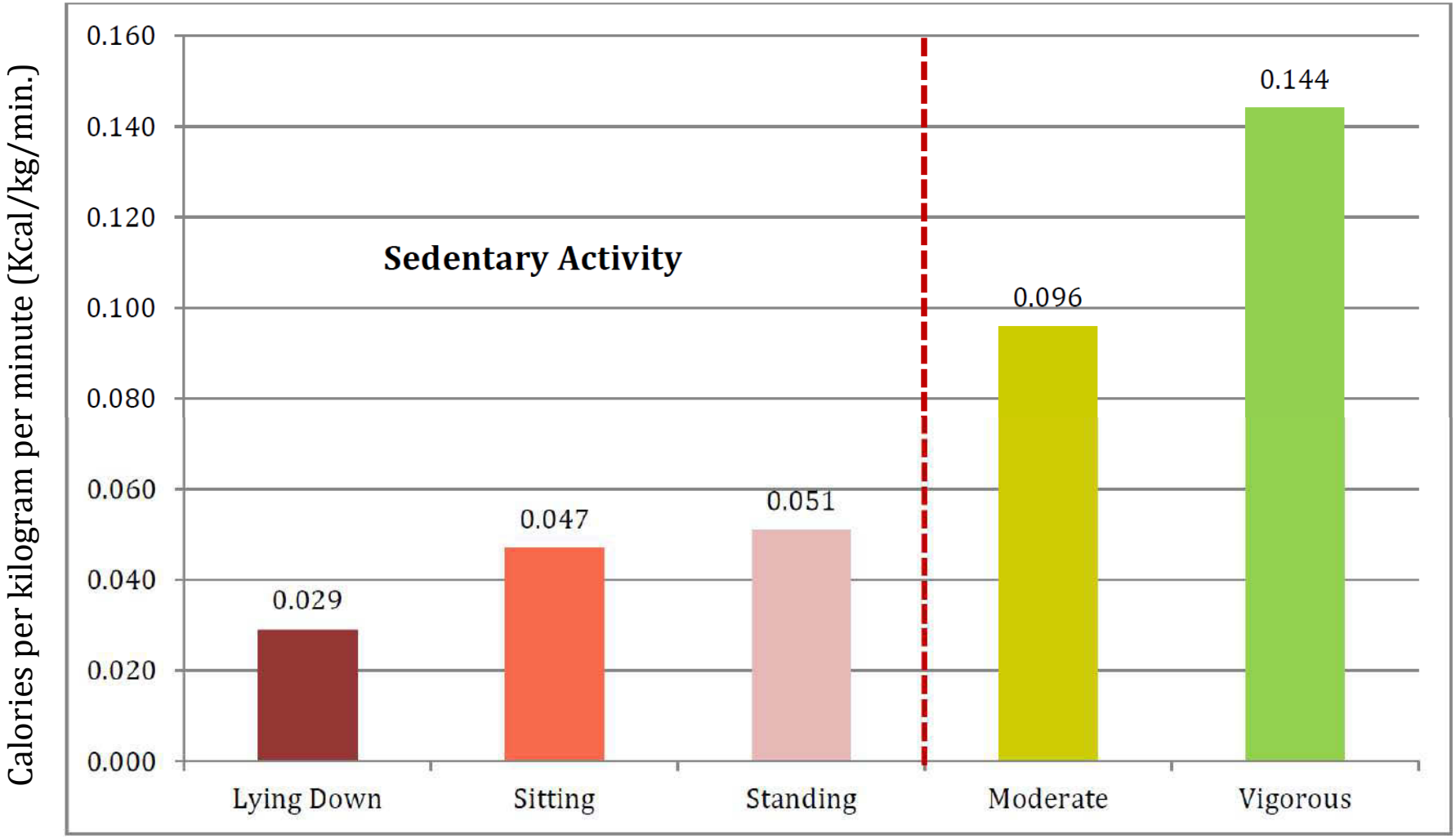
DATA ACQUISITION

Energy Expenditure by Activity Type



Source: Ainsworth BE, Haskell WL, Whitt MC, et al. Compendium of physical activities: an update of activity codes and MET intensities. Med Sci Sports Exerc. 2000;32(9,Suppl):S498–S504.

Data Acquisition

Observation Periods:

- Data Collected: Late May – End of June, 2017
- Observation Time: 30 minutes – 1 hour
- Days per week: n = 3
  - 2 weekdays, 1 weekend
- Times of Day: n = 4

Table 5: Time windows for performing park observations during each collection day.

Time of Day	*Surveyor Time Window*	*Average Observation Time*
Morning	8AM – 11AM	9AM
Mid-Day	10:30AM – 2PM	12PM
Afternoon	2PM – 4:30PM	2:30PM
Early Evening	4:30PM – 8PM	5:30PM

- Total observation period per park: n = 12

Post-Collection Analysis

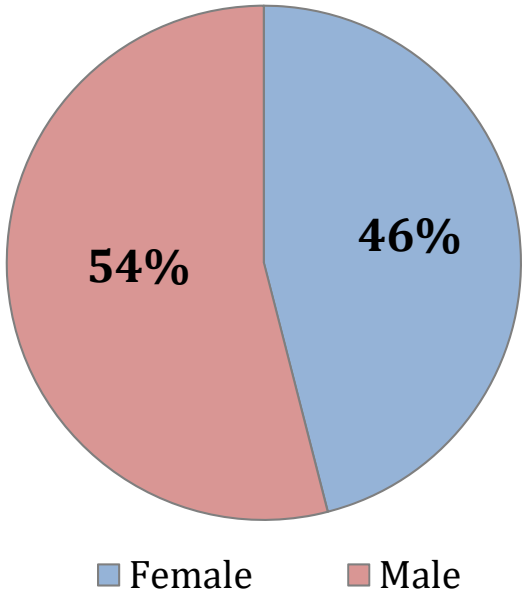
Data Assembly:

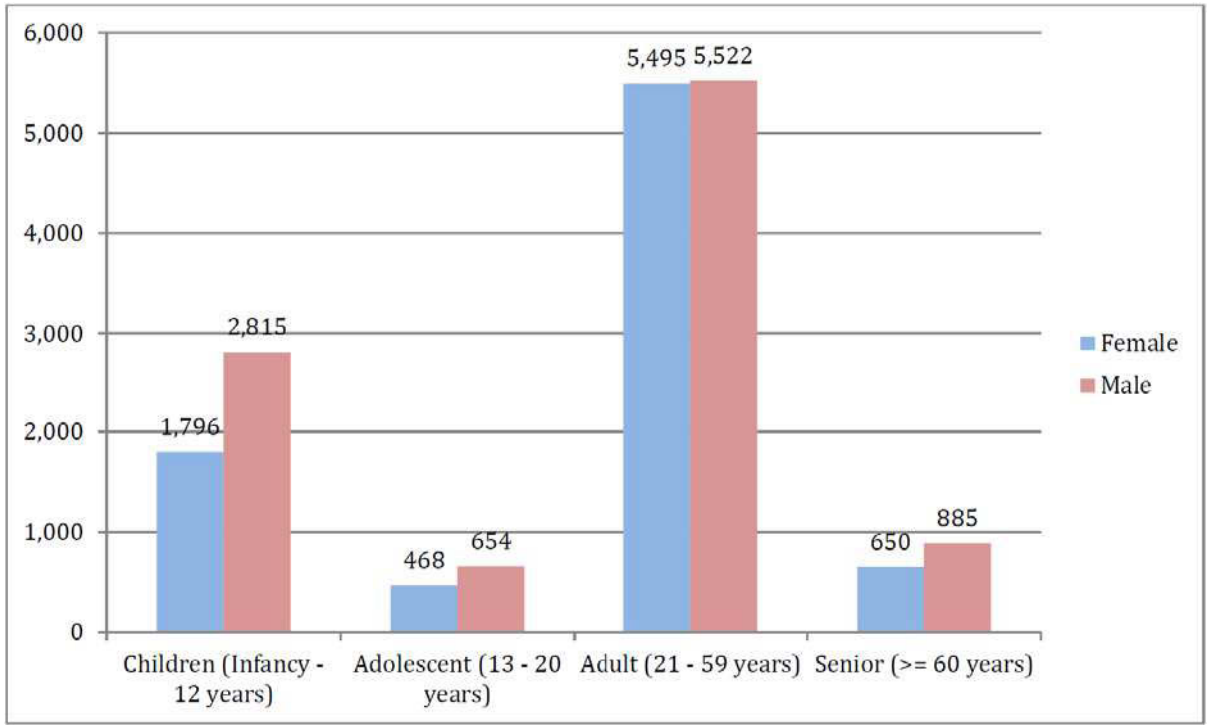
- > 97 hours of data collected
- Daily uploading of data and progress reports
- Daily park collection databases merged
- Data organized, sorted, IDs added
  - Permutations by park, day of week, time of day

CITYWIDE FINDINGS

SOPARC Stats for Vancouver Parks:

- Total park users observed: n = 18,285
- 3,800 target areas observed; $\bar{x} = 4.8$ per TA

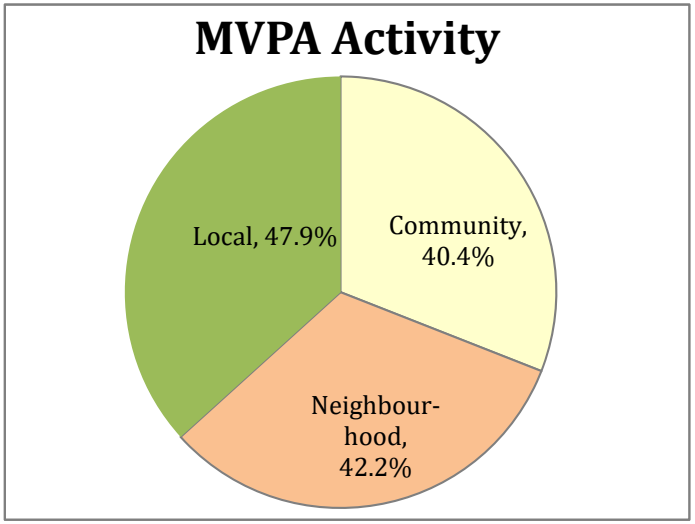


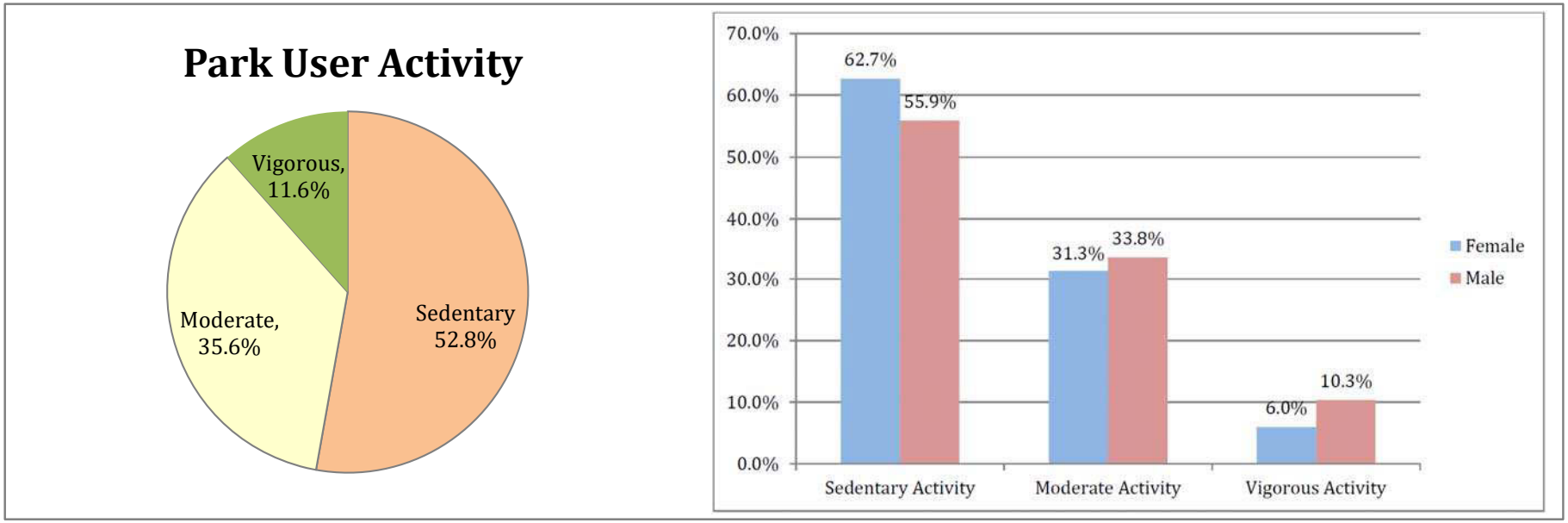


CITYWIDE FINDINGS

Activity Levels:

- Largest parks have the most users
- Largest parks have more sedentary activity
- Males are more active than females



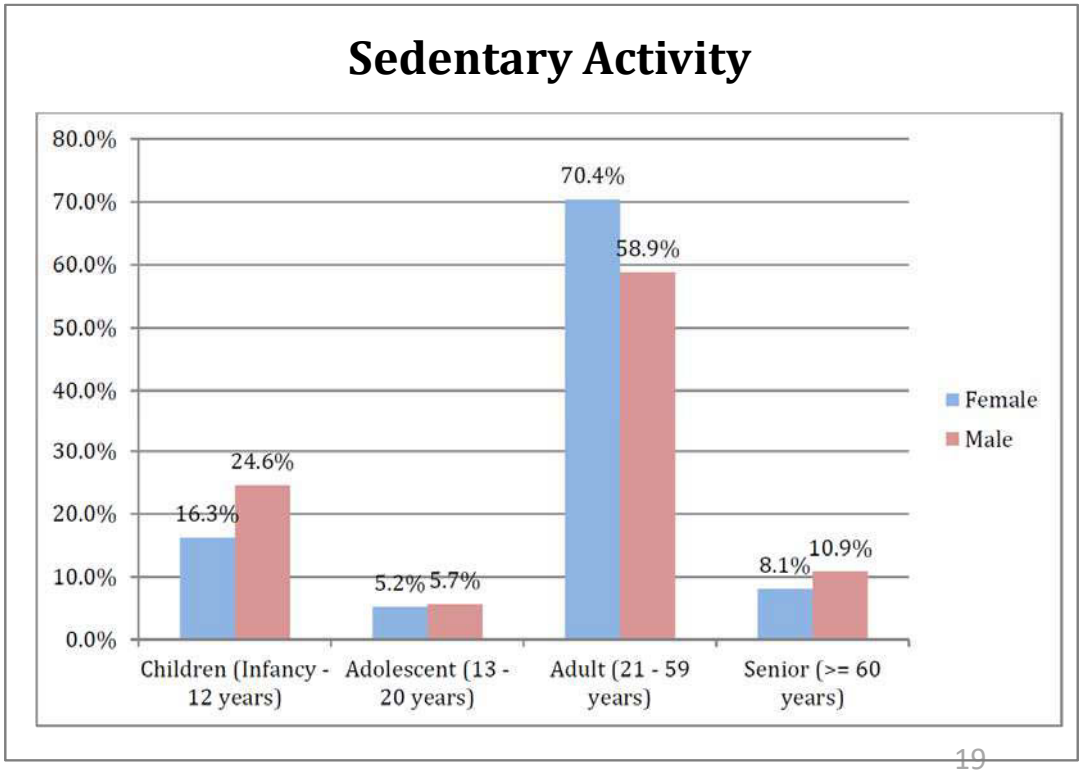


CITYWIDE FINDINGS

Activity By Age Cohort:

- Sedentary activity:
  - ↑ among adult females
  - ↓ among female children

- Seniors with highest sedentary activity
- Males more likely to be engaged in vigorous activity among all ages, except children



CITYWIDE FINDINGS

Park Rankings

Most users:

JOHN HENDRY PARK

Most Active:

ADANAC PARK

Least Active:

MT. PLEASANT PARK

Category	*Rank*	*Park Name*	*Park Type*	*Sample*		
				Total[28]	*Female*	*Male*
Most Users	1	John Hendry (Trout Lake)	Community	5,904	3,070 (52.0%)	2,834 (48.0%)
	2	David Lam	Community	2,241	1,080 (48.2%)	1,161 (51.8%)
	3	Memorial South	Community	1,959	624 (31.9%)	1,335 (68.1%)
	4	Emery Barnes	Neighbourhood	1,699	790 (46.5%)	909 (53.5%)
	5	Connaught	Community	1,346	646 (48.0%)	700 (52.0%)

Category	*Rank*	*Park Name*	*Park Type*	*Activity Type*			
				Sedentary	*Moderate*	*Vigorous*	*MVPA*[30]
Most Active[31]	1	Adanac	Neighbourhood	24.8%	54.6%	20.6%	75.2%
	2	Bobolink	Neighbourhood	33.9%	33.0%	33.0%	66.0%
	3	Quilchena	Community	44.9%	47.0%	8.2%	55.2%
	4	Winona	Neighbourhood	44.9%	28.5%	26.6%	55.1%
	5	Grimmett	Local	44.9%	47.2%	7.9%	55.1%
Average				38.7%	42.1%	19.3%	61.3%
Least Active[32]	1	John Hendry (Trout Lake)	Community	67.3%	29.0%	3.7%	32.7%
	2	Mt. Pleasant	Neighbourhood	64.8%	26.4%	8.9%	35.3%
	3	Emery Barnes	Neighbourhood	63.9%	30.8%	5.4%	36.2%
	4	Morton	Local	62.7%	35.5%	1.8%	37.3%
	5	Connaught	Community	61.4%	27.9%	10.7%	38.6%
Average				64.0%	29.9%	6.1%	36.4%

CITYWIDE FINDINGS

Most Common Activity

Active:

- Walking (13%)
- Playground (14%)
- Baseball (8%)
- Soccer (4%)

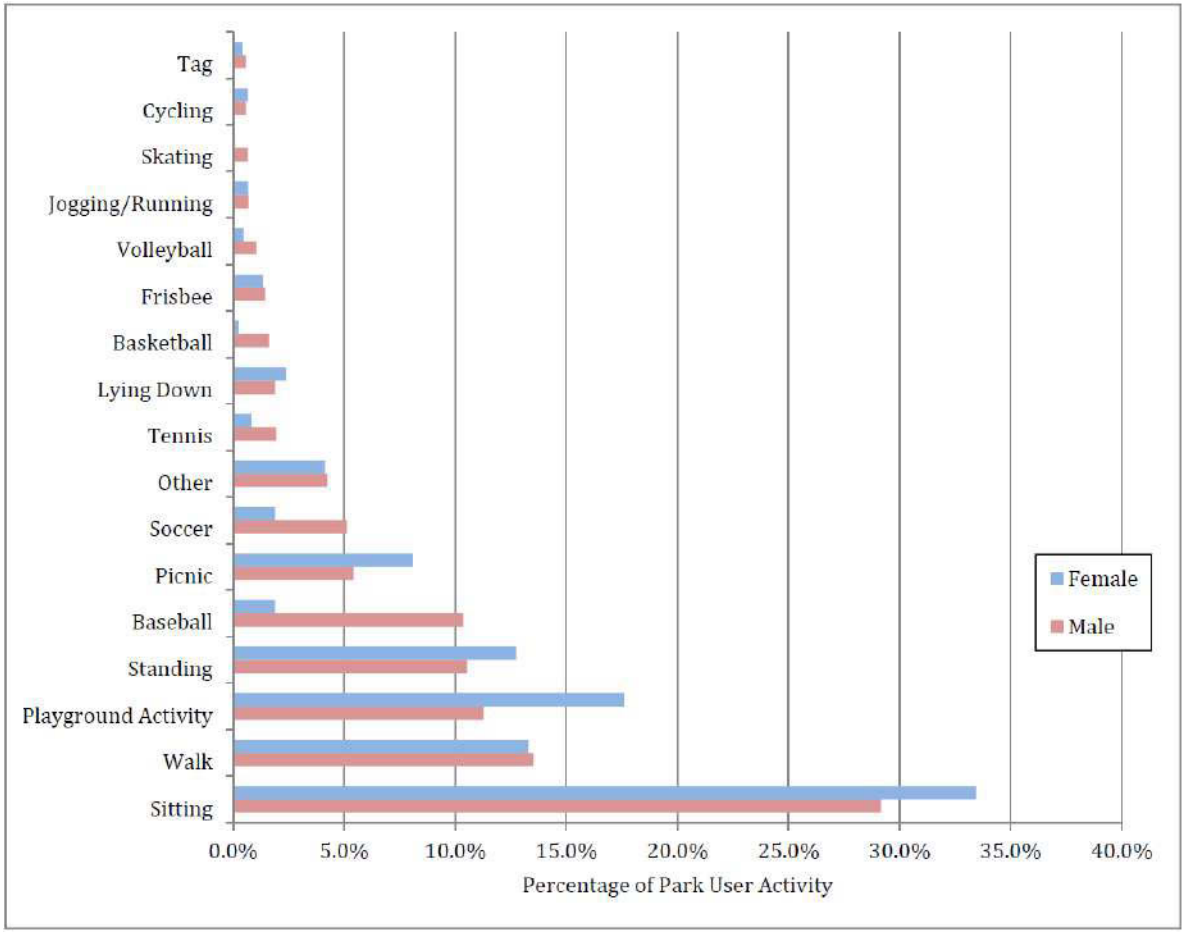
Passive:

Sitting (31%)

Standing (12%)

Picnicking (6%)

Activity Area in Park	*Female (%)*	*Male (%)*	*Total (%)*
Rest of Park	3.0%	3.7%	3.3%
Paths & Trails	33.5%	31.7%	32.5%
Lawns	26.7%	25.3%	25.9%
Courts	1.9%	4.1%	3.0%
Sports Fields	4.1%	8.0%	6.1%
Play Areas	30.9%	27.4%	29.0%
Total	100.0%	100.0%	100.0%



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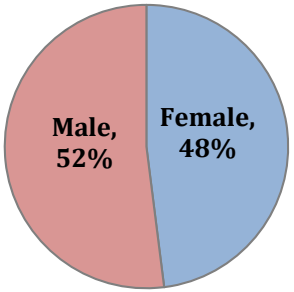
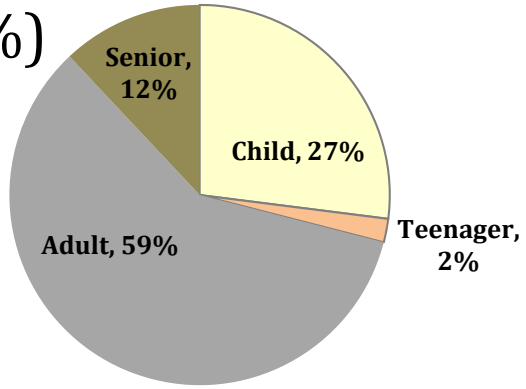
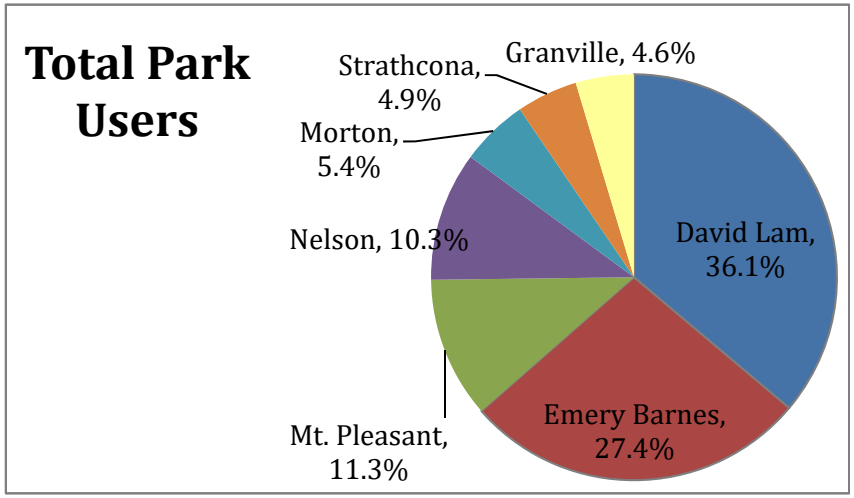
Downtown Urban Core Findings

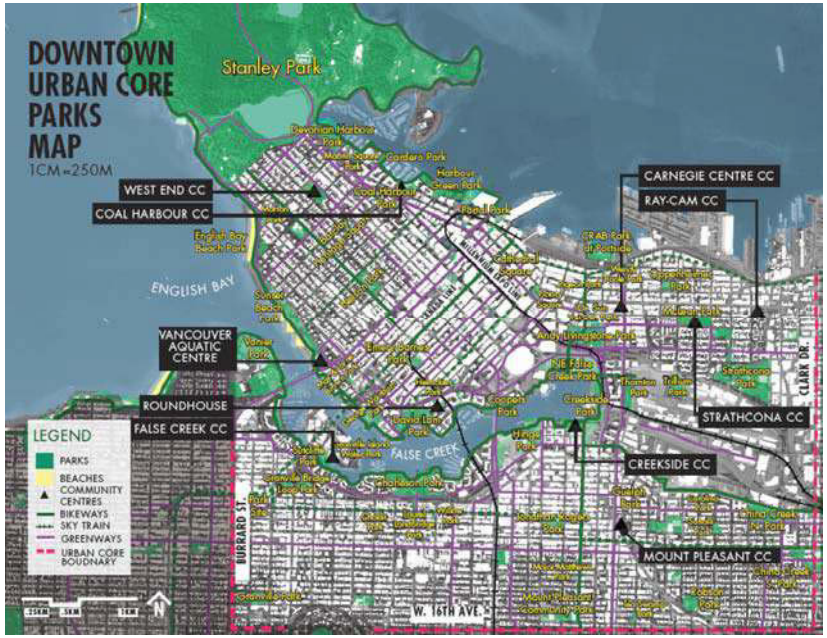
DUC Parks: n = 7 (29%)

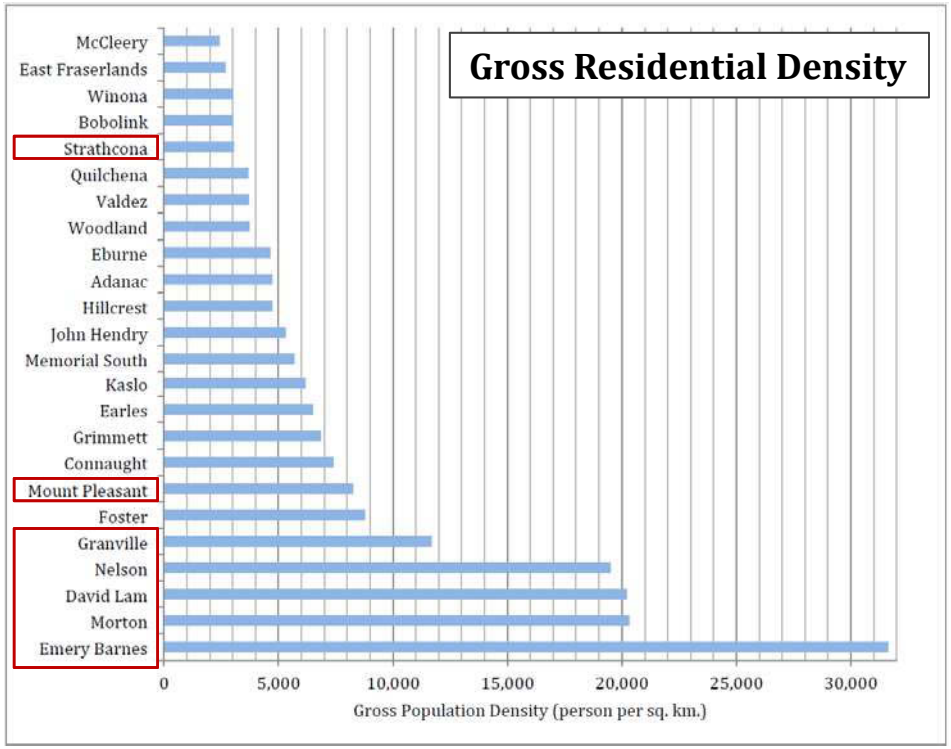
Users: 6,201 (34%)











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Source: Statistics Canada, 2011; City of Vancouver, 2017.

Downtown Urban Core Findings

David Lam Park

Park Descriptives

Park Name	Sample						
	Total	Female	Male	Child	Adolescent	Adult	Senior
David Lam	2,241	1,080 (48.2%)	1,161 (51.8%)	1,011 (45.1%)	52 (2.3%)	1,031 (46.0%)	147 (6.6%)

Park Name	Sample	Activity Type							
	Total	Sedentary	%	Moderate	%	Vigorous	%	MVPA	%
David Lam	2,241	1183	52.8%	797	35.6%	261	11.6%	1,058	47.2%

Walking Paths

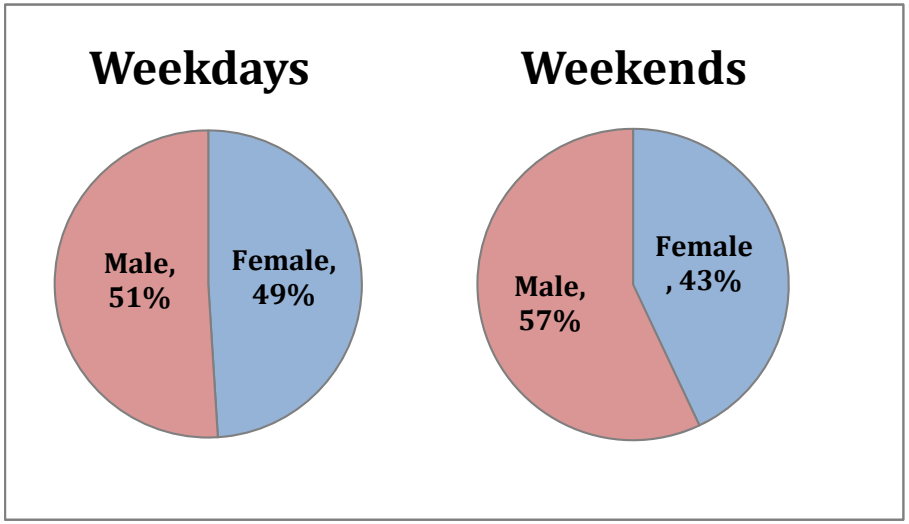
Park Name	Total	Female	Male	Children	Adolescent	Adult	Senior
David Lam[1]	700	302 (43.1%)	398 (56.9%)	82 (11.7%)	25 (3.6%)	469 (67.0%)	124 (17.7%)

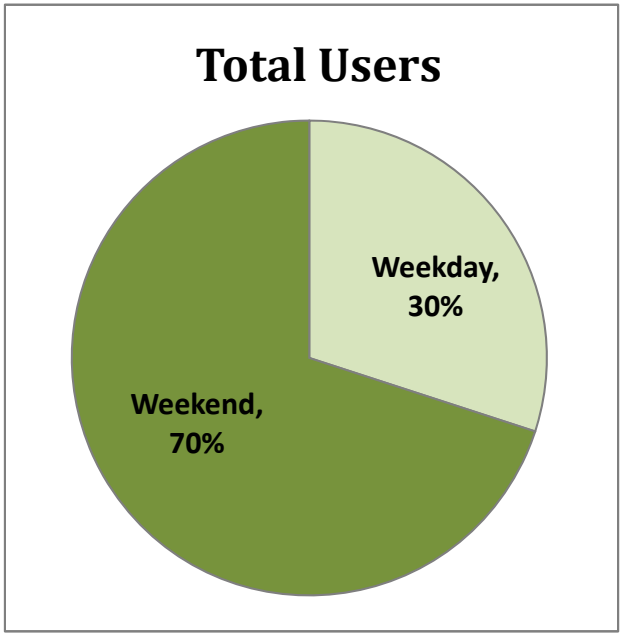
Park Name	Sedentary	Walking	Running	Cycling	Skating	Wheelchair
David Lam	27 (3.9%)	282 (40.3%)	54 (7.7%)	309 (44.1%)	14 (2.0%)	0 (0.0%)

CITYWIDE FINDINGS

Weekends vs. Weekdays:

- About a third of park users on weekdays vs. weekends
- More females on weekdays
  - Decline due mainly to children and adolescents
  - Males showed a similar trend
- Seniors stayed relatively the same
- Adults increased their portion on weekends
- > MVPA on weekends

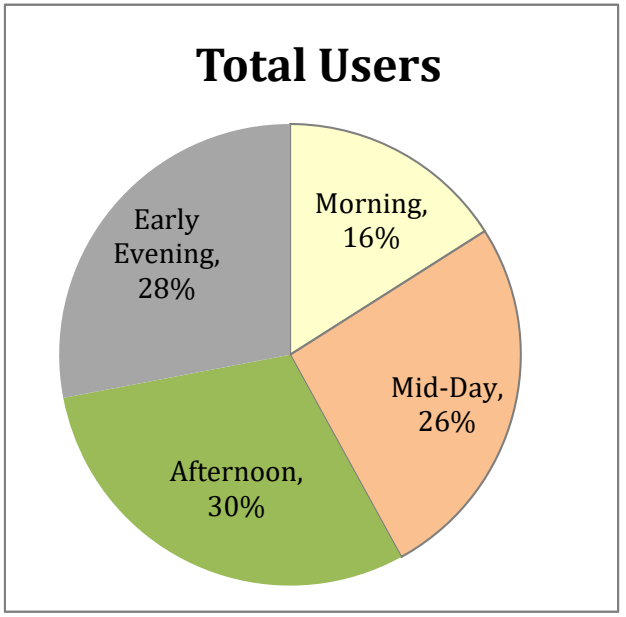




CITYWIDE FINDINGS

Time of Day:

- Far less park users in the morning (16% of total users)
- All Day:
  - Adults majority:
    - Morning: 55%
    - Early Evening: 63%
- Morning: ↑ Children
- Afternoon: ↑ Teenagers
- Activity Levels:
  - Early Evening:
    - MVPA: 57% of activity
    - Vigorous: 15% of activity
  - Afternoon: Sedentary: 52%



Parks Out-Performing Peers In Class

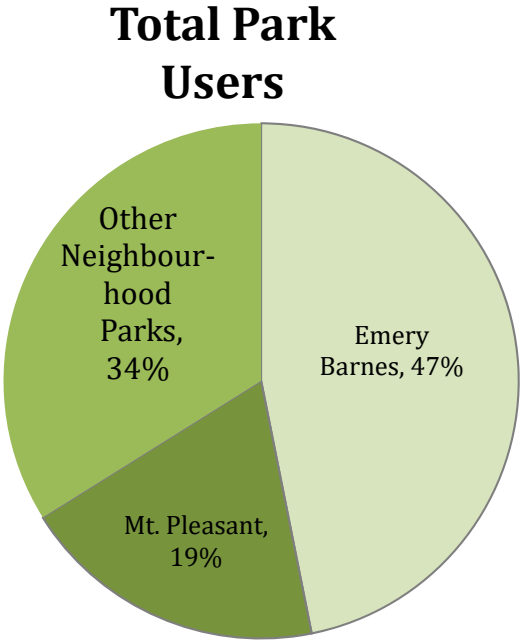

Emery Barnes Park


Mt. Pleasant Park


Morton Park

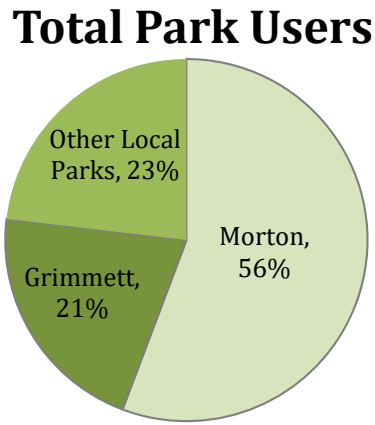
Neighbourhood Parks:

- Densely populated
- > Sedentary activity than peers
- Lack of courts and sports fields



Local Parks:

- Densely populated
- Tourist visitors



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LESSONS FOR THE VANPLAY PLAYBOOK

Component *Key evaluation critieria*	**Opportunities** *Building on something that already exists*	**Vulnerabilities** *What's not working/threat*

Equitable, responsive and welcoming programs & services	• Parks are well used
	• Total users:
	  • Community (75%)
	  • Neighbourhood (22%)
	  • Local (3%)
	• Graffiti present in only 13% of parks
	• 61% of parks had "a little" litter present, 31% had "none"
		• Men use parks proportionally more than women
		• Female vs. male rates similar for age cohorts, except children (male = 61%, female = 39%)

Health & well-being	• ↑ sedentary activity in larger parks • ↑ vigorous activity in Neighbourhood Parks with sports fields	• Males more likely to be engaged in MVPA than females • Males more likely to be engaged in vigorous activity than females • ≥ 1 park users was in a wheelchair or mobility chair 33% of the time
Informal play/life/fun	• Parks are used by a full range of age groups among females and males	• Park usage higher on weekends (70%) than weekday (30%) • Morning park use low compared to mid-day, afternoon, early evening
Community and social resilience	• Almost no consumption of hard drugs observed • No physical conflict or intimidating groups of people observed	• Homeless observed present about 27% of the time • Consumption of alcohol and marijuana about 21% of the time • At least 1 person using tobacco about 46% of the time

SUMMARY

SOPARC Inventory in Vancouver Parks

- Tool Overview
- Park Selection Method
- Data Acquisition
- Results

Next Steps:

- 2017 baseline sample in hand
- Comparing Vancouver with peer cities when data available
- Opportunities for future data collections:
  - Larger sample of Vancouver's park inventory
  - Updated inventory with existing sample

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THANK YOU

Eric Fox: efox@ud4h.com

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SOPARC Data Acquisition: Park Inventory Selection

Task 2.9 SOPARC Observation

Prepared for: Dave Hutch, Doug Shearer, Katherine Howard
Vancouver Park Board

Prepared by: Dr. Lawrence Frank, Eric Fox, Jim Chapman
Urban Design 4 Health, Ltd.

Date: May 15, 2017

VANCOUVER BOARD OF PARKS AND RECREATION

URBAN DESIGN 4 HEALTH

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1. INTRODUCTION

The Vancouver Park Board is currently developing a Park & Recreation Services Master Plan (PRSMP) to guide policy and planning processes for park and recreation services in the City of Vancouver. This memo outlines the methods used by Urban Design 4 Health to select which parks will be surveyed to understand how children, teens, adults and seniors use the parks and what activities they engage in. These data will be used to inform the development of PRSMP. This memo also provides a list of the recommended set of 24 parks to be surveyed.

The PRSMP presents a vision for public green spaces and facilities for residents to connect with their neighbours, nature and themselves. The Plan will focus on reducing barriers to park and recreational services and providing meaningful experiences for the public within the constraints of population growth, rapidly changing demographics and development pressures.

As part of the process of developing the PRSMP, data will be collected by Urban Design 4 Health on park usage and user behaviour from a sample of the Vancouver park inventory from across the City. This data acquisition will be conducted as part of the Context Phase of the project. The *System for Observing Play & Recreation in Communities* (SOPARC) is an observational survey audit tool which will be used for this effort to acquire data on community park use, especially activity and behaviour in parks.[1] The survey instrument is used to assess park user information, such as gender, estimated age and ethnicity, as well as physical activity levels and types of activity engaged in by the park users.

The SOPARC tool's data collection protocol requires the collection of data from each park at various time points during the data as well as over several days during the weekday and on weekends to provide a comprehensive understanding of park usage. Park data is collected over approximately an hour period depending on the park size and number of amenities and the park is visited three to four times per day over a three to four day period.

2. PARK SELECTION METHOD

Several criteria were used to select the sample of parks to survey using the SOPARC instrument. There are 228 parks in the City of Vancouver. The criteria include:

1. park type,
2. presence of park amenity facilities or spaces for physical activity (target areas),
3. park location in a City-defined growth area for anticipated population and development growth,
4. the set of selected parks are located in areas that offer a range in income levels of nearby residents, and
5. park location nearby a city greenway offering increased access to pedestrian and cycling transportation links.

Eligible parks had to meet criteria 1 and 2, and at least one of criteria 3 through 5. Parks that met more than one of criteria from 3, 4 and 5 were ranked higher for inclusion, although the final

[1] SOPARC Protocol: http://activelivingresearch.org/files/SOPARC_Protocols.pdf

selection of parks were not required to meet more than one of these secondary criteria. Once the final set of eligible parks was determined, the final 24 were chosen to achieve a dispersed spatial distribution across the municipality. The criteria are further explained in the next sections.

2.1 Park Type

Based on direction from the Vancouver Park Board, only Community, Neighbourhood and Local park types will be surveyed using the SOPARC tool. The relative large size of Destination parks are more difficult and resource intensive to survey and also contain the most visitors. Urban Plazas are small parks with few to no active amenities and are almost entirely concentrated in the Downtown Core. Additional details on the five types of parks based on size, amenities and purpose are provided below:

- Destination Parks are large parks with an abundance of amenities to attract visitors from the metropolitan region. There are only three destination parks in Vancouver: Stanley Park, Queen Elizabeth Park and Hastings Park.
- Community Parks are medium to large sized parks with various amenities including community centres that attract populations from across Vancouver.
- Neighbourhood Parks are the most common park type and are medium sized attracting mainly users from the local neighbourhood.
- Local Parks are small parks that average just over half a hectare (about 1.3 acres) with a maximum park land area of four hectares (just under 10 acres).
- Urban Plazas are very small parks often located in dense areas with high daytime usage and relatively low night time usage.

Table 1 provides summary descriptives on the inventory of all Vancouver parks by class. There are a total of 216 potential parks from the three eligible classes of parks (see *Appendix A* for the complete park inventory). Eight parks from each type will be collected to provide an equal representation from each class type.

Table 1: Vancouver Park Type Classification Descriptives.
Source: Vancouver Park Board, 2016.

Park Type	*Park Count (n)*	*Average Size (ha)*	*Size Range (ha)*	*Municipal Parkland (%)*
Destination Park	3	153.4 ha (379.0 acres)	14.8 – 392.4 ha (36.5 – 969.6 acres)	42%
Community Park	57	6.4 ha (15.8 acres)	0.9 – 48.2 ha (2.2 – 119.2 acres)	33%
Neighbourhood Park	92	2.6 ha (6.5 acres)	0.1 – 38.2 ha (0.3 – 94.3 acres)	22%
Local Park	67	0.53 ha (1.3 acres)	0.0 – 0.4 ha (0.0 – 9.9 acres)	3%
Urban Plaza	9	0.1 ha (0.4 acres)	0.0 – 0.4 ha (0.1 – 1.0 acres)	<1%

2.2 Target Activity Areas

The SOPARC audit requires surveyors to collect data in each park at identified target area locations which represent all standard locations that provide park users with the opportunity to be physically active, such as sports fields and courts, playgrounds and park trails. During the pre-

collection preparation process, these target areas for activity are mapped using Vancouver Park Board inventory data of active and passive amenities so they are known to surveyors. The SOPARC tool will aid in understanding how each of these park amenities are being utilized by local residents in addition to overall park usage. All Community and Neighbourhood parks contain at least one target area, with 49 of the 67 local parks meeting this criterion. A park was only considered valid for SOPARC collection if it was one of the three selected park types and had at least one target activity area.

2.3 Growth Areas

The City has identified eight growth areas targeted for population, employment and land development growth, many of which have contiguous boundaries. The eight growth areas include the Downtown Core, and the Central Broadway/Mount Pleasant/Strathcona surrounding the Downtown Peninsula, Grandview, the Cambie Corridor, Marpole, Norquai, Collingwood and the Fraserlands. As these growth areas are experiencing growth at a quicker pace in comparison to other neighbourhoods in Vancouver, one of the criteria for SOPARC collection was to ensure that at least one park boundary intersected with each of the growth areas.

Table 2 shows that the boundaries of 114 SOPARC eligible parks intersect with growth area boundaries and 97 of those parks have all of their respective park area within growth area boundaries. Every growth area has at least one eligible SOPARC park from each park type, except Collingwood and the Fraserlands which lack a Community park and Norquai which does not have a local park within its boundaries (Table 3).

Table 2: Park count descriptives for SOPARC eligible park types in Vancouver growth areas.
Source: Vancouver Park Board, 2016.

#	*Park Type*	*Park Examples*	*Total Parks (n)*	*Intersect Growth Area (n)*	*Within Growth Area (n)*
1	Community	John Hendry (Trout Lake) Park, Clark Park	57	25 (43.9%)	17 (30.0%)
2	Neighbourhood	General Brock Park, Sunnyside Park	92	51 (55.4%)	43 (46.7%)
3	Local	Alice Townley Park, Kaslo Park	67	38 (56.7%)	37 (55.2%)
Total			216	114 (52.7%)	97 (44.9%)

Table 3: Park count descriptives by growth area and park type.
Source: Vancouver Park Board, 2016.

#	*Growth Area*	*Counts of Intersecting Parks by Type (n)*		
		Community	*Neighbourhood*	*Local*
1	Downtown Core	8	7	17
2	Central Broadway, Mt. Pleasant & Strathcona	7	15	6
3	Cambie Corridor	4	5	2
4	Marpole	1	6	5
5	Grandview	4	7	5
6	Collingwood	0	7	1
7	Norquai	1	2	0
8	Fraserlands	0	2	2
Any Growth Area		25	51	38

2.4 Median Annual Household Income

In order to support the PRSMP's goal to envision park and recreational services that reduce barriers and enhance equitable access to facilities, a measure of socio-economic status (SES) was an important factor for inclusion in park selection. Identification of nearby low-income neighbourhoods was used. Using Statistics Canada Census income data (2011 Census) from the tract level geography, areas with low, moderate and high income were identified using median annual household income. Table 4 outlines aggregated income classes based on a quantile data distribution of median household income from around $15,000 per year in the poorest parts of Vancouver to nearly $150,000 per year in the areas with the highest income. Table 5 further disaggregates median household income into six classes representing about 20 tracts per income class. This disaggregated distribution of the income data facilities the identification of parks located across the income spectrum to ensure a balance in the sample chosen for SOPARC data collection. A balance of parks by income class was used to select the final parks confirmed for the SOPARC acquisition although an equal number of parks from each income class were not required.

Table 4: Vancouver median annual household income by aggregated income type using a quantile data distribution.
Source: Statistics Canada, 2011.

#	*Income Type*	*Census Tracts (n)*	*Percent of Tracts*	*Median Annual Household Income Range ($)*
1	Low Income	39	33.3%	$15,117 - < $53,734
2	Moderate	39	33.3%	≥ $53,734 - $64,196
3	High	39	33.3%	≥$64,196 – $149,704
Total		117	100%	

Table 5: Vancouver median annual household income using a six class quantile data distribution.
Source: Statistics Canada, 2011.

#	*Income Type*	*Income Class*	*Census Tracts (n)*	*Percent of Tracts*	*Median Annual Household Income Range ($)*
1	Low	Very Low	19	16.2%	$15,117 - < $44,483
2		Low	20	17.1%	≥ $44,483 - < $53,734
3	Moderate	Moderate Low	20	17.1%	≥$53,734 – < $58,937
4		Moderate High	19	16.2%	≥$58,937– < $64,196
5	High	High	19	16.2%	≥$64,196 – < $72,764
6		Very High	20	17.1%	≥$72,764– $149,704
Total			117	100%	

2.5 Access to Nearby Greenways

Another component of interest to the Vancouver Park Board is understanding connectivity between parks and the ease with which residents can walk or cycle to parks. One way to represent this interest is to select parks from the three park classes that are within 100 m of a greenway. Greenways are non-motorized pathways and urban connections that prioritize pedestrian and cycling transportation. The City of Vancouver is working toward the goal of a greenway within 25 minutes walking or 10 minutes cycling from every resident. The network of greenways are distributed throughout the City, however, they are more concentrated in denser areas of the city and near important transportation links.

3. RECOMMENDED PARKS

Utilizing the criteria outlined in the previous section, a selection of eight parks for each park type was performed for a total of 24 parks to be surveyed using the SOPARC tool. Table 6 shows the number of park counts for each of the selection criteria.

Table 6: Park count descriptives for SOPARC valid parks.
Source: Vancouver Park Board, 2016.

#	*Park Type*	*Count (n)*	*Intersect Growth Area (n)*	*Greenway Access (n)*	*≥ 1 target area (n)*	*Low Income (n)*	*Moderate Income (n)*	*High Income (n)*
1	Community	57	25 (43.9%)	28 (49.1%)	57 (100.0%)	14 (24.6%)	21 (36.8%)	26 (45.6%)
2	Neighbourhood	92	51 (55.4%)	20 (21.7%)	92 (100.0%)	28 (30.4%)	38 (41.3%)	28 (30.4%)
3	Local	67	38 (56.7%)	22 (32.8%)	49 (73.1%)	28 (41.8%)	15 (22.4%)	25 (37.3%)
	Total	216	114 (52.7%)	70 (32.4%)	198 (91.7%)	70 (32.4%)	74 (34.3%)	79 (36.6%)

The final set of recommended Community parks include Andy Livingstone, David Lam, Hillcrest, Jericho, John Hendry (Trout Lake), Robson, Rupert and Strathcona parks (Table 7). China Creek North, Coal Harbour, Earles, Gaston, Kerrisdale, Tatlow, Winona and Woodland parks comprise the recommended Neighbourhood parks for the SOPARC assessment (Table 8). Table 9 outlines the recommended parks for the local park class include Alice Townley, Foster, Gladstone-Riverside, Grimmett, Kaslo, Kinross Ravine, Malkin and Morton parks. Figure 1 shows a map of the locations of the recommended parks by type to be collected using the SOPARC tool. The final set of selected parks is spatially dispersed across the City to attempt to gather the largest range in park users and behaviour.

Table 7: Recommended Parks for SOPARC Observations - Community Parks.

Park Name	*Growth Area*	*Greenway Access*	*≥ 1 target area*	*Income Type*	*Relative Location*
Andy Livingstone	Downtown Core	Yes	Yes	Moderate High	North-Central
David Lam	Downtown Core	Yes	Yes	Very High	North-Central
Hillcrest	Cambie Corridor	Yes	Yes	High	Mid-Central
Jericho	None	Yes	Yes	Very High	North-West
John Hendry (Trout Lake)	None	Yes	Yes	Moderate High	Mid-East
Robson	Central Broadway/Mt. Pleasant	No	Yes	Low	Mid-East
Rupert	None	No	Yes	Moderate High	North-East
Strathcona	None	No	Yes	Very Low	North-East

Table 8: Recommended Parks for SOPARC Observations - Neighbourhood Parks.

Park Name	*Growth Area*	*Greenway Access*	*≥ 1 target area*	*Income Type*	*Relative Location*
China Creek North	Central Broadway	Yes	Yes	Very Low	Mid-East
Coal Harbour	Downtown Core	Yes	Yes	Moderate Low	Mid-North
Earles	Norquai	No	Yes	Moderate Low	South-East
Gaston	Collingwood	No	Yes	Low	South-East
Kerrisdale	None	No	Yes	Very High	South-West
Tatlow	None	Yes	Yes	Very High	North-West
Winona	Marpole	Yes	Yes	Moderate Low	Mid-South
Woodland	Grandview	No	Yes	Very Low	North-East

Table 9: Recommended Parks for SOPARC Observations - Local Parks.

Park Name	*Growth Area*	*Greenway Access*	*≥ 1 target area*	*Income Type*	*Relative Location*
Alice Townley	Grandview	No	Yes	Very Low	North-East
Foster	Collingwood	No	Yes	Low	Mid-East
Gladstone-Riverside	None	Yes	Yes	Very High	South-East
Grimmett Park	None	No	Yes	High	Mid-Central
Kaslo	None	No	Yes	Moderate-Low	North-East
Kinross Ravine	Fraserlands	No	Yes	Moderate High	South-East
Malkin	None	No	Yes	Very High	South-West
Morton	Downtown Core	Yes	Yes	Low	Mid-North

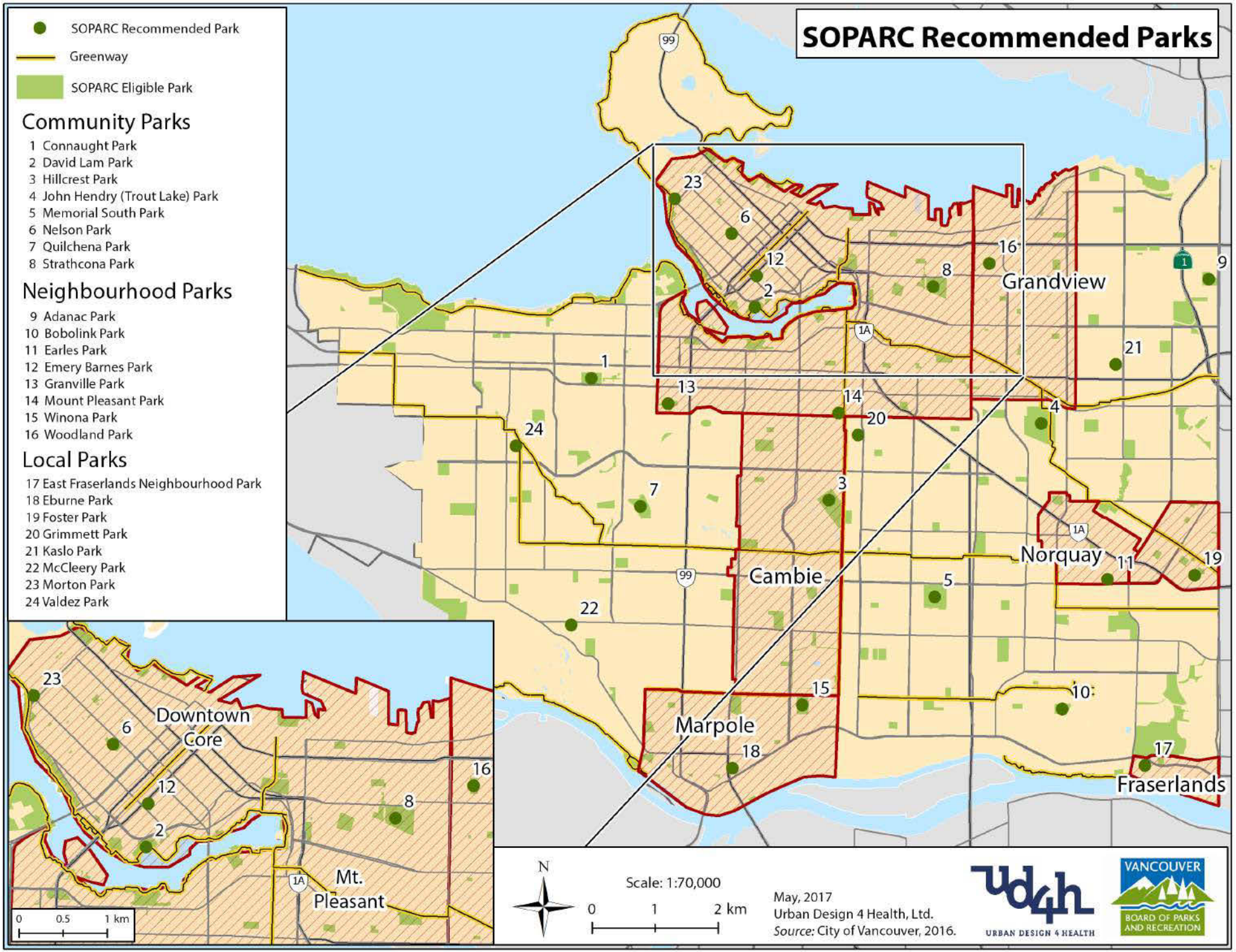

Figure 1: Map of SOPARC recommended parks by park type. Cross hatched neighbourhoods denote growth areas.

4. APPENDIX A: INVENTORY OF SOPARC ELIGIBLE PARKS

Table 10 contains a complete list of all possible Community, Neighbourhood and Local parks from which the SOPARC data collection could be performed.

Table 10: Complete Inventory of Community, Neighbourhood and Local Parks

Park Name	*Park Type*	*Recommended*
Park Site on Jervis St. at Pacific St	LOCAL	Not Recommended
Aberdeen Park	NEIGHBOURHOOD	Not Recommended
Adanac Park	NEIGHBOURHOOD	Recommended
Alexandra Park	LOCAL	Not Recommended
Alice Townley Park	LOCAL	Not Recommended
Almond Park	NEIGHBOURHOOD	Not Recommended
Andy Livingstone Park	COMMUNITY	Not Recommended
Angus Park	LOCAL	Not Recommended
Arbutus Greenway Park	NEIGHBOURHOOD	Not Recommended
Arbutus Park	LOCAL	Not Recommended
Arbutus Village Park	LOCAL	Not Recommended
Ash Park	LOCAL	Not Recommended
Balaclava Park	COMMUNITY	Not Recommended
Barclay Heritage Square Park	NEIGHBOURHOOD	Not Recommended
Bates Park	LOCAL	Not Recommended
Beaconsfield Park	NEIGHBOURHOOD	Not Recommended
Bobolink Park	NEIGHBOURHOOD	Recommended
Braemar Park	NEIGHBOURHOOD	Not Recommended
Brewers Park	COMMUNITY	Not Recommended
Burrard View Park	NEIGHBOURHOOD	Not Recommended
Callister Park	NEIGHBOURHOOD	Not Recommended
Cambie Park	NEIGHBOURHOOD	Not Recommended
Cambridge Park	LOCAL	Not Recommended
Captain Cook Park	NEIGHBOURHOOD	Not Recommended
Cardero Park	LOCAL	Not Recommended
Cariboo Park	NEIGHBOURHOOD	Not Recommended
Carleton Park	NEIGHBOURHOOD	Not Recommended
Carnarvon Park	COMMUNITY	Not Recommended
Carolina Park	LOCAL	Not Recommended
Cartier Park	NEIGHBOURHOOD	Not Recommended
Cedar Cottage Park	NEIGHBOURHOOD	Not Recommended
Chaldecott Park	NEIGHBOURHOOD	Not Recommended
Champlain Heights Park	COMMUNITY	Not Recommended
Charles Park	NEIGHBOURHOOD	Not Recommended
Charleson Park	COMMUNITY	Not Recommended
China Creek North Park	NEIGHBOURHOOD	Not Recommended
China Creek South Park	NEIGHBOURHOOD	Not Recommended
Choklit Park	LOCAL	Not Recommended
Clark Park	COMMUNITY	Not Recommended
Clinton Park	COMMUNITY	Not Recommended
Coal Harbour Park	NEIGHBOURHOOD	Not Recommended
Collingwood Park	NEIGHBOURHOOD	Not Recommended
Columbia Park	NEIGHBOURHOOD	Not Recommended
Connaught Park	COMMUNITY	Recommended
Coopers' Park	COMMUNITY	Not Recommended
Crab Park	COMMUNITY	Not Recommended
Creekside Park	NEIGHBOURHOOD	Not Recommended
Creekway Park	LOCAL	Not Recommended
David Lam Park	COMMUNITY	Recommended

Deering Island Park	NEIGHBOURHOOD	Not Recommended
Delamont Park	NEIGHBOURHOOD	Not Recommended
Devonian Harbour Park	NEIGHBOURHOOD	Not Recommended
Devonshire Park	LOCAL	Not Recommended
Douglas Park	COMMUNITY	Not Recommended
Dusty Greenwell Park	LOCAL	Not Recommended
Earles Park	NEIGHBOURHOOD	Recommended
Ebisu Park	NEIGHBOURHOOD	Not Recommended
Eburne Park	LOCAL	Recommended
Elm Park	NEIGHBOURHOOD	Not Recommended
Emery Barnes Park	NEIGHBOURHOOD	Recommended
English Bay Beach Park	COMMUNITY	Not Recommended
Everett Crowley Park	NEIGHBOURHOOD	Not Recommended
Falaise Park	NEIGHBOURHOOD	Not Recommended
Foster Park	LOCAL	Recommended
Fraser River Park	NEIGHBOURHOOD	Not Recommended
Fraser River Trail Park	LOCAL	Not Recommended
Fraserview Park	NEIGHBOURHOOD	Not Recommended
Garden Park	COMMUNITY	Not Recommended
Gaston Park	NEIGHBOURHOOD	Not Recommended
General Brock Park	NEIGHBOURHOOD	Not Recommended
George Park	NEIGHBOURHOOD	Not Recommended
George Wainborn Park	NEIGHBOURHOOD	Not Recommended
Gladstone-riverside Park	LOCAL	Not Recommended
Glen Park	NEIGHBOURHOOD	Not Recommended
Gordon Park	COMMUNITY	Not Recommended
Grandview Park	COMMUNITY	Not Recommended
Granville Loop Park	NEIGHBOURHOOD	Not Recommended
Granville Park	NEIGHBOURHOOD	Recommended
Grays Park	NEIGHBOURHOOD	Not Recommended
Grimmett Park	LOCAL	Recommended
Guelph Park	NEIGHBOURHOOD	Not Recommended
Hadden Park	COMMUNITY	Not Recommended
Harbour Green Park	COMMUNITY	Not Recommended
Hastings Community Park	COMMUNITY	Not Recommended
Hastings Mill Park	NEIGHBOURHOOD	Not Recommended
Heather Park	NEIGHBOURHOOD	Not Recommended
Hillcrest Park	COMMUNITY	Recommended
Hinge Park	COMMUNITY	Not Recommended
Humm Park	NEIGHBOURHOOD	Not Recommended
Jean Beaty Park	LOCAL	Not Recommended
Jericho Beach Park	COMMUNITY	Not Recommended
John Hendry (Trout Lake) Park	COMMUNITY	Recommended
Jonathan Rogers Park	COMMUNITY	Not Recommended
Jones Park	COMMUNITY	Not Recommended
Kaslo Park	LOCAL	Recommended
Kensington Park	COMMUNITY	Not Recommended
Kerrisdale Centennial Park	NEIGHBOURHOOD	Not Recommended
Kerrisdale Park	NEIGHBOURHOOD	Not Recommended
Killarney Park	COMMUNITY	Not Recommended
Kingcrest Park	COMMUNITY	Not Recommended
Kinross Ravine Park	LOCAL	Not Recommended
Kitsilano Beach Park	COMMUNITY	Not Recommended
Langara Park	LOCAL	Not Recommended
Laurel Landbridge Park	LOCAL	Not Recommended
Locarno Park	NEIGHBOURHOOD	Not Recommended
Locarno Beach Park	COMMUNITY	Not Recommended
Macdonald Park	NEIGHBOURHOOD	Not Recommended

Maclean Park	NEIGHBOURHOOD	Not Recommended
Major Matthews Park	LOCAL	Not Recommended
Malkin Park	LOCAL	Not Recommended
Maple Grove Park	COMMUNITY	Not Recommended
Margaret Pigott Park	LOCAL	Not Recommended
Marina Square Park	NEIGHBOURHOOD	Not Recommended
Marpole Park	LOCAL	Not Recommended
May & Lorne Brown Park	LOCAL	Not Recommended
Mcbride Park	NEIGHBOURHOOD	Not Recommended
Mccleery Park	LOCAL	Recommended
Mcgill Park	LOCAL	Not Recommended
Mcspadden Park	NEIGHBOURHOOD	Not Recommended
Melbourne Park	NEIGHBOURHOOD	Not Recommended
Memorial South Park	COMMUNITY	Recommended
Memorial West Park	COMMUNITY	Not Recommended
Moberly Park	COMMUNITY	Not Recommended
Montgomery Park	NEIGHBOURHOOD	Not Recommended
Morton Park	LOCAL	Recommended
Mosaic Creek Park	LOCAL	Not Recommended
Mount Pleasant Park	NEIGHBOURHOOD	Recommended
Musqueam Park	NEIGHBOURHOOD	Not Recommended
Nanaimo Park	NEIGHBOURHOOD	Not Recommended
Nat Bailey Stadium Park	COMMUNITY	Not Recommended
Nelson Park	COMMUNITY	Recommended
New Brighton Park	COMMUNITY	Not Recommended
Norquay Park	COMMUNITY	Not Recommended
Oak Meadows Park	COMMUNITY	Not Recommended
Oak Park	COMMUNITY	Not Recommended
Oppenheimer Park	COMMUNITY	Not Recommended
Oxford Park	NEIGHBOURHOOD	Not Recommended
Pandora Park	COMMUNITY	Not Recommended
Park Site On Blenheim	LOCAL	Not Recommended
Park Site On Puget Drive	LOCAL	Not Recommended
Park Site On Shaughnessy Street	NEIGHBOURHOOD	Not Recommended
Park Site On Trafalgar Street	LOCAL	Not Recommended
Park Site On Trinity Street	LOCAL	Not Recommended
Point Grey Park site at Stephens	LOCAL	Not Recommended
Point Grey Park site at Trafalgar	LOCAL	Not Recommended
Point Grey Park site at Trutch	LOCAL	Not Recommended
Price Park	NEIGHBOURHOOD	Not Recommended
Prince Edward Park	NEIGHBOURHOOD	Not Recommended
Prince Of Wales Park	NEIGHBOURHOOD	Not Recommended
Quadra West Park	LOCAL	Not Recommended
Quilchena Park	COMMUNITY	Recommended
Ravine Park	LOCAL	Not Recommended
Renfrew Community Park	COMMUNITY	Not Recommended
Renfrew Ravine Park	NEIGHBOURHOOD	Not Recommended
Riley Park	COMMUNITY	Not Recommended
Riverfront Park	NEIGHBOURHOOD	Not Recommended
Riverview Park	LOCAL	Not Recommended
Robson Park	COMMUNITY	Not Recommended
Rosemary Brown Park	NEIGHBOURHOOD	Not Recommended
Rosemont Park	LOCAL	Not Recommended
Ross Park	NEIGHBOURHOOD	Not Recommended
Roundhouse Turntable Plaza Park	NEIGHBOURHOOD	Not Recommended
Rupert Park	COMMUNITY	Not Recommended
Sahalli Park	NEIGHBOURHOOD	Not Recommended
Salsbury Park	NEIGHBOURHOOD	Not Recommended

Seaforth Peace Park	NEIGHBOURHOOD	Not Recommended
Shannon Park	NEIGHBOURHOOD	Not Recommended
Shaughnessy Park	LOCAL	Not Recommended
Slocan Park	COMMUNITY	Not Recommended
Spanish Banks Beach Park	COMMUNITY	Not Recommended
Sparwood Park	NEIGHBOURHOOD	Not Recommended
Strathcona Linear Park	NEIGHBOURHOOD	Not Recommended
Strathcona Park	COMMUNITY	Recommended
Sun Yat-sen Gardens Park	LOCAL	Not Recommended
Sunnyside Park	NEIGHBOURHOOD	Not Recommended
Sunrise Park	NEIGHBOURHOOD	Not Recommended
Sunset Beach Park	COMMUNITY	Not Recommended
Sunset Park	COMMUNITY	Not Recommended
Sutcliffe Park	COMMUNITY	Not Recommended
Tatlow Park	NEIGHBOURHOOD	Not Recommended
Tea Swamp Park	NEIGHBOURHOOD	Not Recommended
Tecumseh Park	NEIGHBOURHOOD	Not Recommended
Templeton Park	COMMUNITY	Not Recommended
Thornton Park	NEIGHBOURHOOD	Not Recommended
Thunderbird Park	LOCAL	Not Recommended
Tisdall Park	NEIGHBOURHOOD	Not Recommended
Trafalgar Park	NEIGHBOURHOOD	Not Recommended
Trillium Park	NEIGHBOURHOOD	Not Recommended
Valdez Park	LOCAL	Recommended
Vanier Park (Cultural Harmony Grove)	NEIGHBOURHOOD	Not Recommended
Vanier Park	COMMUNITY	Not Recommended
Victoria Park	NEIGHBOURHOOD	Not Recommended
Volunteer Park	LOCAL	Not Recommended
W.C. Shelley Park	NEIGHBOURHOOD	Not Recommended
Wendy Poole Park	LOCAL	Not Recommended
West Point Grey Park	COMMUNITY	Not Recommended
Westmount Park	LOCAL	Not Recommended
William Mackie Park	NEIGHBOURHOOD	Not Recommended
Willow Park	LOCAL	Not Recommended
Winona Park	NEIGHBOURHOOD	Recommended
Woodland Park	NEIGHBOURHOOD	Recommended
East Fraserlands Neighbourhood Park North	LOCAL	Recommended
McAuley Park	LOCAL	Not Recommended
West End Minipark - Bute and Haro	LOCAL	Not Recommended
West End Minipark - Cardero and Burnaby	LOCAL	Not Recommended
West End Minipark - Cardero and Comox	LOCAL	Not Recommended
West End Minipark - Broughton and Comox	LOCAL	Not Recommended
West End Minipark - Broughton and Nelson	LOCAL	Not Recommended
West End Minipark - Chilco and Comox	LOCAL	Not Recommended
West End Minipark - Gilford and Haro NE	LOCAL	Not Recommended
West End Minipark - Gilford and Haro SW	LOCAL	Not Recommended
West End Minipark - Jervis and Burnaby	LOCAL	Not Recommended
West End Minipark - Nicola and Pendrell	LOCAL	Not Recommended
Langara Golfcourse Walkway	LOCAL	Not Recommended
6th and Fir	NEIGHBOURHOOD	Not Recommended
Park Site On Quesnel Drive	LOCAL	Not Recommended