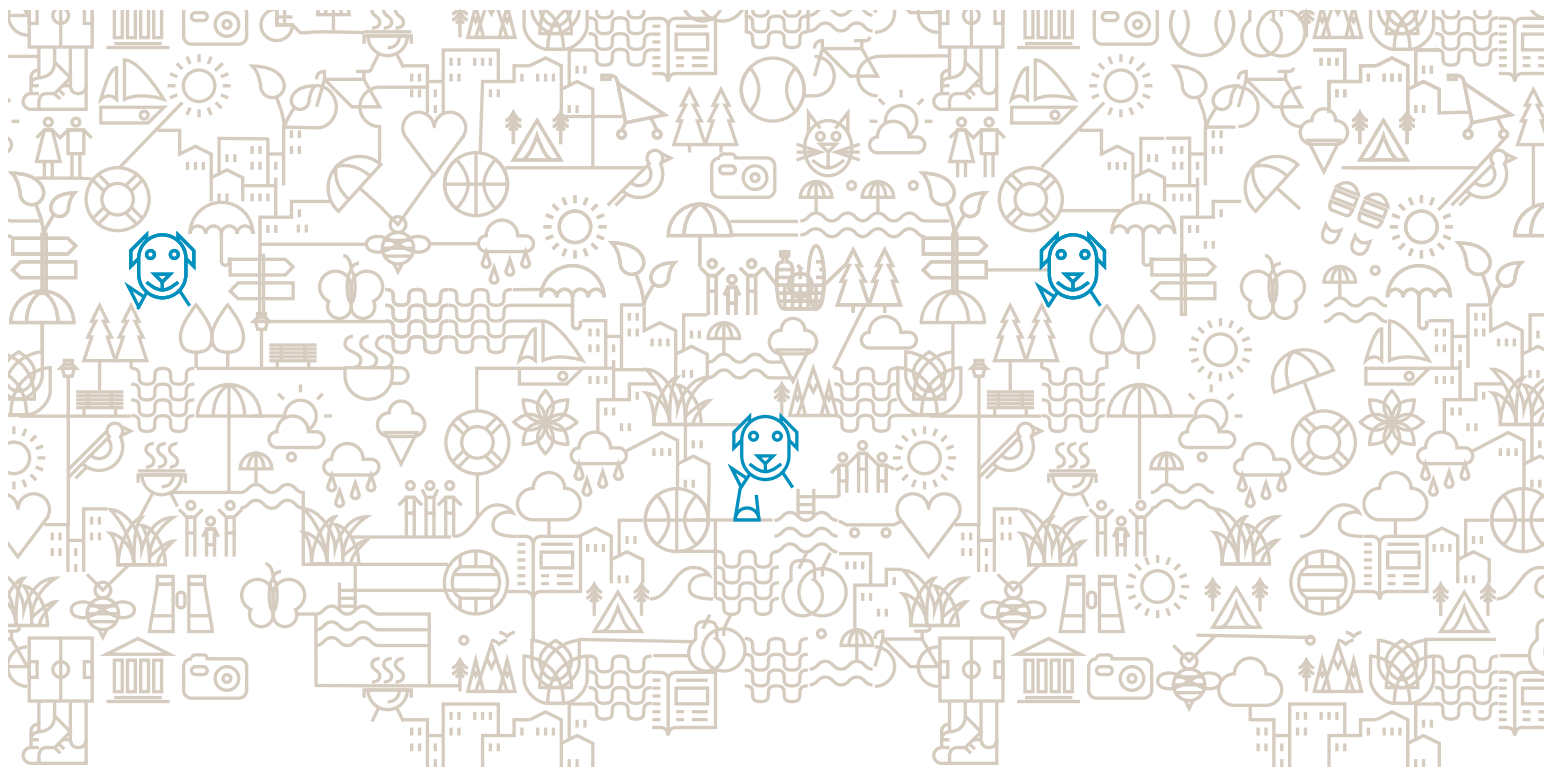
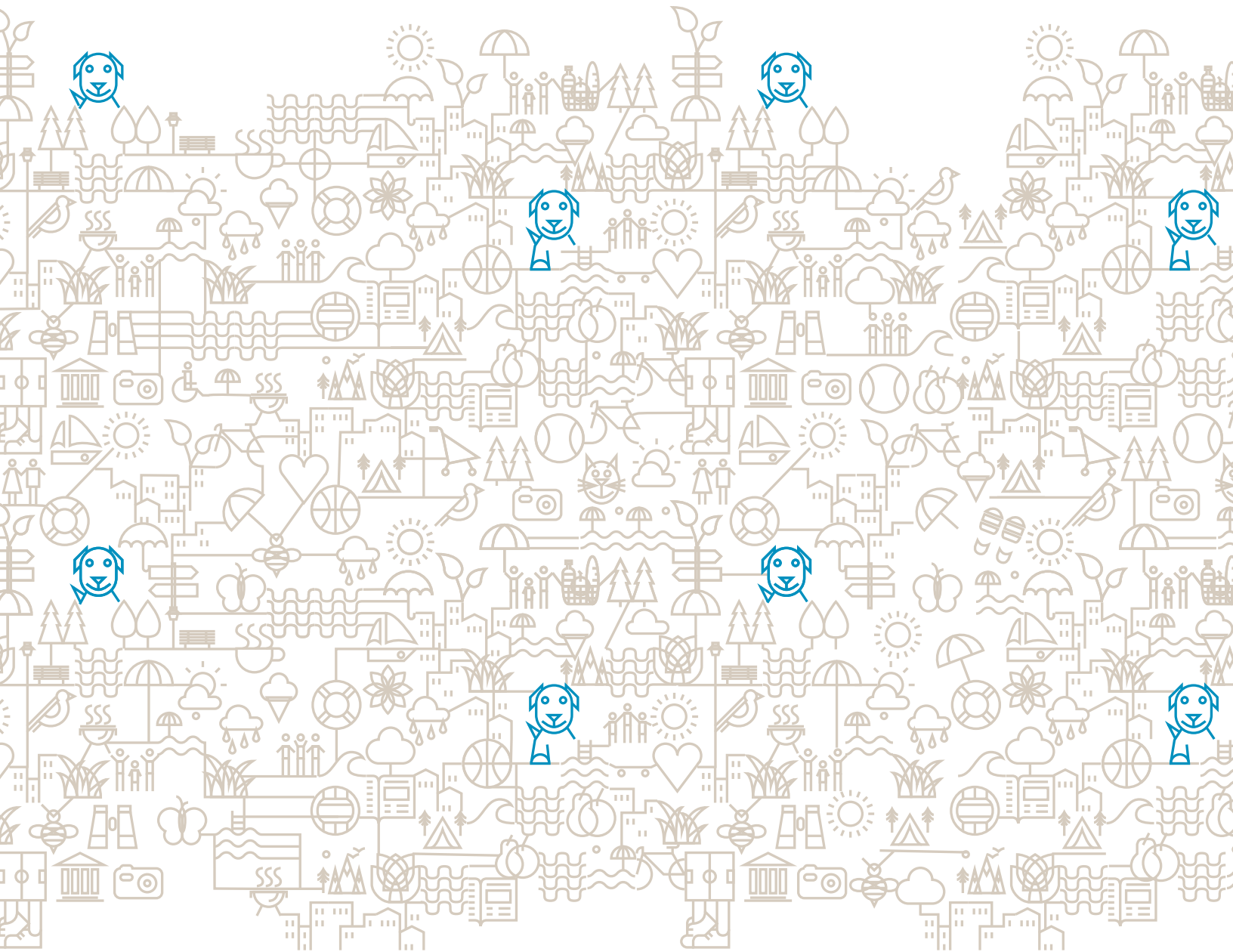


PEOPLE PARKS & DOGS

APPENDIX



This document is a companion reference for the
'People Parks and Dogs' Strategy Report, prepared
for the City of Vancouver Park Board October 2017,
by space2place design inc.



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Ⓐ ANALYSIS

of Vancouver's Dog Off-Leash Areas

ANALYSIS

The intent of the following analysis is to better understand the distribution and service level of Vancouver's dog off-leash areas, along with what is working well and where there are challenges.

A1 What's working well?

A1.1 Level of use by dog owners and non dog owners

The field survey (see Appendix B) and park reviews revealed that dog off-leash areas are well-used by both dog owners and non dog owners. With the exception of early morning at some sites (Charleson Park off-leash area, Hadden Park off-leash area, and Sparwood Park off-leash area), most sites with designated off-leash areas had more people without dogs than people with dogs (Figure B-1).

Common activities by non dog owners within off-leash areas included walking, jogging, cycling, picnicking (including large groups of day care children at Charleson Park), yoga, tai chi, reading, working on laptops, and playing games (e.g. frisbee, disc golf, badminton).

A1.2 Sense of community

Many dog owners have reported that there is a good sense of community and friendship amongst dog owners at off-leash areas, and that having a dog in Vancouver parks can facilitate conversations amongst strangers. For instance, 35% of Round 1 Survey respondents indicated that building community was an important benefit of having designated off-leash areas. Several off-leash areas have regular users that meet up daily at the sites to visit and socialize (e.g. Sparwood Park off-leash area, Fraser River Park off-leash area).

A1.3 Large open areas for running and playing fetch

Off-leash areas with large open fields are well-liked amongst many dog owners for the ability to run and play fetch with their dogs. Open areas for running and fetch was chosen as one of the most preferred amenities by dog owners in the Round 1 Survey (tied with drinking water for dogs), selected by 51% of dog owners. Examples of off-leash areas that are popular for these activities include Trout Lake off-leash area, Charleson Park off-leash area, and Quilchena Park off-leash area.

A1.4 Water access

Many dog owners at Round 1 events anecdotally expressed appreciation for off-leash areas that provide water access for swimming or wading. Six of 36 off-leash areas currently provide access for swimming, including Hadden Park off-leash area, Spanish Banks off-leash area, Trout Lake off-leash area, Fraser River Park off-leash area, Charleson Park off-leash area (waterfall area), and New Brighton off-leash area.

A1.5 Separate dog waste bins in some parks

There are currently dedicated dog waste bins in two designated off-leash areas (Charleson Park off-leash area, Trout Lake off-leash area) and one non off-leash area (Grimmett Park) as part of a Parks Board pilot project. 5% of dog owners and 8% of non dog owners suggested dedicated dog waste bins as an additional amenity to consider at designated off-leash areas in "other comments" of the Round 1 Survey.

A1.6 Legible off-leash boundaries in some parks

Off-leash area boundaries were observed to correspond with on-the-ground features (e.g. paths, vegetation lines, existing fencing) at a few sites, including Quilchena Park off-leash area and Coopers' Park off-leash area. Field survey observations suggest that having on-the-ground features that correspond with off-leash boundaries appeared to increase compliance with the off-leash / on-leash rules.

Both dog owners and non dog owners strongly support having clearly defined boundaries (81% of dog owners, 88% of non dog owners in Round 1 Survey). Non dog owners have reported they like having clearly defined boundaries as they allow people to choose whether or not to be around off-leash dogs.

A1.7 Minimizing conflict with adjacent uses

Where there are on-the-ground boundaries and accompanying signage at the edge of off-leash areas, it appears to help encourage dog owners to keep their off-leash dogs within the designated area and away from playgrounds, sports fields, and multi-use paths, for example.

A1.8 Surfacing materials

In general, the quality of grass surfaces appears to be in better condition in larger or less-intensively used off-leash area sites compared to smaller or more intensively used off-leash area sites. Gravel surfacing, while not considered desirable by many dog owners, does provide an alternative surface to grass that is more durable under high intensity use. Different types of gravel surfacing (e.g. pea gravel, angular gravel, crushed gravel) are currently used at all of the fenced off-leash areas.

A1.9 Option of fenced off-leash areas

Several dog owners have expressed support for having some completely fenced off-leash areas, with 32% of dog owners and 43% of non dog owners in support of secure fencing in the Round 1 Survey; this was the top amenity preference expressed by non dog owners, and second-most preferred amenity preference expressed by dog owners.

Sites with secure (completely enclosed) fencing are most likely to be used by people who have dogs with poor recall, such as young dogs or dogs in training. Some dog owners also appreciate that fencing helps keep their dog from running into adjacent streets.

A1.10 Support for dog off-leash areas

People are generally supportive of having off-leash areas in their neighbourhood. Phone survey results indicate that approximately 67% of Vancouver residents support or are neutral towards having an off-leash area in their immediate neighbourhood.

A2 What's not working well?

A2.1 High amount of off-leash activity in on-leash areas

In general, there is a low level of compliance with on-leash rules at many locations across the city. Many Round 1 Survey respondents reported using non-designated park or school ground areas for off-leash use, and non dog owners have expressed frustration with encountering off-leash dogs in on-leash areas. The Vancouver School Board has also reported a high level of off-leash activity in many school grounds across the city, despite the fact that all school grounds require dogs to be on-leash at all times.

In the field survey and park review there was a lot of off-leash activity observed during the field survey and park reviews. This off-leash activity occurred outside of the designated off-leash area at sites that were fenced (e.g. Emery Barnes off-leash area) as well as unfenced off-leash areas (e.g. Quilchena off-leash area, Spanish Banks off-leash area, Strathcona off-leash area, Trout Lake off-leash area).

A2.2 Low level of compliance with daytime off-leash usage restrictions

All of the eight off-leash areas in the field survey had dogs off-leash during prohibited hours. For example, Hadden Park off-leash area and the Charleson Park off-leash area waterfall area both require dogs to be on-leash between 10am and 5pm during the summer months; however, thirty (30) dogs off-leash were counted from 12pm to 12:30pm on the weekend observation period at Hadden Park, and 20 dogs were observed off-leash during the same time period at the Charleson Park waterfall area.

Some dog owners have schedules that are not compatible with permitted off-leash times and they are therefore frustrated by reduced opportunities for recreating with their dogs off-leash. Phone survey results indicate that dog owners most commonly use parks in morning and early afternoon:

5am – 8am – early morning: 31.5%
8am – 12pm – late morning: 24.0%
12pm – 3pm – early afternoon: 21.9%

A2.3 Fears expressed by non dog owners

Several non dog owners in the intercept survey reported having some fear of off-leash dogs in public parks, expressing concern with “large” and “aggressive” dogs in particular. Over 95% of survey 1 respondents said that safety for people was one of the most important considerations regarding people and dogs sharing Vancouver’s parks and beaches, and over 100 respondents (out of 4055 total respondents) mentioned concern regarding the safety of children around off-leash dogs under “additional comments.” Phone survey respondents have mostly had positive or neutral interactions with off-leash dogs in parks:

Positive: 31%
Neutral: 42.9%
Negative: 15.5%

Of those that cite negative experiences, the most common reason was ‘Dogs unpredictable / safer on leash’.

In addition, people with disabilities and seniors can be at greater risk for being injured by boisterous dogs who are off-leash. This concern was expressed at the advisory committee meetings.

A2.4 Fears expressed by small dog owners regarding large dogs

Some people at Round 1 events and in the intercept survey expressed concern regarding the safety of small dogs around large dogs in off-leash areas, particularly in the smaller fenced off-leash areas. Twenty-two (22%) of dog owners expressed support for separated large and small / shy dog areas in the Round 1 Survey.

When small dogs interact with large dogs, either aggressively or during rambunctious play, small dogs are more likely to be injured than their larger counterparts. This is because of differences in size and strength, not because large dogs are more aggressive than small dogs. As such, some owners of small dogs prefer for their dogs to be kept separated from large dogs in off-leash areas.

A2.5 Friction between some dog owners and non dog owners

Several people expressed a feeling of conflict, or friction, between dog owners and non dog owners, both in on-leash and off-leash areas; 54 Round 1 Survey respondents (out of 4055 total respondents) expressed that conflicts arise between dog owners and non dog owners at off-leash areas.

For example, some dog owners commented that non dog owners should not be using the designated off-leash area for certain park activities, such as picnicking or sunbathing, since there are more likely to be conflicts between off-leash dogs and these uses. Some non dog owners expressed the opinion that dog owners should be more compliant with on-leash rules in order to reduce conflicts among users in on-leash parks.

A2.6 Off-leash activity in parking lots

Dogs were observed running off-leash in parking lots at sites where these uses were adjacent to each other (e.g. Spanish Banks off-leash area, Trout Lake off-leash area).

A2.7 Lack of signage and inconsistent signage

Signage identifying off-leash areas is inconsistently located and oriented in relation to the off-leash area boundaries, leading to confusion regarding where off-leash areas begin and end. For example, off-leash area signage was placed outside of the off-leash area boundaries at some sites (e.g. Quilchena off-leash area, Oak Meadows off-leash area, Locarno off-leash area). Signage was sometimes oriented to be viewed from within the off-leash area (facing inward) and sometimes oriented outward to be viewed from outside of the off-leash area. At Everett Crowley park the on-leash trail and off-leash trail signs are very similar looking and could be confusing to park users.

Off-leash signage is also variable in appearance and content from site to site, leading to an inconsistent visual identity of off-leash areas and giving inconsistent information.

In addition, “dog code” signage on Vancouver School Board property looks visually similar to some of the Park Board’s older off-leash signage, leading to the common misperception that dogs are permitted off-leash on school grounds outside of school hours.

A2.8 Off-leash area boundaries unclear

Off-leash area boundaries typically do not correspond with legible, on-the-ground features that could help to orient dog owners and non dog owners regarding the location of the off-leash area. Furthermore, the boundaries indicated on in-park signage sometimes conflict with the boundaries shown on the park board website (e.g. Trout Lake off-leash area, Charleson Park off-leash area).



A2.9 Conflicting uses within off-leash areas

Three of 30 unfenced off-leash areas have playgrounds within the boundaries of the off-leash area (e.g. George Park off-leash area, Sunset Park off-leash area, Tecumseh Park off-leash area), and four have sports fields within their boundaries (i.e. Sparwood Park off-leash area, Strathcona Park off-leash area, Falaise Park off-leash area and Jones Park off-leash area). Spanish Banks off-leash area has a multi-use path within its boundaries, and many others have multi-use trails adjacent to their boundaries.

Despite rules prohibiting dogs from being within 15 m of playgrounds and from designated sports fields, such adjacencies create greater risk for conflict between dogs off-leash and other park users. One challenge associated with this prohibition is the fact that parents will often tether their dogs away from the playground areas, so that they can supervise their children in the playground. This can lead to the possibility that unsupervised dogs will act aggressively towards other park users.

While etiquette rules are posted for dog owners and dogs, no such etiquette has been developed for non dog owners regarding recommended behaviour within off-leash areas. This can lead to conflict between users, such as for example, when people play ball sports or picnic in off-leash areas.

A2.10 Conflicting adjacent uses next to off-leash areas

Many off-leash areas have playgrounds, sports fields or multi-use paths directly adjacent to their boundaries, and many lack a clear indication of the off-leash area boundary between these areas. 14 of the 30 unfenced off-leash areas have adjacent playgrounds, including Coopers' Park off-leash area, and Kingscrest Park off-leash area. Similarly, 11 of 30 unfenced off-leash areas are immediately adjacent to sports fields, and 8 of 30 unfenced off-leash areas are next to multi-use bike paths.

A2.11 Surfacing

Most of the smaller fenced off-leash areas in the city are surfaced with different types of gravel (e.g. pea gravel, angular gravel, crushed gravel). Many dog owners have said that pea gravel or larger-sized angular gravel is hard to walk on and hurts dog paws (expressed in intercept surveys, Round 1 events, Round 1 Survey). Hard surfaces, particularly dark-coloured, can heat up more than grass

Grass surfacing in small, intensively used areas does not hold up to the level of wear, and often becomes muddy (e.g. Coopers' park).

A2.12 Some aspects of fenced off-leash areas

Many dog owners have reported feeling that completely enclosed fenced off-leash areas with large expanses of gravel surfacing create an unappealing and "caged-in" atmosphere. These same dog owners report that they are more likely to use off-leash areas that have grass surfacing, shade trees, and other amenities.

Where there are a large number of dogs in a small space, such as a small fenced off-leash area, there is a greater number of interactions amongst dogs, and hence a greater chance of conflict. Examples of conflicts include competition over dog toys, protection of a dog owner from approaching dogs, or dogs defending themselves from threatening or intimidating dogs. The dogs themselves do not display more aggressive behaviour in small spaces, however.

A2.13 Inadequate enforcement of bylaws

Many non dog owners (and, to a lesser extent, dog owners) believe that there is inadequate enforcement of dog activity in Vancouver. Forty-six percent (46%) of Round 1 Survey respondents who are dog owners agree or strongly agree that there is enough enforcement of dog activity in Vancouver, whereas only 10% of non dog owners agreed that there is enough enforcement. When additional comments were solicited, 376 respondents (out of 4055 total survey respondents) expressed a need for more enforcement of dog off-leash activity, and 281 respondents expressed a need for more enforcement of dog waste pick-up.

A2.14 Sensitive habitat areas with off-leash activity

Some designated off-leash areas are within sensitive wildlife habitat, such as internationally-recognized Important Bird Areas (IBAs). At Spanish Banks off-leash area, for example, dogs are able to access sensitive tidal mudflats at low tide. These habitats provide important wintering habitat for migrating waterfowl and shorebirds. Similarly, Pacific Spirit Regional Park is classified as an IBA and off-leash dog activity can negatively impact ground nesting birds and other wildlife.

A2.15 Lack of understanding regarding code of conduct

Several participants in round 1 public engagement anecdotally expressed concern that, in general, there appears to be a lack of understanding about good dog-related etiquette and/or code of conduct among both dog owners and non dog owners.

A2.16 Lack of understanding of bylaws

Many dog owners are under the impression that off-leash activity is permitted on school grounds before and after school hours.

A2.17 Low level of dog licensing

Data from the City of Vancouver Animal Services identifies 21,332 licensed dogs in the City in 2016 (see Strategy Report, Figure2-2). The estimated dog population in Vancouver is between 32,390 and 55,947 (based on NRG phone survey data) which translates to a licensing compliance rate between approximately 38% and 66%. Low levels of licensing make it hard for the city and Parks Board to plan for dogs in the city.

A2.18 Waste management

Both dog owners and non dog owners agree that waste management is one of the most important aspects about people and dogs sharing Vancouver's parks and beaches, with 98% of Round 1 Survey respondents expressing its importance. Similarly, 54% of respondents indicated that managing dog waste was the top challenge of having designated off-leash areas in the city. Opinions among Round 1 Survey respondents were divided regarding whether dog owners do an adequate job of picking up dog waste: 42% agree that dog owners do a good job, whereas 43% disagree.

Both dog owners and non dog owners expressed a desire for more waste bins and dog bag dispensers at off-leash areas; these amenities were ranked second and third in importance by non dog owners in particular.

Comments received from field sport users, Parks Board operations staff, and Vancouver School Board operations staff indicate that cleaning up dog waste from fields before sports games is time consuming and costly.

A3 Estimating Vancouver's Dog Population

The estimated dog population in Vancouver is between 32,390 and 55,947. This estimate is based on results from a statistically-sound phone survey conducted in 2016 as part of the research process that informed this Strategy. (see Appendix F, Phone Survey)

In 2008, Ipsos-Reid conducted an online survey of 222 Vancouver residents and estimated that 36% of households had dogs. Using an estimated figure of 1.45 dogs per household, they estimated that there were over 145,500 dogs in the city (Ipsos-Reid, 2008).

The difference between dog ownership research findings in 2008 (30%) and 2016 (15%) could be a result of a combination of factors including:

- An 8 year gap between research periods
- Difference in research methodology (online in 2008 vs. telephone in 2016)
- The 2016 study deliberately included a representative sample of ethnic Chinese Vancouver residents. It is unclear whether this was the case with the 2008 online study
- The Vancouver sampling area for the 2016 phone survey was specifically delineated. It is unclear whether this was the case for the 2008 online survey

A4 Estimating Dog Licensing Compliance Rate

Several unscientific studies have asked Vancouverites directly whether their dogs are licensed. A 2015 Animal Services study on dog licensing attitudes was conducted online through Talk Vancouver, and received 2699 responses. Of those who participated in the survey, 79% reported having a license for their dog.

The Round 1 Consultation survey, held in fall 2016 as part of this project, also asked dog owners about licensing habits and found that 90% of the over 4000 survey respondents reported having licensed dogs. Similarly, the intercept survey, held in summer 2016 as part of this project, found that 90% of the 230 participants reported having licensed dogs.

If the total dog population in Vancouver is between 32,390 and 55,947 (as indicated by the 2016 NRG phone survey data), this would translate to a licensing compliance rate of between 54% and 93%.

A5 Time-of-use Restrictions

Figure A-1 identifies existing dog off-leash areas in the City, and notes the time-of-use restrictions including daytime and seasonal restrictions. 18 of the city's 36 off-leash areas currently have time-of-use restrictions that restrict off-leash activity during selected daytime hours. These time-of-use restrictions typically restrict dog off-leash activity to mornings and evenings (e.g. 6 to 10 am, 5 to 10 pm), thereby making the park available for other activities during the day. Five (5) of these off-leash areas have time-of-use restrictions during the summer months only, allowing all-day off-leash activity at park sites that are not as intensively used by the general public in the winter months.

Many East Vancouver neighbourhoods have relatively large off-leash areas, but most of these are only accessible in mornings and evenings (typically 5 or 6 am to 10 am, and 5 pm to 10 pm). In East Vancouver only Nat Bailey off-leash area, Sunset Park off-leash area, John Hendry (Trout Lake) off-leash area and Everett Crowley off-leash area have all-day, year-round off-leash access. (see Figure A-1)

The following neighbourhoods are in the vicinity of dog off-leash areas, but with limited hours of use during daytime hours:

- Kitsilano
- Strathcona
- Grandview-Woodland
- Hastings-Sunrise
- Kensington-Cedar Cottage (with the exception of John Hendry (Trout Lake) off-leash area)
- Renfrew Collingwood
- Victoria-Fraserview



<p>LEGEND:</p> <ul style="list-style-type: none"> ● Unfenced and open all day* ● Unfenced with time / seasonal restrictions ● Fenced and open all day* <p><i>*Typical hours are 6 am to 10 pm unless noted otherwise</i></p>	<p>VANCOUVER PARK BOARD DOG OFF-LEASH AREAS:</p> <ul style="list-style-type: none"> 1 Andy Livingstone Park 2 Balaclava Park 3A Charleston Park (west) 3B Charleston Park (east) 4 Coopers' Park 5 Crab Park at Portside 6 Devonian Harbour Park 7 Dusty Greenwell Park 8 Emery Barnes Park 9 Everett Crowley Park (trails only) 10 Falaise Park 11A Fraser River Park (east) 11B Fraser River Park (west) 12 Fraserview Golf Course 13 George Park 14 Hadden Park 15 John Hendry (Trout Lake) 16 Jones Park 17 Killarney Park 18 Kingscrest Park 19 Locarno Park 20 Musqueam Park 21 Nat Bailey Stadium 22 Nelson Park 23 New Brighton Park 24 Oak Meadows Park 25 Queen Elizabeth Park 26 Quilchena Park 27 Southeast False Creek 28 Spanish Banks 29 Sparwood Park 30 Stanley Park 31 Strathcona Park 32 Sunrise Park 33 Sunset Beach 34 Sunset Park 35 Tecumseh Park 36 Valdez Park 	<p>LOCAL OFF-LEASH AREAS OUTSIDE OF VANCOUVER PARK BOARD JURISDICTION:</p> <ul style="list-style-type: none"> A Pacific Spirit Regional Park (Metro Vancouver) B Macdonald Beach off-leash area (City of Richmond) C Burnaby Heights Park (City of Burnaby) D David Gray Park (City of Burnaby)
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Figure A-1. Vancouver's Existing Dog Off-Leash Areas, 2016 (with time restrictions noted).

A6 Service Analysis

A6.1 Neighbourhood evaluation

Table 2-1 identifies the number of licensed dogs in each of Vancouver's 22 neighbourhoods and the area (measured in hectares) of existing dog off-leash sites within each neighbourhood. This assessment identifies neighbourhoods, particularly Mount Pleasant, which have large numbers of licensed dogs relative to the area of dog off-leash spaces available within it.

Neighbourhood	Area (ha)	Population (2011 Census)	Licensed dogs (June 2016)	Dog density ¹	Off-leash Area ² (ha)	Dog density relative to OLA area ³
West End	225.6	44,543	1,563	6.9	0.31	5,004
Downtown	467.4	54,680	3,037	6.5	1.51	2,005
Kitsilano	636.3	41,136	2,888	4.5	1.27	2,268
Mount Pleasant	372.1	26,400	1,663	4.5	0.05	30,468
Fairview	363.5	31,432	1,522	4.2	1.23	1,233
Grandview-Woodland	475.4	27,297	1,657	3.5	0	N/A
Kensington-Cedar Cottage	725.2	47,471	1,862	2.6	4.38	425
Riley Park	493.2	21,794	1,171	2.4	2.31	508
South Cambie	217.6	7,682	476	2.2	0.47	1,004
Hastings-Sunrise	833.2	33,992	1,548	1.9	4.04	383
Dunbar-Southlands	908	20,185	1,568	1.7	4.87	322
Killarney	693.4	28,458	1,184	1.7	22.28	53
West Point Grey ⁴	535	13,038	904	1.7	6.18	146
Renfrew-Collingwood	810	50,495	1,333	1.6	4.74	281
Arbutus-Ridge	370.1	15,908	598	1.6	0.92	649
Victoria-Fraserview	550.1	30,711	818	1.5	1.98	414
Sunset	657.6	36,286	870	1.3	1.84	472
Kerrisdale	660.9	14,651	817	1.2	7.1	115
Shaughnessy	448	8,807	540	1.2	0	N/A
Strathcona	437	12,170	523	1.2	2.79	187
Marpole	600.3	23,913	650	1.1	7.1	92
Oakridge	402.4	12,443	363	0.9	0	N/A

¹ Number of licensed dogs per hectare of neighbourhood area
² Area (hectares) of designated dog off-leash sites within each neighbourhood
³ Number of licensed dogs per hectare of dog off-leash areas within each neighbourhood
⁴ Including Spanish Banks off-leash area (5 ha)

Table A-1. Comparison of neighbourhood area, population density, licensed dogs and dog off-leash area.

A6.2 Service analysis based on willingness-to-walk distance

To evaluate the existing service level of off-leash areas from a distance perspective, a map was generated (Figure 3 of the Strategy Report), showing each city block's distance from a designated off-leash area. Note that distances shown are "as the crow flies" and not based on actual walking distance to the off-leash sites.

The analysis reveals a number of neighbourhoods that have large areas that may be considered underserved based on distance to off-leash area. These include:

- Kitsilano
- Fairview
- Mount Pleasant
- Grandview-Woodland
- Renfrew-Collingwood
- Kerrisdale
- Oakridge
- Marpole

A6.3 Service analysis based on off-leash area type and size

Analysis of the sizes and types of off-leash areas across the city reveals additional patterns of service level, with some neighbourhoods having fewer or no off-leash areas with all-day access year-round (See Figure A-4).

This analysis reveals that many East Vancouver neighbourhoods have relatively large off-leash areas, but that most of these are only accessible in mornings and evenings (typically 5 or 6 am to 10 am, and 5 pm to 10 pm). In East Vancouver only Nat Bailey off-leash area, Sunset Park off-leash area, John Hendry (Trout Lake) off-leash area and Everett Crowley off-leash area have all-day, year-round off-leash access.

Based on this analysis the following neighbourhoods are ones that are in the vicinity of off-leash areas, but only those with limited hours of use during daytime hours:

- Kitsilano
- Strathcona
- Grandview-Woodland
- Hastings-Sunrise
- Kensington-Cedar Cottage (with the exception of John Hendry (Trout Lake) off-leash area)
- Renfrew Collingwood
- Victoria-Fraserview

A6.4 Service analysis by density of people, projected growth areas, and licensed dogs

Vancouver's neighbourhoods with the highest human population density (Figure A-2) tend to be those with high dog population density (Figure A-3). These include:

- West End
- Downtown
- Fairview
- Mount Pleasant
- Kensington-Cedar Cottage
- Kitsilano
- Renfrew-Collingwood
- Grandview-Woodland

Existing off-leash areas within Vancouver’s high density neighbourhoods are tasked with supporting high numbers of dogs within relatively small areas. Neighbourhoods with the highest number of licensed dogs per hectare of designated off-leash area are identified in Table A-1. Neighbourhoods with more than 1,000 dogs per hectare of existing off-leash area include:

- Mount Pleasant
- West End
- Kitsilano
- Downtown
- Fairview
- South Cambie

Several of the City’s neighbourhoods are also expected to experience higher levels of projected population growth over the coming decades, and it is expected that this will be accompanied by increased densities of dogs within these areas. Neighbourhoods with higher than average levels of projected growth include:

- Downtown
- West End
- Strathcona
- Grandview-Woodland
- Fairview
- Mount Pleasant
- Cambie Corridor
- Oakridge
- Marpole
- Renfrew-Collingwood
- East Fraser Lands

In addition, some of the city’s individual off-leash areas experience much higher potential levels of usage than others, based on the number of licensed dogs within a 1 km radius (Table A-2). The sites with the highest potential intensity of usage include the following off-leash areas, each with between 1,000 and 3,000 dogs within a 1 km radius of the site:

- Nelson Park off-leash area
- Emery Barnes Park off-leash area
- Coopers’ Park off-leash area
- Charleson Park off-leash area east
- Charleson Park off-leash area west
- Sunset Beach off-leash area
- Hinge Park (Southeast False Creek) off-leash area
- Andy Livingstone Park off-leash area
- John Hendry (Trout Lake) Park off-leash area

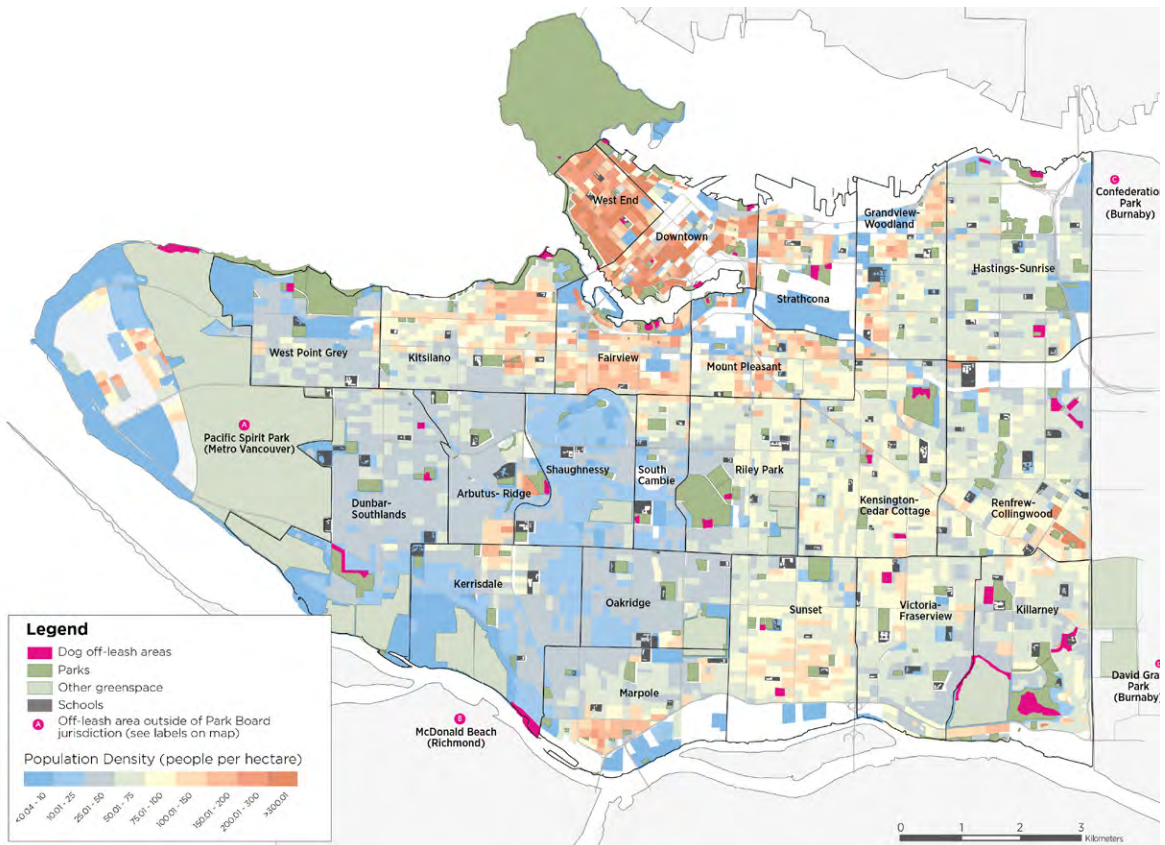


Figure A-2. Distribution of people (population density) in Vancouver, based on 2011 Census data

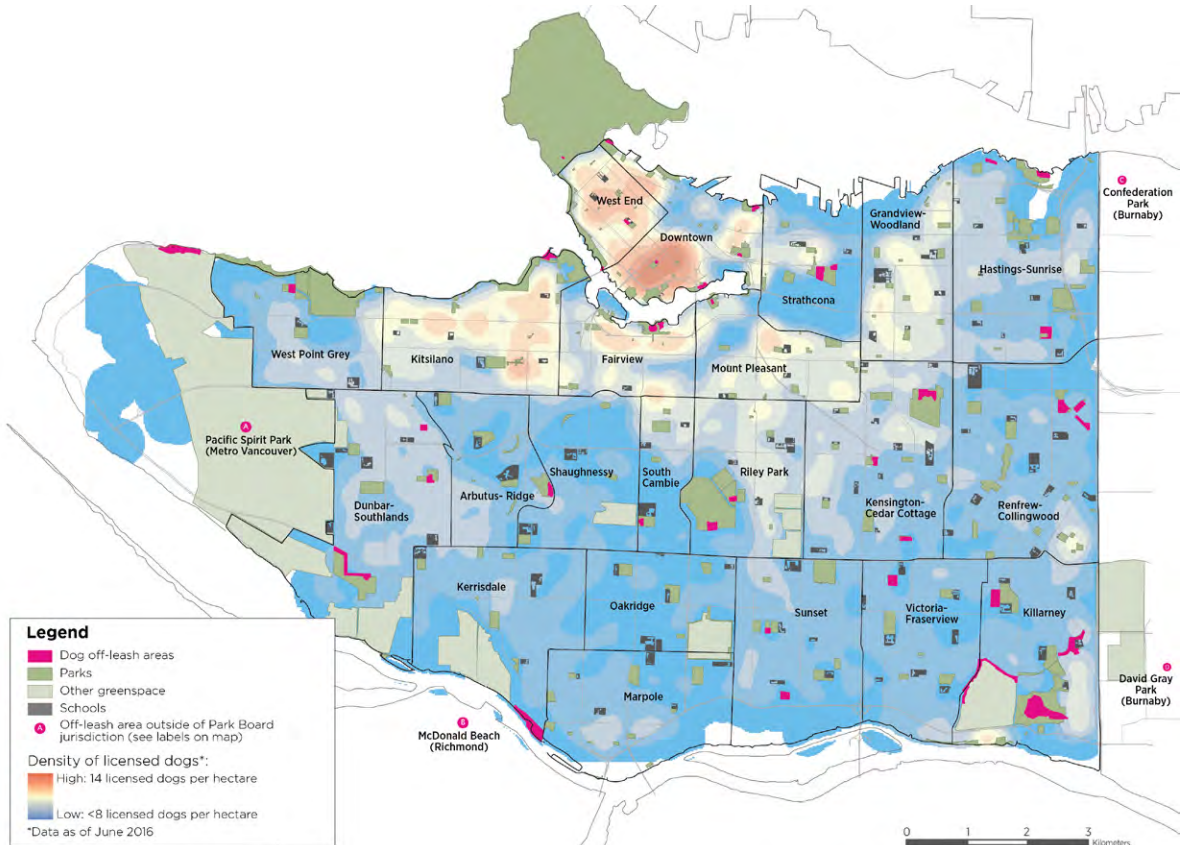


Figure A-3. Distribution of licensed dogs (data from June 2016)

Dog off-leash area	Population within 1km	Licensed dogs within 1km
	(2011 census)	(2016 data)
Nelson Park	67,843	2,966
Emery Barnes	54,144	2,740
Coopers' Park	42,055	2,537
Charleson Park East	43,006	2,249
Charleson Park West	41,256	2,201
Sunset Beach	44,624	1,961
Hinge Park (Southeast False Creek)	31,335	1,758
Andy Livingstone	34,327	1,310
John Hendry	28,520	1,106
Kingscrest Park	28,261	942
Hadden Park	25,924	921
Devonian Harbour	28,976	909
Valdez Park	17,575	886
Balaclava Park	16,156	840
Fraserview Golf Course North	26,808	810
Nat Bailey Stadium Park	15,558	706
CRAB Park at Portside	21,428	689
Everett Crowley	15,201	688
Sparwood Park	19,252	652
Strathcona Park East	16,518	645
Strathcona Park West	18,764	638
Stanley Park	19,188	635
Jones Park	32,147	629
Fraserview Golf Course South	19,759	614
Tecumseh Park	29,129	587
Musqueam Park	8,750	585
Killarney Park	30,738	577
Sunset Park	27,124	570
Quilchena Park	12,717	509
Sunrise Park	17,177	504
Queen Elizabeth Park	15,180	491
Falaise Park West	15,519	411
George Park	20,374	358
Dusty Greenwell Park	7,620	340
Falaise Park South	12,785	337
Falaise Park East	12,152	334
Oak Meadows Park	9,563	326
Fraser River Park	9,752	296
Locarno Beach Park	5,339	295
New Brighton Park	4,955	229
Spanish Banks Park	1,072	33

Table A-2. Population and Licensed Dog Population within a 1km radius of existing dog off-leash areas.

Neighbourhood	Priority level based on proximity to existing off-leash areas ⁽¹⁾	Priority level based density of users Density of licensed dogs and high population density ⁽²⁾	Notes
Arbutus-Ridge	Low priority	Low priority	
Downtown	Low priority	High priority	High existing density + projected growth
Dunbar-Southlands	Low priority	Low priority	
Fairview	Low priority	High priority	High existing density + projected growth
Grandview-Woodland	High priority	High priority	Moderate existing + projected growth
Hastings-Sunrise	Medium priority	Low priority	
Kensington-Cedar Cottage	Low priority	Low priority	
Kerrisdale	High priority	Low priority	
Killarney	Low priority	Medium priority (future)	Projected growth
Kitsilano	High priority	Moderate priority	Moderate existing density
Marpole	High priority	Medium priority (future)	Projected growth
Mount Pleasant	High priority	High priority	Moderate existing density + projected growth
Oakridge	High priority	Medium priority (future)	Projected growth
Renfrew-Collingwood	Medium priority	Medium priority	Moderate existing density
Riley Park	Medium priority	Medium priority	Moderate existing density
Shaughnessy	Medium priority	Low priority	
South Cambie	Medium priority	Medium priority (future)	Projected growth
Strathcona	Low priority	Medium priority (future)	Projected growth
Sunset	Low priority	Low priority	
Victoria-Fraserview	Low priority	Low priority	
West End	Low priority	High priority	High existing density + projected growth
West Point Grey	Low priority	Low priority	

(1) Based on Figure 3 of the Strategy Report, or a 1km service radius (-15 minute walk)

(2) Based on Figure 3 of the Strategy Report, and information from City of Vancouver about projected growth areas. The classification of high priority neighbourhoods is based on having either moderate existing density (50 to 80 people per ha) and projected growth, or high existing density (over 80 people per ha)

Table A-3 Priority level of Neighbourhoods based on distance to existing dog off-leash areas, licensing and population.

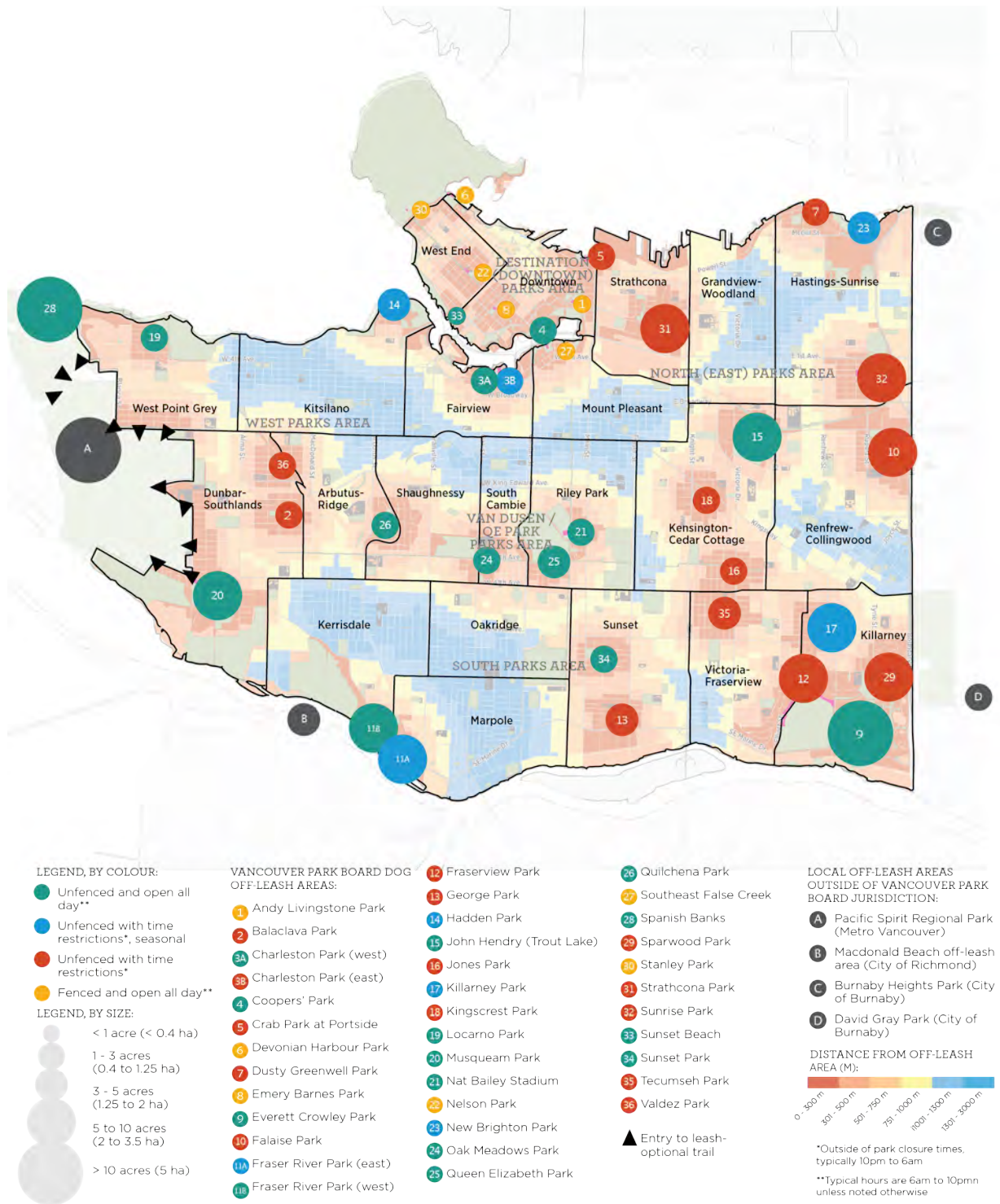


Figure A-4 Vancouver dog off-leash areas by Type and Size.

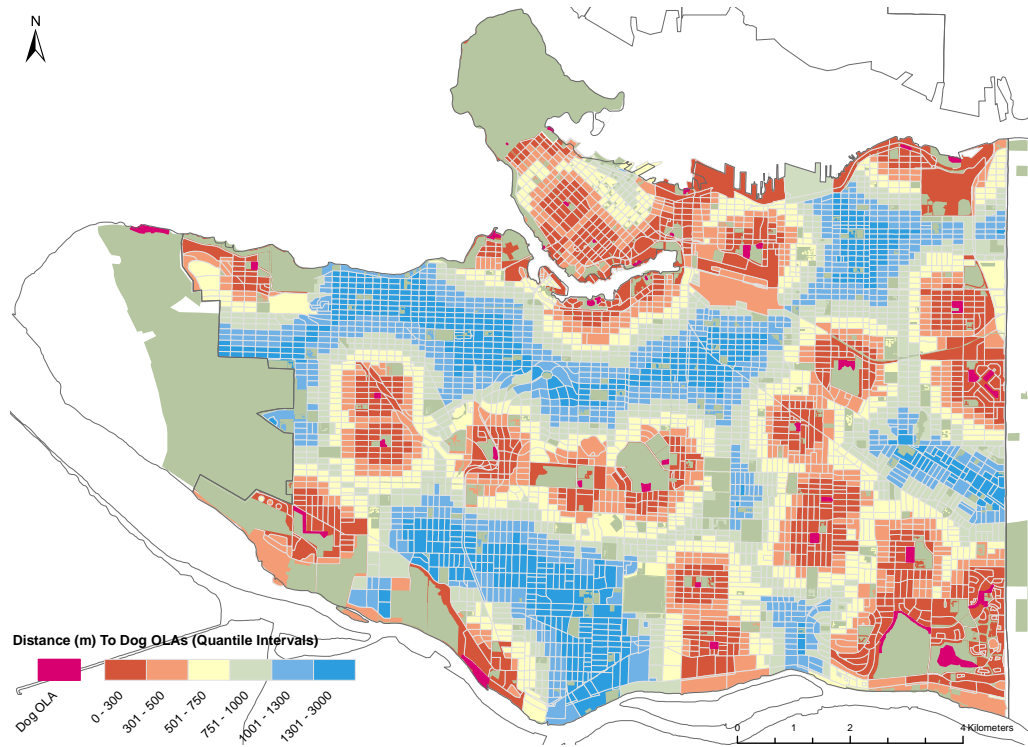


Figure A-5 Distance from Vancouver city blocks to dog off-leash areas: **not including** dog off-leash areas outside of Vancouver Park Board jurisdiction.

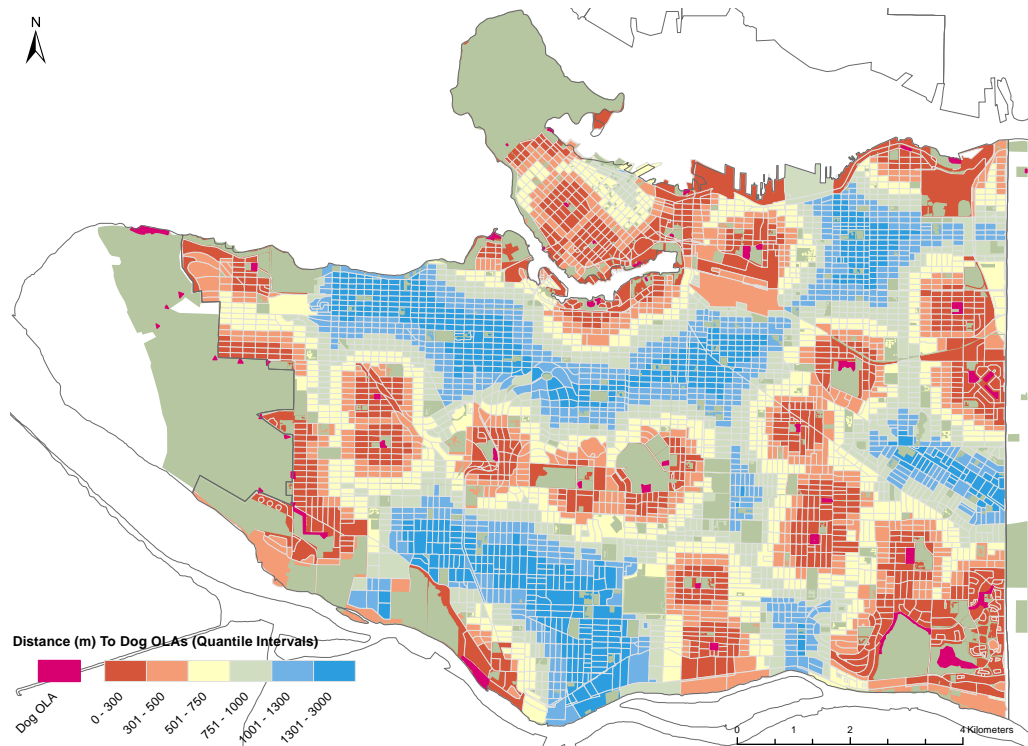


Figure A-6 Distance from Vancouver city blocks to dog off-leash areas: **including** dog off-leash areas located outside of and bordering Vancouver Park Board jurisdiction (applies to Pacific Spirit Regional Park trails). Trail heads for leash-optional trails are identified by red triangles. See Figure 2-3 in Strategy Report for additional information.



**ⓑ FIELD STUDY and
INTERCEPT SURVEY**
at Eight Dog Off-Leash Areas in Vancouver

FIELD STUDY

The intent of the field survey was to better understand qualitative patterns of usage at eight selected dog off-leash areas, including how sites were used by people with and without dogs, and to see how these patterns compared over the course of the day and between weekdays and weekends.

B1 Methodology

Eight dog off-leash areas were chosen for the qualitative field survey. These sites were chosen to represent a diversity of off-leash area sizes, surrounding land uses, hours of use, and geographic areas within Vancouver and included:

John Hendry Park (Trout Lake) off-leash area: large destination area; within large park; East Vancouver

Strathcona Park (west area) off-leash area: sports fields and playground adjacencies; within large park; East Vancouver; daytime usage restrictions (off-leash allowed 5-10 am and 5-10 pm)

Sparwood Park off-leash area: large off-leash area with elementary school and medium density residential area adjacencies; southeast Vancouver; daytime usage restrictions (off-leash allowed 5-10 am and 5-10 pm)

Charleson Park (grass bowl area) off-leash area: medium-sized area; along busy section of seawall; west side of Vancouver

Quilchena Park off-leash area: medium-sized area; sports fields and low density residential adjacencies; west side of Vancouver

Hadden Park off-leash area: large destination area with beach; west side of Vancouver; seasonal daytime usage restrictions (off-leash allowed 5-10 am and 5-10 pm, between May 1 and Sept 30)

Spanish Banks off-leash area: large destination area with beach conditions; multi-use trail that bisects off-leash area; west side of Vancouver

Emery Barnes off-leash area: small fenced area; high density residential adjacencies; Downtown

Each site was observed for a 30 minute period in the morning (7:45 - 8:15 am), midday (12:00 - 12:30 pm), and late afternoon (5:30 - 6:00 pm) over a weekday, and for the same three time periods over a weekend days. Results are not statistically significant. Site observations were done on random week days and random weekend days between late June and early September, and all observations were made during dry weather (i.e. not raining).

The number of people with dogs and without dogs were recorded, and they were roughly classified into age groups. When more than one person was present at the park with a dog these people were all counted as being people with dogs. The way dogs were interacting and using the sites was noted, as were the number of dogs and roughly how many were in each size classification, as follows:

Small breed: under 25 lbs, such as Pugs and Miniature Poodles.

Medium breed: 25 to 50 lbs, such as Border Collies and Cocker Spaniels.

Large breed: over 50 lbs, such as Golden Retrievers, Labradors, and German Shepherds.

B2 Highlights of the observations

The following are some general observations and patterns that were observed from the field survey:

- Large dogs (e.g. golden retrievers, labs, and larger) made up the greatest proportion of dogs by size at all sites except Emery Barnes park, which had more small dogs than large or medium sized dogs (Figure B-1).
- People without dogs outnumbered people with dogs at most off-leash areas, most of the time (Figure B-1) (Sparwood, Hadden, and Charleson parks; Emery Barnes was excluded). There were more people without dogs during weekday afternoons at Charleson and Sparwood off-leash areas.
- The off-leash area with the highest use by people with dogs was Hadden Park, with a cumulative total of 163 people across the 6 observation periods (average of 27 people per hour), followed by Trout Lake with 131 people (average of 22 people per hour) (Figure B-1)
- The highest number of total dogs counted over the observation periods was at Trout Lake, with 176 total dogs over the 6 hour observation period (average of 29 dogs per hour). The fewest number of total dogs counted over the observation periods were at Strathcona Park and Sparwood park, each with 40 dogs total (average of 7 dogs per hour) (Figure B-1).
- Overall, weekday and weekend use by people with dogs was similar (Figures B-2 and B-3, respectively). Hadden Park and Trout Lake were noticeable busier on weekends. Hadden Park, Spanish Banks, and Sparwood Park had more people without dogs on weekdays, while Strathcona Park and Trout Lake had more people without dogs on weekends.
- On weekdays, sites generally became more heavily used by people with dogs throughout the day, increasing at midday and again in afternoons (Figures B-4, B-5 and B-6). Trout Lake, however, was busier in the morning and midday. Emery Barnes was busier in the morning and afternoon, and less so at midday. This pattern was similar on weekends (Figures B-7, B-8 and B-9), with a few exceptions. Emery Barnes, Sparwood Park, Strathcona Park, and Trout Lake were busiest at midday on weekends.
- Dogs were observed off leash during prohibited hours (i.e. midday) at Strathcona Park, Sparwood Park, and Hadden Park (Figure B-5). The highest number of off leash dogs during prohibited hours were at Hadden Park during the weekend midday observation period (26 off leash dogs over 30 minutes). Only three off leash dogs were observed at Sparwood during the weekday midday observation period during prohibited hours when school was in session.

Non dog owners were observed in dog off-leash areas:

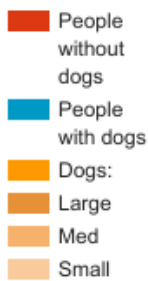
- Walking, jogging, biking, skateboarding, or roller blading
- Practicing yoga or tai chi; group yoga class (Hadden Park)
- Playing frisbee
- Playing disc golf (Quilchena Park OLA)
- Playing softball (Strathcona Park OLA)
- Sun bathing
- Reading or on cell phone
- Taking photos
- Picnicking (picnic tables or on blankets on ground)
- Sitting and observing scenery / dog activity
- Using playgrounds
- Kids playing, running, climbing
- Group of daycare children sitting in park (Charleson Park)

Dog owners were engaged in a variety of activities, both with and without their dogs:

- Walking dogs
- Playing with dogs
- Resting / sitting with dog
- Reading or on cell phone (not observing dog)
- Socializing with other dog owners
- Picnicking with dog
- Dog training
- Swimming with dog (Hadden Park)

B3 Patterns of Use

The following graphs identify additional patterns of use at individual off-leash area sites.



LEGEND for figures B-1 to B-9.

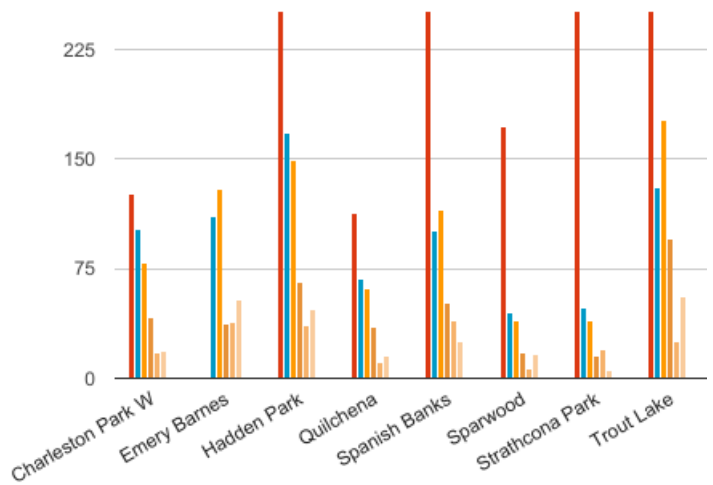


Figure B-1. Cumulative totals of people and dogs at all study sites, across all observation periods; weekend and **weekdays combined (all times)**

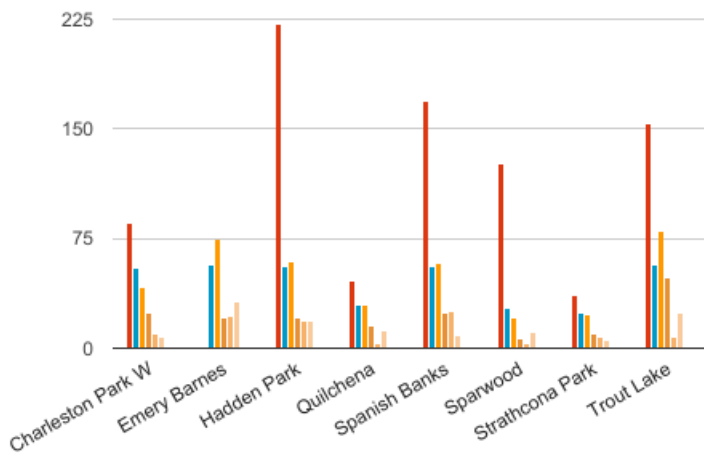


Figure B-2. Total numbers of people and dogs at study sites on **weekdays (all times)**

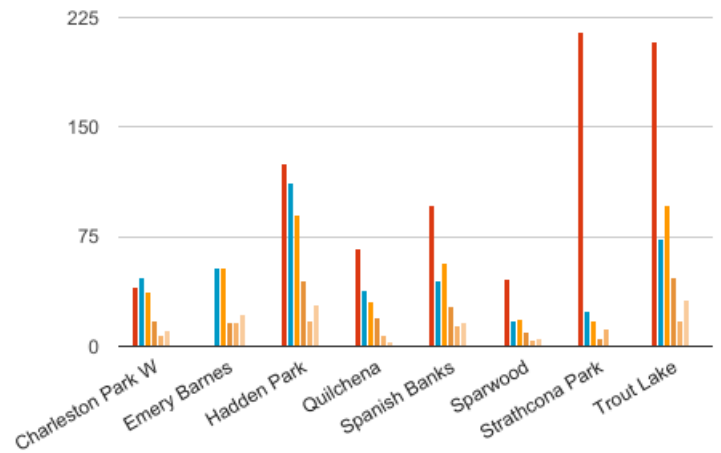


Figure B-3. Total numbers of people and dogs at study sites on **weekends (all times)**

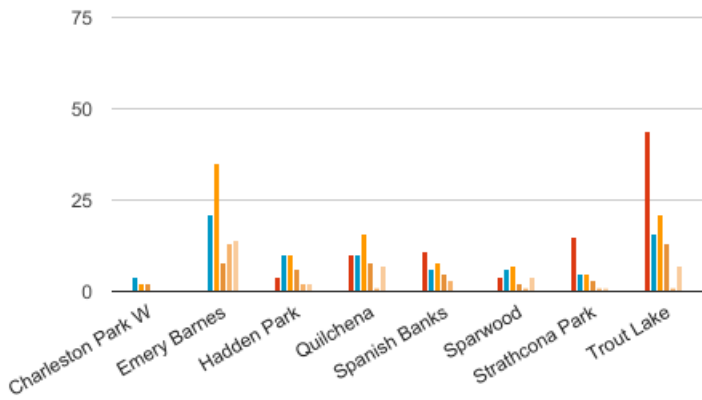


Figure B-4. Total numbers of people and dogs at study sites on **weekday mornings** (note change in scale of y-axis for this and subsequent figures)

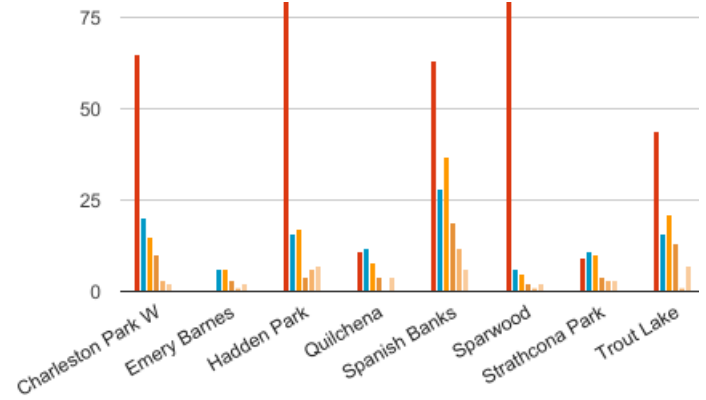


Figure B-5. Total number of people and dogs at study sites on **weekdays at midday** (Sparwood site by students during school days, resulting in over 100 people without dogs)

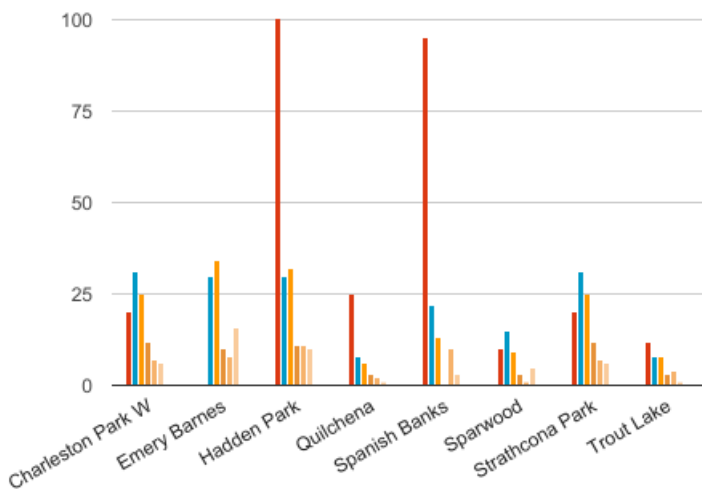


Figure B-6. Total numbers of people and dogs at study sites, **weekday afternoons** (number of people without dogs exceeded 100 at Hadden Park)

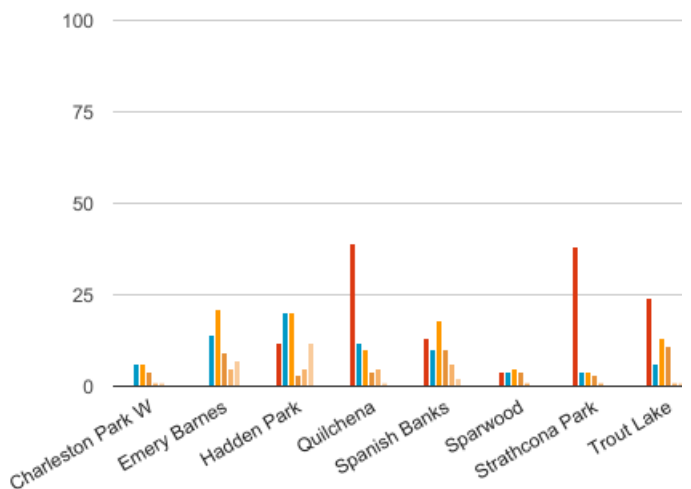


Figure B-7. Total numbers of people and dogs at study sites, **weekend mornings**

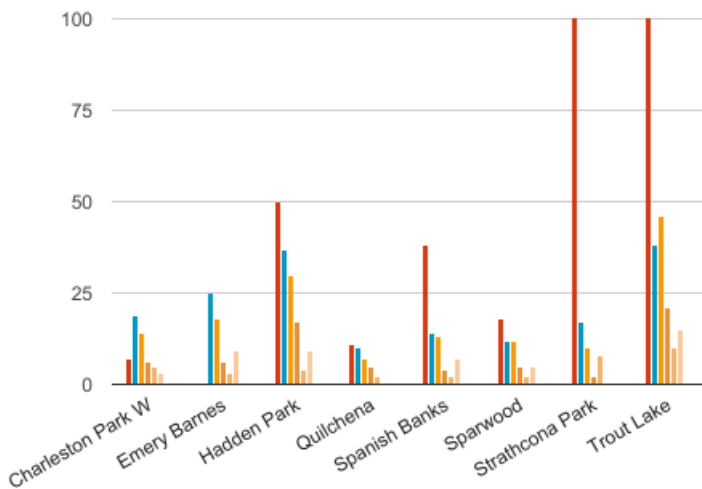


Figure B-8. Total numbers of people and dogs at study sites, **weekends at midday** (number of people without dogs exceeded 100 at Strathcona and Trout Lake)

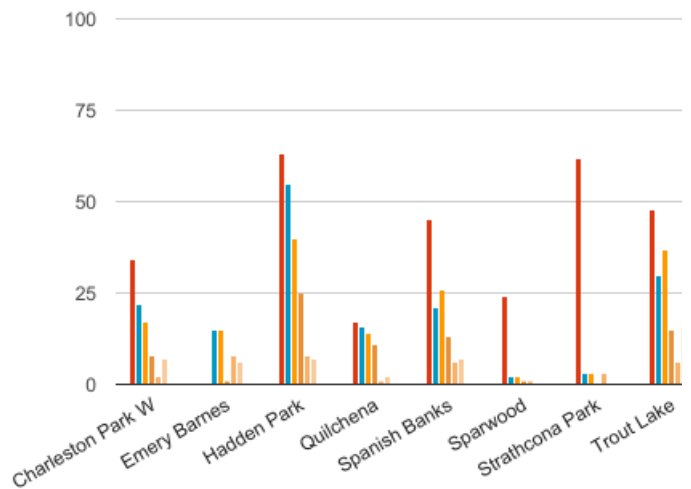


Figure B-9. Total numbers of people and dogs at study sites, **weekend afternoons**

B4 Site Observation Reports

Charleson Park off-leash area west (grass bowl and waterfall area)

Dates and times of observations:

Weekday	7:45 - 8:15am	July 14
Weekday	12:00 - 12:30pm	July 22
Weekday	5:30 - 6:00pm	July 21
Weekend	7:45 - 8:15am	July 24
Weekend	12:00 - 12:30pm	July 9
Weekend	5:30 - 6:00pm	July 24

Key observations and comments:

- Two groups of children from a daycare were having picnic on lawn of off-leash area during weekday
- Many non-dog owners were sitting on the ground or blankets in the off-leash area while resting, reading, and/or picnicking
- Many children were attracted to climb the “jelly bean” sculptures in the off-leash area
- There was a high usage of the waterfall area throughout the day during the summer (weekdays and weekends), when this area is supposed to be on-leash
- Signage regarding boundaries and off-leash hours / times of year is confusing, and the waterfall area is not shown on the off-leash area map.
- Dog owners and dogs were well-distributed throughout the grass bowl off-leash areas, while non dog owners were mostly concentrated along the seawall and around the “jelly bean” sculptures.

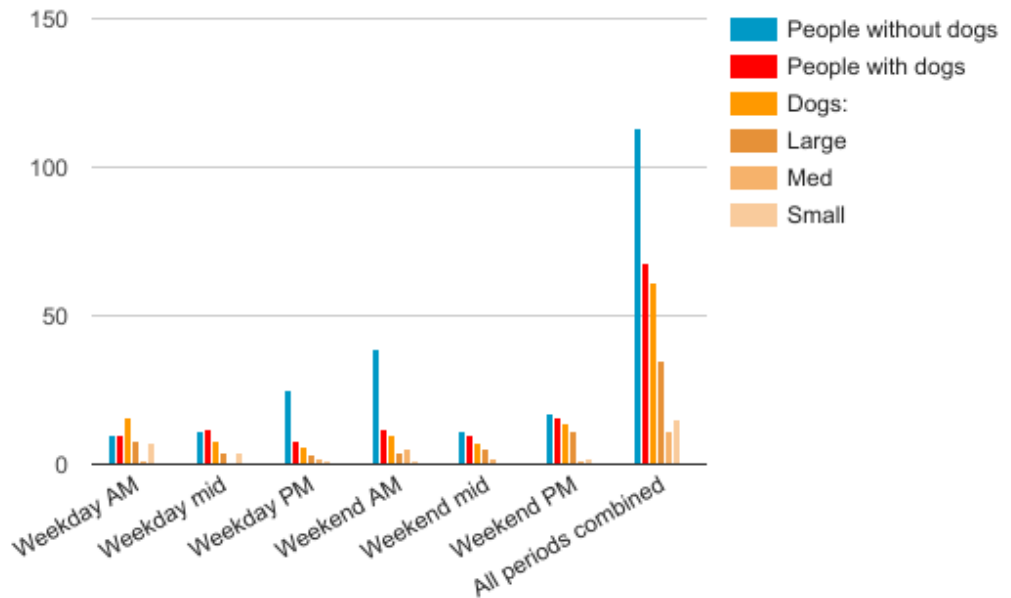


Figure B-10. Numbers of users and dogs at Charleson Park off-leash area across observation periods

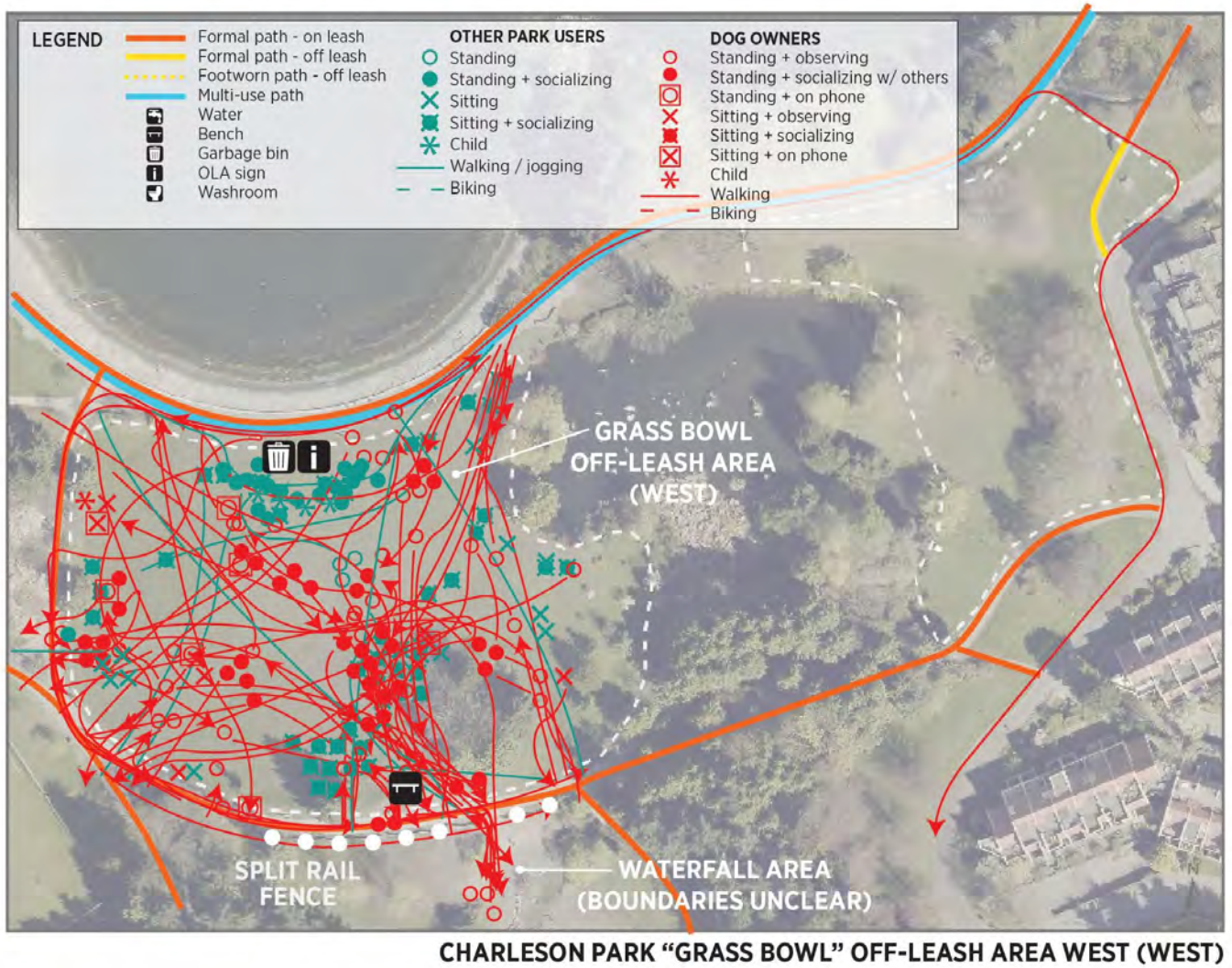


Figure B-11. Spatial patterns of use at Charleson Park "grass bowl" off-leash area, all days, all times combined



Emery Barnes off-leash area

Dates and times of observations:

Weekday	7:45 - 8:15am	Aug 24
Weekday	12:00 - 12:30pm	Aug 15
Weekday	5:30 - 6:00pm	Aug 24
Weekend	7:45 - 8:15am	Aug 27
Weekend	12:00 - 12:30pm	Aug 28
Weekend	5:30 - 6:00pm	Aug 27

Key observations and comments:

- Highest usage of off-leash area was on weekdays, both before and after typical work hours
- Most dog owners stayed for short periods of time (~5-15 minutes). There was very little interaction between dog owners and dogs while they were at the park. Many owners were on their phones while dogs relieved themselves, and then left.
- Some people brought children / babies into the off-leash dog area.
- Lawn area adjacent to off-leash area was well-used by families and children. Some were observing dogs playing in the park.
- During the weekday afternoon observation period 10 off-leash dogs (mostly small dogs) were counted in the lawn area, while about 24 dogs were off-leash in the designated area.
- Dog owners clustered near the entries of the off-leash area and did not circulate through the off-leash space.

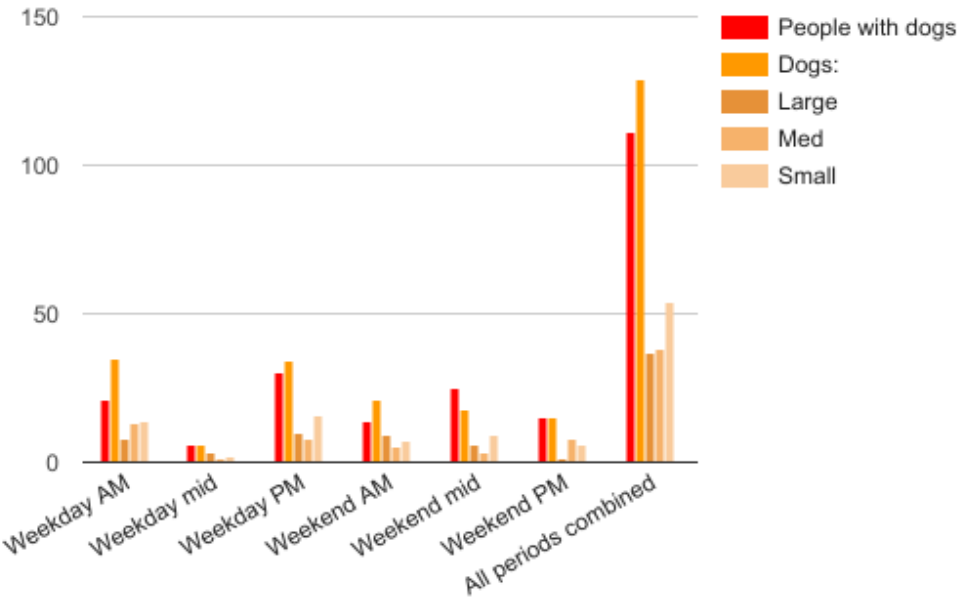


Figure B-12 Numbers of users and dogs at Emery Barnes Park off-leash area across observation periods

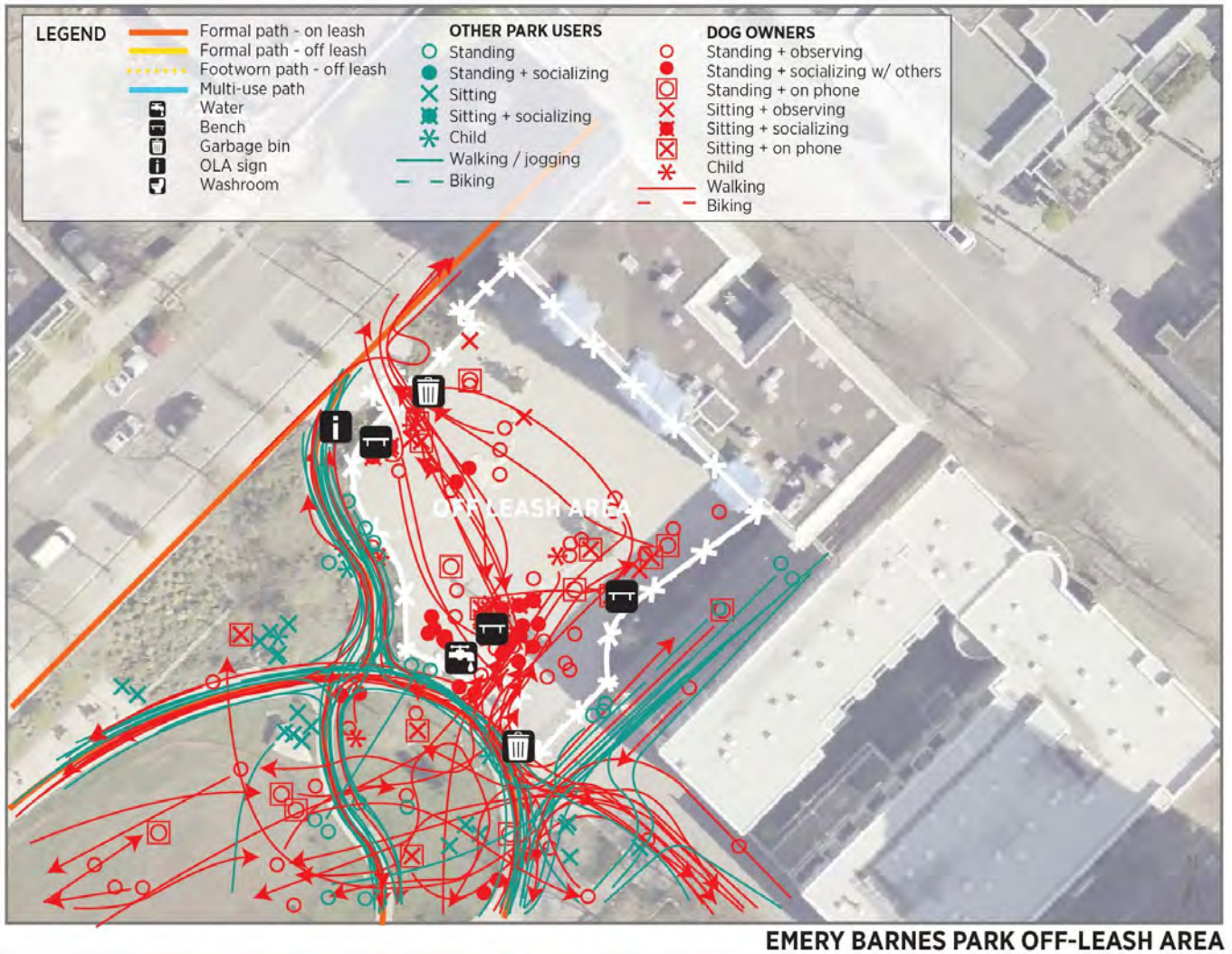


Figure B-13. Spatial patterns of use at Emery Barnes off-leash area, all days, all times combined



Hadden Park off-leash area

Dates and times of observations:

Weekday	7:45 - 8:15am	July 13
Weekday	12:00 - 12:30pm	July 13
Weekday	5:30 - 6:00pm	July 13
Weekend	7:45 - 8:15am	July 17
Weekend	12:00 - 12:30pm	July 17
Weekend	5:30 - 6:00pm	July 17

Key observations and comments:

- It appears that many dog owners drive to Hadden Park off-leash area. One person arrived at the park with her dog by bike.
- Several families with children came to the park with their dog.
- Many people pass through the park on their way to or from the aquabus / water taxi
- Many dogs were observed off-leash outside of the off-leash boundaries. During discussions with dog owners it appeared that many were not aware of the boundaries of the off-leash area.
- During midday and afternoon periods there were more non dog owners than dog owners in the off-leash area
- Most dog owners and dogs were concentrated on the beach, whereas non dog-owners were more typically found using the upland park areas.

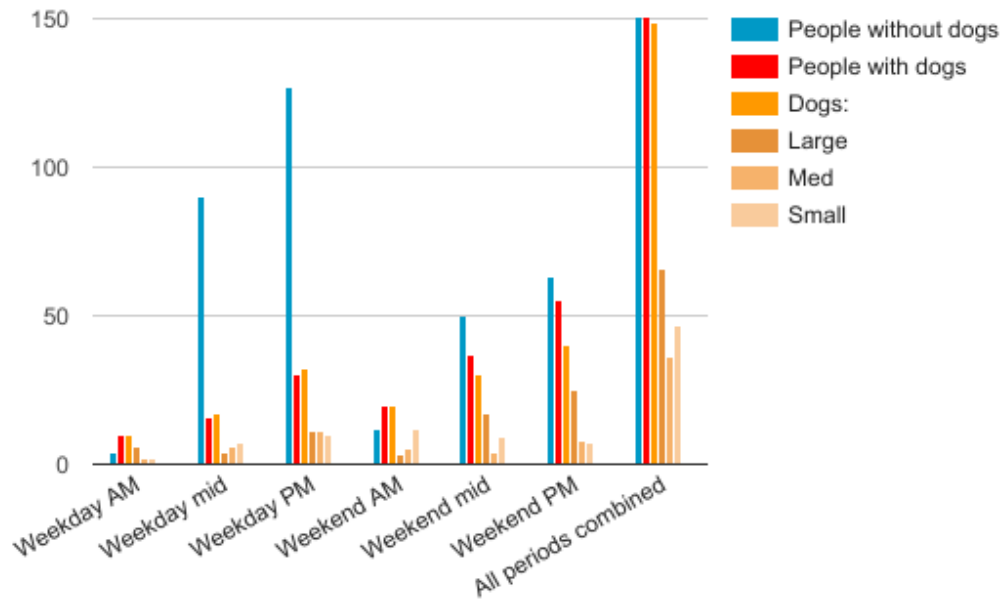


Figure B-14. Numbers of users and dogs at Hadden Park off-leash area across observation periods. Note that numbers of people without dogs and people with dogs exceeded 150 during all periods combined.

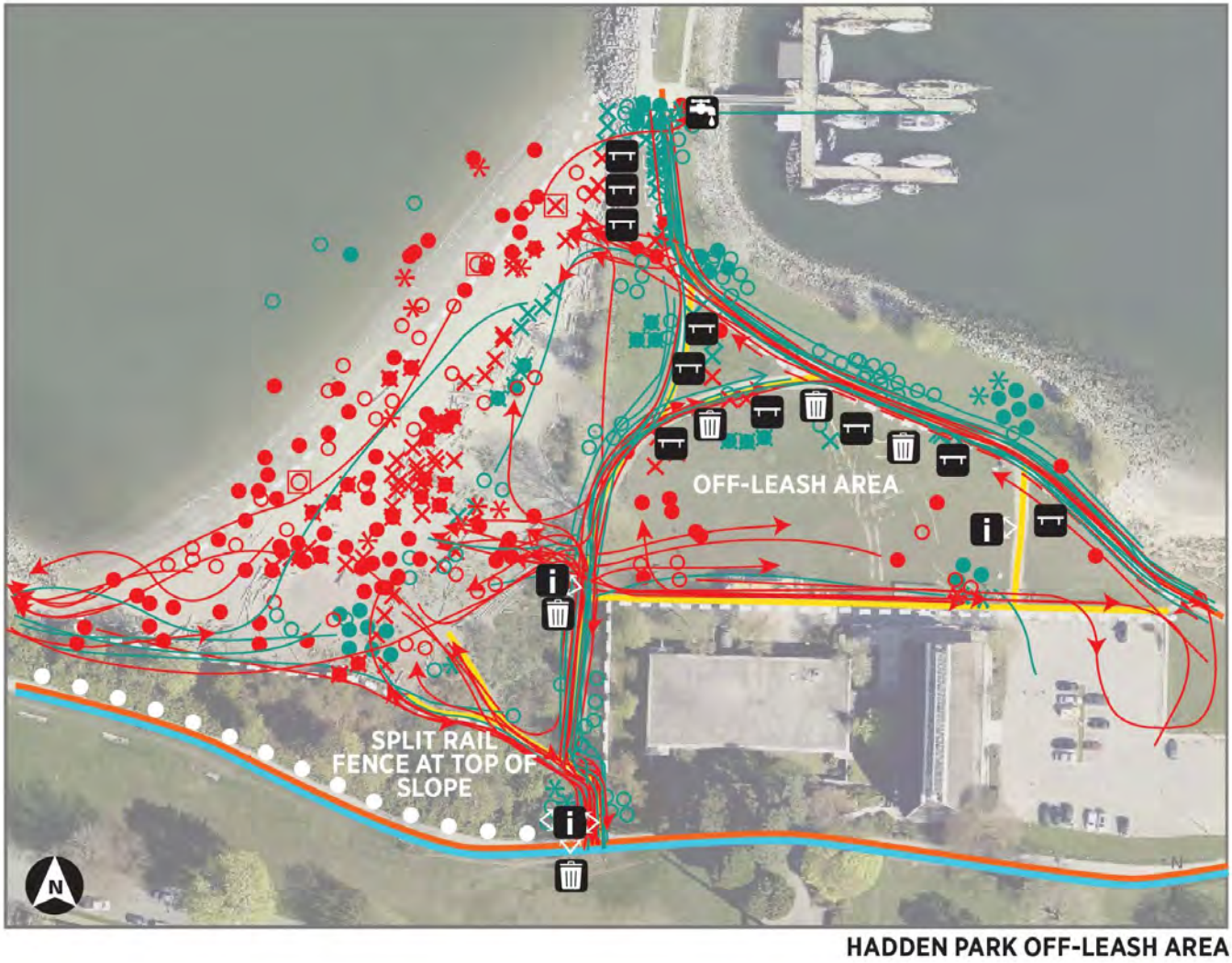


Figure B-15. Spatial patterns of use at Hadden Park off-leash area, all days, all times combined; See Figure B-13 for legend.

Quilchena Park off-leash area

Dates and times of observations:

Weekday	7:45 - 8:15am	July 25
Weekday	12:00 - 12:30pm	July 20
Weekday	5:30 - 6:00pm	July 19
Weekend	7:45 - 8:15am	July 23
Weekend	12:00 - 12:30pm	July 23
Weekend	5:30 - 6:00pm	July 23

Key observations and comments:

- Many dogs and dog owners were observed outside of the off-leash area, but discussions with dog owners revealed that most knew the boundary was defined by the north-south trail
- Most dog owners were walking through the off-leash area. Some stopped to play fetch with their dogs.
- Many non dog owners were doing laps around the park’s loop trail for jogging and walking
- People were observed playing disc golf during half (three of six) of the observation periods. During one of these periods the people playing disc golf had a dog with them off-leash, while during two of the periods the people playing did not have dogs with them.

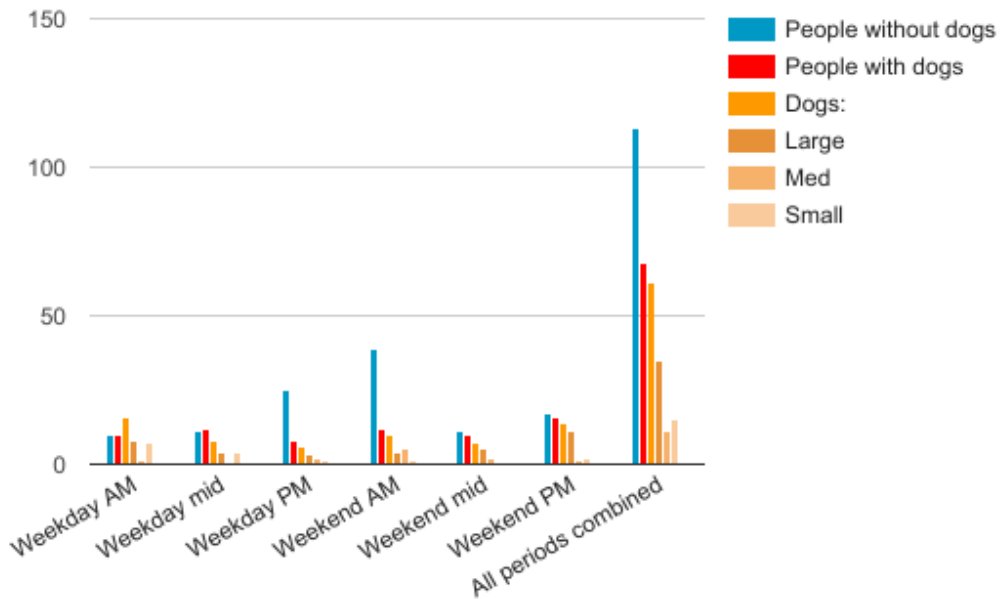


Figure B-16. Numbers of users and dogs at Quilchena Park off-leash area across observation periods

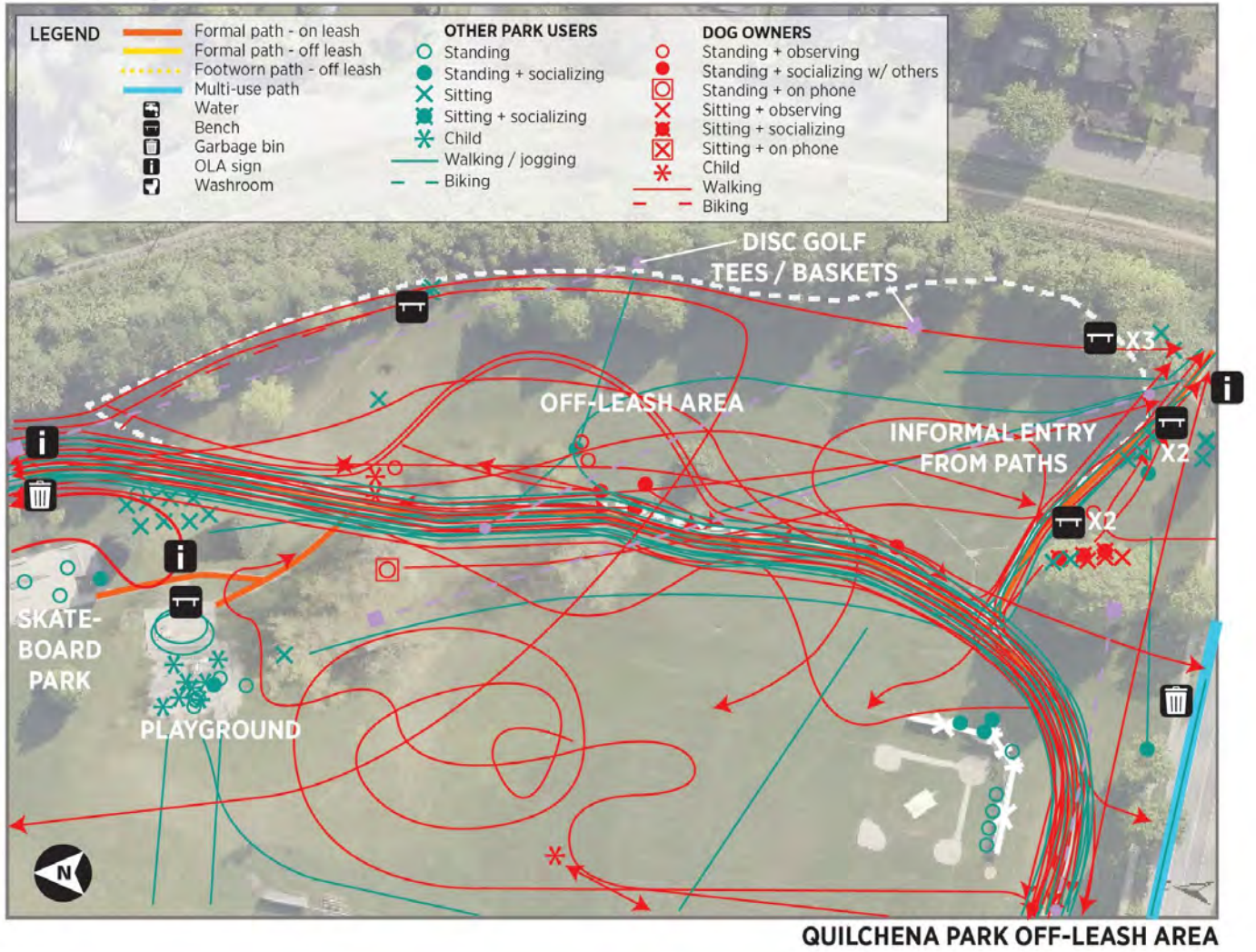


Figure B-17. Spatial patterns of use at Quilchena Park off-leash area, all days, all times combined.

John Hendry (Trout Lake) off-leash area

The busiest time of the week for both off-leash activity and park activity was midday on weekends, which coincided with the Trout Lake farmer’s market. Overall, Trout Lake had the highest number of dogs overall (176).

Dates and times of observations:

Weekday	7:45 - 8:15am	July 15
Weekday	12:00 - 12:30pm	July 14
Weekday	5:30 - 6:00pm	July 15
Weekend	7:45 - 8:15am	July 16
Weekend	12:00 - 12:30pm	July 16
Weekend	5:30 - 6:00pm	July 17

Key observations and comments:

- Many non dog owners were observed walking or jogging around the park’s loop path, which goes through the off-leash area.
- Several cyclists bike through the off-leash area.
- One group of people with special needs came to the off-leash area, although it was unclear whether they specifically came to observe the dogs or not
- Many dogs were observed off-leash outside of the off-leash boundaries, particularly to the east of the multi-use trail on the sports fields.
- Many dogs were swimming in Trout Lake
- Several dogs were observed as having poor recall, and many were playing rambunctiously
- Many non dog owners were present in the off-leash area with children. Several were sitting and observing dogs, and some were sitting on the grass reading or on phones.
- On Saturday mornings there were large numbers of people without dogs passing through the off-leash area on their way to and from the market.

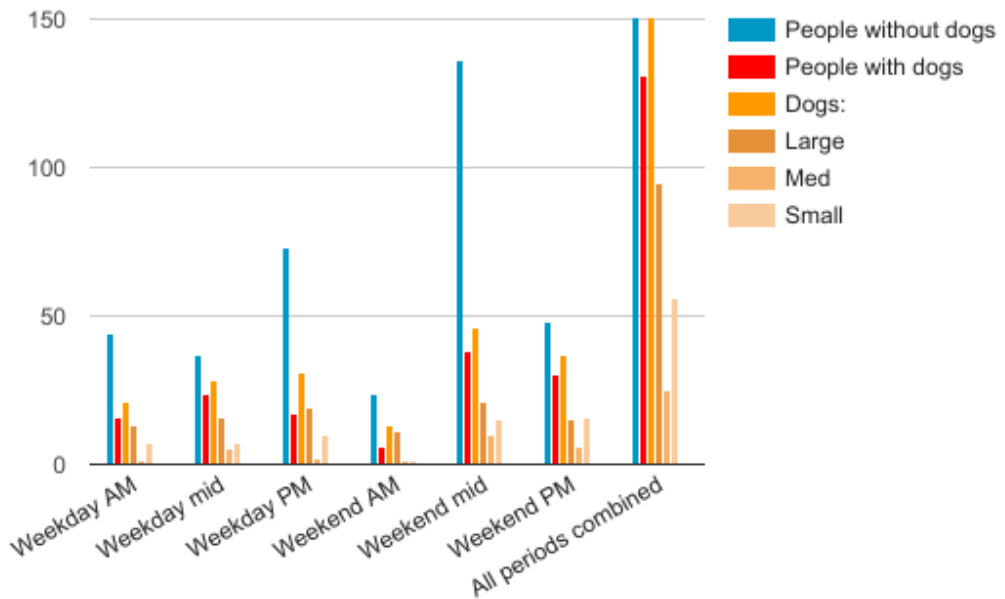
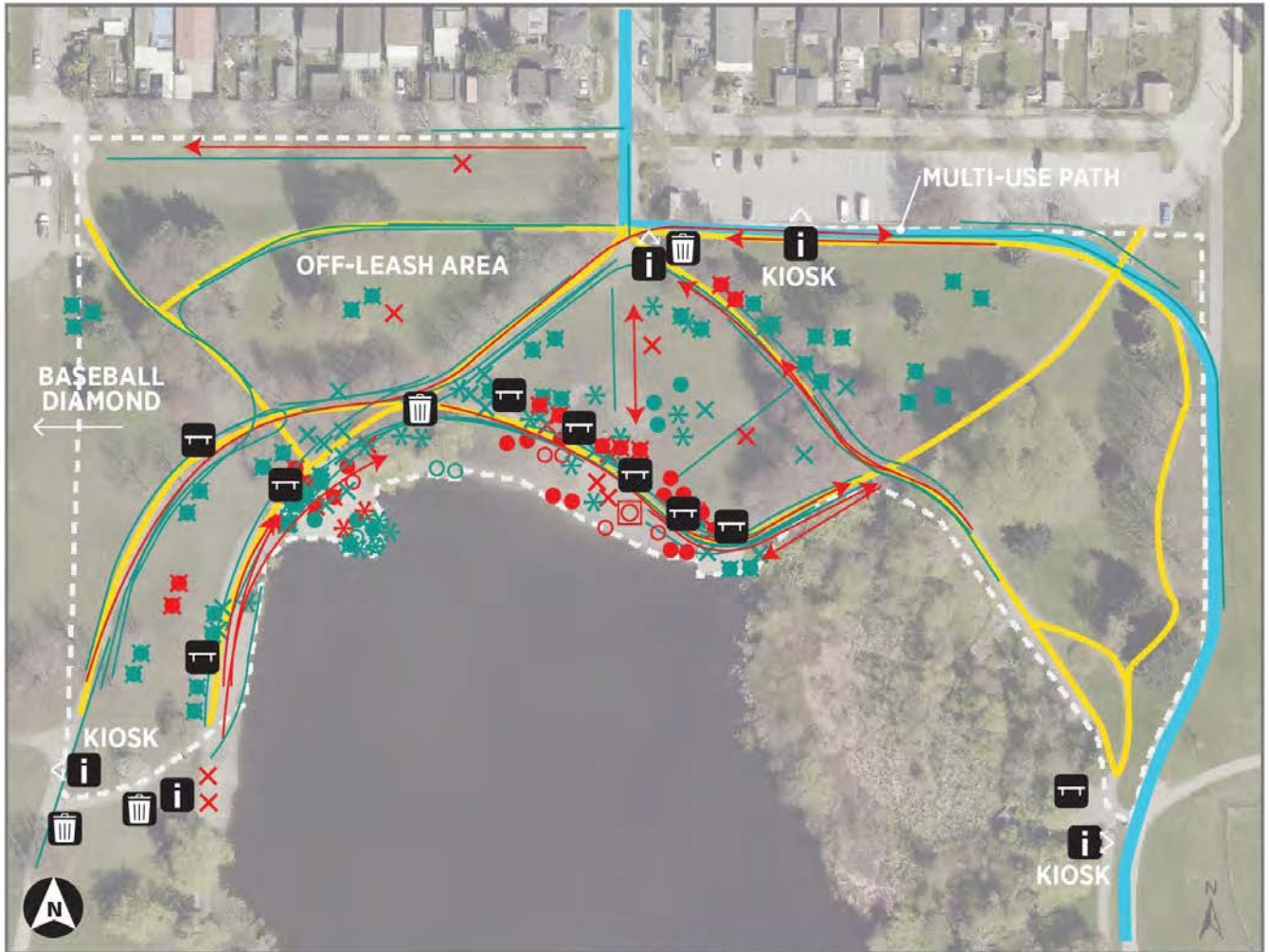


Figure B-18. Numbers of users and dogs at John Hendry (Trout Lake) Park off-leash area across observation periods. Note that numbers of people without dogs and people with dogs exceeded 150 during all periods combined.



JOHN HENDRY (TROUT LAKE) PARK OFF-LEASH AREA

Figure B-19. Spatial patterns of use at John Hendry (Trout Lake) Park off-leash area, all days, all times combined; see Figure B-16 for legend.



Spanish Banks off-leash area

Dates and times of observations:

Weekday	7:45 - 8:15am	July 15
Weekday	12:00 - 12:30pm	August 22
Weekday	5:30 - 6:00pm	July 12
Weekend	7:45 - 8:15am	July 10
Weekend	12:00 - 12:30pm	September 4
Weekend	5:30 - 6:00pm	August 21

Key observations and comments:

- In the open lawn area of the off-leash area people without dogs were observed picnicking, doing yoga, reading, sunbathing, playing frisbee, and playing badminton. Many people without dogs were biking, walking, and jogging through the off-leash area along the multi-use trail.
- Most park users at the sandy beach area (west end of the off-leash area) were people with dogs
- People with dogs and without dogs were generally equally distributed throughout the open lawn area. Many families and children were present.
- Several dogs were observed off-leash in the parking lots to the south of the off-leash area.
- Many dogs were observed off-leash outside of the off-leash boundaries.
- There is no signage at the west boundary of the site to indicate that users are entering or leaving an off-leash area.

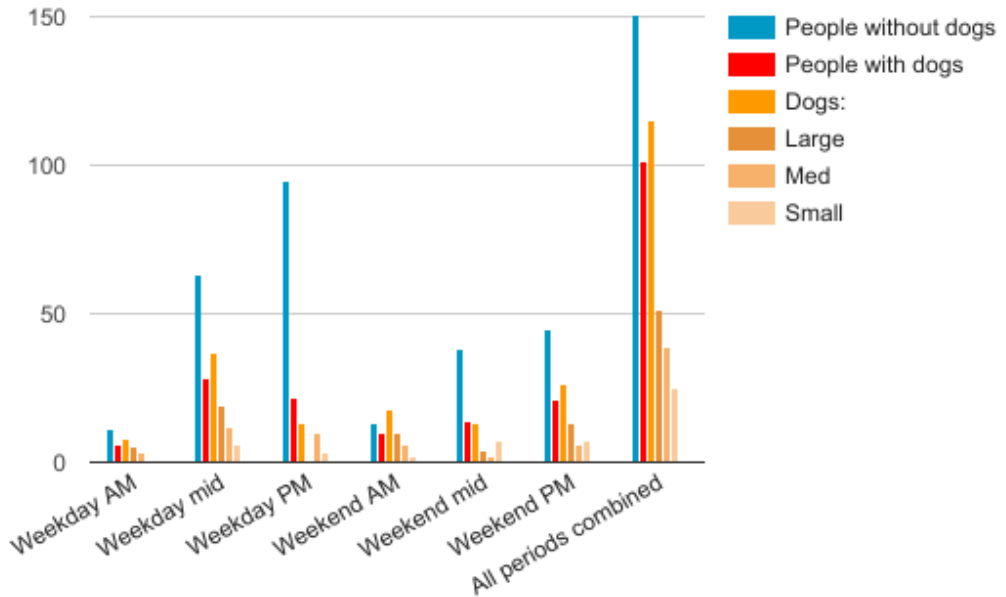
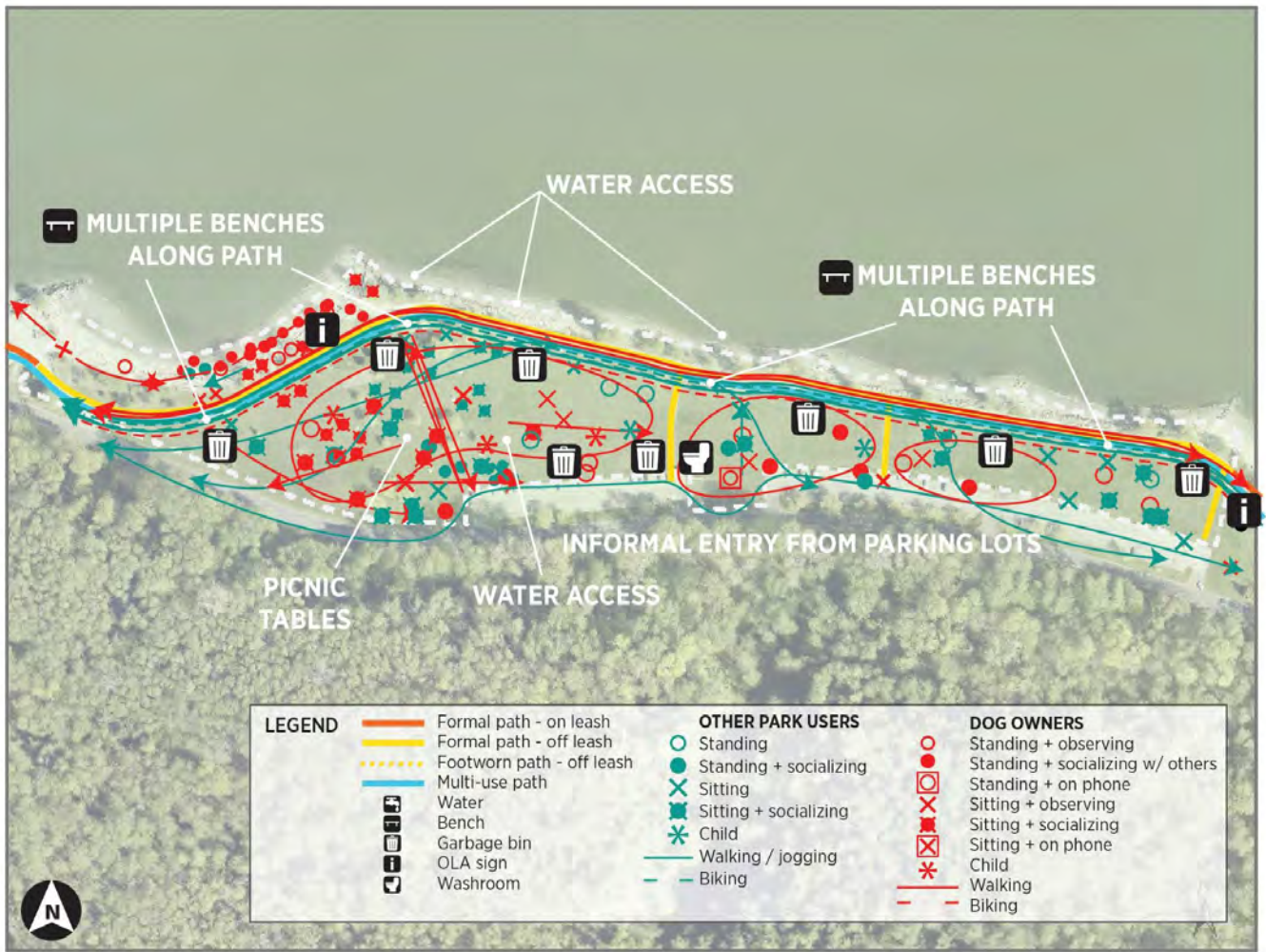


Figure B-20. Numbers of users and dogs at Spanish Banks Park off-leash area across observation periods. Note that numbers of people without dogs exceeded 150 during all periods combined.



SPANISH BANKS OFF-LEASH AREA

Figure B-21. Spatial patterns of use at Spanish Banks Park off-leash area, all days, all times combined.

Strathcona Park off-leash area west

Dates and times of observations:

Weekday	7:45 - 8:15am	July 18
Weekday	12:00 - 12:30pm	July 19
Weekday	5:30 - 6:00pm	July 18
Weekend	7:45 - 8:15am	July 16
Weekend	12:00 - 12:30pm	July 17
Weekend	5:30 - 6:00pm	July 17

Key observations and comments:

- Many dogs were off-leash in on-leash area
- Some softball players were at the park with dogs
- Activities by people without dogs included: BMXing in skatepark, observing biking and skateboarding, stretching / tai chi / yoga, running, walking, basketball, practicing softball, playing frisbee, playing with boomerang.
- Many dog owners were playing fetch with dogs or walking through park with dogs
- One dog owner observed lifting dog up to drinking fountain to drink

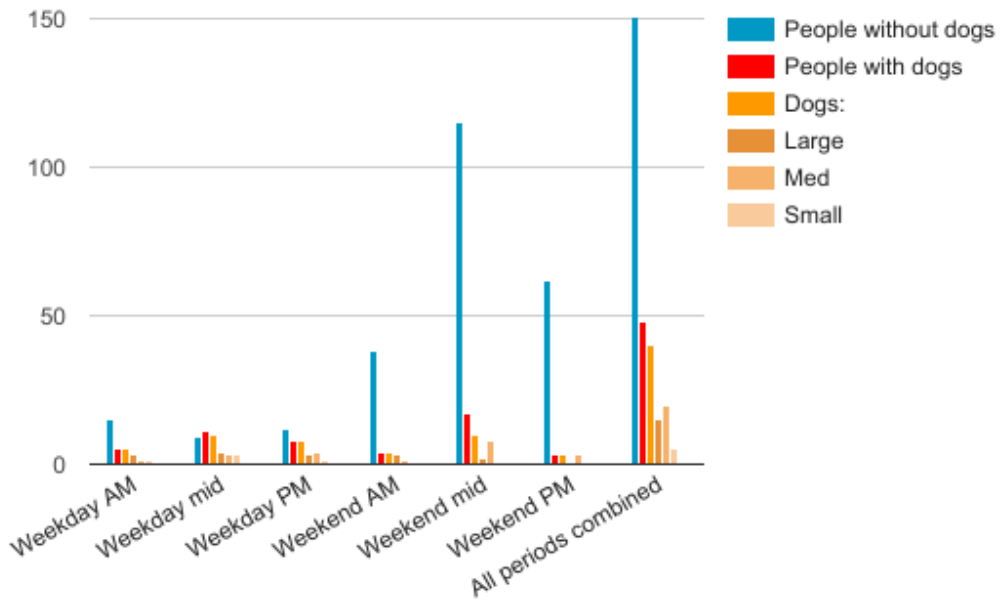
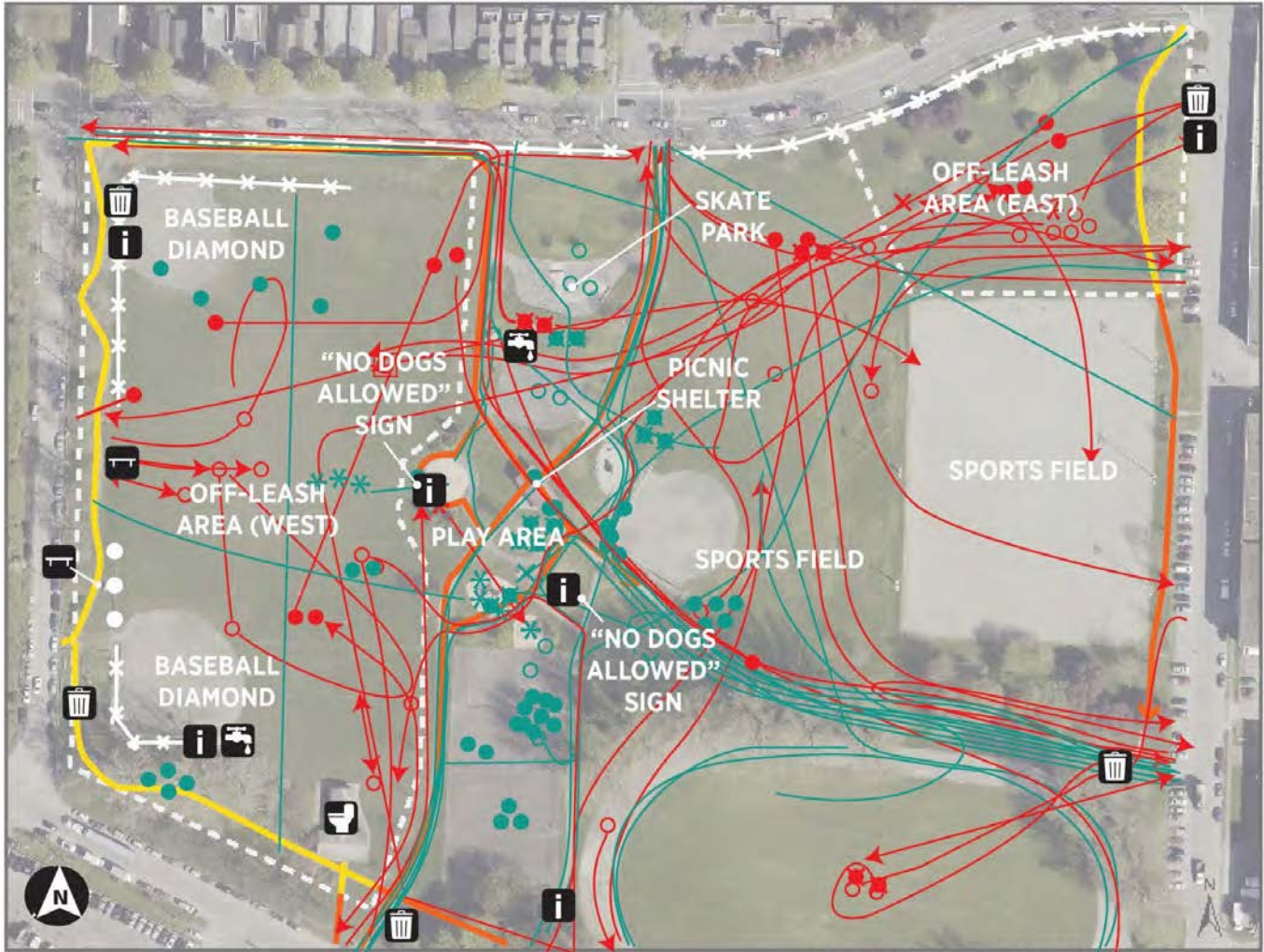


Figure B-22. Numbers of users and dogs at Strathcona Park off-leash area west across observation periods. Note that numbers of people without dogs exceeded 150 during all periods combined.



STRATHCONA PARK OFF-LEASH AREA

Figure B-23. Spatial patterns of use at Strathcona Park off-leash area, all days, all times combined; see Figure B-21 for legend.

Sparwood Park off-leash area

Dates and times of observations:

Weekday	7:45 - 8:15	June 29
Weekday	12:00 - 12:30	June 29
Weekday	5:30 - 6:00	June 29
Weekend	7:45 - 8:15	July 24
Weekend	12:00 - 12:30	July 24
Weekend	5:30 - 6:00	July 24

Key observations and comments:

- Dog owners generally respected on-leash rules during weekday midday when students from Sparwood elementary school were using the schoolyard and park field
- There were a group of dog owners who indicated that they gathered at the park every day in the late afternoon with their dogs. They set up their own chairs along the west edge of the park, and would throw balls for their dogs from there.
- Strong east-west and northwest-southeast desire lines through park
- Dogs were not observed to north and northeast of school during any observation periods
- Most dog owners were observing dogs, playing ball with dogs, or sitting in shade on grass with dogs

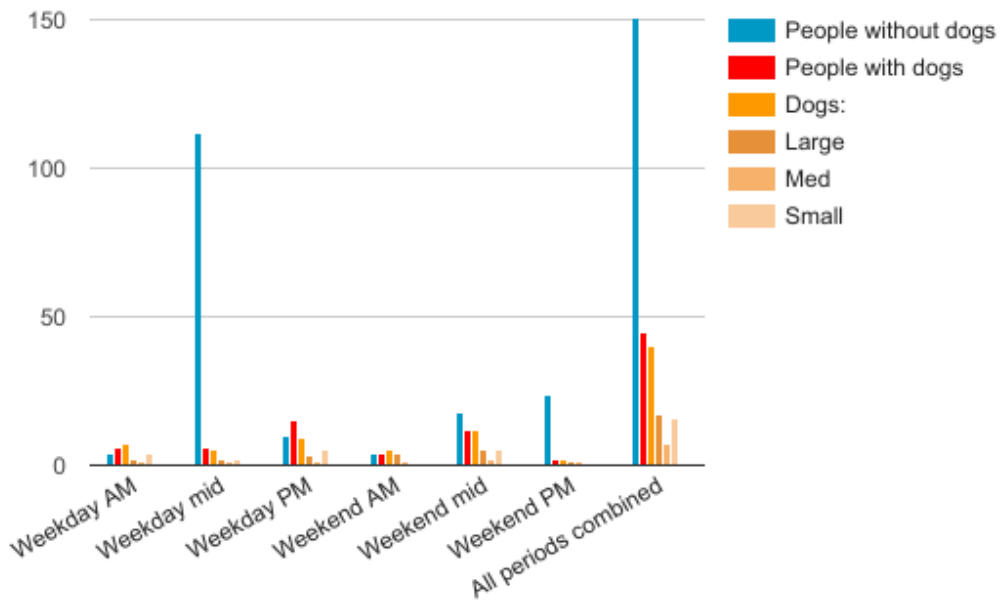


Figure B-24. Numbers of users and dogs at Sparwood Park off-leash area across observation periods. Note that numbers of people without dogs exceeded 150 during all periods combined.

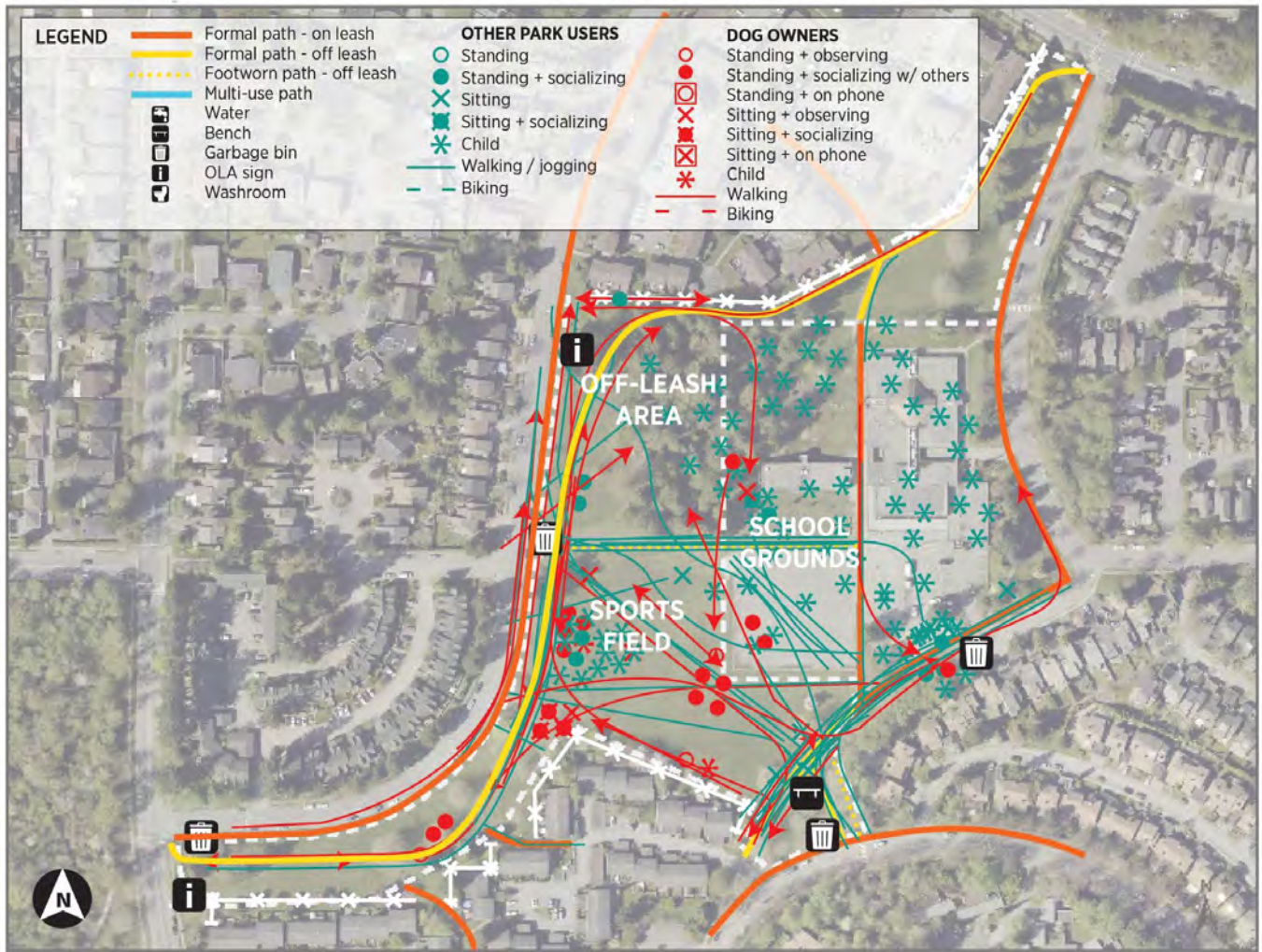


Figure B-25. Spatial patterns of use at Sparwood Park off-leash area, all days, all times combined.

INTERCEPT SURVEY

The intent of the intercept survey was to gather feedback from people using dog off-leash areas.

Methodology

Public Intercept Surveys were conducted in dog off-leash areas in order to gather feedback from park visitors with and without dogs. A total of 230 people participated, responding to questions on the following topics:

- Level of satisfaction with the quality of parks with off-leash areas
- How well Vancouver parks work for dog owners and non dog owners
- What improvements can be made to improve off-leash areas for both dog owners and non dog owners
- Identification of priorities and concerns related to dog off-leash activity
- Patterns of usage at off-leash areas

These Intercept Surveys were conducted during the summer of 2016, as part of the Field Studies (see Appendix B) at the following eight dog off-leash areas:

- John Hendry Park
- Strathcona Park
- Sparwood Park
- Charleson Park
- Quilchena Park
- Hadden Park
- Spanish Banks
- Emery Barnes

An even mix of people with dogs (118) and without dogs (112) were approached to take the survey, and respondents completed the form on paper or online (using an iPad or phone) while they were in the park. Eighty-seven (87) dog owners and 41 non dog owners provided general open-ended comments to help inform the development of the dog off-leash strategy.

QUESTIONS RESPONSES

People, Parks and Dogs: Intercept Survey

Form description:

1. Site info for recorder to complete:

Description (optional)

Park Name *

- Charleston Park (west - grass bowl)
- Emery Barnes Park
- Hadden Park
- John Hendry (Trout Lake)
- Quilchena Park
- Spanish Banks
- Sparwood Park
- Strathcona Park
- SE False Creek / Hinge Park

Date *

Month, day, year

Time of day

Short answer text

2. Does person have a dog with them? If not, ask them if the person is a dog owner. *

Yes

No dog with them, and person IS NOT a dog owner

No dog with them, but person IS a dog owner

FOR RESPONDENT:

Description (optional)

3. To what degree are you satisfied with the OVERALL QUALITY of Vancouver's parks that have dog off leash areas in them, such as this park? (5 = very satisfied / 4 / 3 / 2 / 1 = very dissatisfied)

1 2 3 4 5
 Very dissatisfied Very satisfied

Figure B-30 Intercept Survey Questions (1 of 4)

Summary of Results

Quality of parks with off-leash areas

Dog owners (67%) and non dog owners (73%) both reported being satisfied with the quality of Vancouver parks that have dog-off leash areas in them.

How well Vancouver's parks work for dog owners and for non-dog owners

Both dog owners (61%) and non dog owners (65%) agreed that Vancouver's parks work well for dog owners and dogs.

Higher numbers of dog owners (81%) and non dog owners (78%) both agreed that Vancouver's parks work well for non dog owners.

Whether parks can work better for both dog owners and non-dog owners

The majority of dog owners (82%) agreed that improvements can be made so that Vancouver's parks work better for both dog owners and non dog owners, while fewer non dog owners agree (61%).

The three most supported improvements among dog owners were:

- More dog off-leash areas (47%*)
- Clearer off-leash area boundaries (26%*)
- Education programs for dog owners and non dog owners (16%*)

The three most supported improvements among non dog owners were:

- Clearer off-leash area boundaries (32%*)
- More dog off-leash areas (26%*)
- More enforcement (20%*)

*Note that totals add up to more than 100% as respondents were able to choose more than one option.

Are dog off-leash areas an acceptable use of public parks?

Almost all dog owners (93%) agreed that off-leash areas are an acceptable use of public parks, while a smaller majority of non dog owners agreed (78%).

The role of off-leash areas in reducing conflict with off-leash dogs

Both dog owners (81%) and non dog owners (74%) agreed that off-leash areas reduce conflict between off-leash dogs and other park users.

Several non dog owners (12%) expressed a general fear of dogs (especially large breeds, pit bulls, or aggressive dogs) or were concerned for the safety of children around off-leash dogs.

4. To what extent would you agree that Vancouver's parks work well for DOG OWNERS AND DOGS? (5 = strongly agree/ 4 / 3 / 2 / 1 = strongly disagree)

1 2 3 4 5
Strongly disagree ○ ○ ○ ○ ○ Strongly agree

5. To what extent would you agree that Vancouver's parks work well for NON DOG OWNERS? (5 = strongly agree/ 4 / 3 / 2 / 1 = strongly disagree)

1 2 3 4 5
Strongly disagree ○ ○ ○ ○ ○ Strongly agree

6. Do you think that any improvements can be made so that Vancouver's parks can work BETTER for both dog owners and non dog owners?

- Yes
 No
 Unsure / I don't know

If yes: Which of the following strategies do you think would help to IMPROVE Vancouver's parks to work better for both dog owners and non dog owners? (select all that apply)

- Clearer boundaries between on leash and off leash areas
 More enforcement of rules
 Education programs
 More designated off leash areas
 Fewer designated dog off leash areas
 I don't think any changes need to be made
 Other...

AGREE / DISAGREE STATEMENTS: To what extent do you agree with the following statements, where 5 = strongly agree and 1 = strongly disagree

Description (optional)

7. Dog off leash areas are an ACCEPTABLE use of public parks *

1 2 3 4 5
Strongly disagree ○ ○ ○ ○ ○ Strongly agree

8. Dog off leash areas help REDUCE CONFLICTS between off leash dogs and other park users *

1 2 3 4 5
Strongly disagree ○ ○ ○ ○ ○ Strongly agree

9. Dog off leash areas should be FENCED *

1 2 3 4 5
Strongly disagree ○ ○ ○ ○ ○ Strongly agree

Figure B-31. Intercept Survey Questions (2of 4)

Fencing versus clear boundary delineation

Opinions were divided regarding the need for fencing versus other strategies to clearly delineate off-leash area boundaries.

A slight majority (44%) of dog owners disagreed that off-leash areas should be fenced, while 31% agreed, and 25% were undecided or neutral. In contrast, 64% agreed that off-leash areas should have clear boundaries but not be fenced.

Non dog owners were almost evenly split in their opinion on fencing, with 34% in support, 33% opposed, and 32% undecided or neutral. A majority (59%) agreed that off-leash areas should have clear boundaries but not be fenced.

Among those who provided open-ended comments, far more non dog owners (24%) expressed support for fencing, selective fencing (i.e. where it makes sense), and clearer boundaries compared to dog owners (10%).

Dog waste management

The majority of dog owners (66%) felt that it was being managed adequately while only 48% of non dog owners agreed.

Among those who provided open-ended comments, both dog owners (11%) and non dog owners (7%) expressed the need for better waste management, either through better compliance with picking up dog waste, more dog waste bags, and/or more dog waste bins.

Enforcement and education

Opinions were divided about enforcement. A small majority (53%) of dog owners felt that there was adequate enforcement of dog activity in Vancouver parks, while only 30% of non dog owners agreed.

Among open-ended comments, 19% of non dog owners called for more enforcement, fines, and education of dog owners so as to increase dog owner responsibility and control over dogs, while 8% of dog owners expressed these sentiments.

10. Dog off leash areas should have clear boundaries, but NOT be FENCED *

1 2 3 4 5
Strongly disagree Strongly agree

11. DOG WASTE is adequately managed in Vancouver's off leash areas *

1 2 3 4 5
Strongly disagree Strongly agree

12. There is adequate ENFORCEMENT of dog activity in Vancouver parks *

1 2 3 4 5
Strongly disagree Strongly agree

15. Is there anything else you would like to say for consideration as this strategy is developed? (USE DICTATION FEATURE ON IPAD / iPhone KEYBOARD OR ENTER BY HAND)

16. How often do you visit dog off leash areas?

Daily
 Once or more per week
 Once or more per month
 Once or more per year

17. Which Off Leash Areas do you use? (select all that apply; show them map here: <https://drive.google.com/file/d/1CHbUnsvBzkgGxwsPFOFZVUHUNGIQbtIILA/view?usp=sharing>)

- Andy Livingstone Park
- Balaclava Park
- Charleston Park
- Coopers' Park
- Crab Park at Portside
- Devonian Harbour Park
- Dusty Greenwell Park
- Emery Barnes Park
- Everett Crowley Park
- Falaise Park
- Fraser River Park
- Fraserview Park (~ by golf course)
- George Park
- Hadden Park (~ Kits dog beach)
- Killarney Park
- Kingscrest Park
- Locarno Park
- Nelson Park
- New Brighton Park
- Oak Meadows Park
- Queen Elizabeth Park
- Quilchena Park
- Southeast False Creek / Hinge Park
- Spanish Banks
- Sparwood Park
- Stanley Park (~old shuffleboard court)
- Strathcona Park
- Sunrise Park
- Sunset Park
- Sunset Beach (downtown)
- Tecumseh Park
- Valdez Park
- Other...

Figure B-32. Intercept Survey Questions (3 of 4)

Visits to dog off-leash areas

Among dog owners, 65% reported visiting a dog off-leash area every day, and 30% go once or more per week. A small majority (57%) of dog owners had walked to the off-leash area on the day of the survey, although 67% report typically walking.

Licensing

Of dog owners who were asked about licensing, 90% of them reported that their dogs were licensed. The primary reason for licensing was that it was legally required (expressed by 46% of dog owners), and that it can increase the chance of being reunited with one's dog if he/she goes missing (24%).

The primary reason that people gave for not licensing their dog was that they consider it inconvenient.

Other comments

Other open-ended suggestions for the strategy expressed by dog owners included the following:

- More off-leash areas (9%)
- More amenities within off-leash areas (8%), such as seating, shade, drinking water, and more grassed areas
- Need for larger off-leash spaces for running / exercising dogs, for reducing aggression between dogs, and for maintaining cleaner and more attractive park space (7%).
- Education of non dog owners in order to increase their tolerance of dogs, and to foster an understanding of good etiquette around off-leash dogs (6%).

18. How did you travel to this dog off leash area today?

- Walk
- Drive
- Other...

19. How do you TYPICALLY travel to off leash areas in general?

- Walk
- Drive
- Other...

20. These last two questions are completely confidential and optional to answer: Is your dog currently licensed?

- Yes
- No
- Prefer not to answer
- Skipped question

21a. If licensed: Would you mind sharing with us why you have licensed your dog? Please select all that apply.

- Increases the chance that I will get my dog back if he/she goes missing
- Helps the city collect data on dogs
- Legally required
- I've always just licensed my dog
- I don't know / no strong reason
- Other...

21b. If NOT licensed: Would you mind sharing with us why you have NOT licensed your dog? Please select all that apply.

- Too expensive
- I don't think it's important
- Didn't know that I was supposed to license my dog
- Inconvenient
- I don't know / no strong reason
- Other...

Figure B-33. Intercept Survey Questions (4 of 4)



© PRECEDENT STUDY



PRECEDENT RESEARCH

The intent of the following precedent research is to better understand best practices in dog off-leash management from across North America, and how Vancouver compares.

C1 Methodology

11 precedent cities or jurisdictions were chosen based on various criteria, including:

- Similarity to Vancouver climate (Seattle, Portland, and various Lower Mainland municipalities)
- Local municipalities to understand what is being done in the Vancouver area (Lower Mainland municipalities: Burnaby, District of North Vancouver, City of North Vancouver, Surrey)
- Established dog off-leash management plans in place (Salt Lake County, Denver, Calgary, Hamilton, Seattle)
- Similarity to Vancouver in urban form and density (Toronto, New York City)

In addition to reviewing any existing management plans and reports from the precedent cities, phone interviews were conducted with staff from each municipality in order to understand how dog off-leash activity is managed and what “lessons learned” have emerged from that municipality’s experience with dogs off-leash.

C2 Highlights of Precedent Research

C2.1 Off-leash area metrics by jurisdiction

The following table (Table C-1) summarizes the available data for Vancouver, detailed precedent study cities, and some other North American cities for comparison.

Compared to the other selected cities The City of Vancouver has a high amount of designated off-leash area space as a percentage of total parkland, at about 5.9%. Of the cities surveyed, only the City of Calgary has a higher percentage of off-leash area (6%).

Similarly, the City of Vancouver has a high number of off-leash hectares per number of dogs, with an estimate that ranges between 12 ha and 21 ha per 10,000 dogs. Only Calgary and Austin, TX, have more space allocated to designated off-leash areas, out of the cities surveyed.

The City of Vancouver has a relatively low number of dogs per capita, with a range of 54 to 93 dogs per 10,000 people. Most of the other cities surveyed have more dogs per capita.

C2.2 Classification and distribution of off-leash areas

Out of the municipalities studied, only New York, Calgary, and Salt Lake County have different types of designated off-leash area.

New York’s off-leash area typologies are based on whether sites are fenced (“dog runs”) or whether they are designated park areas with allowable off-leash hours (“designated off-leash areas”); hours are typically 9pm to 9am, outside of park closing hours.

Calgary and Salt Lake County have different scales of off-leash area, including Neighbourhood, Community, and Regional. Neighbourhood off-leash areas are typically smaller and serve a more local area, whereas Regional off-leash areas are larger, have more amenities, and serve a larger area.

City	Human population (5)	Licensed dog population (2016 data)	Est. total dog population (3)	Est. % of dogs licensed	Est. total number of dogs per 10,000 people	Hectares of parkland	Parkland (ha) per 10,000 people	OLA hectares per 10,000 people	OLA hectares per 10,000 dogs	Dog off leash hectares as % of total parkland
Vancouver, BC:										
	<i>Est. dog population - low</i>	21,332	32,390	66%	54	1,153	19.1	67.6	20.87	5.86%
	<i>Est. dog population - high</i>	21,332	55,947	38%	93	1,153	19.1	67.6	12.08	5.86%
Toronto, ON	2,615,000	57,276	230,000	25%	88	8,000	30.6	N.d.	N.d.	N.d.
Calgary, AB	1,097,000	99,724	135,000	74%	123	21,244	193.7	1278.8	94.73	6.02%
North Vancouver - City, BC	48,196	1,627	N.d.		N.d.	136	28.2	6.6	N.d.	4.85%
Hamilton, ON	519,950	39,844	75,000	53%	N.d.	888	17.1	25.94	N.d.	2.92%
Austin, TX (1, 2)	885,400	N/A	193,600	N/A	219	10,965	123.8	271.9	14.05	2.48%
San Francisco, CA (1)	805,000	17,135	113,010	15%	140	2,304	28.6	48.6	4.30	2.11%
Portland, OR	609,456	N.d.	137,000		225	4,452	73.0	26.7	N.d.	0.60%
New York, NY	8,336,697	85,000	600,000	14%	72	11,740	14.1	48.6	0.81	0.41%
Seattle, WA	652,406	40,644	150,000	27%	230	2,647	40.6	10.7	0.71	0.41%
Surrey, BC	468,250	18,830	75,000	25%	160	2,685	57.3	10.9	1.45	0.40%
Burnaby, BC	223,220	5,000	19,500	26%	87	2,000	89.6	6.24	3.20	0.31%
Los Angeles, CA (1)	3,884,307	N.d.	681,428		175	14,640	37.7	44.1	0.65	0.30%
Denver, CO	649,495	26,887	142,631	19%	220	2,518	38.8	5.3	N.d.	0.21%
Chicago, IL (1)	2,718,782	18,303	400,000	5%	147	5,053	18.6	4.9	0.12	0.10%
San Diego, CA (1)	1,394,988	87,375	313,336	28%	225	19,589	140.4	8.1	0.26	0.04%
North Vancouver - District, BC	84,412	6,505	8,700	75%	103	12,914	1529.9	4.8	5.52	0.04%

(1) Data from Seattle, 2016. Estimated total dog population is based on an assumption of 30% licensing rate.

(2) Licensing not required

(3) Numbers in italics are from American Veterinary Medical Association calculator

(4) Includes 32 km of trails, using assumption of 1.5m trail width

(5) Canadian city data from 2011 Statistics Canada census

N.d. = No data available

TABLE C-1. COMPARISON OF METRICS FOR SELECTED CITIES.



With respect to the distribution of off-leash areas, Denver, Hamilton, Surrey, Portland, and Seattle all have explicit goals of having areas well-distributed across the municipalities.

Vancouver does not have official classifications of off-leash area, nor has explicit goals of off-leash area distribution. There are currently six (6) completely or partially fenced off-leash areas, all close to downtown, and the remaining thirty (30) are unfenced. Site sizes vary greatly across the city. Thirteen (13) sites have daytime usage restrictions year-round; these are typically 5 to 10 am and 5 to 10 pm, which are much longer than New York City's permitted hours. Five (5) other sites have daytime usage restrictions in summer only, although start and end dates vary by site. The only precedent city with seasonal time restrictions is New York, which limits dogs off-leash at selected beach sites in summer months.

C2.3 Location criteria

Many municipalities prohibit dogs from park areas that are considered more sensitive to disturbance, or where conflict is more likely, such as: playgrounds, school grounds, swimming pools / wading pools, sports fields, cemeteries, golf courses, swimming beaches (with exceptions), ornamental plant displays, and sensitive natural areas.

Some municipalities also strive to keep off leash areas away from residential adjacencies (e.g. Hamilton, Salt Lake County, Denver), and encourage the use of mitigation measures to buffer residents from off leash areas. Some municipalities also require setbacks or mitigation measures when sites are next to busy streets (e.g. Portland, Denver, Hamilton). Denver, for example, requires a 60 m setback from busy streets unless the site is completely fenced.

Vancouver has few location criteria to guide the siting of off-leash areas, with the exception of prohibiting dogs from within 15 m of playgrounds, and from designated sports fields.

C2.4 Commissioning and decommissioning off-leash areas

Many municipalities require or prefer that new off-leash area requests come from members of the community. In some cases requests may come from individual applications (e.g. Portland), a local dog owners association (e.g. Toronto), or a group of citizens who can demonstrate broad neighbourhood support for a new facility (e.g. Denver). The City of Calgary has a detailed framework for responding to off-leash area requests; their process involves evaluating the request and the level of stakeholder support, screening the site using establishment criteria, engaging stakeholders, and developing a draft plan for the site.

Having an established process for decommissioning an off-leash site is also critical. The City of Toronto, for example, may close an existing site due to lack of use, extensive damage, conflicts among users, or ongoing non-compliance with the Code of Conduct.

Vancouver has established its current network of off-leash areas on a somewhat ad hoc basis, primarily in response to local demand or Park Board identification of potentially suitable sites. There is no formal process for commissioning or decommissioning off-leash areas.

C2.5 Defining off-leash area boundaries

Most municipalities use a mix of fencing and/or signage to define the boundaries of off-leash areas. Some, like Portland, use wood posts and signage as boundary markers. Others, like Burnaby, use a mix of hedges, pathway, or partial fencing to delineate the off-leash area boundaries. Several municipalities include maps posted at park entries to show the off-leash area boundaries and use boundary signs to indicate where on-leash and off-leash areas begin and end.

Boundaries of Vancouver's unfenced off-leash areas are typically communicated by a single small map that is located somewhere within the off-leash area. These maps appear to be insufficient to adequately inform users about the boundaries, and in most cases, there are no on-the-ground features that correspond with boundary lines. Oak Meadows off-leash area is one of few sites that has older signage along some of its boundaries indicating where on-leash and off-leash areas begin and end.

C2.6 Amenities

The level of standard amenities at off-leash areas varies across the municipalities surveyed, and by the type of off-leash area. Neighbourhood-scale off-leash areas typically have fewer amenities than destination-scale sites. The City of Calgary has a “level of service” framework to guide which types of amenities are located at the different types of off-leash areas.

Waste bins and signage are provided as standard elements by most municipalities, and several provide shade and seating. Some municipalities provide drinking water and dog bag dispensers that are typically stocked by volunteers. The City of Surrey hires a private contractor to supply dog waste bags in exchange for advertising space on park kiosks.

Vancouver is in line with surveyed municipalities in providing waste bins and signage as standard elements in off-leash areas, and most sites have seating and some amount of shade. Vancouver provides more drinking water for people in proximity to off-leash areas compared to most municipalities; drinking water fountains are available at or close to 24 out of 36 off-leash areas. Drinking water for dogs is currently provided in two sites (Southeast False Creek off-leash area and Coopers’ Park off-leash area). Dog bag dispensers had been provided at a few sites in the past (including Queen Elizabeth Park off-leash area and Dusty Greenwell Park off-leash area) but these have since broken and not been replaced.

C2.7 Surfacing

Finding successful surfacing options for off-leash areas is a challenge for most municipalities, as most users prefer grass but it does not hold up to heavy usage. Municipalities that share Vancouver’s wet winter climate (including Seattle, Portland, and Lower Mainland municipalities) have found that fine crushed gravel (e.g. crusher dust or gravel screenings) is the most successful material for high use areas, as long as smell and dust is managed. Wood chips typically do not drain well and have problems with odour and mold. The City of Surrey, however, is finding that the use of cypress wood shavings / sawdust (typically used in horse rings) is working well so far.

Vancouver is similar to other municipalities in primarily providing a mix of grass and gravel in its off-leash areas, and in its struggle to maintain grass at high usage sites (e.g. Coopers’ Park off-leash area). The type of gravel used at sites is variable, though; most sites have coarse angular gravel or pea gravel, both of which are generally considered undesirable by dog owners.

C2.8 Funding

All of the municipalities surveyed obtain the largest percentage of off-leash area funding from their general parks budget; this is generally available for new construction as well as maintenance.

Other sources of funding or in-kind support that are used in some instances include:

- Private sponsorship: The cities of Surrey and Calgary both use private sponsorship to fund extra amenities at off-leash areas. As referenced above, Surrey uses a private contractor to provide dog waste bags in parks in exchange for advertising space on in-park kiosks.
- Community fundraising: Volunteer fundraising is used to fund non-standard amenities at some off-leash sites in the cities of Calgary and Hamilton.
- Dog license fees: The City of Hamilton dedicates a portion of every dog license fee to off-leash areas.

Like most municipalities, Vancouver funds off-leash area maintenance and upgrades through the general park board capital plan and currently does not access sponsorship, community fundraising, or license fees to fund off-leash areas.



C2.9 Stewardship

The cities of Hamilton, Portland, Toronto and Calgary all encourage the formation of volunteer-based committees to be involved with the stewardship of individual off-leash areas, but municipalities report it is hard to ensure these groups stay active in the long-term. The City of Seattle has a formal partnership with a city-wide dog off-leash advocacy organization who plays a role in planning, education, monitoring, fundraising, site improvements, and basic maintenance.

Similar to the other municipalities surveyed, Vancouver does not have a formal volunteer stewardship program for its off-leash areas. There are currently a few informal citizen groups that have formed around individual off-leash areas in Vancouver (e.g. Dog Lovers of Trout Lake).

C2.10 Monitoring and Evaluation

Most municipalities have informal procedures for receiving complaints and identifying potential issues with off-leash areas.

The City of Calgary is one of few municipalities that has an established list of evaluation criteria that are used to assess off-leash areas. If issues have been identified with one or more of the criteria, a formal review process will be initiated.

The City of Portland monitors sites for giardia if they are made aware of any cases of giardia that might be linked to an off-leash area.

As with many of the municipalities in the precedent survey, Vancouver does not have a formal process for monitoring off-leash areas, or for evaluating sites according to established criteria.

C2.11 Education initiatives

Within the municipalities surveyed examples of education initiatives include city-wide public education campaigns (e.g. Toronto), informal education in parks by city staff or bylaw officers (e.g. Portland), and in-park signage to educate users. Some have partnered with organizations such as the SPCA (Society for the Prevention of Cruelty to Animals) for educational events. The City of Calgary also offers free in-park training on dog recall.

Vancouver currently uses in-park signs and enforcement officers to communicate bylaw and code of conduct requirements, and has developed a “Rex in the City” educational brochure to communicate important dog ownership information to City of Vancouver residents.

C2.12 Dog waste management

Most municipalities have combined waste bins for dog waste and other park garbage, and send all of this to landfill.

Some municipalities have experimented with composting dog waste with mixed results. The City of Toronto, for example, had a pilot project in parks whereby dog waste could be placed in in-park green bins as long as it was collected with cardboard scoops or paper bags; this pilot project was considered unsuccessful and was not continued.

“Biodegradable” bags are not accepted in Toronto or Vancouver’s green bin systems as the material is highly variable and most requires special conditions for degradation that are not found in municipal composting systems.

Vancouver, along with several municipalities in the Lower Mainland, started a “red bin” pilot project in three parks (Charleson Park, Grimmitt Park, and John Hendry / Trout Lake Park) to collect dog waste separately and have this sent to the wastewater treatment plant. This initiative appears to be superior to the waste management techniques used by the other municipalities surveyed.

C3 Detailed Profiles

The following 11 cities or districts are included in the detailed profiles:

- City of North Vancouver, BC
- District of North Vancouver, BC
- Burnaby, BC
- Surrey, BC
- Calgary, AB
- Hamilton, ON
- Toronto, ON
- Salt Lake City, UT
- Portland, OR
- Denver, CO
- Seattle, WA

City of North Vancouver, BC

Number of off-leash areas	3 sites, 2 are fenced (Kings Mill Walk, Mosquito Creek Park and Lynnmouth Park)
Classification and Distribution	No target
Size	No target
Location Criteria	Dogs are NOT permitted at all on playgrounds, picnic areas, playing fields, beaches, fitness circuits, running tracks, golf courses, bowling greens, tennis courts, ornamental gardens or in the North Vancouver cemetery. Specific permitted and prohibited areas are outlined by CNV parks bylaw 6611, Schedule F
Commissioning / Decommissioning off-leash areas	No formal process
Boundary Definition	Two of three sites are fenced. Fully fenced designated off-leash areas have been found to work well. The unfenced site is entirely off leash and is bounded by a river and an industrial area.
Amenities	No standard amenities. Amenities at some sites include: waste bins, dog waste bags supplied by municipality, seating, drinking water for people, drinking water for dogs, walking path(s), shade, fencing, at some but not all of our off-leash areas.
Surfacing Materials	Gravel or paved paths with grass.
Funding	General parks operating budget
Stewardship	No volunteer program
Monitoring and Evaluation	No formal process
Education Initiatives	“Poo fairy” education campaign. Educational signage in parks.
Licensing	Estimate is that percentage licensed is very low.
Dog Waste Management	Currently taken to landfill but city is implementing dedicated dog waste “red” bins so that waste will be collected by private contractor and disposed of at wastewater treatment plant. Red bin program should be in place for early 2017.
Source	City of North Vancouver website, “Dogs in City Parks”, Mike Hunter, Manager of Parks & Environment, City of North Vancouver, personal communication (June 2016).

District of North Vancouver, BC

Number of off-leash areas	18 parks with leash-optional trails / areas. 1 fenced off-leash area.
Classification and Distribution	No target
Size	No target
Location Criteria	Dogs are not allowed at all in playgrounds, spray pools, picnic areas, playing fields, beaches, fitness circuits and running tracks, golf courses, bowling greens, and tennis courts. No established criteria to inform where dogs are allowed on or off leash within parks. DNV is exploring the provision of dog off leash areas in new growth centres.
Commissioning / Decommissioning off-leash areas	No formal process.
Boundary Definition	One site is fenced. Boundaries of unfenced sites are designated with signage.
Amenities	No standard amenities. amenities at some sites include: waste bins, dog waste bags supplied by municipality, seating, drinking water for people, drinking water for dogs, walking path(s), shade, fencing.
Surfacing Materials	Gravel areas tend to be more successful and require less maintenance.
Funding	General parks revenue
Stewardship	No volunteer program
Monitoring and Evaluation	No formal process
Education Initiatives	Animal Welfare Officers educate dog owners when they are out on patrol.
Licensing	Estimate almost 90% compliance. Door-to-door and phone campaigns have been effective. Those who have not renewed their dog licenses are called, then followed up with a visit, then given a ticket if the license is not renewed.
Dog Waste Management	Dog waste goes to landfill
Source	Carolyn Girard, Park Planner, District of North Vancouver, personal communication (June, 2016).

City of Burnaby, BC

Number of off-leash areas	9 sites, 4 of which are fenced. Sites include trails, separate small dog areas, and areas with water access
Classification and Distribution	No target. Goal is to direct off leash activity away from high use park areas and into appropriate dedicated locations. It has been hard to find locations for new off leash areas that meet all of the defined criteria and that have public support.
Size	For neighbourhood parks the minimum size of off-leash areas is 0.25 ha (0.6 acres) for unfenced off-leash areas and 0.5 ha (1.23 acres) for fenced off-leash areas.
Location Criteria	<p>Setback requirements:</p> <ul style="list-style-type: none"> • 15m away from recreation facilities and flower beds • 30m away from the top of bank of watercourses and water bodies (if this setback is not possible mitigative measures must be used, such as fencing along the watercourse). • 50m away from the perimeter of conservation areas or ecological reserves, and avoid high-use bird nesting and feeding habitat (e.g. meadows, wetlands, marshes) <p>Dog off-leash areas should be away from primary or secondary roads and from major trails (unless a natural or man-made barrier is in place).</p> <p>Dogs are NOT allowed on sports fields, playgrounds, ball / tennis courts, group picnic grounds, concert grounds, on beaches, or in ponds, lakes or streams. Dogs are only allowed on sports fields for pre-approved special events (e.g. dog agility competition).</p>
Commissioning / Decommissioning off-leash areas	<p>New off-leash areas are initiated by the Parks Recreation and Cultural Services with authorization from the Parks Recreation and Culture Commission and are subject to a community consultation process targeting the residents of the local community in which a facility is being proposed. During this process it is determined what type of off-leash area facilities is supported (i.e. open area, fenced, partially fenced, trail, or combination). If there is opposition to use of the park site for an off-leash area it is not pursued.</p> <p>Residents can submit a letter, petition or appear as a delegate to the Parks and Recreation Committee to request a site be decommissioned, but to date none of these requests have been approved.</p>
Boundary Definition	Mix of fenced and unfenced sites. If unfenced the off-leash area may be delineated with a hedge, pathway, or partial fence. Some sites are mixed use. Fencing is used when off-leash areas are next to roads or some uses where dog activity is restricted.
Amenities	Waste bins, dog waste bags, seating, drinking water for people and drinking water for dogs.
Surfacing Materials	Gravel areas (rock dust / granite fines) work well at well-drained and level sites. Grass is provided for variety but is hard to maintain. Wood chips can be made in house but break down quickly and have poor drainage.
Funding	General capital and operating funds
Stewardship	No volunteer program
Monitoring and Evaluation	No formal process. Informally collect information from field staff and public. Aim to review how sites are performing on annual basis.
Education Initiatives	Have partnered with Burnaby SPCA in the past to hold education events in the past to educate and teach dog owners about proper etiquette and dog behaviour. Education programs were not continued.
Licensing	Estimate about 30% (data from 2006)
Dog Waste Management	Waste from designated off leash areas goes to Metro Vancouver incinerator.
Other	City is pursuing limits on the number of dogs that can be walked on or off-leash. They have discussed the idea of licensing professional dog walkers but are not implementing this at this time.
Source	Alekos Sarter, Research Officer, Parks Planning, Design and Development, City of Burnaby, personal communication (July, 2016), City of Burnaby “Dogs in Burnaby Parks” Brochure, City of Burnaby “Criteria and Indicators for Off-leash Areas in the City of Burnaby”

City of Surrey, BC

Number of off-leash areas	10 sites, with majority fenced. Unfenced sites are gradually being fenced.
Classification and Distribution	Target distribution is 2-3 per Town Centre (6 Town Centres in total)
Size	Minimum of 1 acre (0.4 ha) although they may be smaller in dense urban areas.
Location Criteria	Dogs must be kept away from sports fields, school grounds, playgrounds, residential areas, and selected biodiversity conservation areas.
Commissioning / Decommissioning off-leash areas	Guided by criteria and process in approved strategy. Proposed sites go through a public consultation process and committee evaluation. Sites may be closed by the Parks General Manager at any time.
Boundary Definition	All new sites are fenced, and older unfenced sites are gradually being fenced. The City considers fencing critical to minimize conflict with other park users.
Amenities	Most sites have waste bins, walking paths and fencing.
Surfacing Materials	Crusher dust (9mm crushed gravel) is quite successful but not as popular as grass. The city is piloting the use of cypress wood shavings / sawdust (a material typically used in horse rings) and so far it appears to be successful.
Funding	Parks Capital Program
Stewardship	No formal program
Monitoring and Evaluation	No formal program
Education Initiatives	No formal program
Licensing	Estimated 25% compliance rate
Dog Waste Management	Currently taken to landfill but the City is investigating having it collected by a private contractor and disposed of at the wastewater treatment plant.
Source	Ted Uhrich, Manager of Parks Planning, Research and Design, Parks Division - City of Surrey, personal communication (June, 2016).

City of Calgary, Alberta

Number of off-leash areas	150 unfenced sites and 4 fenced sites.
Classification and Distribution	Off-leash areas (off-leash area) are areas where dogs are allowed off-leash under full control of the owner. Sites may be fenced, partially fenced, or unfenced. Neighbourhood off-leash areas serve residents within a 800m walking distance Community off-leash areas serve residents within a 8 minutes driving distance Regional off-leash areas serve residents within a 20 minute driving distance
Size	<p>The goal is for off-leash areas to be a minimum of 0.5 ha, although some sites in urban areas are smaller than this. More specifically:</p> <ul style="list-style-type: none"> • Neighbourhood off-leash areas: less than 4.3 ha • Community off-leash areas: 4.3 ha to 19.9 ha • Regional off-leash areas: more than 19.9 ha • off-leash areas should occupy less than 30% of a regional or multi-use site. <p>Recently, a small fenced off-leash area has been established in downtown Calgary that measures 0.11 ha.</p>
Location Criteria	<p>Potential sites are evaluated according to an establishment checklist that addresses location considerations and other criteria.</p> <p>No dogs are permitted within 5 m of playgrounds, school grounds, wading pools, swimming areas, sports fields, golf courses or cemeteries, or other areas where indicated by posted signs. Dogs must always be on-leash on paved pathways, even if the path is within an off-leash area. All areas within natural environment parks are on-leash unless otherwise designated.</p> <p>Mitigation is required if an off-leash area is near a “no dog area,” or near a pathway, residential area, or major roadway. Mitigation typically consists of selective areas of fencing.</p>
Commissioning / Decommissioning off-leash areas	The City of Calgary has an established procedure for handling off-leash area requests. Suggested new sites or changes to existing sites can come from citizens, organizations or be initiated by the City. Sites are reviewed based on the level of stakeholder support, a review of establishment criteria, and additional meetings with stakeholders to develop a draft plan for establishing a new off-leash area, or for modifying or eliminating an existing off-leash area. Sites may be eliminated where public safety or asset management challenges exist.
Boundary Definition and and Signle Use Vs. Shared Use	Fencing or other barriers are used where necessary and feasible. Fencing is typically used but other barriers may include unmown or forested edges, or making use of natural edges (e.g. landforms) where they exist. Signage is placed at park entries and along paths to indicate when people are entering or exiting the off-leash area.
Amenities	Amenities are provided according to a level of service framework and vary by classification of park. For instance, all sites receive a “base level” of service, signage and barriers to separate uses where necessary and feasible. Benches are provided for community and regional off-leash areas where feasible. Washrooms are provided for regional parks where feasible. “Enhanced service” amenities may be provided in partnership with volunteers or on a sponsorship basis.
Surfacing Materials	Most off-leash areas are surfaced with a mix of grass and dirt. Some sites have gravel or concrete hardscape surfacing in selected areas.
Funding	Funding for off-leash areas currently comes from the capital plan. Additional sources that can be considered include developers, community groups, private funding, grants or a combination thereof.
Stewardship	The City introduced a pilot ambassador program for Egerts and Bowmont Parks, and is currently rolling the ambassador program out across the City. Stakeholder engagement guidelines have been established for different classifications of off-leash areas.
Monitoring and Evaluation	The City has established evaluation criteria that are used to evaluate off-leash areas (e.g. number and nature of complaints, damage to planting, user patterns, amount of dog feces not picked up, etc.). Where concerns have been identified the off-leash area will be reviewed.
Education Initiatives	The City offers free training to dog owners regarding dog recall and hosts educational programs in parks regarding dog waste management.
Licensing	The City estimates that they have a 90% compliance rate with licensing and they have a number of incentives to encourage dog owners to license their dogs, such as the “I Heart My Pet” reward program that offers residents discounts at participating vendors.
Dog Waste Management	Dog waste goes to landfill
Other	In general, there is a high level of tolerance for dogs off-leash in many city parks, even outside of designated off-leash areas. Temporary signage is sometimes used in on-leash parks where there have been concerns with dogs off-leash, such as near schools, sports fields, or playgrounds.
Source	City of Calgary “Off-Leash Area Management Plan,” 2010 / City of Calgary website, 2016 / Graham Jones, Business Policy Planning & Strategy Lead, City of Calgary, personal communication (July, 2016).

City of Hamilton, Ontario

Number of off-leash areas	10 sites (8 fenced, 2 unfenced)
Classification and Distribution	Goal is to have one off-leash area per ward (City has 15 wards)
Size	Preferred size is 1 ha but many are non compliant.
Location Criteria	All existing sites are intentionally located in non-park public lands; this has been found to work well. Sites are not intended to be located in high density residential areas, not along trails, and not within Environmental Significant Areas (ESAs). Additional criteria for unfenced sites: not bordered by high traffic streets unless there are adequate barriers; not allowed in park sites with sports facilities; sites close to schools, playgrounds or pools / spray parks shall have time and seasonal restrictions.
Commissioning / Decommissioning off-leash areas	Dog off-leash areas are established in response to community demand and are approved through Council. off-leash areas that are community-led initiatives tend to be more successful. The city aims to have a public meeting before the initiation of new off-leash areas.
Boundary Definition	Most sites are fenced with double-entry gates. Unfenced sites have boundaries indicated with signage.
Amenities	Fencing, signage, waste bins, seating and shade are supplied by the City. All other amenities and equipment are supplied by volunteer committees.
Surfacing Materials	Wood chips have been found to be the most successful. Grass is preferred by users but is not durable enough. The City is piloting the use of tumbled granite for a small off-leash area but reviews to date are mixed.
Funding	Funded through Council, capital budgets, and a portion of every dog license. Ensuring that maintenance dollars are provided to keep the amenity clean / functioning is important.
Stewardship	The city aims to have a volunteer group for each site. The group must commit to certain duties, including weekly maintenance, inspections, and education. There are currently 2 of 9 sites with volunteer groups. In practice the City undertakes the majority of the maintenance at off-leash areas.
Monitoring and Evaluation	No formal program
Education Initiatives	No formal program
Licensing	The city does not have data on licensing compliance rates
Dog Waste Management	Dog waste goes to landfill
Source	City of Hamilton, "Leash Free Parks Program Policy," 2003, Andrea McDonald, City of Hamilton, personal communication (July, 2016).

City of Toronto, Ontario

Number of off-leash areas	63 sites, 51 of which are fenced.
Classification and Distribution	No classification or target distribution
Size	Minimum size is 0.2 ha (0.5 acres)
Location Criteria	<p>The following considerations are used in staff's review of the suitability of a proposed off-leash area: adjacent land use, population density, licensed dog population, proximity of existing off-leash areas, compatibility with the existing park, potential impacts on the park's natural environment, proportion of the park to be taken up by the off-leash area, proximity of the off-leash area to residential areas and no-dog areas. More specifically, off-leash areas cannot be next to residential areas (no designated setback), within 1 km of an existing off-leash area, or next to school grounds or playgrounds.</p> <p>The City's policy dictates that off-leash areas shall not be established within the following areas: playgrounds; splash pads and wading pools; horticultural display areas or ornamental gardens; skateboard bowls, tennis courts and other sports pads; sports fields and stadiums; artificial or natural ice rinks, toboggan hills; animal display areas; campgrounds; designated heritage, memorial, commemorative and ceremonial areas; burial grounds; areas posted prohibiting dogs; swimming beaches (with some exceptions); natural environment areas.</p> <p>The Animal Bylaw and Parks Bylaw dictate where dogs are allowed on-leash.</p>
Commissioning / Decommissioning off-leash areas	<p>New off-leash areas are considered in conjunction with capital redevelopment of existing parks or new park development. Requests for off-leash areas are reviewed by City staff. Residents interested in establishing an off-leash area must establish a local Dog Owners Association (DOA), although this requirement can be waived. If a site is deemed to meet the required criteria a public meeting is held for comment.</p> <p>Sites may be decommissioned by the General Manager under the following conditions: the area is not being used on a regular basis; extensive damage to the park and/or natural environment is occurring; the park is no longer suitable for an off-leash area; conflicts between park users cannot be resolved; repeated, ongoing non-compliance with the Code of Conduct.</p>
Boundary Definition	Off-leash areas must be fenced if they are within parks that are 2 acres and under in size, or if they are located within the vicinity of the identified exclusion areas. The goal is to fence all new off-leash area sites, though, regardless of size. For sites that are not fenced the goal is to use natural topography of the land or shrubs for physical/visual delineation.
Amenities	Standard amenities include: waste bins, seating, drinking water for dogs, and fencing (most sites). Four off-leash areas have designated areas for small dogs only.
Surfacing Materials	Pea gravel (washed) has been found to be the most successful surfacing material. Wood chips are used but are not ideal because they hold odour, are not as permeable, and have to be frequently topped up.
Funding	Funding is only available for new off-leash areas sites as part of new capital projects or redevelopment projects.
Stewardship	The City of Toronto encourages Dog Off Leash Area (Doff-leash area) committees to be established for each site to liaise with the City regarding issues, future work, required repairs, etc.
Monitoring and Evaluation	Sites are monitored for problems
Education Initiatives	The City recently undertook a city-wide public education campaign to encourage responsible dog ownership, featuring ads at transit shelters.
Licensing	Estimated to be 30%
Dog Waste Management	Dog waste goes to landfill
Other	<p>Commercial dog walkers who walk more than three dogs at one time require a permit. Commercial dog walkers are excluded from certain off-leash areas, are limited to walking up to 6 dogs at a time and can only walk dogs during specified hours (typically Monday to Friday between 9am and 5pm, as these are the less busy hours at off-leash areas).</p> <p>Trees within off-leash areas are fenced to their dripline to prevent damage to root systems.</p>
Source	City of Toronto People, Dogs and Parks Off-Leash policy (2010), Nancy Aranha, Acting Program Standards and Development Officer, Parks, Forestry and Recreation, City of Toronto, personal communication (August, 2016).

Salt Lake County, Utah

Number of off-leash areas	14 sites in total (4 sites administered by Salt Lake County and 10 sites administered by individual cities within the county). 8 of 14 sites are fenced.
Classification and Distribution	Neighbourhood off-leash areas serve residents within a 3 km radius Community off-leash areas serve residents within a 8 km radius Regional off-leash areas serve the entire county. The County aims to increase the number of regional dog parks.
Size	Neighbourhood (small): 0.2 to 0.8 ha (0.5 - 2 acres) Community (medium): 0.8 ha to 4 ha (2 - 10 acres) Regional (large): over 4 ha (10 acres)
Location Criteria	There are no fixed setbacks but residential adjacencies are to be avoided. Compatible adjacencies may include municipal / county facilities, animal oriented non-profit facilities (e.g. humane society), commercial or industrial development
Commissioning / Decommissioning off-leash areas	No formal process
Boundary Definition and Single Use Vs. Shared Use	The goal is for neighbourhood parks and community parks to be fenced, while regional parks are typically not fenced. Maps at each park indicate the off leash boundaries and signage is placed at the boundaries.
Amenities	Amenities vary by off-leash area classification and may include: Vary by classification of park. May include: waste bins, dog waste bag dispensers, stocked by volunteers, dog waste bags (supplied by municipality), seating, drinking water for people, drinking water for dogs, walking path(s), shade, and fencing.
Surfacing Materials	Wood chips are not working well as they hold odours. One off leash area has two halves that are used alternately to allow turf time to recover. Another turf site gets used for 2 weeks at a time and then is closed for 3 weeks for the turf to recover.
Funding	General park funds
Stewardship	No volunteer program
Monitoring and Evaluation	No formal process
Education Initiatives	No formal program
Licensing	Currently unknown
Dog Waste Management	Dog waste goes to landfill
Other	Lack of owner clean-up of dog waste in natural areas is causing water quality problems.
Source	Salt Lake County "Off-Leash Dog Park Master Plan" (2008), Kenneth Richley, Parks Planner, Salt Lake County, personal communication (July, 2016).

City of Portland, Oregon

Number of off-leash areas	33 off leash areas, including 9 fenced and 24 unfenced
Classification and Distribution	Goal is for sites to be well-distributed across the city Unfenced sites are called SHARED sites (Seasonal Hours at Reserved Sites), and allow off-leash activity during seasonal hours in the early morning and early evening.
Size	Minimum of 0.1 acre (0.04 ha), although there is a big range in size of parks Some parks are divided into big dog and small / shy dog areas
Location Criteria	Dogs are not permitted on sports fields, selected natural areas, selected park sites, and school grounds. Dogs are allowed on-leash only in selected natural areas. Dogs must be kept 25' (8 m) away from playgrounds. Other criteria for locating off-leash areas: <ul style="list-style-type: none"> • Avoid affecting fish and wildlife habitat • Avoid risk to water quality • Be relatively level • Have minimal impact on adjacent residential areas • Be close to parking • Slope and heavy tree canopy should be avoided wherever possible • Areas should be dry and irrigated rather than wet • Park's main circulation should be outside off-leash areas • Avoid locating off-leash areas adjacent to streets with heavy traffic • Consider areas with current high dog off-leash use
Commissioning / Decommissioning off-leash areas	Members of the public can propose a new off-leash area site by completing a Park Project Proposal application form. Sites must meet established location criteria.
Boundary Definition	The city is moving towards fencing sites as much as possible to minimize conflicts. Unfenced off-leash areas are defined by "boundary markers" (i.e. wood posts) and signage. Fencing is a mix of vinyl-coated chain link or steel posts with wire mesh, and the city is trying to establish vines on the fence.
Amenities	All off-leash areas have signage that indicates etiquette and rules. Selected sites have fencing, signage, and/or water.
Surfacing Materials	The City has experimented with sand, wood chips, decomposed granite, and pea gravel, and found that all materials have pros and cons. Many sites have wood chips and some lawn areas.
Funding	Sites are maintained by the parks operating budget. There is no dedicated revenue source or fees to pay for new sites.
Stewardship	The City has a "Stewardship Toolbox" to encourage volunteers in starting a group, but to date there are no volunteer groups for dog off leash areas. The City offers volunteer off-leash area stewardship groups with printing costs, lending tools, and other resources. Members of the public can propose changes to off-leash areas through a park proposal form.
Monitoring and Evaluation	If the City is notified by a dog owner that their dog has giardia and has been at particular off leash areas, the City will test the off-leash area for giardia. If giardia is found to be present, the city follows the recommendations of the State Public Health Veterinarian regarding closure (length of time, conditions, etc.) of the off-leash area. Otherwise no formal monitoring program.
Education Initiatives	Targeted educational campaigns have been used in the past. Currently rely on in-park signage and Park Rangers to patrol and educate on an as needed / call for service basis.
Licensing	The city does not have data on licensing compliance rates
Dog Waste Management	Dog waste goes to landfill
Source	City of Portland parks website, Bryan Aptekar, Lands Stewardship Operations Coordinator Lands Stewardship Division, City of Portland, personal communication (June, 2016).

City of Denver, Colorado

Number of off-leash areas	9, all of which are fenced
Classification and Distribution	The goal is to have an equitable distribution of off-leash areas across the City. No other off-leash areas should be within ~2-3km depending on population density.
Size	Preferred size is 1 - 2 acres (0.4 - 1 ha) but several existing sites are smaller than this.
Location Criteria	Dog off-leash areas are to be a minimum of 30 m from playgrounds and 60m from arterial streets unless the site is completely fenced. off-leash areas should be separated from residential areas using dense vegetation or opaque fencing, and there should be a clear separation of off-leash areas from sports fields. No off-leash areas can be located within natural areas and off-leash areas are typically not located within smaller neighbourhood parks. Sites should be relatively flat or with gentle grades to reduce erosion; retaining walls are used if required to accommodate grade changes.
Commissioning / Decommissioning off-leash areas	<p>When residents express interest in a new off leash area, the city encourages them to talk with neighbours and their local City councilor to build broad local support for the project, and to identify potential sites for the off-leash area. The City then evaluates the proposal according to their criteria.</p> <p>Existing sites can be decommissioned if there is a high level of non-compliance with collecting or disposing of dog waste. The City uses a green / yellow / red sign system at off-leash areas to alert users to concerns with dog waste non-compliance at the site. When sites receive a red sign they are closed until users clean up the site.</p>
Boundary Definition	All sites are fenced with a min. 1.2m tall fence and double-gated entries.
Amenities	All sites have shade and seating. Some off-leash areas have separated areas for high energy / low energy dogs. No bag dispensers, bags, or lighting are provided.
Surfacing Materials	Dog off-leash areas are surfaced with an “infield” mix that is typically used in baseball diamonds, as it is relatively soft, has good drainage, can be raked / ripped periodically, and can be cleaned. The City has experimented with other surfacing but found this to be the most successful.
Funding	Capital Improvement Program
Stewardship	No formal program. The City’s 2010 management plan suggested giving people discounted annual user fee in exchange for volunteer service, but this has not been implemented.
Monitoring and Evaluation	No formal program
Education Initiatives	No formal program
Licensing	The city does not have data on licensing compliance rates
Dog Waste Management	Dog waste goes to landfill
Source	City of Denver “Dog Park Master Plan & Policy Recommendations,” 2010, Mark Tabor, Assistant Director of Planning, Parks and Recreation, City and County of Denver, personal communication (June, 2016).

City of Seattle, Washington

Number of off-leash areas	14 sites, all completely fenced except beach access at one site
Classification and Distribution	<p>Existing sites have been developed in response to demand, and are generally well-distributed across the city. Seattle Parks and Recreation's (SPR) 2011 Development plan recommended that there be an off-leash area in each of the city's four quadrants; this goal has been achieved. It has been found that there is an off-leash area within 2.5 miles (4 km) of all residents, with the exception of two areas in the City.</p> <p>Only one off-leash area site has beach access, and the 2016 plan recommends against new beach sites due to documented contamination of local waters with E. coli bacteria from dog waste, and due to sensitive inter-tidal and marine areas.</p>
Size	Preferred minimum of 1 acre, although some existing sites range from less than 1 acre to 9 acres in size. Preferred size is 2 acres.
Location Criteria	<p>Dog off-leash areas should:</p> <ul style="list-style-type: none"> • Avoid interference with other established uses • Avoid directly abutting residences • Assure the availability of close parking • Avoid locating near children's play areas • Minimize impacts on the visual character of a park • Locate where there is low potential for spillover into on-leash areas • Avoid sensitive environmental areas such as wildlife habitats and steep slopes <p>Public parks and non-park public lands are considered for off-leash areas.</p>
Commissioning / Decommissioning off-leash areas	Seattle Parks welcomes proposals for new off-leash areas through a fund that matches community-generated funds for park improvements. For proposed new sites Seattle Parks convenes a committee to evaluate the site and make a recommendation on whether the site should move forward.
Boundary Definition	All sites are fully fenced and the 2016 plan recommends that all new off-leash areas be fenced.
Amenities	<p>The SPR's 2011 Development plan recommends sites should be fenced, with pathways, benches, kiosks, drinking fountains and other park furniture.</p> <p>Most off-leash areas have drinking water for people and dogs, small dog / large dog areas with separate entrances, dog bag dispensers (volunteers are providing bags, but the city is pursuing sponsorship), and an information kiosk. Some sites have seating and lighting.</p>
Surfacing Materials	Various types of gravel, some grass / dirt fields. Testing artificial turf at one site. Moving away from wood chips due to smell, mold, and fact that chips migrate outside of off-leash areas.
Funding	Dog off-leash areas are funded through the Parks District capital budget. The city intends to explore potential partnerships and sponsorships to share costs. The city-wide volunteer association (off-leash area, or Citizens for Off-Leash Areas), plays a role in fundraising for off-leash areas.
Stewardship	A city-wide volunteer association, Citizens for off-leash areas (COLA), is the official steward of Seattle dog off leash program, governed by a partnership agreement between COLA and the city. They help to manage 13 of 14 off-leash area sites. COLA is involved in planning of off-leash area sites, education initiatives, monitoring, fundraising, site improvements, and basic maintenance (e.g. spreading new surfacing materials, clean-up). The City provides materials and hauls away garbage.
Licensing	The city does not have data on licensing compliance rates
Dog Waste Management	Dog waste goes to landfill
Other	<p>The city has identified off-leash areas as a potential use of parks to be considered in new park development and redevelopments. The city is also encouraging the development of private off-leash areas and off-leash areas on non-park public land.</p> <p>The 2016 plan recommends that commercial dog walkers have both a business license and a dog walker license, and that dog walkers be limited to a maximum of 10 dogs ,with a certificate in animal behaviour (proposed new program); otherwise dog walkers will be limited to a maximum of three (3) dogs.</p> <p>The 2016 plan recommends increasing fines for repeat off-leash area violators of off-leash laws.</p> <p>Dogs are welcome on Seattle buses, ferries, light rail and local seaplanes.</p> <p>The 2016 plan has established maintenance standards for off-leash areas that address routine maintenance, surface material replacement, and equipment and supplies.</p>
Source	Seattle Parks and Recreation "People, Dogs & Parks Plan" - Draft for public review (June 2016), Citizens for Off-Leash Areas (C.O.L.A.) website, Holly Miller, Senior Policy Advisory, Seattle Parks and Recreation, City of Seattle, personal communication (May, 2016).

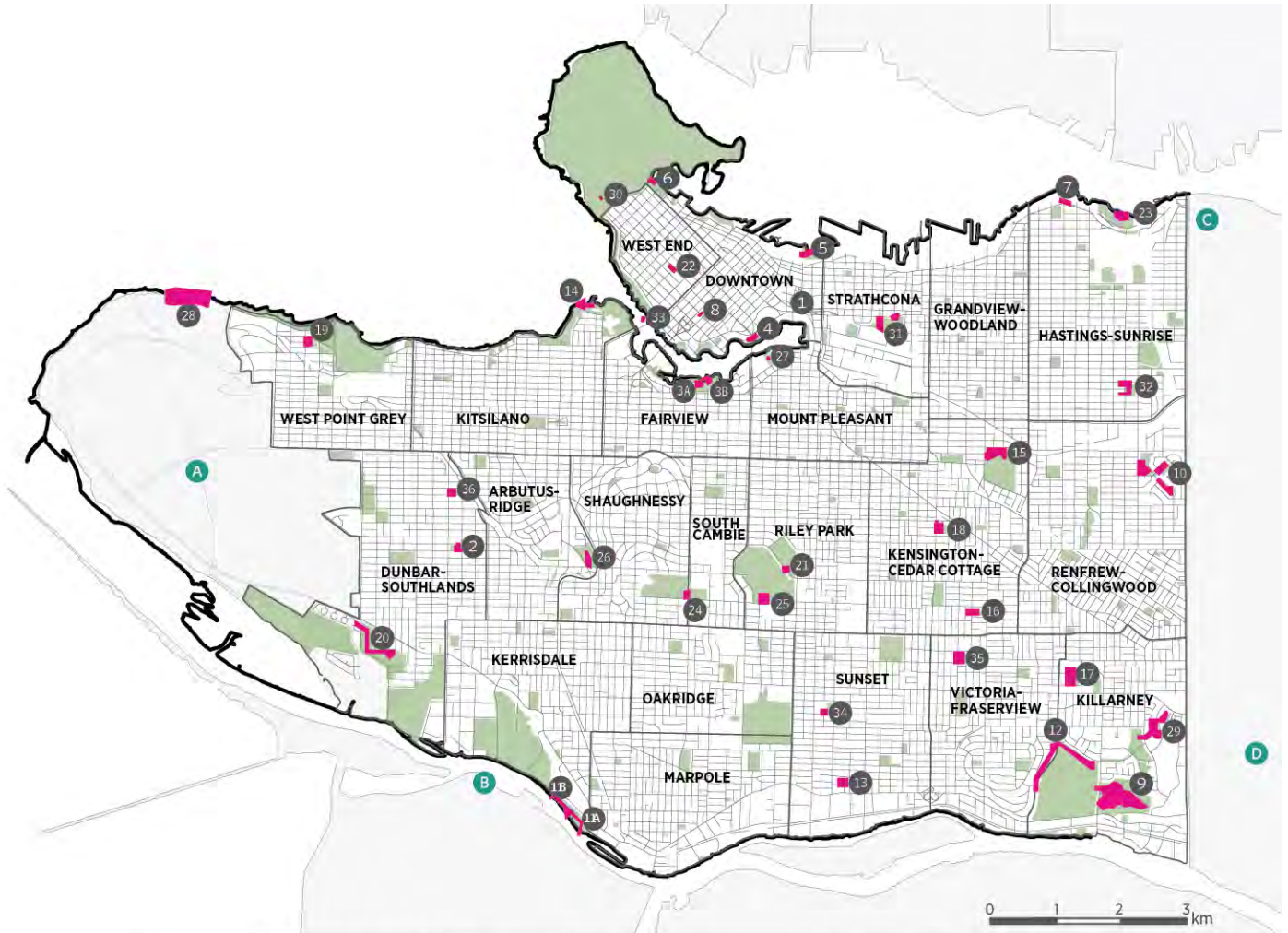


④ INVENTORY

INVENTORY

The following inventory provides an overview of Vancouver's existing dog off-leash areas.

D



LEGEND:

■ Vancouver Park Board Off-Leash Areas

VANCOUVER PARK BOARD DOG OFF-LEASH AREAS:

- 1 Andy Livingstone Park
- 2 Balaclava Park
- 3A Charleston Park (west)
- 3B Charleston Park (east)
- 4 Coopers' Park
- 5 Crab Park at Portside
- 6 Devonian Harbour Park
- 7 Dusty Greenwell Park
- 8 Emery Barnes Park
- 9 Everett Crowley Park (trail only)
- 10 Falaise Park
- 11A Fraser River Park (east)
- 11B Fraser River Park (west)

- 12 Fraserview Park
- 13 George Park
- 14 Hadden Park
- 15 John Hendry (Trout Lake)
- 16 Jones Park
- 17 Killarney Park
- 18 Kingscrest Park
- 19 Locarno Park
- 20 Musqueam Park
- 21 Nat Bailey Stadium
- 22 Nelson Park
- 23 New Brighton Park
- 24 Oak Meadows Park
- 25 Queen Elizabeth Park

- 26 Quilchena Park
- 27 Southeast False Creek
- 28 Spanish Banks
- 29 Sparwood Park
- 30 Stanley Park
- 31 Strathcona Park
- 32 Sunrise Park
- 33 Sunset Beach
- 34 Sunset Park
- 35 Tecumseh Park
- 36 Valdez Park

LOCAL OFF-LEASH AREAS OUTSIDE OF VANCOUVER PARK BOARD JURISDICTION:

- A Pacific Spirit Regional Park (Metro Vancouver)
- B Macdonald Beach off-leash area (City of Richmond)
- C Burnaby Heights Park (City of Burnaby)
- D David Gray Park (City of Burnaby)

FIGURE D-1. VANCOUVER'S EXISTING DOG OFF-LEASH AREAS

#	Name	Description	Hours*	Size (ha)	Adjacencies	Amenities	Proposed Designation
1	Andy Livingstone Park	Small fenced off-leash area with dirt surfacing.	Typical	0.11	<ul style="list-style-type: none"> Residential Undeveloped waterfront land Sports field, playground nearby 	<ul style="list-style-type: none"> Seating Waste bins Shade Secure fencing Drinking fountain (people) / washrooms nearby 	Neighbourhood Urban
2	Balaclava Park	Turf with gravel trail along west edge and running track on east edge. Boundaries undefined.	6-10am 5-10pm	0.77	<ul style="list-style-type: none"> Residential Sports fields Play area Wading pool 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) / washrooms nearby 	Neighbourhood Park
3	Charleson Park - total area:			1.23			
3a	Charleson Park (west - grass bowl)	Open turf area next to seawall paths. Paths along south and west. Pond on east side. "Waterfall area" allows seasonal dog access.	Typical Waterfall area 6-10am 5-10pm in summer	0.81	<ul style="list-style-type: none"> Seawall Play area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) nearby 	Neighbourhood Park
3b	Charleson Park (east)	Grass area to east of pond with shade trees.	Typical	0.43	<ul style="list-style-type: none"> Residential Seawall 	<ul style="list-style-type: none"> Waste bins Shade 	-
4	Coopers' Park	Worn grass field next to seawall with one bisecting path. Boundaries defined by berm / vegetation to south, paths to north.	Typical	0.43	<ul style="list-style-type: none"> Residential Seawall Play area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (dogs) Drinking fountain (people) nearby 	Neighbourhood Urban
5	Crab Park at Portside	Open grass area with paths and berm / trees at south end. Boundaries undefined.	6-10am / 5-10pm	0.51	<ul style="list-style-type: none"> Residential Industrial Play area Picnic area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) nearby 	Neighbourhood Park
6	Devonian Harbour Park	Open grass area partially fenced by split rail. Next to seawall path.	Typical	0.38	<ul style="list-style-type: none"> Residential Seawall Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bin Partial fencing Drinking fountain (people) nearby 	Neighbourhood Park
7	Dusty Greenwell Park	Treed grass area with gravel trail. No parking available.	5-10am / 5-10pm	0.53	<ul style="list-style-type: none"> Residential 	<ul style="list-style-type: none"> Seating Waste bins 	Neighbourhood Park

* TYPICAL HOURS ARE 6 AM TO 10 PM

TABLE-D-1. SUMMARY OF VANCOUVER'S EXISTING DOG OFF-LEASH AREAS, WITH PROPOSED DESIGNATION.

8	Emery Barnes Park	Securely fenced gravel area with some boulders.	Typical	0.09	<ul style="list-style-type: none"> Residential Play area 	<ul style="list-style-type: none"> Seating Waste bins Drinking fountain (people) 	Neighbourhood Urban
9	Everett Crowley Park	Forested area with dogs allowed off-leash on inner trails.	Typical	2.46 km of off-leash trail	<ul style="list-style-type: none"> Residential Biodiversity area 	<ul style="list-style-type: none"> Waste bins Drinking fountain and washrooms nearby Off-street parking 	Destination Park
10	Falaise Park - total area:			4.74			
10a	Falaise Park (north-west)	Open grass area with wetland / creek features.	5-10am / 5-10pm	2.29	<ul style="list-style-type: none"> Residential Community playground across street. 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) / washrooms nearby 	Neighbourhood Park
10b	Falaise Park (northeast)	Open grass area, bounded by lanes and streets.	5 to 8am / 5-10pm	1.29	<ul style="list-style-type: none"> Residential 	<ul style="list-style-type: none"> Waste bin 	Neighbourhood Park
10c	Falaise Park (southeast)	Open grass area, bounded by steel bollards and laneways.	5-10am / 5-10pm	1.16	<ul style="list-style-type: none"> Residential Small play area in southeast corner 		Neighbourhood Park
11	Fraser River Park - total area:			6.38			
11a	Fraser River Park (east)	Large waterfront park with water access, amenities, restricted access to riparian area. Boundaries between east, west and riparian areas not well defined.	On leash only May 30 - Sept 1	3.95	<ul style="list-style-type: none"> Residential Business Picnic area Multi-use trail Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking water (people) / washrooms Off-street parking 	Destination Park
11b	Fraser River Park (west)		Typical	2.43	<ul style="list-style-type: none"> Residential Golf course Multi-use trail Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking water (people) / washrooms nearby 	Destination Park
12	Fraserview Golf Course	Wood chip path along west, north and east edges of golf course. Separated from golf course by fence and planting.	5-10am / 5-10pm	2.69	<ul style="list-style-type: none"> Residential Golf course Biodiversity area 	<ul style="list-style-type: none"> Waste bins Shade Partial fencing Drinking fountain / washrooms nearby 	Destination Trail
13	George Park	Mix of open and treed grass areas with paths, undulating topography, and picnic shelter.	6-10am / 5-10pm	1.32	<ul style="list-style-type: none"> Residential Play area Picnic shelter 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain 	Neighbourhood Park

TABLE-D-1. [CONTINUED]

14	Hadden Park	Mix of beach and open grass area. Water access.	6-10am / 5-10pm in summer	1.27	<ul style="list-style-type: none"> Residential Seawall Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Partial fencing Drinking fountain (people) / washrooms nearby Water access 	Special Study Area ⁽¹⁾
15	John Hendry (Trout Lake)	Mix of beach and upland treed area, with some worn grass. Water access.	Typical	2.72	<ul style="list-style-type: none"> Residential Sports fields Multi-use trail Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Shade Washrooms nearby Water access 	Destination Park
16	Jones Park	Open grass area with sports field, bounded by multi-use trail, lane, and busy street.	5-10am / 5-10pm	0.92	<ul style="list-style-type: none"> Residential Sports field Play area Multi-use trail 	<ul style="list-style-type: none"> Seating Waste bins Partial fencing Washrooms nearby 	Neighbourhood Park
17	Killarney Park	Open grass area with large shade trees and path, bounded by streets and community centre parking lot.	Jun 15-Labour Day: 5-10am / 5-10pm	3.43	<ul style="list-style-type: none"> Residential Community Centre School Sports field 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) nearby 	Neighbourhood Park
18	Kingscrest Park	Open grass area next to variety of park activity areas, including basketball court, playground, and paths.	5-10am / 5-10pm	0.74	<ul style="list-style-type: none"> Residential Play area basketball court Sports field Picnic area Community garden 	<ul style="list-style-type: none"> Waste bins Shade Drinking fountain (people) / washrooms nearby 	Neighbourhood Park
19	Locarno Park	Mix of open and treed grass area with dense vegetation along east edge and naturalization area in northeast corner. Boundary undefined along west edge.	Typical	1.14	<ul style="list-style-type: none"> Residential Play area Biodiversity area 	<ul style="list-style-type: none"> Shade Waste bins 	Neighbourhood Park
20	Musqueam Park	Linear off-leash area between residential street and Musqueam park.	Typical	3.33	<ul style="list-style-type: none"> Residential Community garden Biodiversity area 	<ul style="list-style-type: none"> Waste bins Shade 	Destination Trail
21	Nat Bailey Stadium	Overflow parking area for Nat Bailey Stadium, with gravel and asphalt surfacing. Used regularly for parking and in winter for Farmer's Market.	Typical	0.66	<ul style="list-style-type: none"> Residential 	<ul style="list-style-type: none"> Partial fencing 	Neighbourhood Park

(1) THIS SITE IS UNIQUE DUE TO THE SPECIFICS OF THE TERMS OF THE GIFT FOR HADDEN PARK. THIS AREA REQUIRES FURTHER LOCALIZED CONSULTATION AND EVALUATION BEFORE MAKING ANY RECOMMENDATIONS ABOUT CLASSIFICATION OR FUTURE USE.

TABLE-D-1. [CONTINUED]

22	Nelson Park	Secure fenced off-leash area with 2 double-gated entries and gravel surfacing.	7am to 9pm	0.21	<ul style="list-style-type: none"> Residential Play area Community garden School 	<ul style="list-style-type: none"> Seating Waste bins Shade Secure fencing Drinking fountain (people) nearby Washrooms nearby 	Neighbourhood Urban
23	New Brighton Park	New off-leash area (under construction) will consist of fenced grass area (-0.7 ha) and an off leash beach with water access (-0.2 ha).	May 1 to Sept 30: 5-10am Oct 1 to Apr 30: 5am-10pm	0.9	<ul style="list-style-type: none"> Industrial Play area Pool Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Drinking fountain (people / dogs) Washrooms nearby Water access 	Destination Park
24	Oak Meadows Park	Mix of open lawn and meadow areas with gravel paths.	Typical	0.47	<ul style="list-style-type: none"> Residential Sports field School Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) nearby 	Neighbourhood Park
25	Queen Elizabeth Park	Open lawn with shade trees, bounded by vehicle circulation areas and tennis courts.	Typical	1.65	<ul style="list-style-type: none"> Residential Biodiversity area 	<ul style="list-style-type: none"> Waste bins Drinking fountain (people) / washrooms nearby 	Destination Park
26	Quilchena Park	Open grass area with shade trees, bounded by gravel paths.	Typical	0.92	<ul style="list-style-type: none"> Residential Sports field Play area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) / washrooms nearby 	Neighbourhood Park
27	Southeast False Creek (Hinge Park)	Secure fenced off-leash area with two double-gated entries and separate small dog area.	Typical	0.05	<ul style="list-style-type: none"> Residential Play area Community garden Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (dogs) Drinking fountain (people) nearby 	Neighbourhood Dog run
28	Spanish Banks	Mix of open grass area with shade trees and water access.	Typical	5.04	<ul style="list-style-type: none"> Park Seawall Picnic area Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Drinking fountain (people) / washrooms nearby Water access Off-street parking 	Special Study Area ⁽¹⁾

(1) THE LOCATION OF SPANISH BANKS WEST PARK CREATES A UNIQUE LEGAL AND JURISDICTIONAL SITUATION THAT REQUIRES FURTHER RESEARCH AND CONSULTATION WITH OTHER GOVERNMENT AGENCIES BEFORE MAKING ANY RECOMMENDATIONS ABOUT CLASSIFICATION OR FUTURE USE.

TABLE-D-1. [CONTINUED]

29	Sparwood Park	Mix of open grass area and forested area next to Champlain Heights school.	5-10am / 5-10pm	3.52	<ul style="list-style-type: none"> Residential School Sports field Play area Biodiversity area 	<ul style="list-style-type: none"> Waste bins Shade 	Neighbourhood Park
30	Stanley Park	Securely fenced off-leash area in former shuffleboard court area.	7am to 9pm	0.04	<ul style="list-style-type: none"> Park Biodiversity area 	<ul style="list-style-type: none"> Seating Waste bins Shade Secure fencing Drinking fountain (people) / washrooms nearby 	Neighbourhood Dog run
31	Strathcona Park total area:			2.79			
31a	Strathcona Park (west)	Open grass area with two baseball diamonds and some gravel paths within boundaries.	5-10am / 5-10pm	2.17	<ul style="list-style-type: none"> Residential Industrial Community gardens Sports field Picnic area 	<ul style="list-style-type: none"> Seating Waste bins Shade Drinking fountain (people) / washrooms nearby 	Neighbourhood Park
31b	Strathcona Park (east)	Open grass area with shade trees and gravel path.	5-10am / 5-10pm	0.63	<ul style="list-style-type: none"> Residential Industrial Sports fields 	<ul style="list-style-type: none"> Waste bins Shade 	Neighbourhood Park
32	Sunrise Park	Open lawn area with shade trees, playground, wading pool and washrooms within boundaries. Bounded by streets and sports field.	5-10am / 5-10pm	2.12	<ul style="list-style-type: none"> Residential Sports field Play area Wading pool 	<ul style="list-style-type: none"> Waste bins Shade Drinking fountain (people) Washrooms 	Neighbourhood Park
33	Sunset Beach	Beach with water access, next to seawall.	Typical	0.10	<ul style="list-style-type: none"> Residential Seawall 	<ul style="list-style-type: none"> Shade Water access 	Neighbourhood Park
34	Sunset Park	Open lawn area with few shade trees, bounded by streets, works yard and arena. Proposed relocation under master plan.	Typical	0.52	<ul style="list-style-type: none"> Residential Arena City works yard School Play area Picnic area 	<ul style="list-style-type: none"> Drinking fountain (people) nearby 	Neighbourhood Park
35	Tecumseh Park	Open lawn area with semi-fenced playground within boundaries, bounded by lanes and residential streets.	5-10am / 5-10pm	1.98	<ul style="list-style-type: none"> Residential Play area School Picnic area 	<ul style="list-style-type: none"> Seating Waste bins Shade Partial fencing Drinking fountain (people) 	Neighbourhood Park
36	Valdez Park	Open lawn with shade trees, bounded by residential streets.	6-10am / 5-10pm	0.77	<ul style="list-style-type: none"> Residential 	<ul style="list-style-type: none"> Seating Waste bins Shade 	Neighbourhood Park

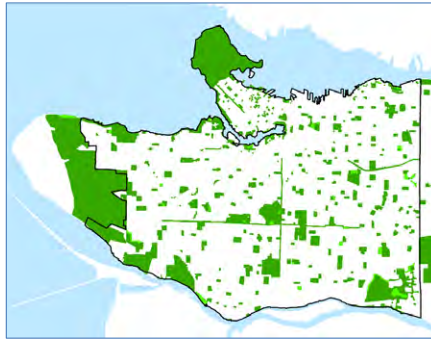
TABLE-D-1. [CONTINUED]



⑤ GEOGRAPHIC ANALYSIS

MOUNTAINMATH

People, Parks & Dogs: Geographic Analysis



Prepared by Alejandro Cervantes & Jens von Bergmann



People, Parks, Dogs – Geographic Analysis

Introduction

This report summarizes the results of a series of geographic analyses undertaken to support the City of Vancouver's *People, Parks, & Dogs* strategy. Using Geographic Information Systems and publicly available databases, we performed three types of analyses.

First, to analyze population access to Off-Leash Areas (OLAs), we mapped the location of current parks and dog OLAs in Vancouver and we combined these with population estimates at the city block level. By combining these two datasets, we approximated population's average distance to OLAs as a proxy for accessibility.

Second, to identify areas of concern we analyzed the 3-1-1 calls directed to the City's Animal Control Division. We analyzed this data looking for temporal and geographic patterns. We focused our interest on animal complaints and animal control inquiries.

Third we analyzed the dog registry data. The City of Vancouver maintains a database of all dog licences. We mapped this data and identified and mapped the neighbourhoods with the both the highest number of dogs and highest ratio of dogs/population, and then we calculated their average proximity to OLAs.

1. Distance to OLA analysis

With the aim of understanding which areas of the City are far from OLAs and thus potentially underserved, we mapped the City of Vancouver’s Off-leash areas in combination with population counts at the city block level (Stats Canada, 2011 Census).

In Figure1 we stratify the city blocks based on their linear distance to an OLA. The map in clearly shows three large corridors (in light gray) of unserved areas. A first corridor spans from Kitsilano to the South of Mt Pleasant and extends to Grandview/Woodland. The second corridor runs south from Kerrisdale to Oakridge, and Marpole. The third corridor is NE of Kingsway in Renfrew-Collingwood.

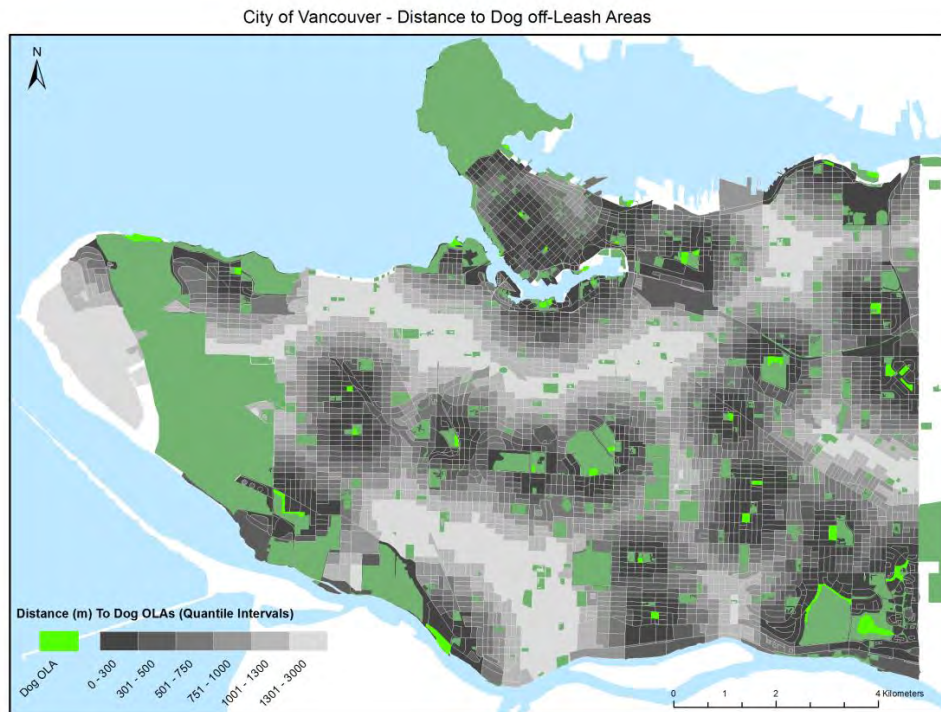


Figure1. Distance from Vancouver City Blocks to OLAs

To estimate the number of people and their travel distance to OLAs, we weighted the block distances by population. The distance to an OLA for the average Vancouver resident is 790 metres, with almost 55% of the population living closer than 800 metres from an OLA. In Figure2 we show the distribution of Vancouver’s population by distance to the City’s OLAs.

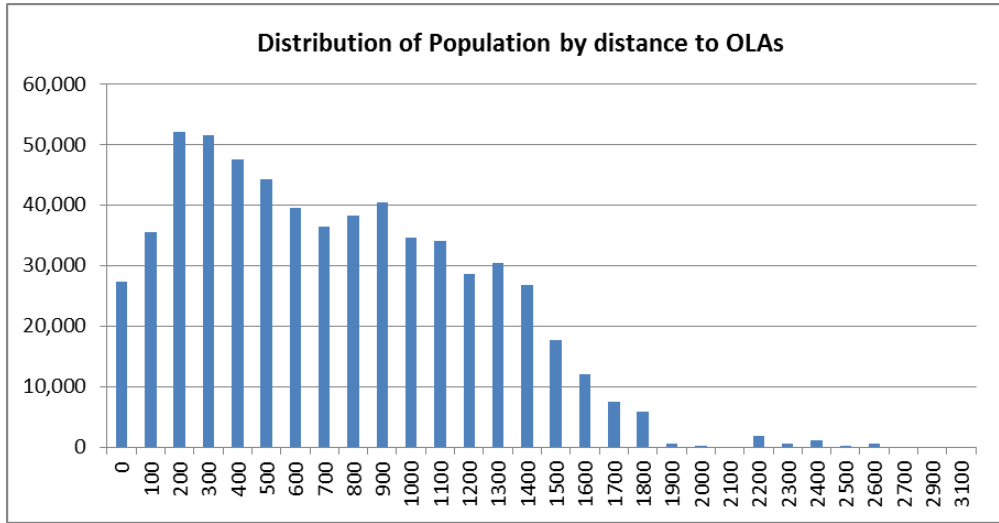


Figure2. Average (as the crow flies) distance between OLAs and Population in City Blocks:
avg: 790m, max: 3,050m

Although most people live less than 1 km away from OLAs, it is important to identify whether these people are dog owners or not. To better understand this distribution, we analyzed the City of Vancouver’s dog licence data base (section 3).

2. 3-1-1 Data Analysis

The City of Vancouver keeps a database of all 3-1-1 calls received. As a second step in our analysis, we examined a subset of the 3-1-1 calls database that we obtained from the City. The data we received included approximately 45,000 records of calls that contained the word “dog” in any of the data fields recorded. The calls were received from January 1st 2010 to July 21st 2016. We cleaned and filtered the database and finally obtained a subset of 31,000 calls classified in the following 9 call types:

	Year	2010	2011	2012	2013	2014	2015	2016	Total
1	Animal Concern - Emergency Case					109	111	71	291
2	Animal Concern - Non-Emergency Case					1,105	2,899	2,016	6,020
3	OLD Animal Complaint - Emergency Case				80	171			251
4	OLD Animal Complaint - Non-Emergency Case	884	914	1,066	1,162	1,515			5,541
5	Animal Control General Inquiry Case	232	420	547	626	925	951	739	4,440
6	Dog Licence Changes Case	1,417	1,440	1,596	1,711	1,641	1,544	911	10,260
7	Holding Stray Case	427	432	415	367	311	279	174	2,405
8	Lost Pets Case		50	126	225	475	489	288	1,653
9	Urgent Holding Stray Case				94	266	256	158	774
	Total By Year	2,960	3,256	3,750	4,265	6,518	6,529	4,357	31,635

Table1. Summary of Calls directed to the Animal Control Division

2.1. Temporal Patterns

As a first approach to our analysis, we looked for temporal patterns. Figures 3 and 4, aggregate the data by month of the year and by year. It is interesting to note that Animal Control calls peak between the months of April and May with and start declining during the summer. By contrast Animal Concerns (both emergency and non-emergency) peak in the summer months; Lost pets cases also peak in July to September, while holding stray cases have lower variability during the year.

The yearly aggregates shown in Figure4 are also interesting. There seems to be a constant increase of most call types but most notably “Animal Concern – Non-Emergency”. In July of 2014 the labeling for these call types changed: the “Animal Complaint” category was changed to “Animal Concern”. For the purpose of figure4 we have aggregated the two categories and we removed 2016 as we only had data up until July.

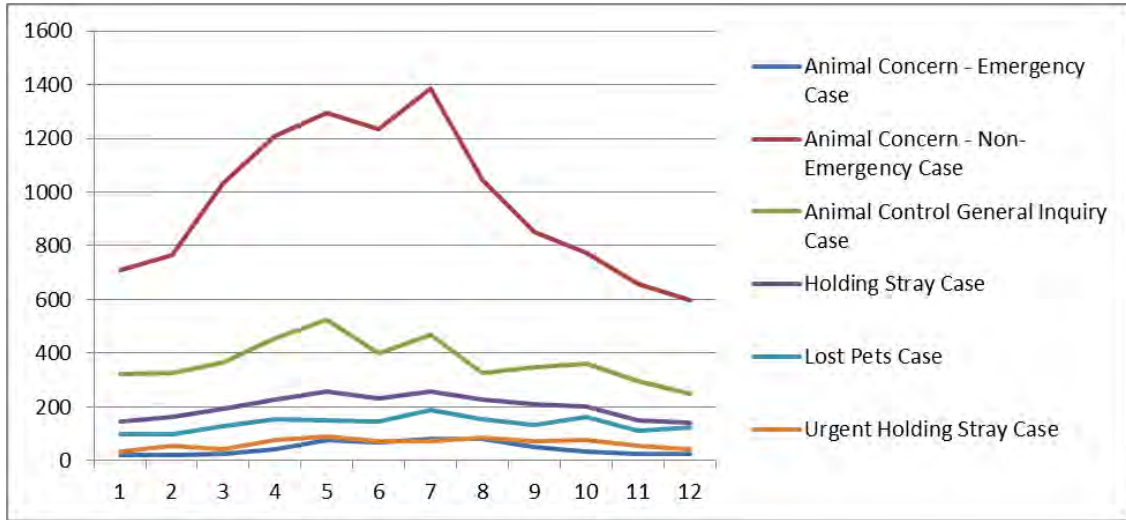


Figure3. 3-1-1 Calls: Animal Control Division (data from 2010 to July 2016, aggregated by month)

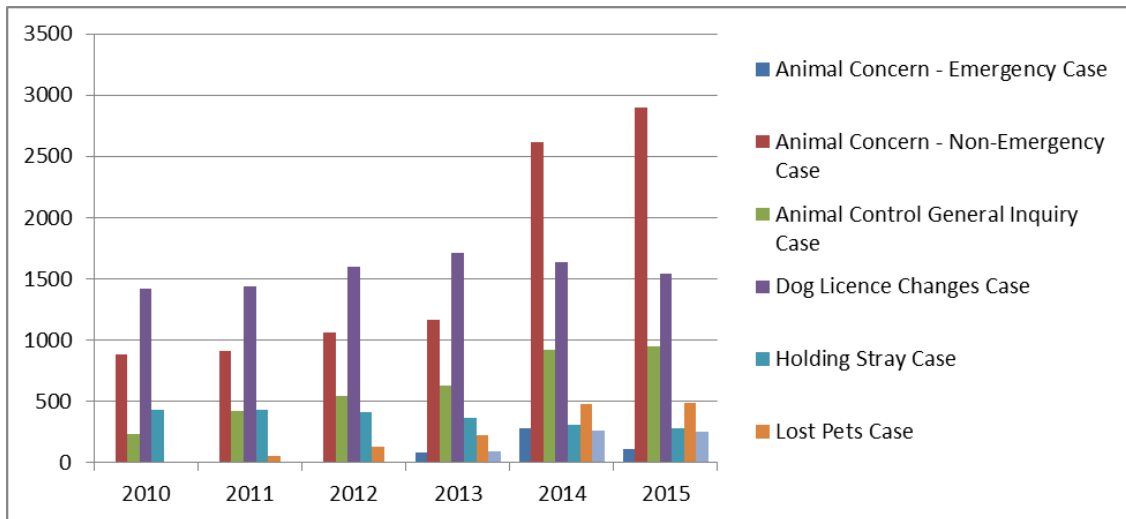


Figure4. 3-1-1 Calls (2010 to 2015, aggregated by year).

It is interesting to note that the Animal Concern category has risen constantly over time. To identify areas where these particular issues occur, we performed a geographic analysis.

2.2. Geographic Patterns

Following the temporal analysis, we then mapped the 3-1-1 calls. Out of the 31,635 calls from our previous analysis, 25,991 (82%) included an address or postal code for the incident.

We built a geocoding service and geocoded these 25,991 3-1-1 incidents. We were able to geocode 98% of all incident addresses. The remaining 2% was not geocoded due to address syntax errors. We then mapped the location of all incidents (Figure5). As an additional step, we filtered out three known addresses that are artificially assigned to some of the calls and that correspond to City's offices and/or Call Centres ('1800 SPYGLASS PLACE', '1280 RAYMUR AV', '453 W 12TH AV').

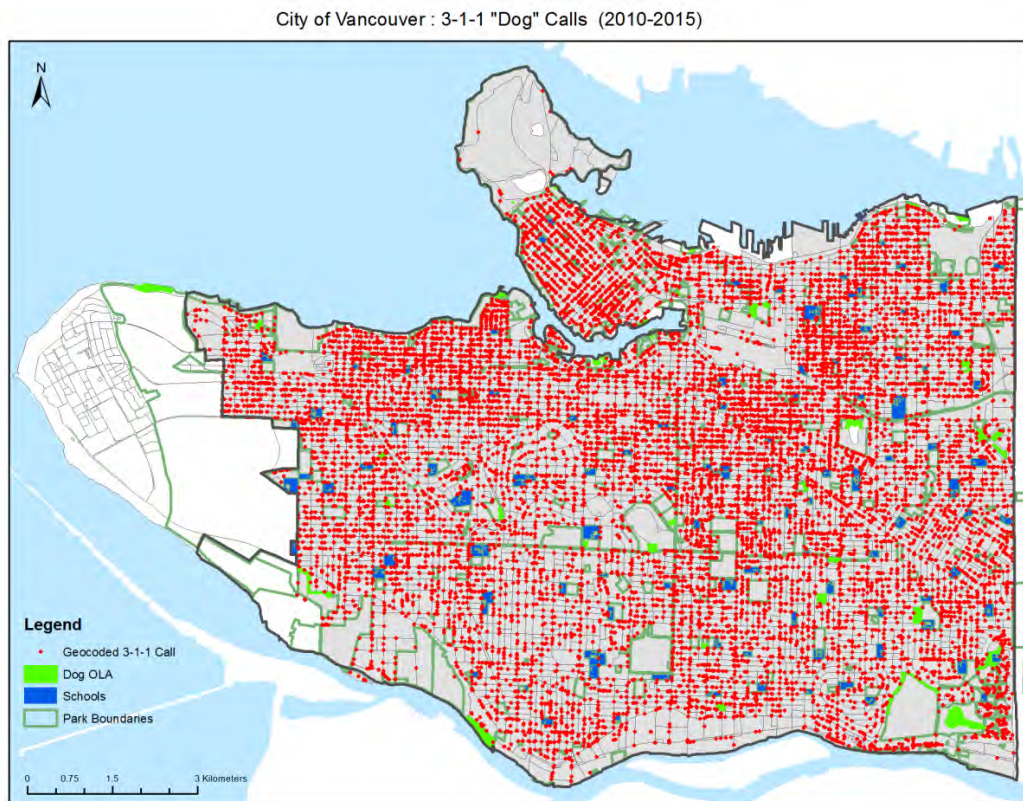


Figure5. Location of 25,000 3-1-1 Calls

It is very difficult to visualize the density of calls based on a point map. As an additional step, we created two hotspot maps (figure6). The first map shows the concentration of all geocoded 3-1-1 incidents while the second map shows only the concentration of the 15,853 incidents categorized as Animal Complaints/Concerns/Inquiries. The maps clearly show hotspots where incidents are concentrated.

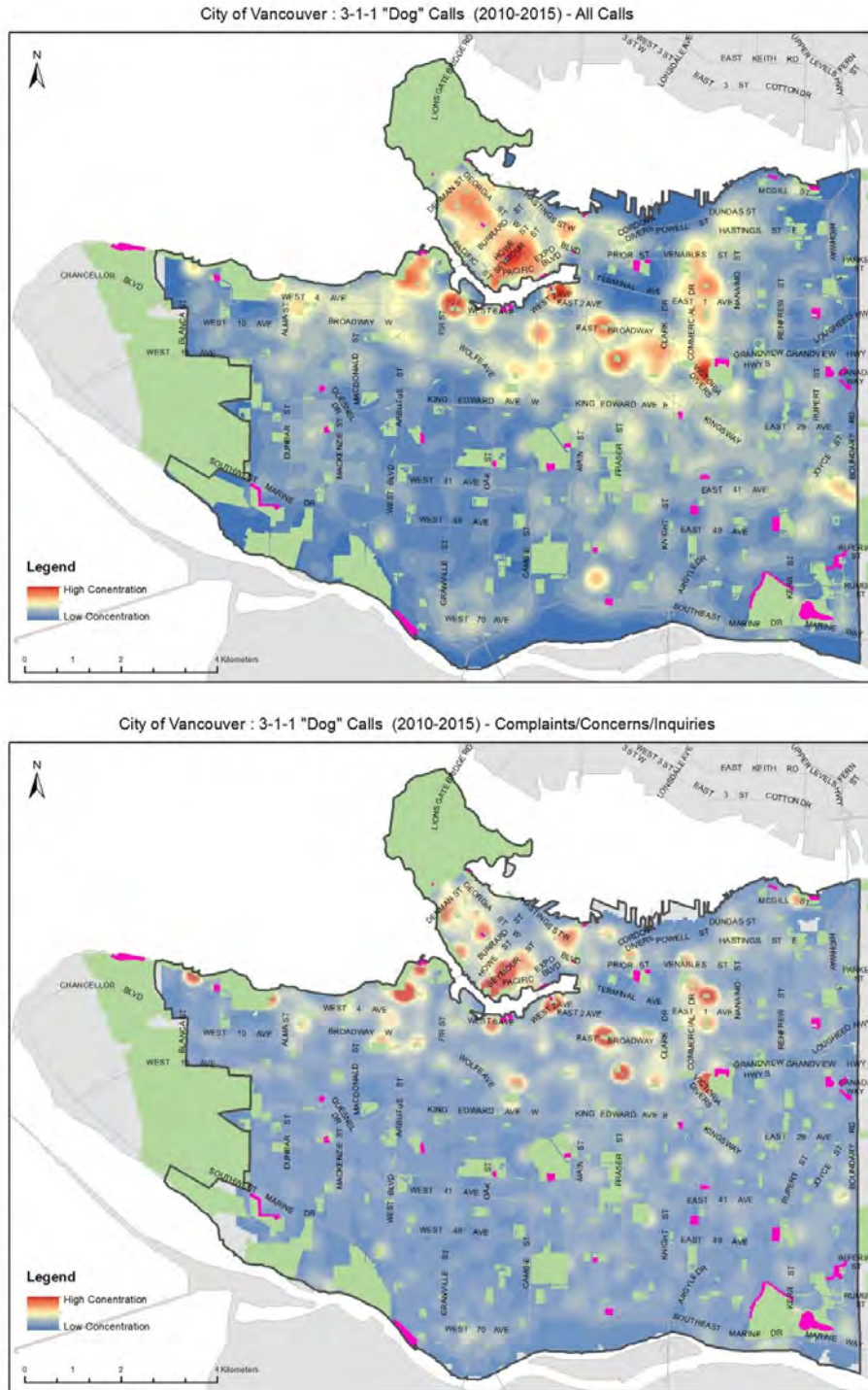


Figure6. Areas with High Concentrations of 3-1-1 Animal Control Incidents

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In the maps above, the red high concentration spots are areas with at least 40 calls per hectare the dark blue low concentration areas have less than 4 calls per hectare. Using the map and intersecting it with the OLA data base, we identified the areas with the highest numbers of relevant 311 calls. The area that has the highest number of incidents (Calls classified as Complaints/Concerns/Inquires) is John Hendry Park with more than 260 cases. The corridor that spans from Kitsilano Beach Park to and Hadden park has more than 350 complaints. Two other prominent hotspots with more than 200 cases each are the areas near Emery Barnes Park and George Wainborn Park. In Table2 we summarize the top 12 hotspots.

Rank	Location	Number of Complaints/Concerns/Inquiries
1	Area west of John Hendry Park	260
2	Kitsilano Beach Park	250
3	Emery Barnes Park	240
4	George Wainborn Park	210
5	Area near Guelph Park & Mt. Pleasant Elementary	170
6	Hinge Park	160
7	Area around Robson Park	150
8	Hadden Park	120
9	Locarno Beach Park	120
10	Area West of Granville Loop Park	120
11	Area around Victoria Park	90
12	Jericho Beach Park	90

Table2. Areas with the Highest Number of Animal Control Incidents

3. Analysis of Dog Licence Data

For the last part of our geographic analysis we analyzed the City’s dog registry. We used the addresses reported in the dog registry database to geocode and then identify areas with high dog populations. The map in Figure 7 shows the areas with higher concentration of dogs. The dog densities span values of 1 dog/hectare in the blue areas to more than 25 dogs/hectare in the dark red areas.

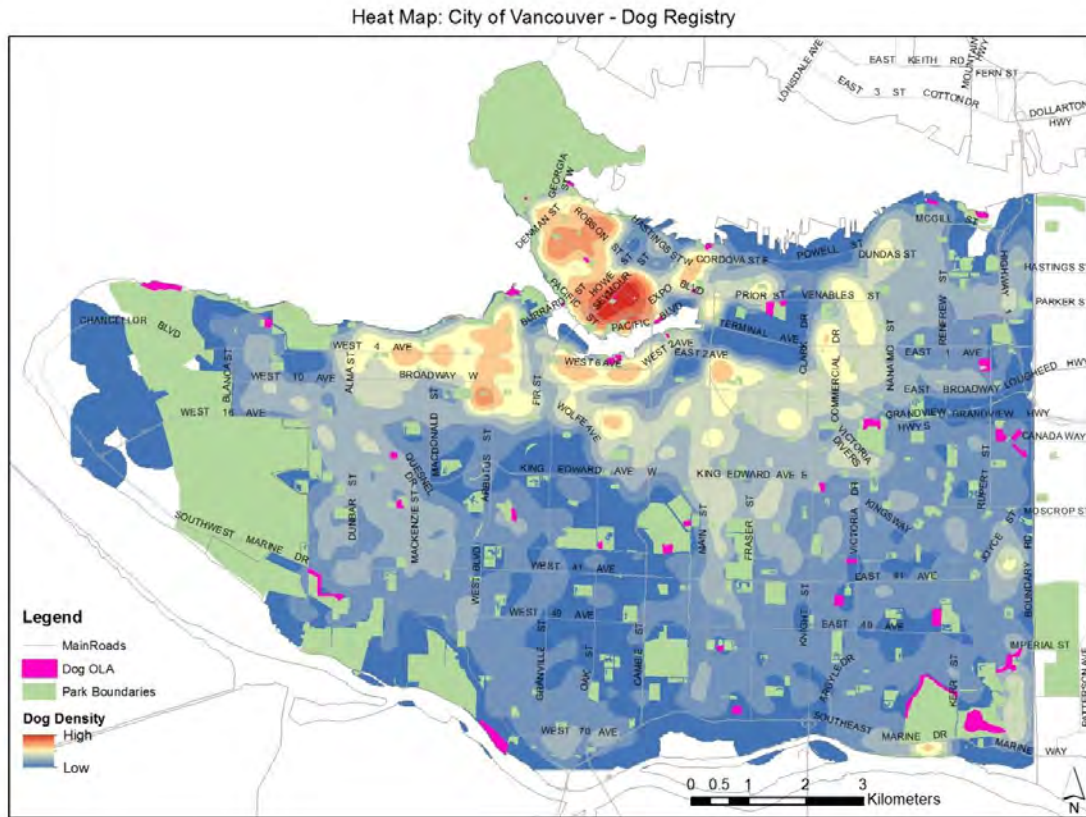


Figure7. Areas with High Concentrations of Registered Dogs

Although there is some level of correspondence between the high density dog registry areas and high population density, this is not always the case. Areas like Dunbar/Southlands have low population density but higher than expected dog density, the opposite happens in areas like Sunset or Victoria/Fraserview where the registered dog population is lower than expected.

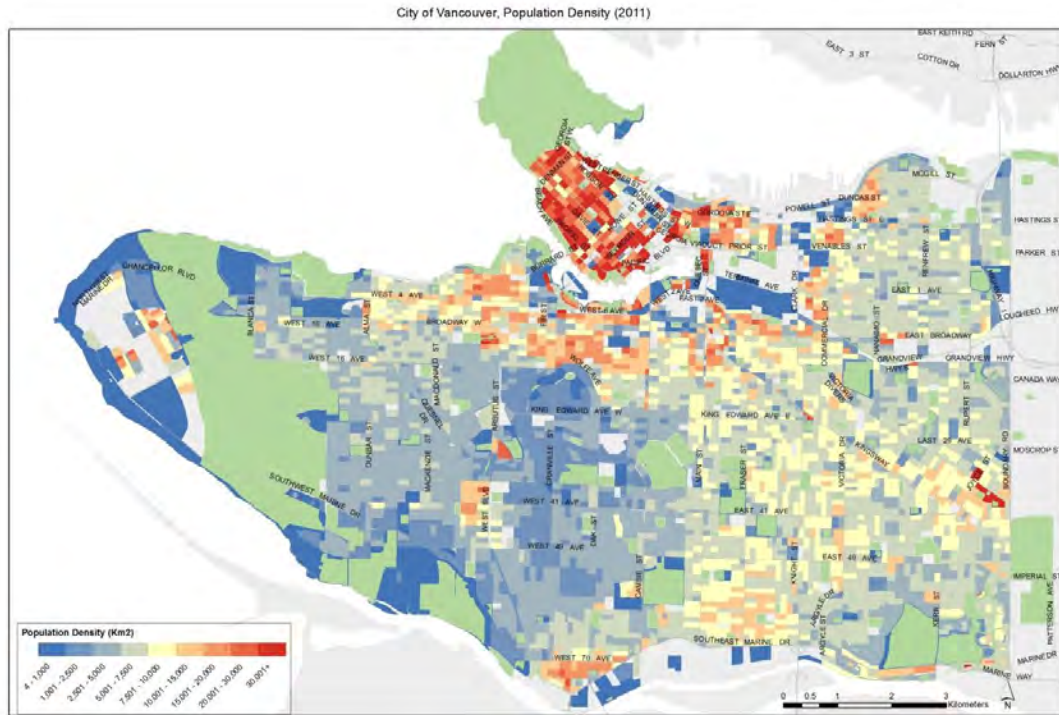


Figure 8 Population Density in Vancouver

To estimate the OLA acreage available to these dogs, we then calculated the numbers of dogs per hectare for each neighbourhood (Local Area) in Vancouver. In Table 3 we summarize our findings.

Mount Pleasant is the neighbourhood with the highest number of dogs per hectare of OLA. Although there are a considerable number of dogs registered in the neighbourhood, the main reason behind this high value is the low acreage of OLAs. The West End is the neighbourhood with the highest number of dog licences and it is also the most populated.

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Local Area Name (Hectares)	Dog Licences	Population (2011 Census)	OLA Area (Hectares)	Dogs per hectare of OLA
Sunset (657.6)	870	36,286	1.84	472
Mount Pleasant (372.1)	1,663	26,400	0.05	30,468
Riley Park (493.2)	1,171	21,794	2.31	508
Downtown (467.4)	3,037	54,680	1.51	2,005
Kitsilano (636.3)	2,888	41,136	1.27	2,268
Dunbar-Southlands (908)	1,568	20,185	4.87	322
Kerrisdale (660.9)	817	14,651	7.10	115
Arbutus-Ridge (370.1)	598	15,908	0.92	649
West Point Grey(535**)	904	13,038	6.18	146
Marpole (600.3)	650	23,913	7.10	92
Oakridge (402.4)	363	12,443	0.00	NA
Shaughnessy (448)	540	8,807	0.00	NA
Fairview (363.5)	1,522	31,432	1.23	1,233
South Cambie (217.6)	476	7,682	0.47	1,004
West End (225.6)	1,563	44,543	0.31	5,004
Killarney (693.4)	1,184	28,458	22.28	53
Renfrew-Collingwood (810)	1,333	50,495	4.74	281
Hastings-Sunrise (833.2)	1,548	33,992	4.04	383
Victoria-Fraserview (550.1)	818	30,711	1.98	414
Kensington-Cedar Cottage (725.2)	1,862	47,471	4.38	425
Strathcona (437)	523	12,170	2.79	187
Grandview-Woodland (475.4)	1,657	27,297	0.00	NA
**Spanish Banks OLA (5 ha) is not in the neighbourhood but is included in this figure				

Table3. Vancouver Neighbourhoods, Dog Licences & OLAs

The average number of dogs per 100 people in the City of Vancouver is 4.5. But the relative dog population is not distributed equally by neighbourhood. In Figure 9, we show the number of registered dogs per 100 people by neighbourhood. The relative dog population spans from 2.4 dogs per 100 people in Sunset to 7.8 in Dunbar-Southlands.

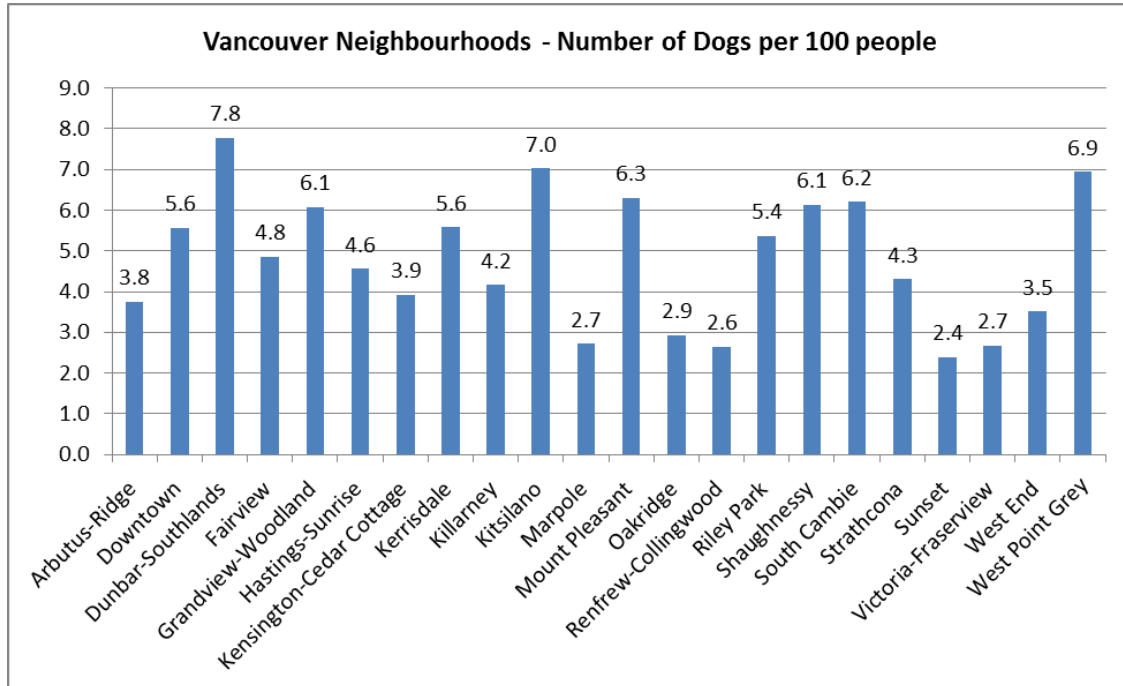


Figure 9 Number of Dogs per 100 people in Vancouver Neighbourhoods

As a final analysis we tried to understand the relationship between the distribution of registered dogs and the location of OLAs in the City. Under the assumption that people are willing to walk 1 Km (10 minutes) from their home to the nearest OLA, we then calculated the number of people within 1Km of each OLA in Vancouver. This procedure allows us to identify which OLAs are near high dog density areas (potentially overcrowded) and which OLAs are far from the high dog density areas (potentially empty). Table 4 shows the results of this analysis. When interpreting this table it is important to know that some of the registered dogs can be within less than 1km from multiple OLAs, in that case dog licences are assigned to all OLAs that are within 1 Km. This is illustrated in the map in Figure10.

Park (Dog OLA)	Population in a 1 KM radius(2011 census)	Number of Dog Licences in a 1 Km radius	Dogs per 100 people in a 1 km radius
Nelson Park	67,843	2,966	4.4
Emery Barnes	54,144	2,740	5.1
Coopers' Park	42,055	2,537	6.0
Charleson Park East	43,006	2,249	5.2
Charleson Park West	41,256	2,201	5.3
Sunset Beach	44,624	1,961	4.4

MOUNTAINMATH.CA

Park (Dog OLA)	Population in a 1 KM radius(2011 census)	Number of Dog Licences in a 1 Km radius	Dogs per 100 people in a 1 km radius
Hinge Park (Southeast False Creek)	31,335	1,758	5.6
Andy Livingstone	34,327	1,310	3.8
John Hendry	28,520	1,106	3.9
Kingscrest Park	28,261	942	3.3
Hadden Park	25,924	921	3.6
Devonian Harbour	28,976	909	3.1
Valdez Park	17,575	886	5.0
Balaclava Park	16,156	840	5.2
Fraserview Golf Course North	26,808	810	3.0
Nat Bailey Stadium Park	15,558	706	4.5
CRAB Park at Portside	21,428	689	3.2
Everett Crowley	15,201	688	4.5
Sparwood Park	19,252	652	3.4
Strathcona Park East	16,518	645	3.9
Strathcona Park West	18,764	638	3.4
Stanley Park	19,188	635	3.3
Jones Park	32,147	629	2.0
Fraserview Golf Course South	19,759	614	3.1
Tecumseh Park	29,129	587	2.0
Musqueam Park	8,750	585	6.7
Killarney Park	30,738	577	1.9
Sunset Park	27,124	570	2.1
Quilchena Park	12,717	509	4.0
Sunrise Park	17,177	504	2.9
Queen Elizabeth Park	15,180	491	3.2
Falaise Park West	15,519	411	2.6
George Park	20,374	358	1.8
Dusty Greenwell Park	7,620	340	4.5
Falaise Park South	12,785	337	2.6
Falaise Park East	12,152	334	2.7
Oak Meadows Park	9,563	326	3.4
Fraser River Park	9,752	296	3.0
Locarno Beach Park	5,339	295	5.5
New Brighton Park	4,955	229	4.6
Spanish Banks Park	1,072	33	3.1

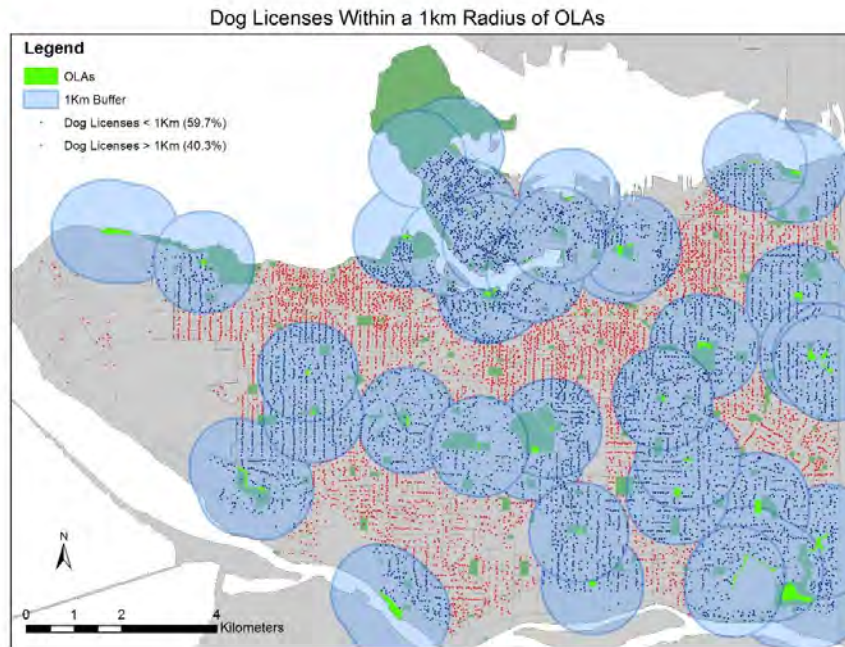


Figure 10. Location of Dog Licences and 1Km buffers around OLAs

Almost 60% of the licensed dogs are within 1Km of an OLA, with the remaining 40% farther than 1Km. In this map it is easy to discern the three underserved corridors previously identified.

Conclusion

We have tried to understand accessibility and utilization of OLAs by dog owners from three different perspectives and utilizing multiple geographic datasets. We have identified three city corridors with potentially underserved areas; we have also identified locations where large numbers of dog-related 311 complaints seem to be arising. Finally, by combining the location of OLAs, population data and dog registry data, we have identified areas in the City that are potentially overcrowded and other areas that are potentially underused by dog owners and their pets.



④ PHONE SURVEY

K&Co.

City of Vancouver Dog Parks Survey

December 19, 2016

Prepared by:
NRG Research Group

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Summary

- Less than 2 in 10 (15%) Vancouver residents surveyed were dog owners or live in a household with a dog. All but one dog owner said their dog is licensed. When asked why their dog is unlicensed, the reasons the person gave was *Haven't got around to it and I don't see the benefit*.
 - Using the estimate of 264,570 households in Vancouver, the results of this survey suggest the total number of households with at least one dog in Vancouver to be between 29,103 and 50,268 (based on +/- 4.9% margin of error)
 - Based on this survey the total number of dogs present in Vancouver is between 32,390 and 55,947 (based on +/-4.9% margin of error) which amounts to an average of 1.1 dogs per dog owning household in Vancouver.
- Over half (54%) of residents agreed that more than 6% of park space should be allocated for official and designated off-leash areas.
- Most residents said their experiences with dogs off-leash in Vancouver has been *neutral* (43%), with *positive* (31%) and *negative* (16%) being the next most frequent replies. *I'm a dog lover/I like dogs* (19%) was the most often-mentioned reason for a positive experience in the past, while *Dogs unpredictable/safer on leash* (30%) was the most often-mentioned reason for a negative experience.
- Over 6 in 10 (61%) residents agreed with having a dog off-leash area in their immediate neighbourhood. Those that did not agree were read a series of potential park design features to see if they would be more supportive if implemented. The top three features that residents said would make them more supportive were *Fencing that encloses part or all of the off leash area* (60%), *An adequate number of waste bins for dog waste* (49%), and *Clearly defined boundaries for the off leash area* (41%). Additionally, when this group was asked if there was anything else that could be implemented, over three quarters (76%) of people responded *Nothing else*.
- Respondents were asked to rank three types of dog off leash areas by first and second choice. The most popular was a *Community* style park (area size of a baseball field, within a 30 minute walk), followed by a *Neighbourhood* style park (area size of a tennis court, within a 15 minute walk).
 - Community – 45% first choice; 36% second choice
 - Neighbourhood – 30% first choice ; 30% second choice
 - Destination – 17% first choice ; 29% second choice

Methodology

NRG Research Group (NRG) was asked by Kirk and Co. to conduct a statistically sound quantitative survey of the City of Vancouver residents. The primary objective of the research was to assess Vancouver residents' opinion toward of leash dog parks. The survey was provided by Kirk & Co. and reviewed by NRG for flow and question structure.

The calling area for this study was the city of Vancouver proper. The city was divided into two regions: East of Mainstreet and West of Mainstreet. In addition to regional quotas, NRG also established gender quotas and a quota to interview a minimum of 100 Vancouver residents of Chinese ancestry. NRG developed a dual sample frame for the study consisting of both landline and wireless sample. A pre-test was held on Monday, November 7th, 2016 whereby 20 completes were captured, examined, and kept. Full launch began on Tuesday, November 8th and concluded November 18th, 2016.

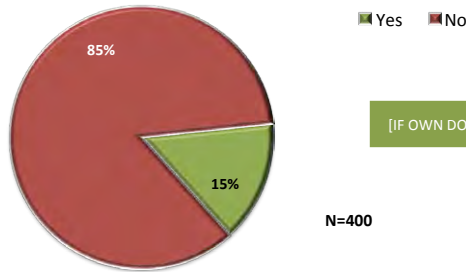
A total of 400 interviews were conducted. At the conclusion of data collection, the results were weighted by gender and age using 2011 census data to ensure resulting sample was demographically representative of the City of Vancouver. A quantitative study consisting of 400 cases in theory results in data that has a margin of error of +/-4.9% 19 times out of 20.

Sample Characteristics (Weighted)

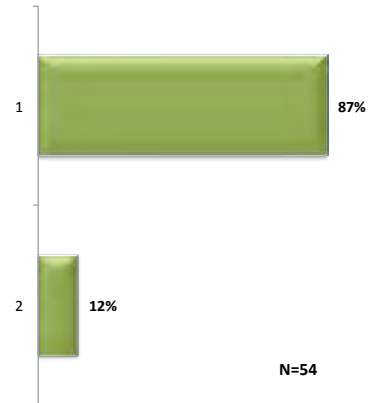
	% (n=400)		% (n=400)		% (n=400)
Gender		Region of Vancouver		Children under 18 in HH	
Male	49	East of Main Street	50	Yes	32
Female	51	West of Main Street	49	No	66
Age		Ancestry		Home Ownership	
18-34	33	European (i.e. Britain, France, Germany, Ukraine, Scandinavia)	49	Own	63
35-54	36	Asia (i.e. China, India, Pakistan)	42	Rent	34
55 plus	30	Americas (i.e. Canada, Latin America)	7	Type of Home	
Employment Status		Middle Eastern/African	2	A detached house	48
Full Time	50	First Nation, Inuit, or Métis	1	An attached house (townhouse)	9
Part Time	10	Other	1	An apartment	35
Retired	19			Condominium	4
Student	8				
Not Working	10				

Dog Ownership

Q1. Are you a dog owner or does your household have a dog?



Q1b. [IF YES AT Q1] How many dogs are there in the household?



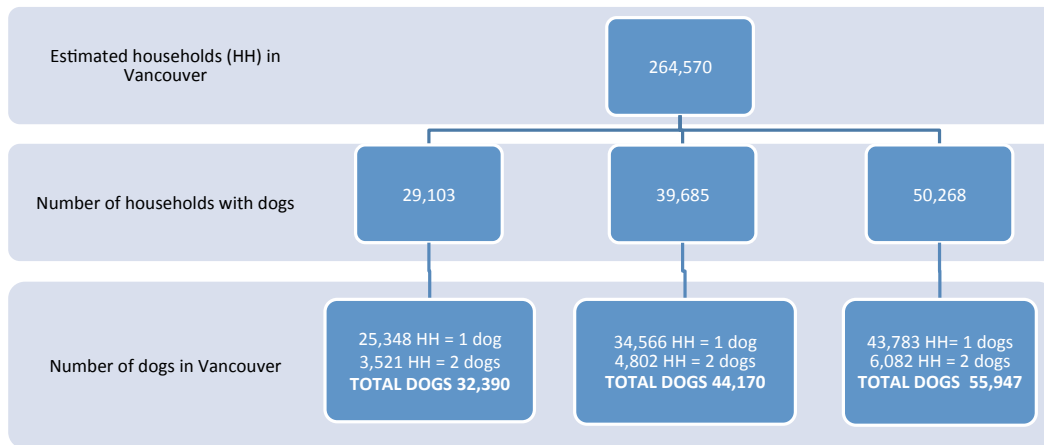
Dog owners are more likely to be:

- Of Caucasian/European ancestry (19% owners) compared to ethnic Chinese (8%)
- Employed (18%)

Dog owners are also somewhat more likely to be between the age of 35 and 54 (18%) compared to over the age of 55 (10%).

All dog owners or those with dogs in their household (n=54) were asked if their dog is licensed. All but one respondent said they were licensed. When asked why their dog is unlicensed, the reasons the one person gave was *Haven't got around to it and I don't see the benefit.*

Dog Ownership Numbers



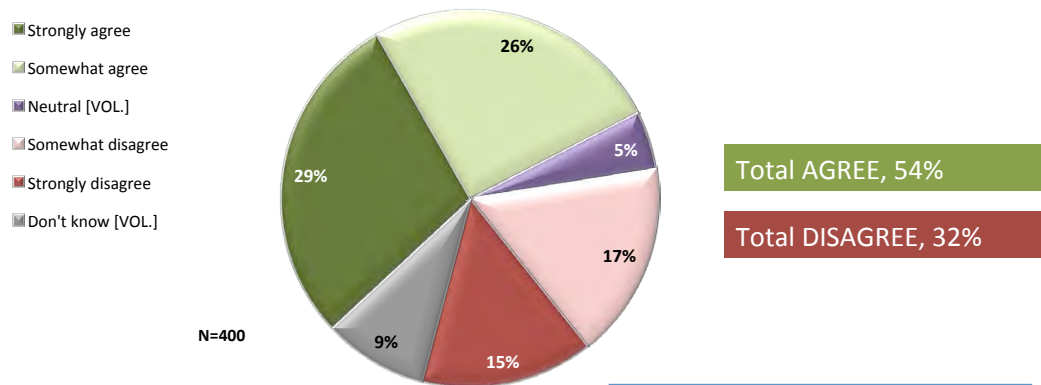
Note regarding previous research: There difference between dog ownership research findings in 2008 (30%) and 2016 (15%) studies. The cause for this difference could be a result of a combination of factors including:

- An 8 year gap between research periods;
- Difference in research methodology (online in 2008 vs. telephone in 2016);
- The 2016 study deliberately included a representative sample of ethnic Chinese Vancouver residents. It is unclear whether this was the case with 2008 online study; and
- The Vancouver sampling area for the 2016 phone survey was specifically defined. It is unclear whether this was the case for the 2008 online survey.

Agree/Disagree: Off-Leash Dog Park Space in Vancouver

Q2. About 6% of existing park area is officially designated for dog off leash use in Vancouver, although dog off leash activity often occurs outside of these areas.

Do you agree or disagree with the following statement: "More than 6% of park space should be allocated for official and designated off-leash areas". [IF AGREE/DISAGREE] Would that be strongly or just somewhat?



Opinions on the need for more designated off-leash areas for dogs is fairly divided in the City. A majority do support off-leash areas but there is a sizeable minority opposed.

The results to this question are provided for different demographic sub-groups on the next slide.

Agree/Disagree: Off-Leash Dog Park Space in Vancouver

Q2. About 6% of existing park area is officially designated for dog off leash use in Vancouver, although dog off leash activity often occurs outside of these areas.

Do you agree or disagree with the following statement: "More than 6% of park space should be allocated for official and designated off-leash areas". [IF AGREE/DISAGREE] Would that be strongly or just somewhat?

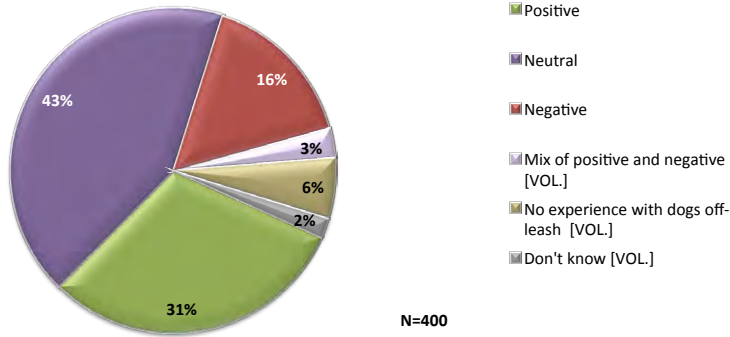
N=400	% Total									
	ALL	Male	Female	18-34	35-54	55+	Rent	Own	East	West
Total Agree	54	50	58	67	51	44	62	52	55	53
Total Disagree	32	33	31	20	38	37	24	35	33	31

Agreement to this question was noticeably higher among:

- Individuals of Caucasian/European descent (63% agree) compared to individuals of Chinese ancestry (43%).
- Dog owners (82%) compared to non-dog owners (49%).
- Individuals who have had a positive experience at an off-leash park (75%) compared to those with a negative experience (30%) or a neutral experience (50%).

Off-Leash Dog Parks in Vancouver Experiences

Q3. Have your experiences with dogs off-leash in Vancouver parks been positive, neutral or negative?



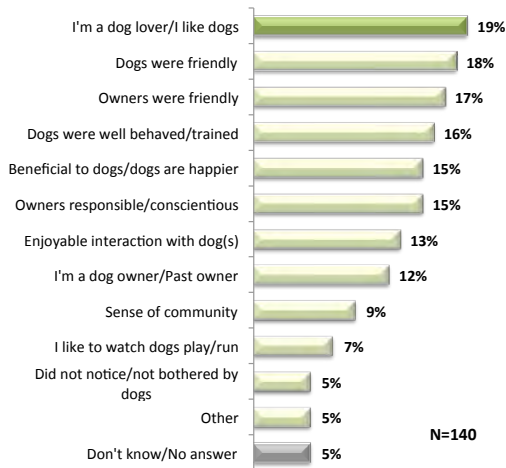
Positive experiences was noticeably higher among subgroups:

- Residents West of Main St. (39%) vs. East of Main St. (22%)
- Those of Canadian/European ancestry (41%) vs. Chinese ancestry (16%)
- Dog owners (64%) vs. non-dog owners (25%)
- Apartment/condo residents (42%) or those living in attached houses (40%) compared to a detached house (22%)
- Those without children younger than 18 living at home (39%) than those with (17%)

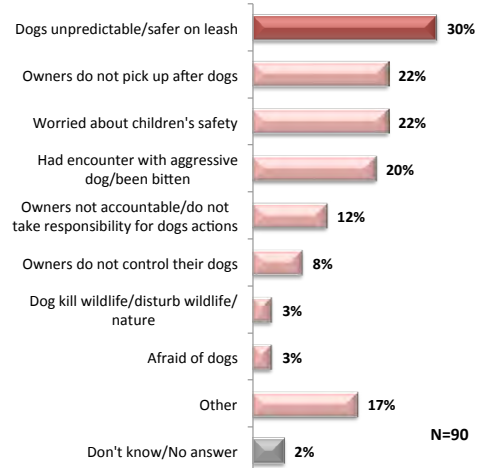
Individuals age 55 and older were somewhat more likely to say they have had a negative experience with off-leash dog parks (20%) compared to people under the age of 35 (13%).

Off-Leash Dog Parks in Vancouver – Why Positive or Negative

[IF Q3 POSITIVE] Q4. Why or what made your experience positive?
[RECORD OPEN END. TOTAL MENTONS]



[IF Q3 NEGATIVE] Q4. Why or what made your experience negative?
[RECORD OPEN END. TOTAL MENTONS]



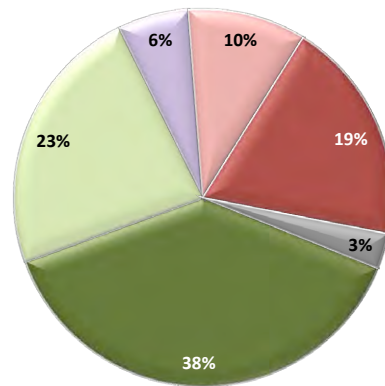
Ethnic Chinese are significantly more likely to say *dogs are unpredictable and should stay on leash* (56% of mentions) compared to other ethnicities.

Agree/Disagree: Off-Leash Dog Parks in Vancouver

Q5. Do you agree or disagree with the following statement: "I support having a dog off-leash area in my immediate neighbourhood".

- Strongly agree
- Agree
- Neutral [VOL.]
- Disagree
- Strongly disagree
- Don't know [VOL.]

N=400



Total AGREE, 61%

Total DISAGREE, 29%

There is good agreement with having off-leash parks in one's immediate neighbourhood. The following slide outlines some of the sub-group responses to this question.

Agree/Disagree: Off-Leash Dog Park Space in Vancouver

Q5. Do you agree or disagree with the following statement: "I support having a dog off-leash area in my immediate neighbourhood?"

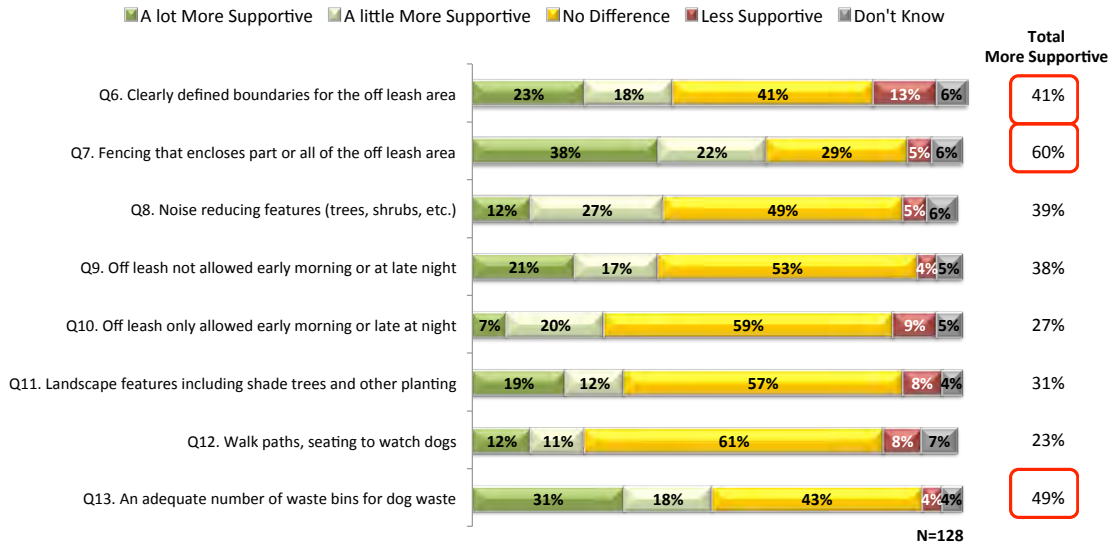
N=400	% Total									
	ALL	Male	Female	18-34	35-54	55+	Rent	Own	East	West
Total Agree	61	61	62	65	60	58	71	58	57	66
Total Disagree	29	28	30	21	33	33	21	32	34	24

Agreement to this question was noticeably higher among:

- Individuals of Caucasian/European descent (76%) compared to individuals of Chinese ancestry (32%).
- Dog owners (91%) compared to non-dog owners (56%).
- Individuals who have had a positive experience at an off-leash park (91%) vs. those with a negative experience (41%) or a neutral experience (54%).

Impact of Off-Leash Dog Park Features on Opinion of Dog Parks

[IF Q5=DISAGREE] Q6-13. I am going to read you a few potential design features of a dog off-leash area and ask if these might make you more supportive of one in your immediate area. The first feature is [INSERT & RANDOMIZE]. Would this feature make you more supportive of an off leash area or not change your opinion? [IF SUPPORTIVE] Would that be a lot or just a little?



Impact of Dog Park Features on Disagreement with Dog Park (Q5)

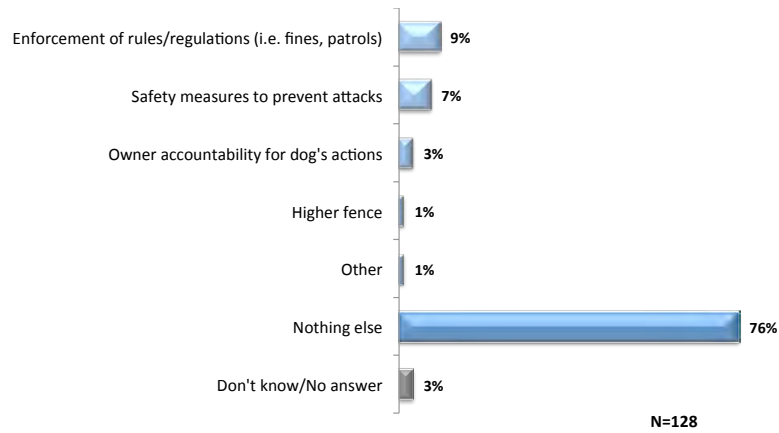
N=128	% Total Disagree (Q5)		
	% More Supportive	% No Change	Difference (+/-)
6. Clearly-defined boundaries of the off leash area.	41	41	0
7. Fencing, usually about 4 feet tall, that separates the off leash area from the rest of the park.	60	29	+31
8. Noise reducing features such as trees, shrubs and mounds to reduce noise.	39	49	-10
9. Off leash <u>not</u> allowed early morning or late night	38	53	-15
10. Off leash <u>only</u> allowed early morning or late night	27	59	-32
11. Landscaping features including shade trees and other planting	31	57	-26
12. Things to do for people without dogs, such as walking paths, seating and areas to watch the dogs if desired	23	61	-38
13. An adequate number of waste bins for dog waste	49	43	+6

The two most persuasive arguments to change the impression of people who do not support having a dog off-leash area in their immediate neighbourhood are to have:

- Fencing, usually about 4 feet tall, that separates the off leash area from the rest of the park (up 31 points of support)
- An adequate number of waste bins for dog waste (up 6 points of support)

Other Things to Make More Supportive of Off-Leash Dog Parks

[IF Q5=DISAGREE] Q14. Would there be anything else I haven't mentioned that might make you more supportive of a dog off-leash area in your neighbourhood? [RECORD OPEN END. TOTAL MENTIONS]



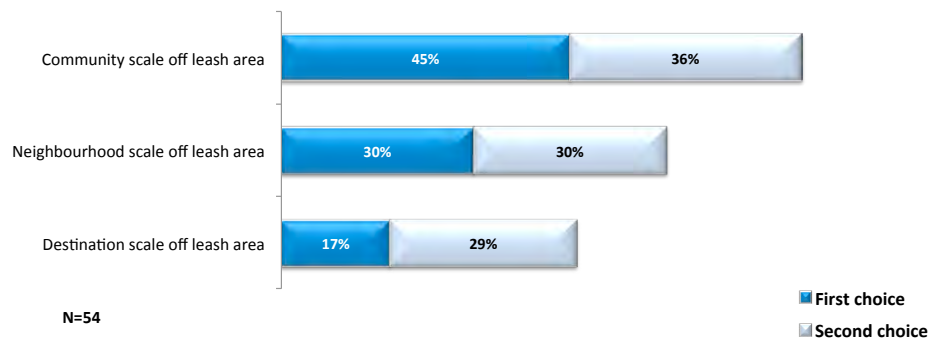
Combined First & Second Choice: Ranking of Dog Off-Leash Areas

Q17. I'm going to describe three types of dog off leash areas. Please rank them in the order that you are most likely to use them. [RANDOMIZE ORDER]

- Neighbourhood scale off leash area: Area the size of a tennis court, within a 15 minute walk
- Community scale off leash area: Area the size of a baseball field, within a 30 minute walk
- Destination scale off leash area: Area the size of a soccer field or larger, within a 45 minute walk

A: Which of these types of leash parks would be your first preference?

B: And which would be your second?



Combined First & Second Choice: Ranking of Dog Off-Leash Areas (Cont.)

[IF DOG OWNER/HAVE DOG IN HH] Q17. I'm going to describe three types of dog off leash areas. Please rank them in the order that you are most likely to use them. [RANDOMIZE ORDER]

- > Neighbourhood scale off leash area: Area the size of a tennis court, within a 15 minute walk
- > Community scale off leash area: Area the size of a baseball field, within a 30 minute walk
- > Destination scale off leash area: Area the size of a soccer field or larger, within a 45 minute walk

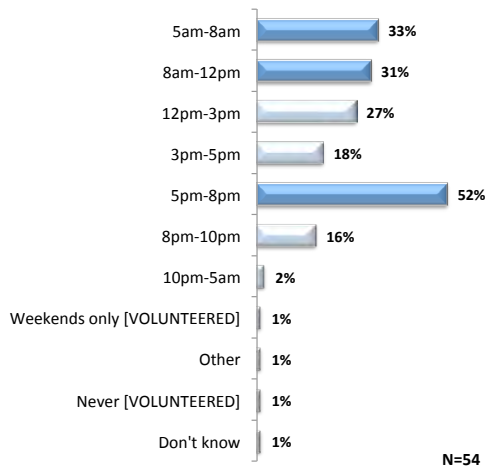
A: Which of these types of leash parks would be your first preference?

B: And which would be your second?

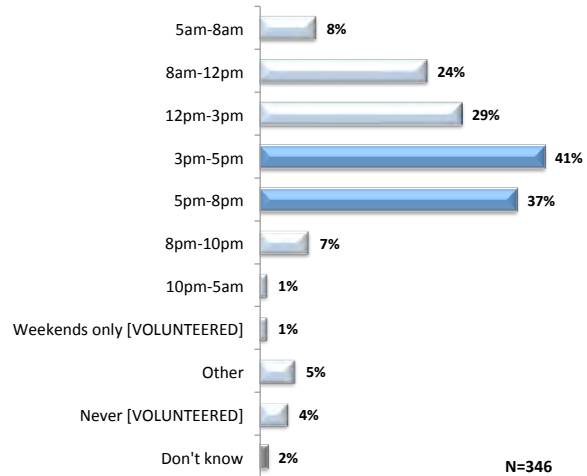
N=54	% Total									
	ALL	Male	Female	18-34	35-54	55+	EAST	WEST	RENT	OWN
Community scale	77	88	70	66	85	88	77	76	82	74
Neighbourhood scale	58	46	67	71	50	57	52	65	62	55
Destination Scale	44	44	43	39	50	42	34	53	26	53

Park Usage

[IF DOG AT Q1] Q18A. What times of day are you typically going out with your dog and visiting a park in the City? Is it usually in the morning, afternoon or evening? [CLARIFY PER BELOW. READ IF NECESSARY. SELECT ALL THAT APPLY]



[IF NO DOG AT Q1] Q18B. What times of the day are you typically visiting a park in Vancouver? Is it usually in the morning, afternoon or evening? [CLARIFY PER BELOW. READ IF NECESSARY. SELECT ALL THAT APPLY]



Park Usage

[IF DOG AT Q1] Q18A. What times of day are you typically going out with your dog and visiting a park in the City?
[IF NO DOG AT Q1] Q18B. What times of the day are you typically visiting a park in Vancouver?

