



Deep Cove Parking and Access Study Existing Conditions Working Paper

November 20, 2014

In 2014, the District retained a consultant to study parking and access in Deep Cove.

The attached working paper is intended to help the municipality and residents to better understand the current parking conditions in Deep Cove. This assessment is a necessary input into the process of confirming suitable solutions.

The study included:

- Public opinion surveys of residents and visitors, review of emails, and a focus group with businesses;
- Site visits and review of background studies and land use information;
- Parking inventory and parking survey using license plate recognition;
- Review of parking regulations, fees, charges and enforcement; and
- Turning movement counts, intersection operational analysis, and safety analysis.

Experiences reported by residents, businesses, visitors and Indian Arm residents were generally aligned with the technical findings, as follows:

- The parking crunch occurs in the summer season.
- The major causes for high parking demand in Deep Cove are:
 - ✓ Quarry Rock hikers, particularly on weekends;
 - ✓ Waterfront-oriented recreation; and
 - ✓ Events like Concert in the Park.
- 50 to 60 percent of visitors are not from the North Shore.
- Panorama Drive residents are concerned with safe access.
- Seycove Marina users would like to park on Panorama Drive.
- Most visitors drive to Deep Cove and do not plan on using transit/cycling/walking in the future because they have dogs, gear, and friends/family with them.
- Overflow parking lots are not being used because of distance and poor wayfinding.

The District intends to engage stakeholders to develop a plan that will address key parking challenges in the area.



Existing Conditions Working Paper (Final)

Deep Cove Parking and Access Study - North Vancouver, BC
Prepared for the District of North Vancouver

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1.0 INTRODUCTION

1.1 Context

Deep Cove is a waterfront community of residential, commercial and recreational users located at the east end the District of North Vancouver (DNV) where it meets Indian Arm. The area has experienced growing popularity for its beautiful surroundings as a place to live, conduct business, work and play. As a result, the DNV is experiencing increased pressures for parking and access in this area.

The DNV completed the *Panorama Park and Deep Cove Park Planning Study* in May 2011 which reviewed park-related issues in Deep Cove as part of the acquisition of three residential lots for park use. The 2011 study included a preliminary traffic and parking analysis which identified both short-term and long-term recommendations; including that a Transportation Study be conducted of the entire Deep Cove village as the park and village functions are closely intertwined.

In 2013, record patronage of the Baden-Powell trail to Quarry Rock, on top of the other recreational uses in the area, resulted in high demand for parking. Frustrations were expressed by residents and a request was made by Panorama Drive residents for a Residential Permit Only (RPO) parking zone. Some improvements and trial measures have been implemented to address residents' concerns.

In May 2014, MMM Group Limited (MMM) was retained by the DNV to produce a robust comprehensive report that will serve as a basis for improvement initiatives to address current parking and access issues in the community of Deep Cove. The report will include a proposed implementation plan, with budget-level cost estimates. The proposed plan will balance the needs of residents, visitors and businesses as much as is practical. Specific to North Vancouver's Deep Cove pressures, MMM's methodology is designed to address the specific issues and opportunities affecting residents, businesses and visitors to Deep Cove, the impact that each has on the other, and is based on a strategic approach to transportation planning that will answer three strategic questions:

1. What is the existing situation? (**Today**)
2. What could be done in the future? (**Tomorrow**)
3. How do we get there? (**The Roadmap**)



1.2 Purpose of the Existing Conditions Working Paper

The purpose of this Existing Conditions Working Paper is to present the findings regarding the collection, organization and analysis of relevant / current data and information about parking, access and safety in the community of Deep Cove.

1.3 Structure of the Existing Conditions Working Paper

This working paper is organized into the following sections:

- **Section 1 – Introduction** describes the four subareas that form the study area as well as the types of parking that can be found in Deep Cove.
- **Section 2 – Existing Land Use Information** describes the residential, commercial, institutional and recreational land uses that form the fabric that is Deep Cove.
- **Section 3 – Parking** presents the findings regarding the supply of and demand for on-street parking and off-street public parking lots in the four subareas that comprise the study area.
- **Section 4 – Vehicular Traffic** describes the existing street network, traffic volumes and operations at key intersections in Deep Cove.
- **Section 5 – Road Safety** presents the findings of a collision history review.
- **Section 6 – Summary and Conclusions**
- **Appendices**

1.4 Study Area

The study area was determined in consultation with the DNV. **Figure 1.1** shows the study area of the *Deep Cove Parking and Access Study*.

“**Entire study area**” means that part of the Deep Cove community generally bounded by the Seycove Marina on the north, Deep Cove on the east, Myrtle Park on the south, and Deep Cove Road / Badger Road on the west (refer to Figure 1.1 – Study Area).

“**Caledonia/Badger**” means the residential area along Caledonia Avenue and Badger Road (refer to Figure 1.1 – Study Area).

“**Rockcliff/Ciffmont**” means the residential area south of Deep Cove Village bounded by Deep Cove Road, Naughton Avenue, Rockcliff Road and Cove Cliff Road (refer to Figure 1.1 – Study Area).

“**Deep Cove Village**” means the commercial heart of Deep Cove along Gallant Avenue between Caledonia Avenue and Banbury Road (refer to Figure 1.1 – Study Area).

“**Panorama**” means the residential area along Panorama Drive between Gallant Avenue on the south and the Deep Cove Marina on the north (refer to Figure 1.1 – Study Area).

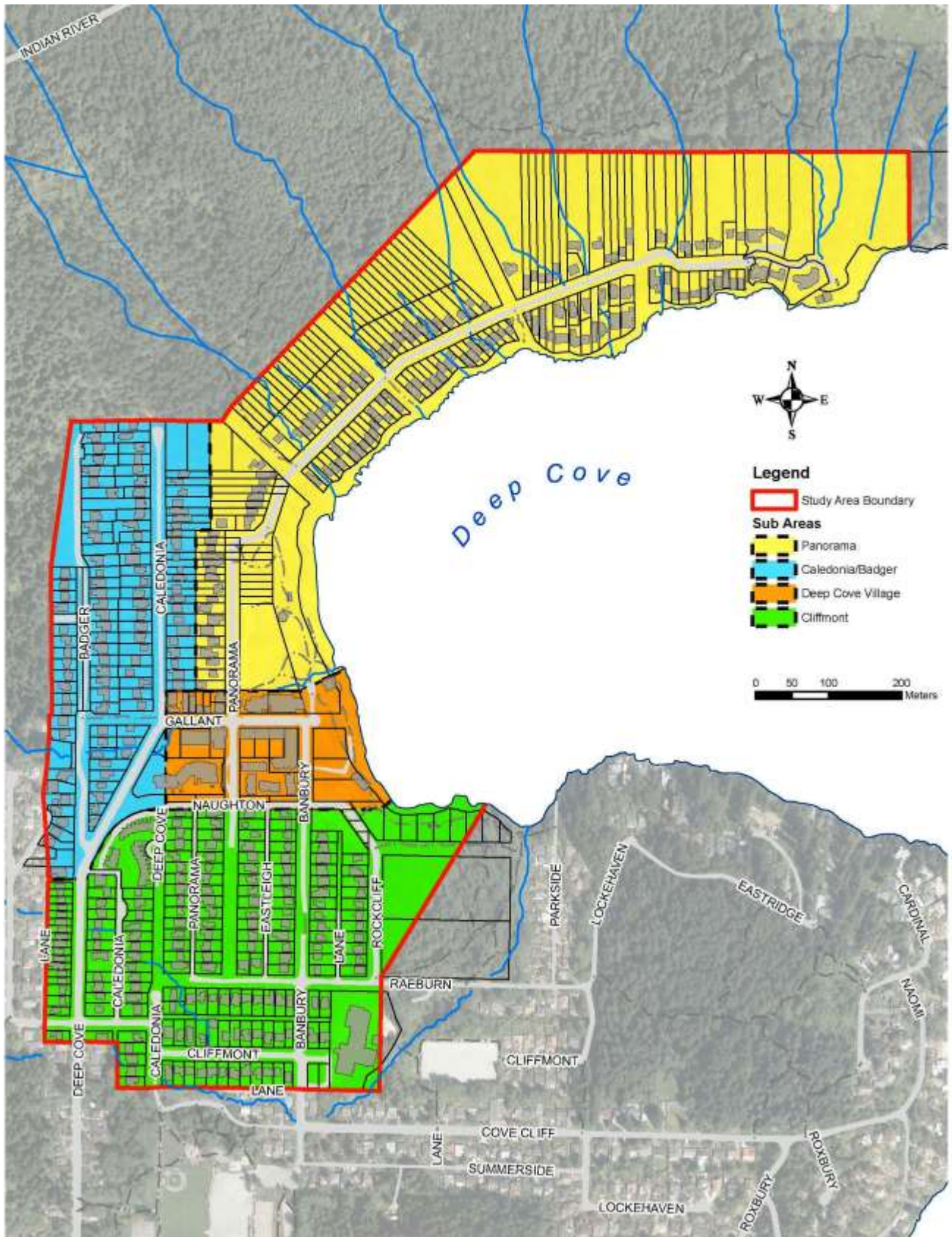


Figure 1.1 – Study Area



1.5 Glossary

“**Acceptable Walking Distance**” means the distance that people are willing to walk between the place where they parked their vehicle and their destination. **Table 1.1** summarizes acceptable walking distances for various types of activities. Acceptable walking distance is also affected by the quality of the pedestrian environment, climate, line of site (longer distances are acceptable if people can see their destination), and “friction” (barriers along the way, such as crossing busy traffic).

Table 1.1 - Acceptable Walking Distances

Adjacent (Less than 100 ft)	Short (Less than 800 ft or 4 min.)	Medium (Less than 1,200 ft or 6 min.)	Long (Less than 1,600 ft or 8 min.)
People with disabilities	Grocery stores	General retail	Major sport or cultural event
Deliveries and loading	Professional services	Restaurant	Overflow parking
Emergency services	Medical clinics	Employees	
Convenience store	Residents	Entertainment center	
		Religious institution	

Source: [Table 2 - Acceptable Walking Distances, Shared Parking: Sharing Parking Facilities Among Multiple Users](#) (Victoria, BC: Victoria Transport Policy Institute, March 12 2013)

Note: Maximum acceptable walking distance is from parking to destinations for various activities and users. It assumes good pedestrian conditions (sidewalks, crosswalks, level terrain) that are outdoors and uncovered, with a mild climate.

“**Duration**” refers to the average length of time that a vehicle remains parked on a street or in a parking lot. The observed duration should be similar to the posted or intended time period (e.g., one hour on-street parking). Typically, parking time limits in core business areas and along main streets are one hour in duration. Depending on the nature of the abutting businesses, two hour time limits may be in place. The intent of providing parking limits in commercial areas is to provide turnover of prime parking spaces, and to optimize the number of customers of a business area who can make use of a particular prime parking space.

“**Highway**” means the area of every public right of way lying between two property lines title to which area is vested in the DNV and which is designated or intended for or used by the general public for the passage of vehicles or persons and means the area of every public right of way lying within any DNV Park title to which area is vested in the DNV and which is designated or intended for or used by the general public for the passage of vehicles.

“**Level of Service (LOS)**” is a traffic operational indicator ranging from LOS A (ideal) to LOS F (over-saturated) conditions. As a target or design parameter, the following is considered appropriate for the study area: Signalized Intersections – LOS D and v/c < 0.90 for all movements; and Non-signalized Intersections – LOS D for individual movements.

“**Long-Term Parking**” refers to parking spaces that have unlimited duration / time (usually more than four hours). Resident Parking Permits and unmetered on-street parking in residential areas



are common examples of long-term parking. Long-term parking is typically used in residential neighbourhoods.

“Maximum Capacity” means 100% of total capacity – the absolute maximum number of parking spaces in a given area.

“Off-street Parking” refers to all parking not on/along the curbs of streets; includes private and public lots, garages, driveways, etc.

“On-street Parking” refers to all parking on/along the curb of streets.

“Parking Occupancy” is the ratio of the number of vehicles parked divided by the number of spaces provided.

“Practical Capacity” means 85% of the maximum capacity, a generally accepted parking industry measure considered to represent the maximum functional capacity² (once 85% capacity is reached, finding a vacant parking space becomes increasingly difficult). The chance that a customer or visitor to the area will be able to find convenient, available parking on a particular street or parking lot is a function of occupancy. An occupancy rate of between 75% and 85% is considered to be an industry “best practice”, representing the level at which there is a reasonable opportunity for a customer or visitor to find parking. When the parking occupancy exceeds the practical capacity, customers and/or visitors would need to park at less convenient locations, or potentially shop or visit elsewhere.

“Resident Parking Only” (RPO) refers to parking spaces that are restricted to a limited duration / time (usually less than a day and often less than four hours). Restricted or regulated parking and parking meters are common.

“Resident Parking Permit” means a parking permit issued by the DNV which authorizes parking in a Resident Parking Zone.

“Resident Parking Zone” means a part of a Highway set apart for the standing, stopping and parking of vehicles that display a Resident Parking Permit.

“Short-Term Parking” refers to parking spaces that are restricted to a limited duration / time (usually less than a day and often less than four hours). Restricted or regulated parking and

² See the article, *Parking Pricing Implementation Guidelines* (March 2011) from the Victoria Transport Policy Institute for more information. <http://www.vtpi.org/parkpricing.pdf>



parking meters are common examples of short-term parking. Short-term parking is typically used near businesses to provide parking for customers while encouraging turnover.

“**Turnover**” is directly related to Duration, and represents the number of unique vehicles that make use a parking space over a study period. It represents the number of potential customers served by the space. For example, over an eight-hour period, four customers could make use of one space in a “two hour limit” zone, whereas if that same space were designated as a “one hour limit”, up to eight customers could be served in the same time period.

“**Volume to Capacity Ratio**” compares roadway demand (vehicle volumes) with roadway supply (carrying capacity). For example, a V/C ratio of 1.00 indicates the roadway facility is operating at its capacity.

“**95th Percentile Queue**” is defined to be the queue length (in vehicles) that has only a 5-percent probability of being exceeded during the analysis time period. It is a useful parameter for determining the appropriate length of turn pockets.

1.6 Types of Parking

Virtually all parking spaces in Deep Cove can be classified according to **Table 1.2**.



Table 1.2 – Types of Parking in Deep Cove

	Total Parking Supply					
Category	Public				Private	
	On-Street		Off-Street			
	Short-Term	Long-Term	Short-Term	Long-Term	Customer/Employee	Residential
Function	Parking for any number of purposes.				Parking for a specific establishment or workplace.	Parking for a specific residential building or residence.
Usage	Available for general use by the public – anyone may park. (Note: Public parking connotes public usage, not necessarily public ownership).				Available only to customers or employees of a specific establishment or workplace.	Available only to residents or visitors of a specific residential building or residence.
Location	Along the sides of DNV streets.		Parking lots or parking structures.			
Pricing	Free	Free or priced through Resident Parking Permit.	Free.	Free.	Varies (but often free for customers).	Varies (but often priced by the month or free).
Examples	<ul style="list-style-type: none"> Unmetered on-street parking in commercial and residential areas. 	<ul style="list-style-type: none"> Resident Parking Permit in residential areas. Unmetered on-street parking in residential and commercial areas. 	<ul style="list-style-type: none"> Privately owned parking lots that allow the public to park for a fee (or for free). DNV owned parking garages or lots that allow the public to park for a fee (or for free). 		<ul style="list-style-type: none"> Employee / customer only parking. A restaurant parking lot. A shopping mall parking lot. 	<ul style="list-style-type: none"> A parking garage in an apartment building or condominium The driveway of a house.
Name	Public On-Street Short-Term	Public On-Street Long-Term	Public Off-Street Short-Term	Public Off-Street Long-Term	Private Off-Street Customer/Employee	Private Off-Street Residential



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2.0 EXISTING LAND USE INFORMATION

Based on information extracted from DNV’s GeoWeb geographic information system, observations made during the site visit, and the Public Opinion Survey (see **Appendix B**); the land use composition for the study area was broken down by number and type; i.e. residential, commercial (retail, restaurant, office), institutional (schools, churches, day care, museums); and recreational (city parks and trails, marinas, theatres). The land use composition in Deep Cove is illustrated in **Figure 2.1** and is summarized by subarea in **Table 2.1**.

Table 2.1 – Land Use Composition

Subarea	Residential	Commercial	Institutional	Recreational
Caledonia / Badger	101	0	0	0
Rockcliff / Cliffmont	173	1	2	2
Deep Cove Village	162	25	2	5
Panorama	<u>139</u>	<u>0</u>	<u>0</u>	<u>3</u>
Total	575	26	4	10

Notes: Residential = number of single-family, multifamily dwelling units
 Commercial = number of retail units, restaurants, offices
 Institutional = number of schools, churches, day care, museums
 Recreational = number of DNV parks and trails, marinas, theatres

As noted in **Table 2.1**, three of the four subareas that comprise Deep Cove are primarily residential in nature. On the other hand, Deep Cove Village is the commercial and cultural heart of the neighbourhood. Of note are the high traffic generators located in the Rockcliff / Cliffmont (Cove Cliff Elementary School and Day Care) and Panorama (Baden-Powell Trail / Quarry Rock trailhead and Panorama Park) subareas.



Figure 2.1 – Land Uses in Deep Cove



2.1 Residential Land Uses

Panorama

- Most, if not all of the residences are single family homes with garages or carports fronting onto Panorama Drive.

Caledonia / Badger

- Most, if not all of the residences are single family homes with garages or carports fronting onto either Caledonia Avenue or Badger Road.

Deep Cove Village

- Most, if not all of the residences are part of mixed-use developments with ground floor commercial and private off-street surface parking or parkades. Multi-family complexes in Deep Cove Village include:
 - 4316 Gallant (8 dwelling units (DU))
 - 2181 Panorama (12 DU)
 - 4290 Naughton (60 DU)
 - 4361-4387 Gallant (24 DU)
 - 2100-2112 Panorama (4 DU)
 - 4300-4306 Naughton and 2105-2111 Banbury (11 DU)
 - 2151 Banbury (22 DU)
 - 4390 Gallant (21 DU)

Rockcliff / Cliffmont

- Most, if not all of the residences are single family homes with garages or carports fronting onto the street.

Indian Arm

- Over 70 residential properties along Indian Arm have boat-only access. Some of these DNV residents park their cars on Panorama Drive through the DNV's Resident Parking Permit program while others rent parking spaces at Seycove Marina's private off-street parking lot located at the north end of Panorama Drive.



2.2 Commercial Land Uses

Deep Cove Village

- Twenty-five businesses are found along Gallant Avenue and Panorama Drive including:
 - Cove Creek Gallery, Deep Cove Medical, Seycove Dental, Rita's Hair Salon, Osaka Sushi, Mediterranean, Deep Cove Ice Cream Bar, Fish n' Chips Burger, Honeys Donuts, Express, Gelato Express, LaLa's, Deep Cove Pizza, Turtle Bistro, Room 6, Mystic Wardrobe, Arms Reach Bistro, First Mate Pet Supplies, Adriatic Travel, bluhouse Market, Deep Cove Pharmacy, Artemis Gallery, Seymour Art Gallery, Deep Cove Realty, and Panorama Market
- The time spent at businesses by customers ranges from 5 minutes to pick up pizza, to 20 minute gallery tours, to 2 hours for dinner, to an 8 hour workshop.⁴
- Several businesses only have access to their location through the front door on Gallant Avenue resulting in challenges for deliveries both to and from the business (i.e. pizza delivery service, prescription delivery service) as there are no commercial loading zones. As such, many deliveries double park while transferring goods. ³
- Larger trucks regularly double park in the middle of the street for deliveries. ³
- At least four different companies provide waste and recycling services to Deep Cove Village and each come twice per week.¹

Rockcliff / Cliffmont

- One business is found in the Rockcliff / Cliffmont subarea, namely Bel Art Gallery on Deep Cove Road.

Panorama

- One business is found in the Panorama subarea, namely Seycove Marina (doing business as Deep Cove North Shore Marina Ltd.)
- Offers moorage, boat rentals, fuel, haul outs (pressure wash/ paint), boat launch (for moorage customers only) and provisions (marina store).
- Access to the marina's parking lot is provided from the driveway at the foot of Panorama Drive.

⁴ Public Opinion Report (see Appendix B)



2.3 Institutional Land Uses

Deep Cove Village

- Mamalina's Montessori Preschool and Childcare
- Deep Cove Cultural Centre
 - Volunteer-dependent organizations find it difficult to fill timeslots during 'peak' Deep Cove times (weekends in summer). Many volunteers tend to be senior citizens who prefer or need to park as close as possible; however, the lack of available parking and, more specifically, available parking close to the Deep Cove Cultural Centre and Art Gallery make it difficult to recruit volunteers.⁵
 - Theatre clientele tend to be elderly and travel from all over the Lower Mainland therefore require evening parking close to the venue which allows for over 3 hours of parking.⁶

Cliffmont

- Cove Cliff Elementary School / Cove Cliff Day Care

2.4 Recreational Land Uses

Panorama and Deep Cove Parks

The primary facilities in the parks are two picnic shelters, 2 washroom buildings, a stage, trails, a playground, boathouse, boat ramp and dock. The primary natural features are the beach, creek and forested areas. Panorama and Deep Cove Parks are very well used. The following is a list of existing uses in various parts of the two parks:

- Walking, picnicking, swimming (in summer) and informal use
- Boating, i.e. Deep Cove Canoe and Kayak Centre / Deep Cove Rowing Club / Dragon Boats
- Filming⁷
 - Half of the Panorama Park parking lot or half of the Rockcliff Road parking lot are used for the movie making equipment and catering. Either one parking lot or the other parking lot is used and they alternate each day. This practice was developed in response to input from the adjacent residents.

⁵ Public Opinion Report (see Appendix B)

⁶ Ibid.

⁷ District of North Vancouver Economic Development Office



- There is no filming in Deep Cove Village on weekends or from July 1 to Labour Day.
- Filming happens an average of once per month throughout the year for 1-3 days.
- Film crews use Cates Park for their overflow area, i.e. crew parking and ‘the circus’, i.e. logistical support vehicles.
- Filming on Gallant Avenue is only allowed from 7 a.m. to 11 a.m. or after 3 p.m. There is typically minimal disruption to businesses. When there is a disruption, the businesses are compensated.
- Special Events (see **Appendix G**).
 - Upwards of 25 private picnics and 25 public events occur at Panorama Park over a typical year (see **Figure 2.2**) while Deep Cove Park experiences significantly less use as a venue for special events (see **Figure 2.3**).
 - Typical special events (2013) include:
 - **January to May:** Penguin Plunge, Trail Race
 - **June:** Regatta
 - **July and August:** weekly Concerts in the Cove, Deep Cove Daze, Iron Knee Tender Knee Trail Race
 - **September to December:** two rowing regattas, Carol Ships
 - The largest events are attended by 2,000 people, other events attract about 1,500 participants, and Concerts in the Cove attract about 1,000 visitors. All of the other events typically have a maximum of 400 people, with most being much smaller, i.e. 100 or less.
 - Most of the private functions in Panorama Park take place at the picnic shelter. In 2013, Deep Cove Park was booked for 8 private functions, most being attended by 20 to 50 visitors.

Organizers of large events, as well as film makers, are required to enter into contracts which include traffic / parking conditions.

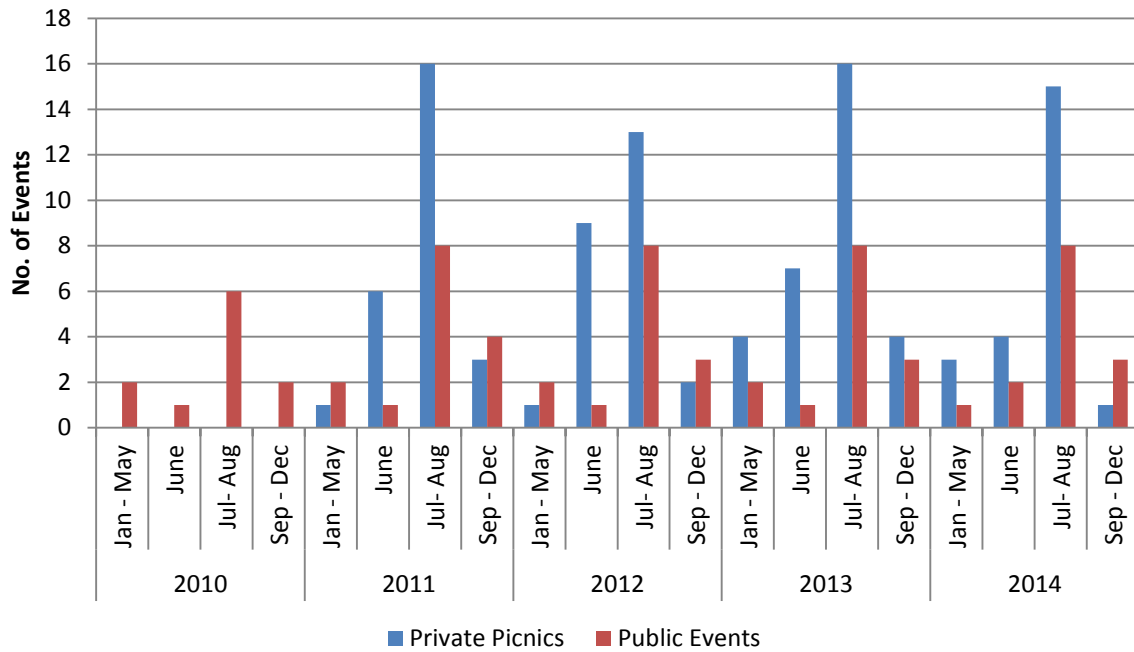


Figure 2.2 – Events at Panorama Park (2010 – 2014)

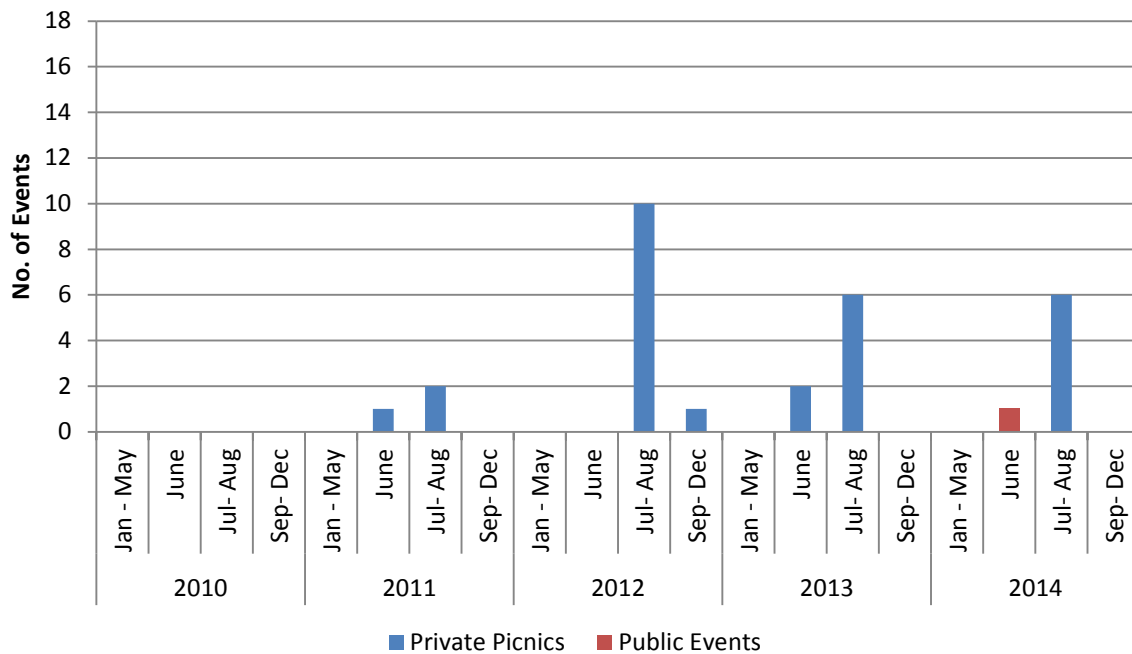


Figure 2.3 – Events at Deep Cove Park (2010 – 2014)



Deep Cove Yacht Club / Government Wharf

- Deep Cove Yacht Club
 - Access to seven surface parking spaces provided from the driveway at the foot of Gallant Avenue.
- Government Wharf
 - Slips used by visitors who travel to Deep Cove by boat.
 - Slips are also used by water taxi.
 - No overnight moorage is permitted.

Deep Cove Canoe & Kayak Centre / Deep Cove Rowing Club

- Deep Cove Canoe & Kayak Centre is only open seasonally (April 1 – October 31) seven days per week between 8 a.m. (weekends) or 9 a.m. (weekdays) and dusk.
- Typically 2-hour rentals through a reservation system.
- Encourage staff to use parking lots 'out of the zone' such as Myrtle Park.

Baden-Powell Trail and Quarry Rock

Just off the shores of Deep Cove sits a large rocky outcrop known as Quarry Rock (also known as Grey Rock in some hiking books). A hiking trail which is also part of the easternmost section of the Baden-Powell Trail, leads to this point offering scenic views of Indian Arm and the mountains around Belcarra. The start of the Baden-Powell Trail begins along Panorama Drive just beyond Panorama Park.



As illustrated in **Figure 2.4**, this portion of the Baden-Powell Trail has seen a significant increase in use since 2013 with over 34,500 hikers counted at the trailhead on Panorama Drive between February 1, 2014 and July 31, 2014. Upwards of 500 hikers per day accessed the trailhead on a weekend day in May and June 2014.

Figures 2.5 and **2.6** illustrate the daily and hourly variation, respectively in hiking activity at the trailhead (February – July 2014). Hikers are typically visitors to Deep Cove who park their cars either on Panorama Drive, the Panorama Park parking lot, the Rockcliff Road parking lot or in Deep Cove Village.

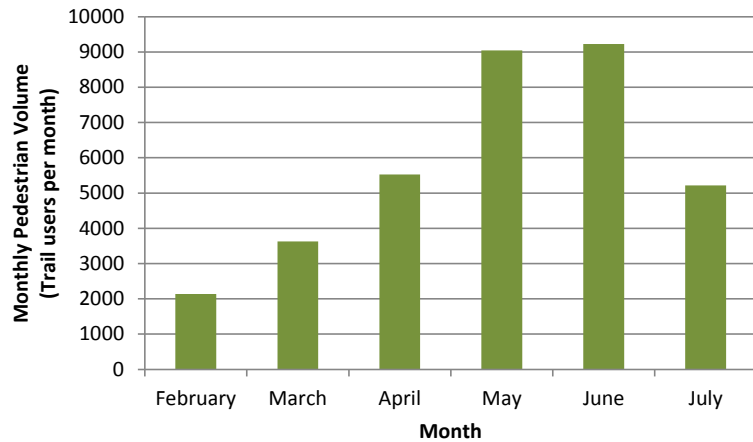


Figure 2.4 – Monthly Hiker Volumes at the Baden-Powell Trailhead (Feb – July 2014)

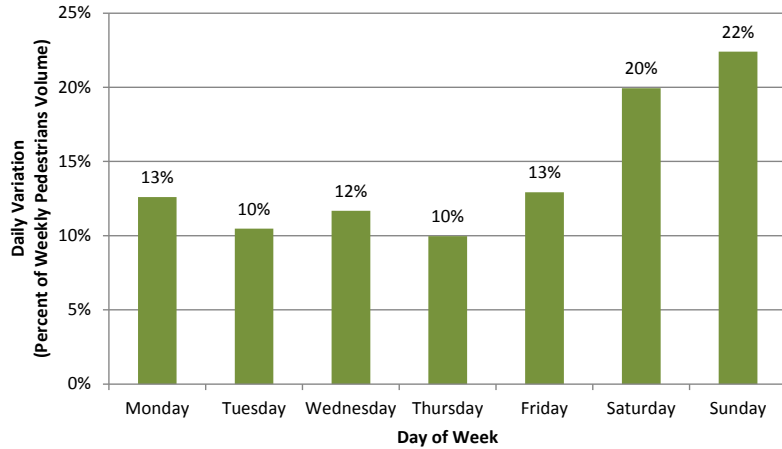


Figure 2.5 – Daily Variation in Hikers at the Baden-Powell Trailhead (Feb – July 2014)

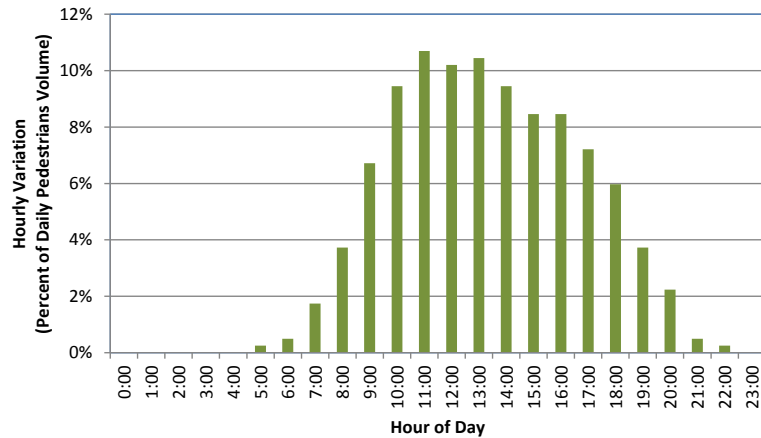


Figure 2.6 – Hourly Variation in Hikers at the Baden-Powell Trailhead (Feb – July 2014)



2.5 Key Attractions in Deep Cove

Table 2.2 lists key attractions for visitors to and residents of Deep Cove and illustrates the typical activity patterns. Key attractions are those places of entertainment for the public which draw in the most interest from visitors. The locations of the key attractions and the walking times to them are illustrated in Figure 2.7.

Table 2.2 – Typical Activity Patterns at Deep Cove Attractions

Day of Week	Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Sunday		
Destination	M	A	E	M	A	E	M	A	E	M	A	E	M	A	E	M	A	E	M	A	E
Deep Cove Canoe and Kayak Centre	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	●	●	○	●	●	○
Deep Cove Cultural Centre	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	●
Deep Cove Park	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	○	●	●	○
Deep Cove Rowing Club	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	●	●	○	●	●	○
Deep Cove Yacht Club	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	○	●	●	○
Gallant Avenue shops, restaurants & galleries	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	●	●	○	●	○
Government Wharf	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	●	●	○	●	●	○
Panorama Park	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●
Quarry Rock / Baden-Powell Trail	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	○	●	●	○
Seycove Marina	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	○	●	●	○
Seymour Art Gallery	○	○	●	○	●	○	●	○	●	○	●	○	○	●	○	●	○	●			

Notes: M = morning, A = afternoon, E = evening, ● = peak attendance period (highest volume of patrons), ○ = typical activity period (expected or normal volume of patrons)

Source: Site Visit Observations

Key findings include:

- Weekends are typically busier than weekdays; and
- Nice weather days – particularly in the summer – result in Deep Cove approaching capacity for parking and traffic.

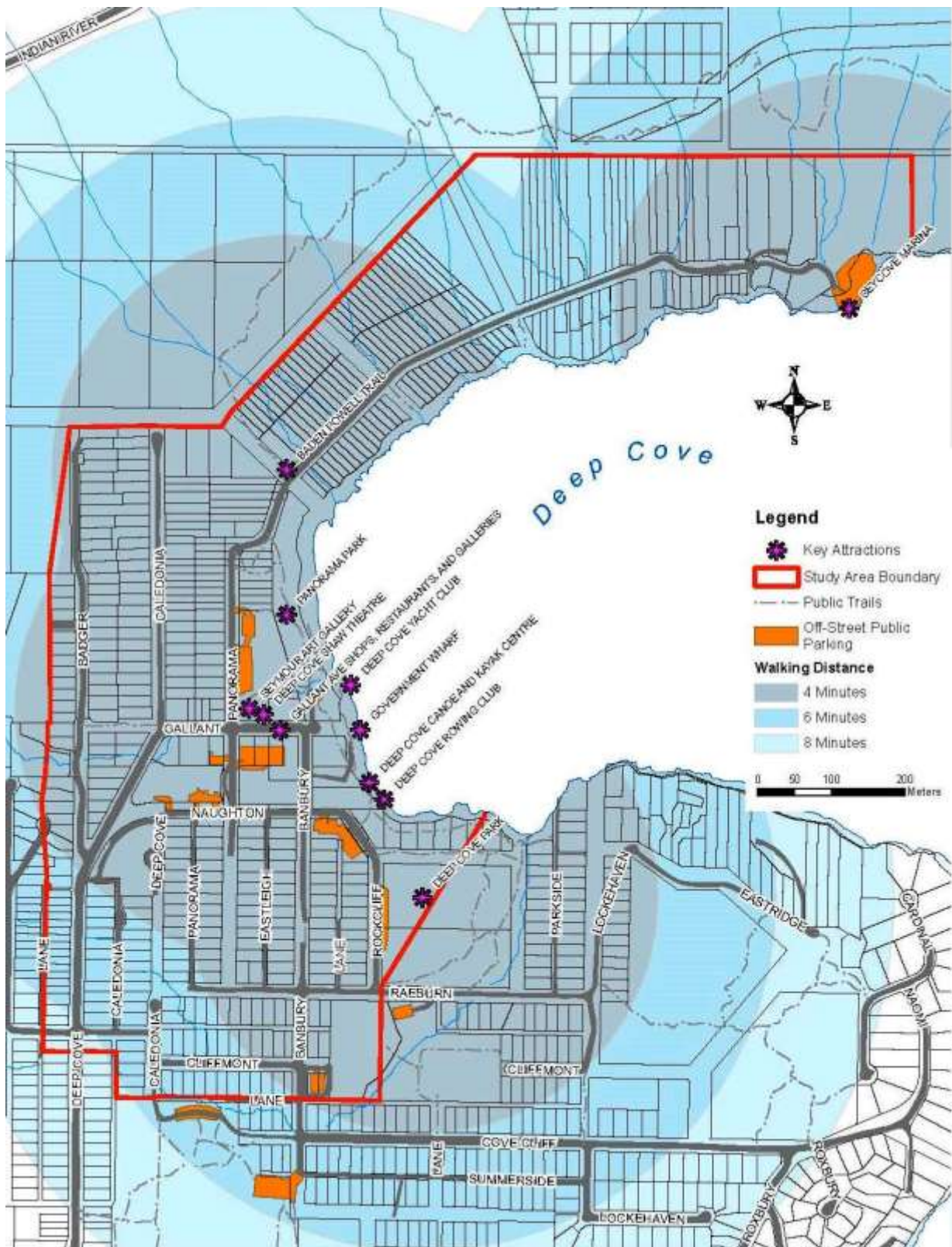


Figure 2.7 – Key Attractions in Deep Cove and Walking Times



2.6 Current Modes of Travel

Understanding how people get to Deep Cove (i.e. mode of travel) is critical to developing solutions to parking, traffic and safety issues. **Figure 2.8** illustrates how people travel to Deep Cove. This is based on turning movement counts collected at the intersection of Deep Cove Road and Cliffmont Road through which most, if not all traffic destined for Deep Cove must enter the community.

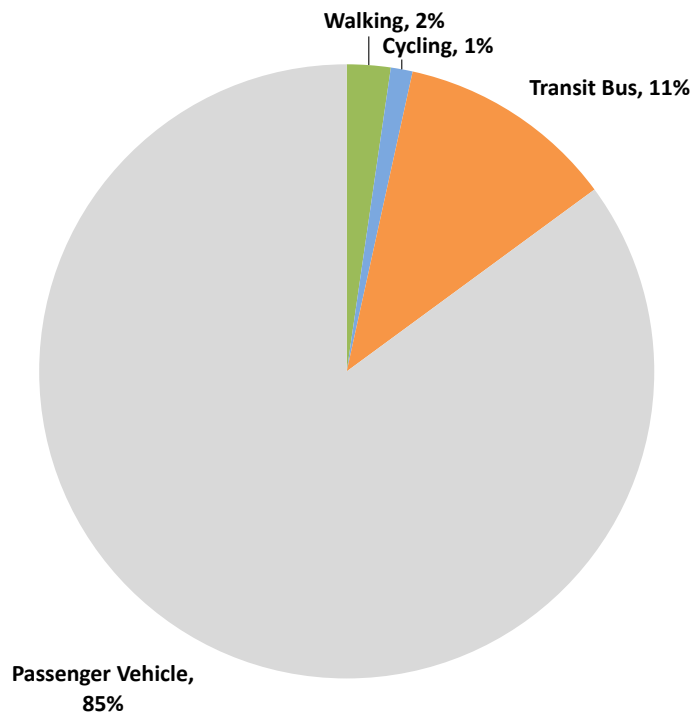


Figure 2.8 – How People Travel to Deep Cove



2.7 Origin of Visitors to Deep Cove

Understanding who parks on Deep Cove’s streets and in its public parking lots is also critical to developing solutions to parking, traffic and safety issues. The streets and public lots that were included in the data collection are listed below:

- Badger Rd
- Caledonia Ave
- Panorama Dr
- Gallant Ave
- Deep Cove Road
- Cliffmont Rd
- Burns Ave
- Naughton Ave
- Banbury Rd
- Rockcliff Rd
- Panorama Park Parking Lot
- Naughton Ave Parking Lot
- Rockcliff Road Parking Lot

Figure 2.9 compares where the vehicles using the public parking are from, be it Deep Cove, other DNV locations, other areas of the North Shore (i.e. City of North Vancouver or West Vancouver) or beyond. The comparison is based on counts of actively insured vehicles parked on Deep Cove’s streets and in its public parking lots sorted by Canada Post’s Forward Sortation Area (the first three digits of the postal code) during the Victoria Day Weekend.

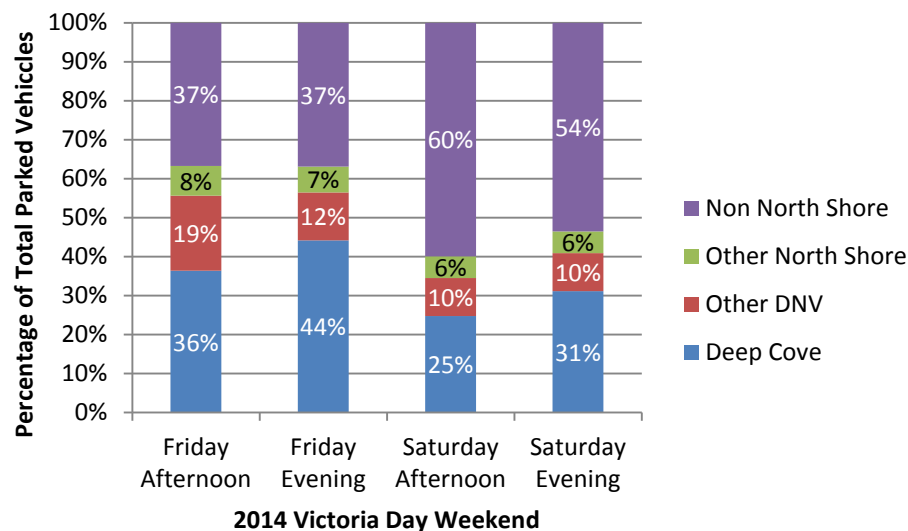


Figure 2.9 – Origin of Visitors to Deep Cove

Key findings⁸ include:

- Residents of Deep Cove represent between 25% (Saturday afternoon) and 44% (Friday evening) of the vehicles using public parking;

⁸ Based on the Parking Survey completed as part of the Data Collection effort



- Most of the vehicles using public parking in Deep Cove are from outside Deep Cove:
 - Visitors from outside the North Shore represent up to 60% (Saturday afternoon) of the vehicles using public parking;
 - Other DNV residents typically represent about 10% of the vehicles using public parking except on Friday afternoons when this doubles to nearly 20%; and
 - Other North Shore residents represent the smallest group at 6-8% of the vehicles using public parking.
 - Visitors typically treat Deep Cove as a Park Once Environment, where visitors will parking in one spot while they spend the day visiting various attractions in Deep Cove

2.8 Sidewalk Network, Bike Infrastructure and Transit Routes

Another important facet is the pedestrian network within Deep Cove. Once people park their cars, sidewalks and crosswalks allow visitors and customers to safely and directly walk to their ultimate destination. **Figure 2.10** illustrate the current sidewalk network in Deep Cove as well as bicycle facilities, bus routes and transit stops. Key findings⁹ include:

- The sidewalk network is currently incomplete with key connections missing, especially between the Myrtle Park overflow lots and Deep Cove Village (see **Figure 2.10** for missing pedestrian links);
- The change in vertical grade creates a barrier to north-south pedestrian flows between Deep Cove Village and the south half of the Cliffmont subarea, notably north of Raeburn;
- The DNV's on-street bike route brings cyclists directly into Deep Cove Village; however, there are limited opportunities for convenient and secure bike parking for cyclists once they reach the Village;
- TransLink provides bus service along Deep Cove Road directly into Deep Cove Village;
- There are no secure bike parking or electric bike charging stations; and
- There are no Electric Vehicle charging locations.



⁹ Based on Site Visit observations



Figure 2.10 – Active Transportation and Transit Network



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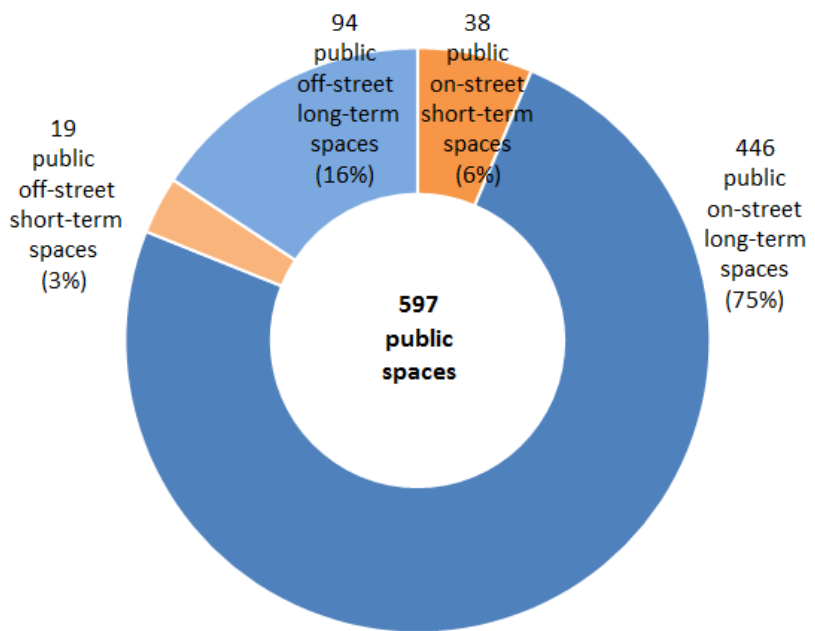
3.0 PARKING

3.1 Parking Inventory

Although the total parking supply includes both public and privately owned or controlled parking, this study focused on the parking inventory controlled by the DNV. The DNV has an extensive database which documents the parking areas as well as time restrictions. This was used as a basis for the inventory in terms of location, quantity and type. The amount and location of accessible stalls, bicycle racks, moped / motorcycle / scooter stalls, car / van pool stalls, etc. was confirmed. **Figure 3.1** illustrates where on and off-street public parking is permitted in Deep Cove.

3.1.1 Public Parking Inventory – Entire Study Area

- There are 597 public parking spaces in the entire study area
- 57 spaces are short-term (9% of the public supply), which includes 38 on-street spaces (6% of the public supply) and 19 short-term off-street spaces (3% of the public supply)
- 94 spaces are long-term off-street (16% of the public supply) – used by both short-term parkers such as visitors and customers as well as daily parkers, such as employees and residents
- 446 spaces are long-term on-street (75% of the public supply) – used by both short-term as well as daily parkers



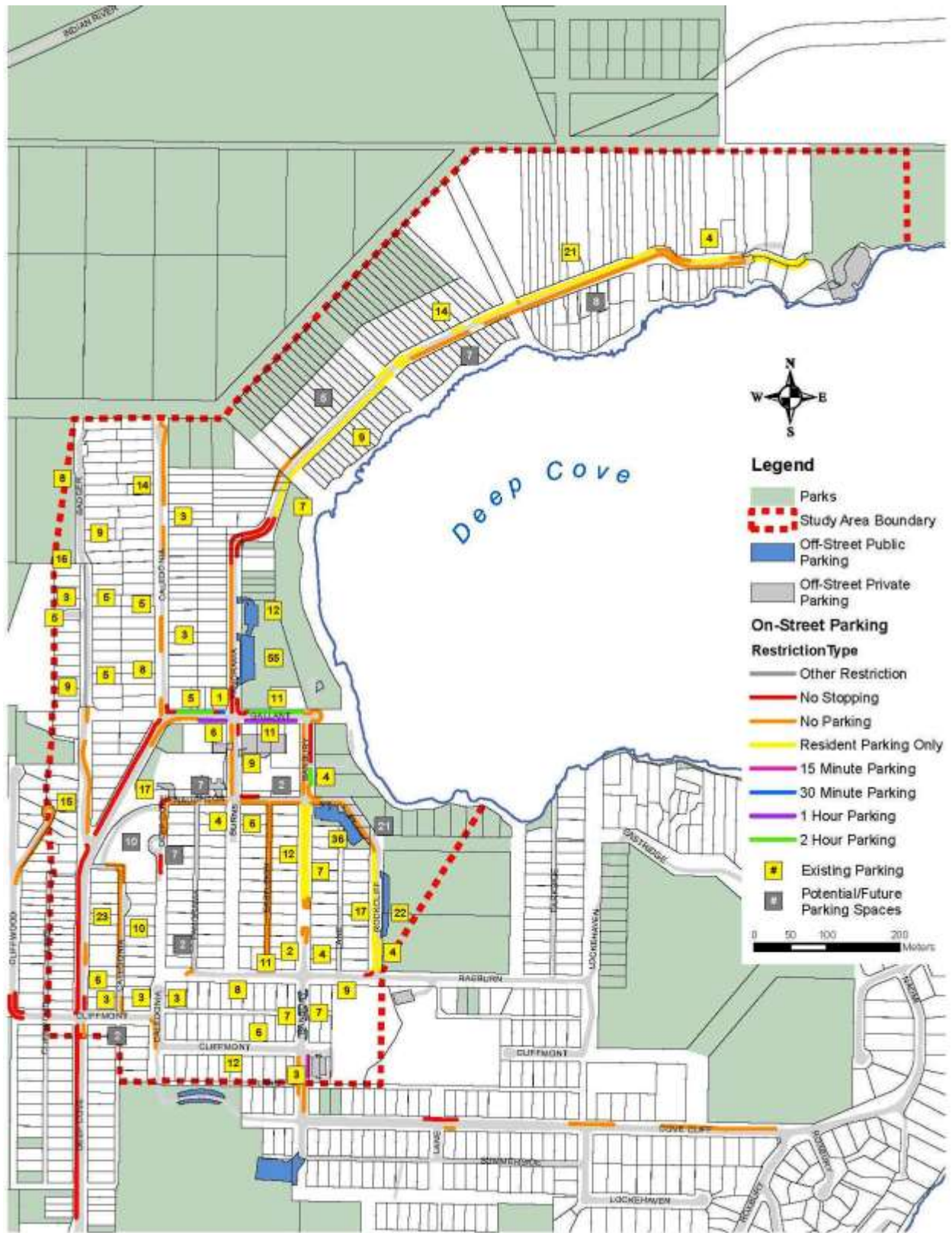


Figure 3.1 – Location of On- and Off-Street Public Parking



3.1.2 On-Street Parking Supply – In Detail

Parking supply is broken into two categories of short term and long term. For the purposes of this study, parking is considered short term if the duration is four hours or less. Long term parking is four hours or longer. On-street parking durations in Deep Cove vary from 15 minutes, 30 minutes, 1 hour, 2 hours to no specified parking duration.

Panorama

- 97 on-street spaces (20% of the total on-street supply)
- 52 spaces are available for general use by the public (54% of the Panorama subarea on-street supply)
- 45 spaces are signed as Resident Parking Only (46% of the Panorama subarea on-street supply)
- 55 off-street spaces are located in the Panorama Park parking lot (4% of the total off-street supply)

Deep Cove Village

- 56 on-street spaces (12% of the total on-street supply)
- 38 spaces are short-term (68% of the Deep Cove Village subarea on-street supply)
- 18 spaces are long-term (32% of the Deep Cove Village subarea on-street supply)
- 34 spaces are located on Gallant Avenue (61% of the Deep Cove Village subarea on-street supply)
- No off-street public parking in the Deep Cove Village subarea

Caledonia / Badger

- 125 on-street spaces (26% of the total on-street supply)
- 125 spaces are available for general use by the public (100% of the Caledonia / Badger subarea on-street supply)
- No off-street public parking in Caledonia / Badger subarea

Rockcliff / Cliffmont

- 206 on-street spaces (43% of the total on-street supply)
- 183 spaces are available for general use by the public (89% of the Rockcliff / Cliffmont subarea on-street supply)
- 23 spaces are signed as Resident Parking Only (11% of the Rockcliff / Cliffmont subarea on-street supply)
- 58 off-street spaces are located in two parking lots along Rockcliff Road (51% of the total off-street supply)



3.1.3 Overflow Parking

As part of the response to pressure on the parking supply of the Panorama and Deep Cove Village subareas, the DNV has designated 75 public off-street parking spaces at Myrtle Park as overflow parking. Signage has been installed at key locations to advise visitors about the existence of and route to the overflow parking. Although signs direct vehicles to overflow parking lots, wayfinding for drivers (inbound) appears to be confusing and unclear and wayfinding from the overflow parking lots out of the community (outbound) appears to be missing. In addition, wayfinding for pedestrians between the overflow lots and key attractions appears to be missing. The sidewalk network is currently incomplete with key connections missing, especially between the Myrtle Park overflow lots and Deep Cove Village.



3.1.4 Off-street Private Parking

There are at least 670 off-street parking spaces for residents within the study area, generally taking the form of car ports or garages. It appears that residents have enough parking on their own properties but make the choice to park on the street. The Public Opinion Survey (Appendix B) also confirmed this observation.



3.2 Parking Characteristics

Based on the parking data collected, four metrics were calculated and analyzed for all public parking spaces as part of the Deep Cove Parking and Access Study:

- Average occupancy rate
- Peak occupancy rate
- Average duration
- Average turnover

An occupancy rate of between 75% and 85% is considered to be an industry “best practice”, representing the level at which there is a reasonable opportunity for a customer or visitor to find parking. When the parking occupancy exceeds 85% of the maximum capacity or “practical capacity”, customers and/or visitors would need to park at less convenient locations, or potentially shop or visit elsewhere.

Parking data was collected from 3 p.m. to 9 p.m. on a weekday (Friday, May 16, 2014) plus 1 p.m. to 7 p.m. (Saturday, May 17, 2014) on the Victoria Day Long Weekend. This holiday weekend is typically very busy in Deep Cove and therefore resulted in the capture of peak parking demand. Data was collected once per hour. Subsequently, the data was analysed for the following scenarios:

- Weekday Afternoon (3-6 p.m.)
- Friday Evening (6-9 p.m.)
- Saturday Afternoon (1-7 p.m.)

In addition, a site visit was conducted between 6 p.m. and 8 p.m. on Friday, August 8, 2014 to observe parking and traffic characteristics during a special event at Panorama Park, in this case Concert in the Park.



3.2.1 Weekday Afternoon (Friday) – Public Occupancy, Duration & Turnover

Table 3.1 presents the four metrics for all public parking spaces as well as for each of the subareas during the weekday afternoon (3 p.m. to 6 p.m.) on the Friday (May 16, 2014) of the Victoria Day Long Weekend. **Figure 3.2** illustrates the weekday afternoon peak occupancy for all public parking spaces across the study area.

Key Findings – Entire Study Area

On-street

- Average occupancy rates (47%) were low to moderate
- Peak occupancy rates (49%) below capacity

Off-street

- Average occupancy rates (88%) were high
- Peak occupancy rates (97%) exceeded practical capacity

Overall

- Average occupancy rates (54%) were moderate
- Peak occupancy rates (58%) below practical capacity
- Average duration (1.8 hours) suggests vehicles generally complied with duration regulations
- Average turnover (0.9 vehicles per space) means approximately 2,000 vehicles could park on-street or in the off-street public parking lots over the three hour observation period

Key Findings – Deep Cove Village

- Average occupancy rates (68%) were moderate
- Peak occupancy rate (77%) approached practical capacity
- Average duration (1.3 hours) suggests vehicles generally complied with the short-term duration parking regulations
- Average turnover (1.4 vehicles per space) means approximately 120 vehicles could park on-street over the three hour observation period



Table 3.1 – Public Occupancy, Duration & Turnover: Weekday Afternoon (Friday)

Area	Metric	On-Street	Public Off-Street	Total Public
Panorama	Supply	97	55	152
	Average Occupancy Rate	61%	86%	70%
	Peak Occupancy Rate	64%	100%	77%
	Average Duration	--	--	1.7
	Average Turnover	--	--	1.1
Deep Cove Village	Supply	56	0	56
	Average Occupancy Rate	68%	--	68%
	Peak Occupancy Rate	77%	--	77%
	Average Duration	1.3	--	1.3
	Average Turnover	1.4	--	1.4
Caledonia / Badger	Supply	125	0	125
	Average Occupancy Rate	30%	--	30%
	Peak Occupancy Rate	32%	--	32%
	Average Duration	1.8	--	1.8
	Average Turnover	0.5	--	0.5
Rockcliff / Cliffmont	Supply	206	58	264
	Average Occupancy Rate	44%	89%	54%
	Peak Occupancy Rate	46%	95%	55%
	Average Duration	--	--	1.9
	Average Turnover	--	--	0.7
Entire Study Area	Supply	484	113	597
	Average Occupancy Rate	47%	88%	54%
	Peak Occupancy Rate	49%	97%	58%
	Average Duration	--	--	1.8
	Average Turnover	--	--	0.9

Notes: Friday, May 16, 2014 between 3 p.m. and 6 p.m.
 Average Duration measured in hours
 Average Turnover measured in vehicles per space

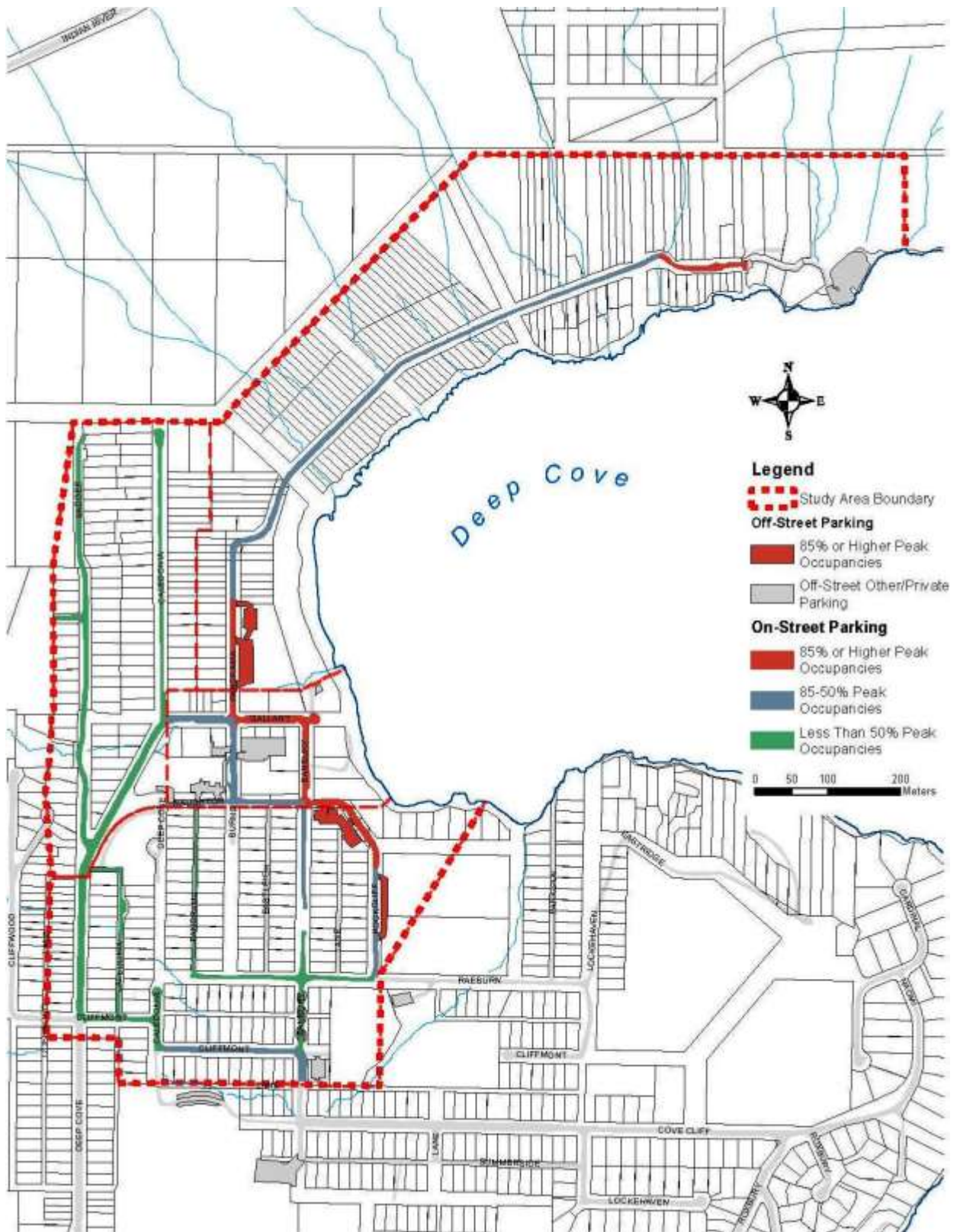


Figure 3.2 – Friday Afternoon Peak Occupancy Heat Map



3.2.2 Friday Evening – Public Occupancy, Duration & Turnover

Table 3.2 presents the four metrics for all public parking spaces as well as for each of the subareas during the weekday evening (6 p.m. to 9 p.m.) on the Friday (May 16, 2014) of the Victoria Day Long Weekend. **Figure 3.3** illustrates the weekday evening peak occupancy for all public parking spaces across the study area.

Key Findings – Entire Study Area

On-street

- Average occupancy rates (53%) were low to moderate
- Peak occupancy rates (54%) below capacity

Off-street

- Average occupancy rates (76%) were moderate to high
- Peak occupancy rates (78%) approached practical capacity

Overall

- Average occupancy rates (57%) were low to moderate
- Peak occupancy rates (58%) below capacity
- Average duration (1.9 hours) suggests vehicles generally complied with duration regulations
- Average turnover (1.1 vehicles per space) means approximately 1,600 vehicles could park on-street or in the off-street public parking lots over the three hour observation period

Key Findings – Deep Cove Village

- Average occupancy rate (79%) was moderate to high
- Peak occupancy rate (80%) approached practical capacity
- Average duration (1.5 hours) suggests vehicles generally complied with duration regulations
- Average turnover (1.4 vehicles per space) means approximately 120 vehicles could park on-street over the three hour observation period



Table 3.2 – Public Occupancy, Duration & Turnover: Weekday Evening (Friday)

Area	Metric	On-Street	Public Off-Street	Total Public
Panorama	Supply	97	55	152
	Average Occupancy Rate	70%	90%	77%
	Peak Occupancy Rate	73%	100%	82%
	Average Duration	--	--	1.7
	Average Turnover	--	--	1.2
Deep Cove Village	Supply	56	0	56
	Average Occupancy Rate	79%	--	79%
	Peak Occupancy Rate	80%	--	80%
	Average Duration	1.5	--	1.5
	Average Turnover	1.4	--	1.4
Caledonia / Badger	Supply	125	0	125
	Average Occupancy Rate	35%	--	35%
	Peak Occupancy Rate	37%	--	37%
	Average Duration	2.4	--	2.4
	Average Turnover	0.5	--	0.5
Rockcliff / Cliffmont	Supply	206	58	264
	Average Occupancy Rate	48%	62%	51%
	Peak Occupancy Rate	50%	66%	51%
	Average Duration	--	--	2.1
	Average Turnover	--	--	0.7
Entire Study Area	Supply	484	113	597
	Average Occupancy Rate	53%	76%	57%
	Peak Occupancy Rate	54%	78%	58%
	Average Duration	--	--	1.9
	Average Turnover	--	--	1.1

Notes: Friday, May 16, 2014 between 6 p.m. and 9 p.m.
 Average Duration measured in hours
 Average Turnover measured in vehicles per space

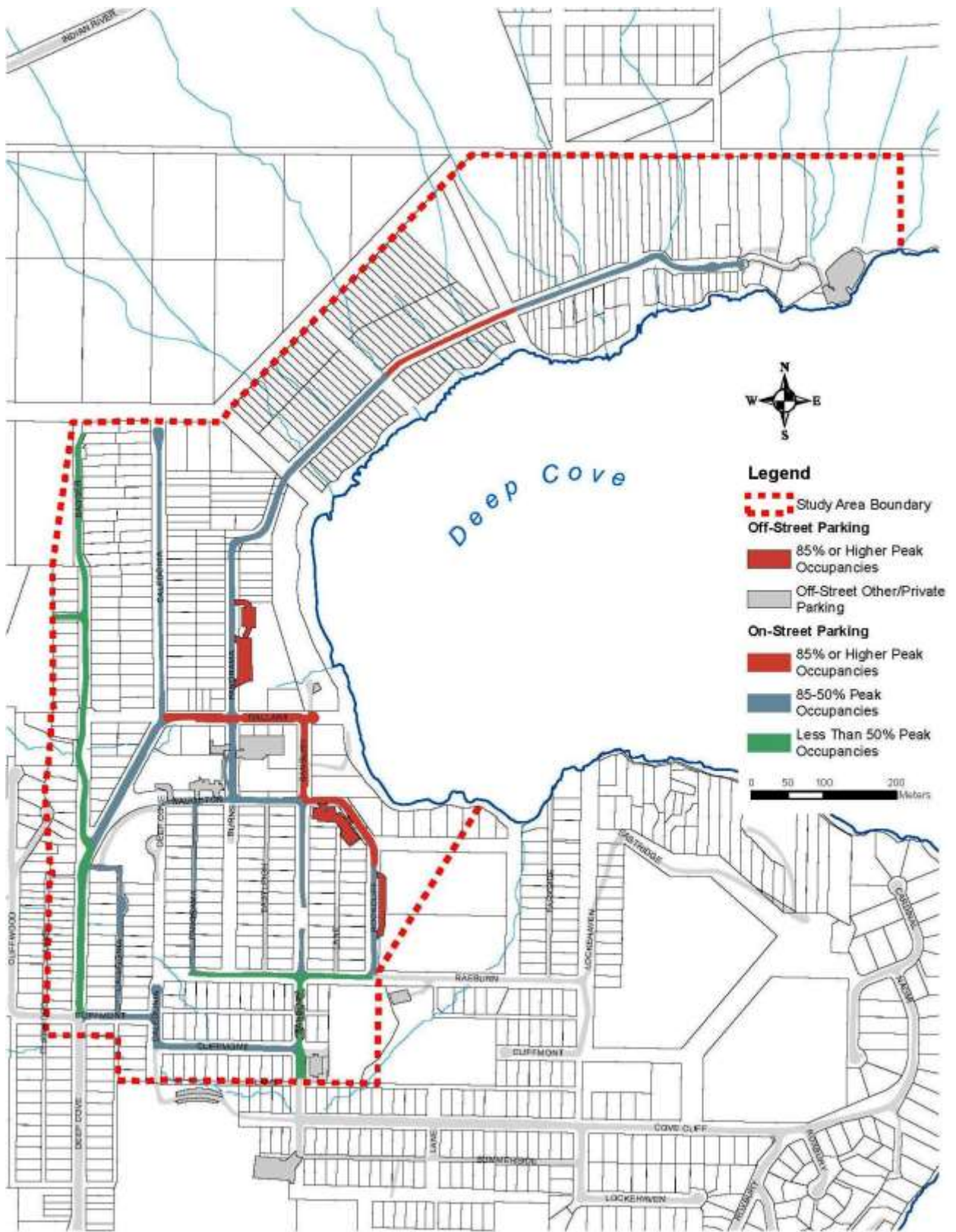


Figure 3.3 – Friday Evening Peak Occupancy Heat Map



3.2.3 Saturday – Public Occupancy, Duration & Turnover

Table 3.3 presents the four metrics for all public parking spaces as well as for each of the subareas during the Saturday (1 p.m. to 7 p.m., May 17, 2014) of the Victoria Day Long Weekend.

Figure 3.4 illustrates the Saturday peak occupancy for all public parking spaces across the study area.

Key Findings – Entire Study Area

On-street

- Average occupancy rates (71%) were moderate to high
- Peak occupancy rates (78%) approached practical capacity

Off-street

- Average occupancy rates (96%) were high
- Peak occupancy rates (101%) exceeded practical capacity (over 100% capacity suggests some vehicles were parked illegally)

Overall

- Average occupancy rates (76%) were moderate to high
- Peak occupancy rates (82%) approached practical capacity
- Average duration (2.5 hours) suggests vehicles generally complied with duration regulations
- Average turnover (1.7 vehicles per space) means only about 2,100 vehicles could park on-street or in the off-street public parking lots over the six hour observation period

Key Findings – Deep Cove Village

- Average occupancy rate (97%) was high
- Peak occupancy rate (113%) exceeded practical capacity (over 100% capacity suggests some vehicles were parked illegally)
- Average duration (1.7 hours) suggests vehicles generally complied with short-term duration parking regulations
- Average turnover (3.1 vehicles per space) means only about 110 vehicles could park on-street over the six hour observation period



Table 3.3 – Public Occupancy, Duration & Turnover: Weekend (Saturday)

Area	Metric	On-Street	Public Off-Street	Total Public
Panorama	Supply	97	55	152
	Average Occupancy Rate	86%	98%	91%
	Peak Occupancy Rate	91%	100%	94%
	Average Duration	--	--	2.3
	Average Turnover	--	--	2.2
Deep Cove Village	Supply	56	0	56
	Average Occupancy Rate	97%	--	97%
	Peak Occupancy Rate	113%	--	113%
	Average Duration	1.7	--	1.7
	Average Turnover	3.1	--	3.1
Caledonia / Badger	Supply	125	0	125
	Average Occupancy Rate	49%	--	49%
	Peak Occupancy Rate	55%	--	55%
	Average Duration	2.9	--	2.9
	Average Turnover	1.0	--	1.0
Rockcliff / Cliffmont	Supply	206	58	264
	Average Occupancy Rate	71%	94%	76%
	Peak Occupancy Rate	80%	102%	85%
	Average Duration	--	--	2.9
	Average Turnover	--	--	1.5
Entire Study Area	Supply	484	113	597
	Average Occupancy Rate	71%	96%	76%
	Peak Occupancy Rate	78%	101%	82%
	Average Duration	--	--	2.5
	Average Turnover	--	--	1.7

Notes: Saturday, May 16, 2014 between 1 p.m. and 7 p.m.
 Average Duration measured in hours
 Average Turnover measured in vehicles per space

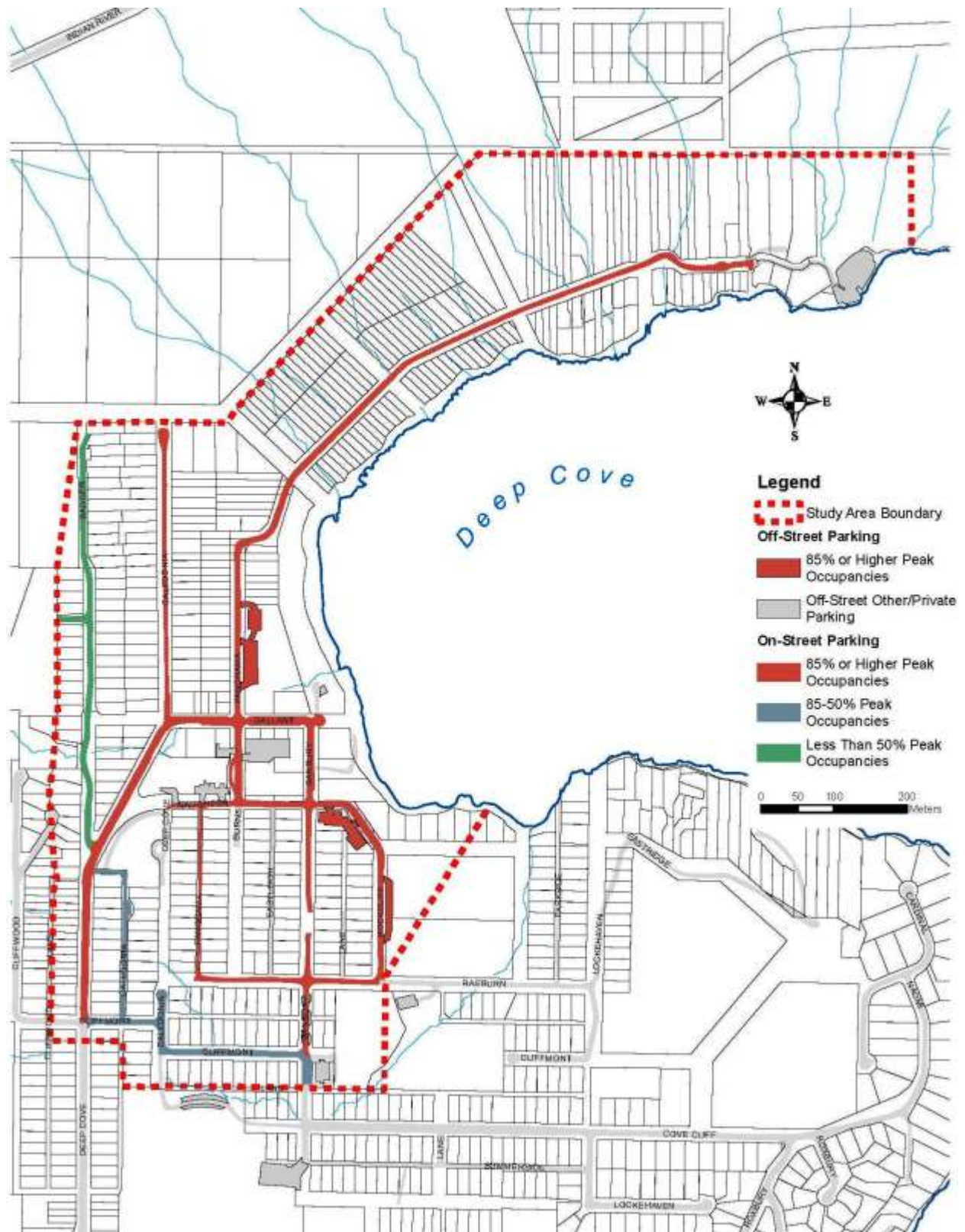


Figure 3.4 – Saturday Peak Occupancy Heat Map



3.2.4 Special Event

- Special Event – Concert in the Park
- Location – Panorama Park
- Date – Friday, August 8, 2014
- Weather – Sunny and warm
- No requirement for a Traffic & Parking Management Plan

Observations

- On-street parking occupancy in Deep Cove Village, Panorama Drive and the lower parts of Rockcliff / Cliffmont appeared to exceed practical capacity
 - Deep Cove Village > 85%
 - Panorama Drive > 85%
 - Deep Cove Rd > 85%
 - Raeburn Rd > 85%
 - Covecliff Rd > 85%
- Off-street public parking occupancy also appeared to exceed practical capacity
 - Panorama Park parking lots > 85%
 - Covecliff parking lots > 85%
- Overflow parking was underutilized
 - Myrtle Park < 20%
 - Cove Cliff Elementary School < 24%
- No use of turnaround at south end of Gallant was observed
- Little if any use of existing bicycle racks
- Visitors who parked in Rockcliff / Cliffmont subarea seemed unsure about the route to Deep Cove Village



3.3 Resident Parking Permits

The DNV currently has a trial Resident Parking Permit program underway along Panorama Drive for residents of Panorama Drive and Indian Arm (see **Table 3.5**). The trial is primarily intended to address concerns associated with the non-resident traffic generated by the increased usage of Quarry Rock Trail, which include:

- Visitors block the road restricting emergency and resident vehicle access;
- Residents' driveways are used by visitors as a turn-around;
- Cars park too close or block residential driveways; and
- Visibility of Pedestrians walking along and crossing Panorama Drive is hindered.

Table 3.5 – Resident Parking Permits Issued

Resident Parking Zone	# of Eligible Households	# of Households Issued Permits	# Decal Permits Issued	# of Visitor Passes Issued
Panorama RPZ (since June 6, 2014)	123 Residents of 2443 to 2888 Panorama Drive	77	97	78
Indian Arm RPZ (since July 15, 2014)	72 Water access only tax payers/strata	27	N/A	27

Notes: Source – District of North Vancouver
Permits issued as of July 30, 2014 (numbers subject to change)

3.4 Accessible Parking

The parking inventory identified four accessible public parking spaces in the study area: one on-street space on Gallant Avenue just east of Panorama Drive plus three spaces in the Panorama Park parking lot.

The accessible spaces represent 0.6 percent of the public parking supply in the study area.



3.5 Bicycle Parking

The bicycle parking inventory in the entire area was found to be 27 spaces (including all designated racks). During the study, three bicycles were counted in the entire study area. This translates into an average occupancy rate of 0.11. It should be noted that people were observed with their bikes either in the park or at a restaurant. These individuals chose not to use the bike racks either due bike rack location or out of convenience. See **Figure 3.6**.



Figure 3.6 – Bicycle Parking in Deep Cove



3.6 Parking Regulations, Fees, Charges & Enforcement

3.6.1 Parking Regulations and Fees

Figure 3.7 illustrates the existing time restrictions for public on-street and off-street parking. Key findings include:

- There are no fees or charges for using public on-street and off-street parking spaces;
- Privately operated parking lots which are limited to the Deep Cove Village subarea are generally restricted to residents, customers and employees. Note that Grouse Mountain - another popular North Shore hiking destination - has the following Parking Charges (June 2014):
 - Lower lot, \$2 for 3 hours of \$4 for the day. \$15 violation without a ticket; and
 - Upper lot, \$6 for 3 hours and \$8 for the day. \$25 violation without a ticket;
- Resident Parking Only is in effect along parts of Panorama Drive, Rockcliff Road and Banbury Road; and
- On-street parking along the north side of Gallant Avenue is limited to one hour or less while on-street parking on the south side is limited to two hours or less. This has been reported to lead to confusion of visitors and customers to Deep Cove Village about how long they can park on Gallant Avenue.

3.6.2 Parking Enforcement

The District of North Vancouver Bylaw Services Department is responsible for enforcing public on-street and off-street parking across the District. Parking regulations are enforced by a team of five bylaw officers equipped with four patrol vehicles. Members of the Public can file complaints to the DNV's bylaw line, RCMP non-emergency line, or the DNV's website. The DNV's parking enforcement is pro-active by being there ahead of time, knowing the busier times to target enforcement and working with Engineering Department to provide wayfinding to parking opportunities. They are reactive by responding to calls and complaints. Most complaints occur on weekends or holidays during the summer season in midday.

Deep Cove is patrolled seven days per week and Bylaw Officers typically do not hand out warnings to violators. If the person who is violating is present, the Bylaw Officer may direct violators to locations where they can park legally. Vehicles are towed only as a last resort. The most common parking violations in Deep Cove are "Contrary to Sign" infractions where people park in no parking or no stopping zones. Another common violation is parking too close to a fire hydrant or driveway or intersection. Deep Cove experiences fewer parking violations in parking lots and timed parking areas have good turnaround.

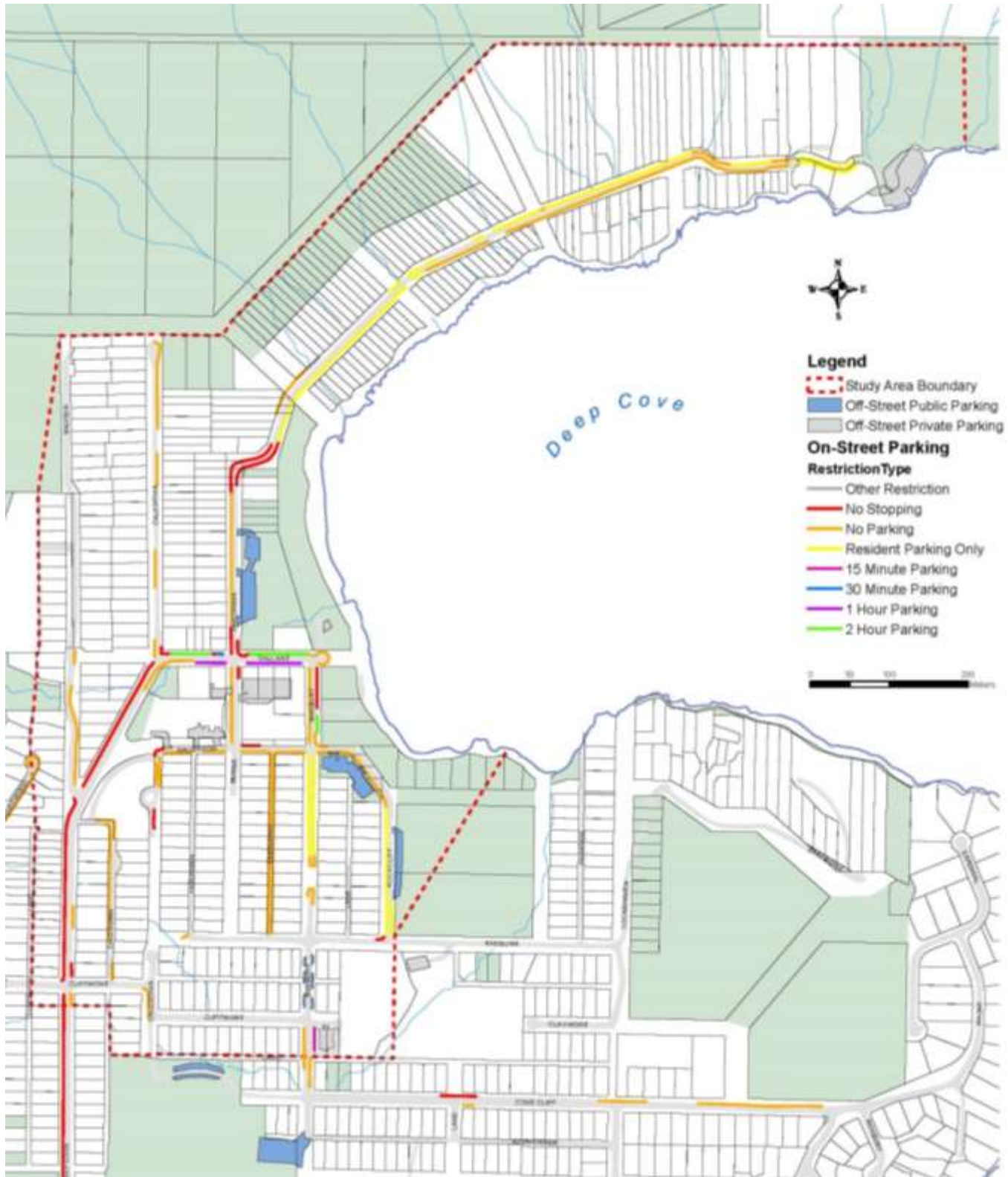


Figure 3.7 – Parking Regulations in Deep Cove



3.6.3 Sharing Arrangements

The District and other parking operators have explored opportunities to share parking in order to facilitate overflow parking. In particular, Cove Cliff Elementary School and a potential new parking area off the road to Woodlands are designated for overflow parking.



4.0 VEHICULAR TRAFFIC

4.1 Existing Street Network and Traffic Volumes

The existing street network is illustrated in **Figure 4.1**.

- **Deep Cove Road** is a north-south Major Arterial with a 50 km/h speed limit with a section signed at 30 km/h (due to limited sight distance) and is designated as a Truck Route and Transit Route that has sidewalks on both sides through most sections and bus stops. Within the study area, the majority of the adjacent land-use is residential with a small section of Public Assembly land. It has one lane in each direction with on-street parking in front of the existing homes on the east side of the street.
- **Gallant Avenue** is an east-west major arterial with a 50 km/h speed limit, one lane in each direction and sidewalks on both sides. The land-use around Gallant Street is a mix of commercial, residential and institutional. It is designated as a Truck Route, Transit Route and Cycle Route.
- **Panorama Drive** is a north-south local road with a 50 km/h speed limit, one lane in each direction and no sidewalks on either side of the street (except for a few sections). On-street Resident Only parking is permitted in some sections and most residences have driveway access.
- **Rockcliff Road** is a north-south collector road with a 50 km/h speed limit, one lane in each direction and no sidewalks on either side of the street (except for a few sections where there is on one side). On-street parking is permitted in some sections and most residences have driveway access.
- **Cliffmont Road** is an east-west collector road with a 50 km/h speed limit, one lane in each direction and sidewalks on both sides along most of the street. On-street Resident Only parking is permitted in some sections and most residences have driveway access.

Vehicles, cyclists, and pedestrians were counted at 15-minute intervals at the locations and times during the Victoria Day Weekend listed in **Table 4.1**. **Appendix D** illustrates the existing traffic volumes at the study area intersections for the weekday AM and PM and Saturday midday peak periods. It should be noted that AM Peak traffic counts were only conducted for the intersection of Gallant Avenue and Panorama Drive as additional data collection is needed to completed a signal warrant or four-way stop analysis at this location. The traffic movement counts are attached in **Appendix C**.

Table 4.2 describes the key intersections in the study area while **Table 4.3** summarizes the characteristics of the street network.

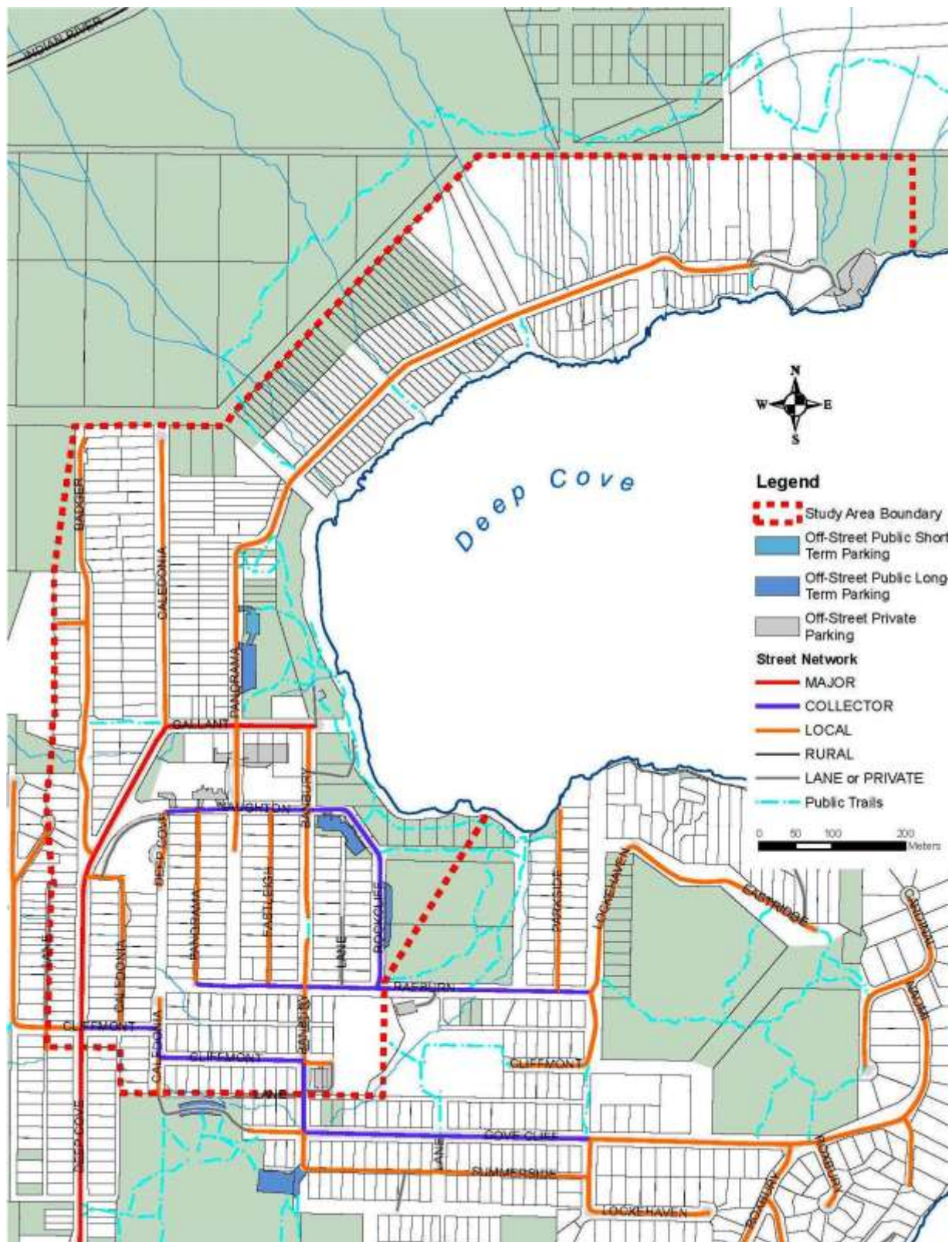


Figure 4.1 – Existing Street Network in Deep Cove



Table 4.1 – Turning Movement Count Locations

Intersection	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Gallant / Panorama	●	●	●
Burns / Naughton		●	●
Banbury / Naughton		●	●
Banbury / Raeburn			●
Banbury / Cliffmont			●
Deep Cove / Cliffmont			●

Notes: Weekday AM Peak Period count – Friday, May 16, 2014 between 7 and 9 a.m.
 Weekday PM Peak Period count – Thursday, May 15, 2014 between 4 and 6 p.m.
 Saturday Midday Peak Period count - Saturday, May 17, 2014 between 12 noon and 2 p.m.

Table 4.2 - Existing Intersection Traffic Control and Geometry

Intersection	Control Type	Cyclist Amenities	Pedestrian Amenities
Gallant / Panorama	Minor Street Stop-Control	None	Crosswalk marked on all approaches
Burns / Naughton	All-Way Stop-Control	None	Crosswalk marked on north approach
Banbury / Naughton	All-Way Stop-Control	None	Crosswalk marked on north approach
Banbury / Raeburn	Minor Street Stop-Control	None	No marked crosswalks
Banbury / Cliffmonth	Minor Street Stop-Control	None	Crosswalk marked on north approach
Deep Cove / Cliffmont	Minor Street Stop-Control	None	Crosswalk marked on north approach

Table 4.3 – Existing (2014) Peak Hour Traffic Volumes

Street	Street Classification	Traffic Volume both directions (vph)		
		Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Deep Cove Road	Major Arterial	-	-	600
Gallant Avenue	Major Arterial	200	250	500
Panorama Drive	Local	-	100	200
Rockcliff Road	Collector	-	100	250
Cliffmont Road	Collector	-	-	200

Notes: vph – vehicles per hour; Traffic volumes rounded to nearest five



4.2 Operational Analysis

Synchro 8 software was used to evaluate operating parameters including level of service (LOS), volume to capacity ratio (v/c ratio) and queuing patterns (95th percentile queues) at the key study intersections for the peak periods, i.e. weekday PM peak hours and Saturday Midday peak hour. The results are summarized in **Table 4.4** and attached in **Appendix E**. Key findings include:

- The six intersections operate at LOS C or better during the Saturday Midday peak hour when traffic volumes were highest on the Victoria Day long weekend.
- The traffic volumes are well within the capacity of the intersections.
- There is only a 5-percent probability of queues exceeding 1 vehicle length during the analysis time periods. The exceptions are during the Saturday Midday peak hour when:
 - The northbound and southbound approaches at Gallant / Panorama where queues would also be no longer than 2 vehicles on either approach; and
 - The westbound approach at Deep Cove / Cliffmont where queues would be no longer than 2 vehicles.
- Note: there appears to be confusion as to who has right-of-way at the minor street stop controlled intersection of Gallant Avenue and Panorama Drive, especially on summer weekends when traffic volumes are highest. This issue appears to be caused by visitors who are unfamiliar with the intersection.

4.3 Signal Warrant / Four-Way Stop Analysis

A Traffic Signal Warrant Analysis (TAC, 2005) was completed for the intersection of Gallant Avenue and Panorama Drive which currently operates as a two-way stop for Panorama Drive. Based on the traffic volumes collected in May 2014, it appears that a traffic signal is not warranted at this time. Anecdotal information from residents during a site visit also suggests that a traffic signal is not favoured by the community.

Two-way stop procedures are typically used in residential areas, such as Deep Cove. However, additional consideration could be given to converting the two-way stop procedure at Gallant Avenue and Panorama Drive into a four-way stop. Adding stop signs for Gallant Avenue is not expected to cause significant delay and may provide better control over vehicle/pedestrian conflicts. Due to the high volume of pedestrians crossing at this intersection, most vehicles on Gallant Avenue must already stop to allow for pedestrians to cross. In addition, it was observed that many vehicles are treating this intersection as a four-way stop due the more urban feel of the Village.



Table 4.4 – Existing (2014) Intersection Operations

Intersection	Control	Movement ¹	Weekday PM Peak Hour			Saturday Mid-day Peak Hour		
			LOS ²	V/C Ratio	Queue (veh)	LOS ²	V/C Ratio	Queue (veh)
Gallant Avenue and Panorama Drive	Minor Street Stop Controlled	NB LTR	B	0.09	<1	C	0.32	2
		EB L	A	0.07	<1	A	0.09	<1
		WB L	A	0.01	<1	A	0.01	<1
		SB LTR	A	0.10	<1	C	0.37	2
Burns Avenue and Naughton Avenue	All Way Stop-Controlled	NB LTR	A	0.01	<1	A	0.01	<1
		SB LTR	A	0.02	<1	A	0.07	<1
		EB LTR	A	0.02	<1	A	0.06	<1
		WB LTR	A	0.06	<1	A	0.10	<1
Banbury Road and Naughton Avenue	All Way Stop-Controlled	NB LTR	A	0.01	<1	A	0.02	<1
		SB LTR	A	0.03	<1	A	0.09	<1
		EB LTR	A	0.05	<1	A	0.11	<1
		WB LTR	A	0.08	<1	A	0.16	<1
Banbury Road and Raeburn Street	Minor Street Stop-Controlled	NB LTR	-	-	-	A	0.04	<1
		EB L	-	-	-	A	0.01	<1
		WBL	-	-	-	A	0.02	<1
		SB LTR	-	-	-	A	0.01	<1
Banbury Road and Cliffmont Road	Minor Street Stop-Controlled	NB L	-	-	-	A	0.03	<1
		EB LTR	-	-	-	A	0.06	<1
		WB LTR	-	-	-	A	0.01	<1
		SB L	-	-	-	A	0.01	<1
Deep Cove Road and Cliffmont Road	Minor Street Stop-Controlled	NB L	-	-	-	A	0.01	<1
		EB LTR	-	-	-	B	0.03	<1
		WB LTR	-	-	-	C	0.29	2
		SB L	-	-	-	A	0.01	<1

Notes: 1. NB = Northbound etc., L = Left, T = Through, R = Right
 2. LOS for the intersection is based on HCM 2010



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5.0 ROAD SAFETY

A review of the collision history was completed based on the Insurance Corporation of BC (ICBC) collision data provided by the District of North Vancouver. Five years of collision data were reviewed from January 2008 to December 2012, with 146 collisions recorded during that period.

Table 5.1 shows the distribution of collisions by year.

Table 5.1 - Collisions by Year

Year	Total
2008	23
2009	39
2010	41
2011	21
2012	<u>22</u>
Total	146

There were 39 collisions reported in 2009 and 41 collisions reported in 2010, which are nearly twice the number of annual collisions reported in 2008, 2011 and 2012. It is not clear why there were so many reported collisions during 2009 and 2010.

Table 5.2 shows the number of collisions by month for 2009 and 2010. The number of collisions reported throughout the winter months of November, December, January and February were less than one third of the total annual collisions reported in either year, therefore poor road conditions do not appear to be solely responsible for the additional collisions.

Figure 5.1 shows the distribution of collisions by month and **Figure 5.2** shows the distribution of collisions by the day of the week. Key findings include:

- Collisions are somewhat more likely to occur on Friday or Saturday and during the months of June and July when compared with other days of the week and months of the year.
- Conversely, collisions were somewhat less likely to occur on Tuesday or Wednesday and during the month of October.



Table 5.2 - Collisions by Month

Month	2008	2009	2010	2011	2012	TOTAL
January	0	4	3	0	4	11
February	1	1	5	1	0	8
March	2	2	8	1	1	14
April	2	6	3	4	0	15
May	2	2	2	2	3	11
June	2	7	7	2	2	20
July	3	5	5	3	3	19
August	2	1	3	1	1	8
September	3	4	0	0	2	9
October	2	2	1	0	1	6
November	3	3	3	5	0	14
December	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>5</u>	<u>11</u>
Total	23	39	41	21	22	146

Figure 5.3 shows the time of day when the collisions were recorded; 13 of the 146 records did not indicate a collision time. Key findings include:

- More collisions occurred between 3 p.m. and 6 p.m. than any other period.
- Nearly half of all collisions that were recorded in the Deep Cove area occurred between the hours of noon and 6 p.m. and approximately 64% of the collisions occurred between 9 a.m. and 6 p.m. Thus, the majority of the collisions occurred during “standard” business hours of 9 a.m. to 6 p.m.

Figure 5.4 shows the number of collisions that were recorded on each road; the collisions recorded could be either mid-block or intersection collisions.

Figure 5.5 shows the number of collisions that were at intersections and **Figure 5.6** shows the number of collisions at each intersection.

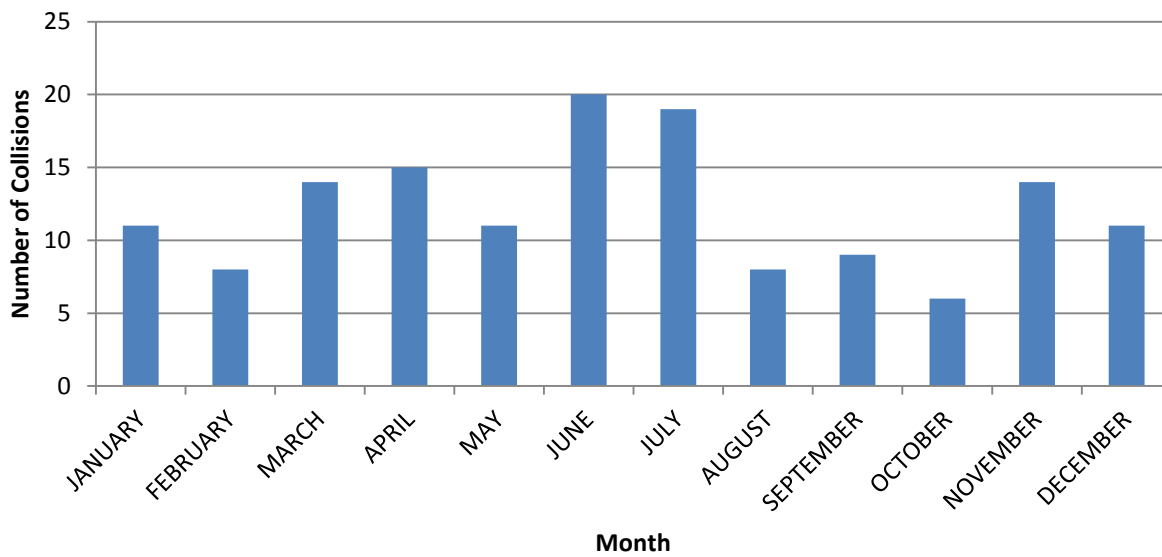


Figure 5.1 - Collision Distribution by Month (2008 – 2012)

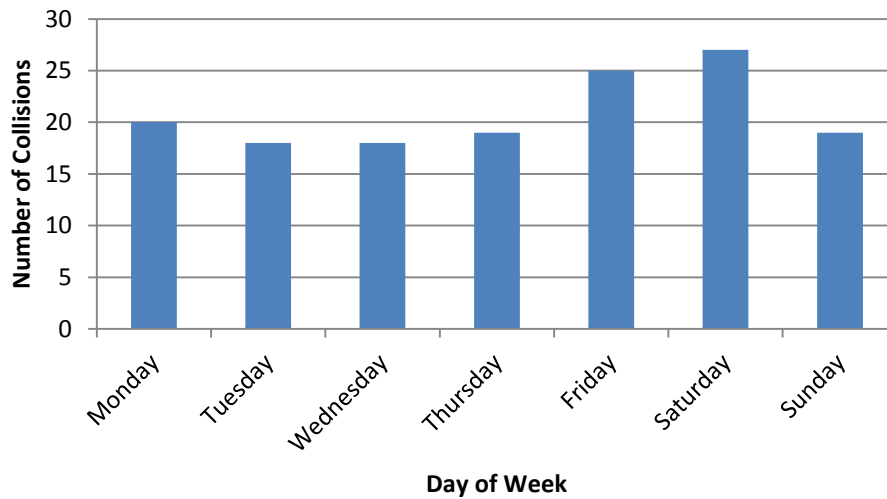


Figure 5.2 - Collision Distribution by Day of the Week (2008 – 2012)

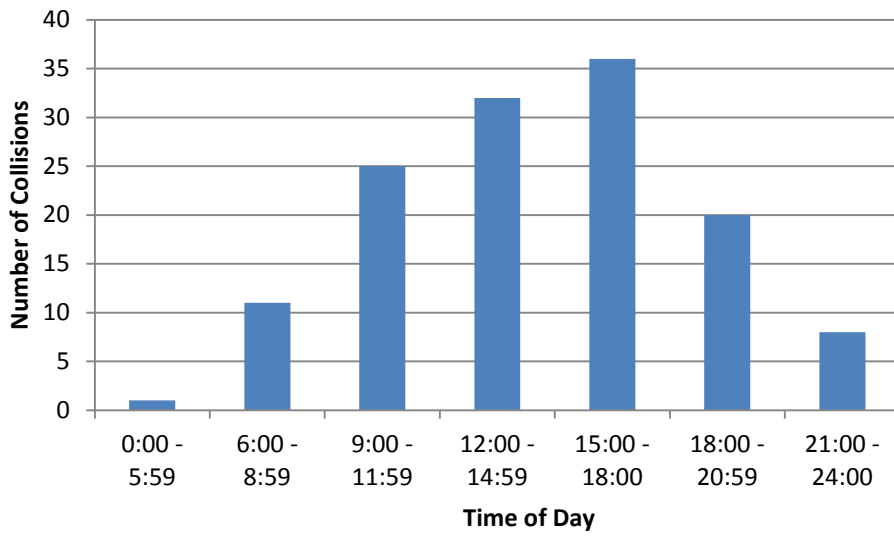


Figure 5.3 - Collision Time

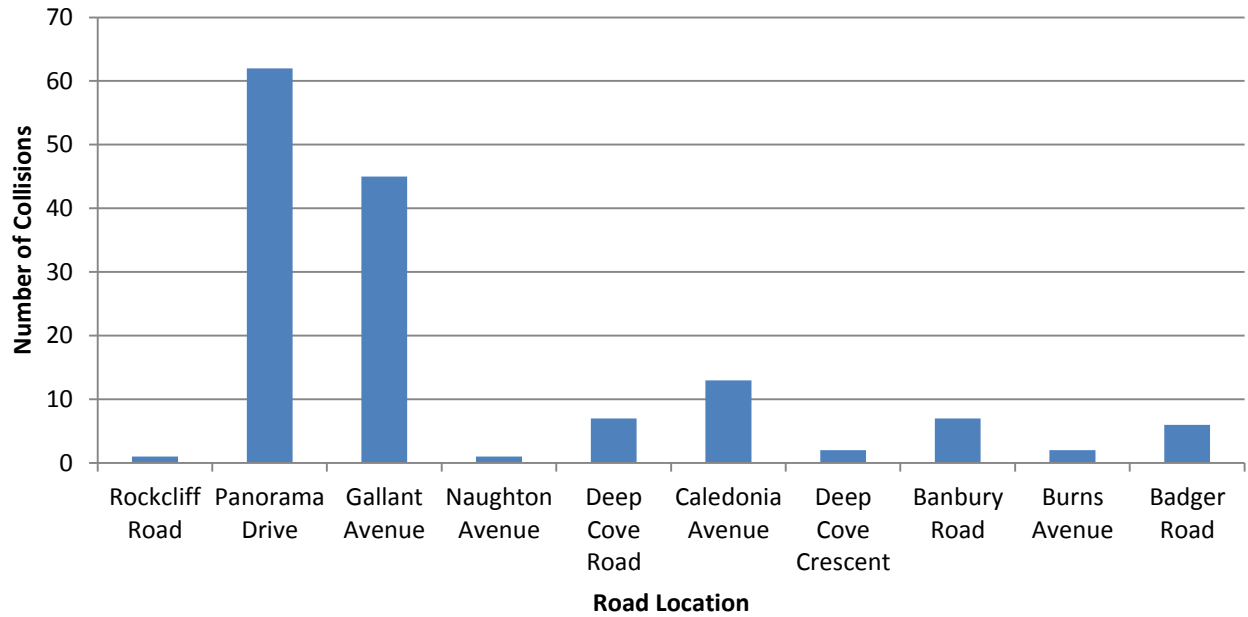


Figure 5.4 - Collision Road Location

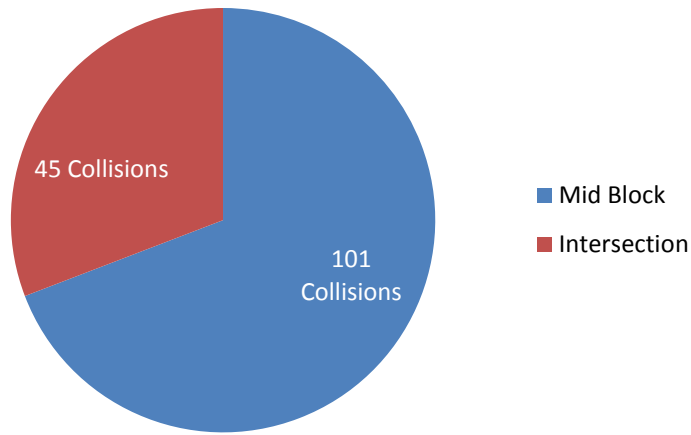


Figure 5.5 - Intersection Related Collisions

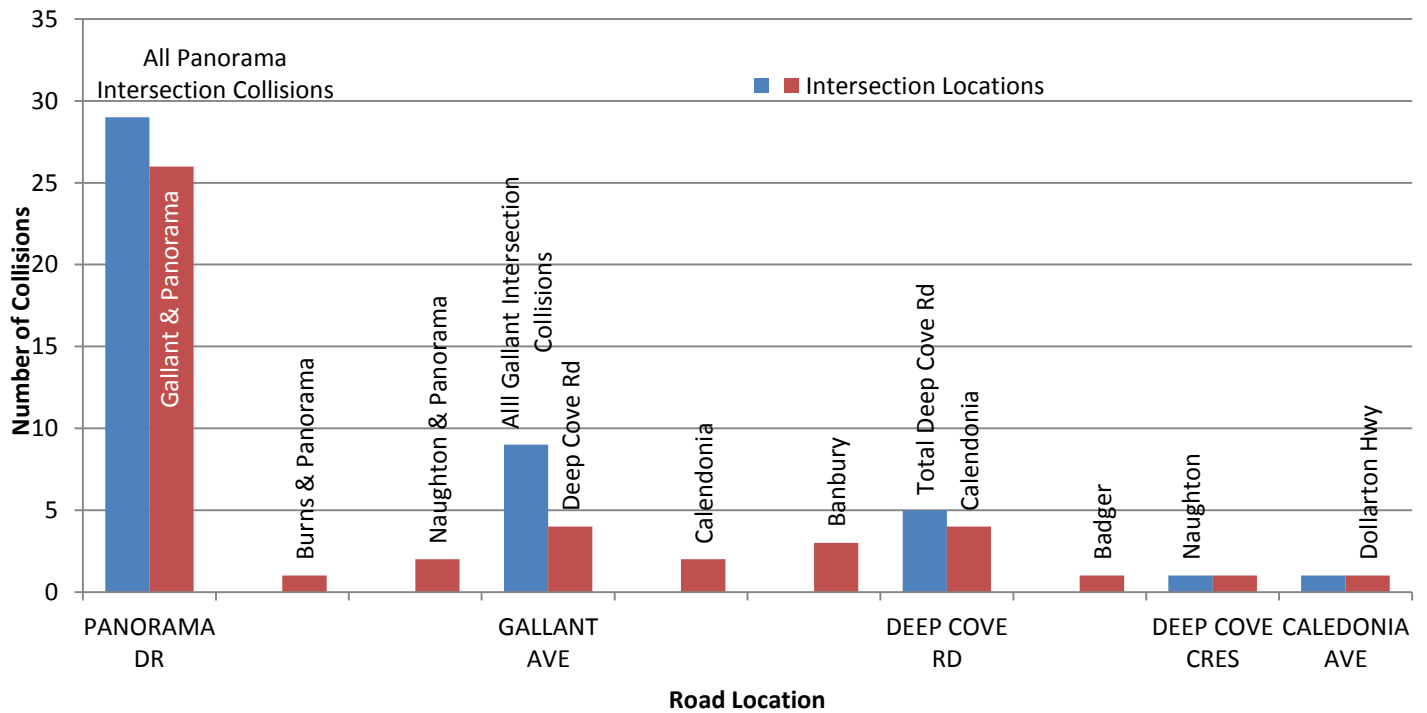


Figure 5.6 - Intersection Related Collisions



Figure 5.7 shows the type of collision that occurred; 14 of the 146 data records did not contain information on the type of collision. Key findings include:

- Half the collisions are conflicted, which means that based on the reports received from the drivers, ICBC is unable to determine what has happened; although, over time the number of undetermined collisions may decrease as claims are settled and databases updated.
- The most frequent type of collision that was recorded was the side impact collision.

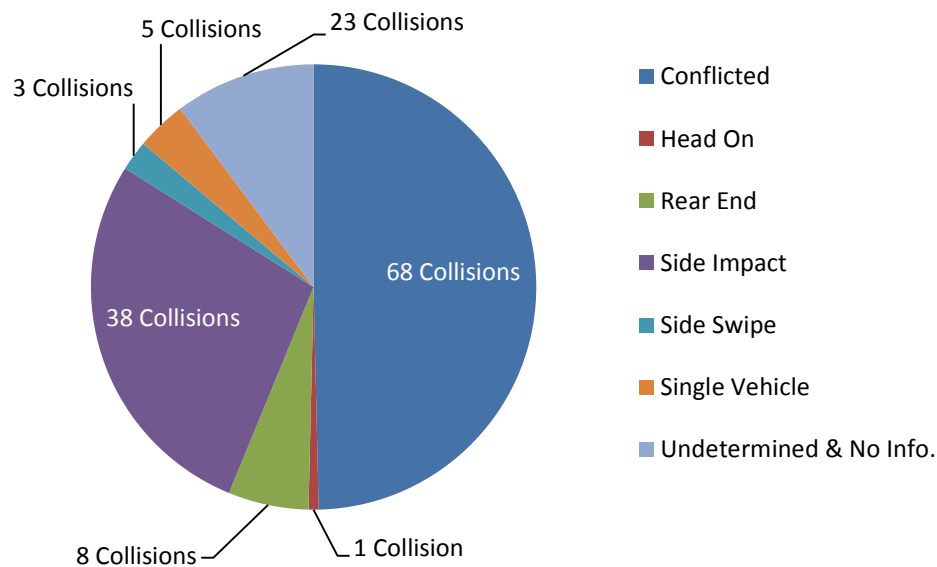


Figure 5.7 - Intersection Related Collisions

There are two locations within Deep Cove which have the highest frequency for collisions, Panorama Drive and Gallant Avenue. The typical collisions on Panorama Drive is damage to parked cars either by other cars trying to park or cars driving past parked cars. This is consistent with the behaviour observed on Panorama Drive in which there are numerous parking manoeuvres taking place within a narrow roadway. Similarly on Gallant Avenue, the majority of collisions took place when cars attempting to park would hit an adjacent parked vehicle.



6.0 SUMMARY AND CONCLUSIONS

Deep Cove is a waterfront community of residential, commercial and recreational users located at the east end the District of North Vancouver (DNV) where it meets Indian Arm. The area has experienced growing popularity for its beautiful surroundings as a place to live, conduct business, work and play. As a result, DNV is experiencing increased pressures for parking and access in this area.

6.1 Parking

- Deep Cove is a popular area with average transit use (10%) and a lot of people driving in for the day or evening (85%). The remainder walk or bike or use another mode of transport (4%).
- 597 parking spaces are public, which includes 484 on-street spaces (81% of the total supply) and 113 off-street spaces (19% of the total supply).
- Weekends are typically busier than weekdays. Nice weather days – particularly in the summer – result in Deep Cove approaching or exceeding capacity for parking, especially the Deep Cove Village and Panorama subareas.
- The off-street lots are filling up and the overflow is going to the streets where visitors compete with residents for the limited supply.
- There are at least 670 off-street parking spaces for residents within the study area, generally taking the form of car ports or garages. It appears that residents have enough parking on their own properties but make the choice to park on the street.

Things That Work Well

- As part of the response to pressure on the parking supply of the Panorama and Deep Cove Village subareas, the DNV has:
 - Added a trial Resident Parking Only (RPO) zone along Panorama Drive in addition to the existing RPO zones along Banbury and Rockcliff Roads.
 - Designated 75 public off-street parking spaces at Myrtle Park as overflow parking. Signage has been installed at key locations to advise visitors about the existence of and route to the overflow parking.
- The parking regulations in Deep Cove Village appear to result in the turnover needed to support the commercial land uses. Generally speaking, when time restrictions are in place, the turnover rate is sufficient such that enough trips are generated from the parking stalls in front of commercial businesses. This suggests that the current parking regulations support the surrounding land uses.

Things That Could Be Improved

- There appears to be a shortage of public parking in the Panorama and Deep Cove Village subareas.



- Wayfinding for drivers to the overflow parking lots (inbound) appears to be confusing and unclear and from the overflow parking lots out of the community (outbound) appears to be missing.
- Wayfinding for pedestrians between the overflow lots and key attractions appears to be missing. The sidewalk network is currently incomplete with key connections missing, especially between the Myrtle Park overflow lots and Deep Cove Village.
- The few bike racks that are present are underutilized and are not well signed / located.

6.2 Vehicular Traffic

- Deep Cove's road network functions as a commercial core (Deep Cove Village) surrounded by three residential areas. Traffic primarily enters the heart of the community via Deep Cove Road which turns into Gallant Avenue. This two-lane arterial is also a transit route as well as a cycle route.
- The key intersection is Gallant Avenue at Panorama Drive, which is controlled by stop signs on the Panorama Drive approaches. The highest level of intersection traffic control in Deep Cove is a four way stop; with most intersections controlled by stop signs on the minor approaches.
- As noted earlier, traffic volumes are typically higher on weekends than weekdays. Nice days – particularly in the summer – are notably busier, especially the Deep Cove Village and Panorama subareas.

Things That Work Well

- Intersections in Deep Cove appear to operate at LOS C or better during the Saturday Midday peak hour when traffic volumes were highest on the Victoria Day long weekend.
- The traffic volumes appear to be well within the capacity of the intersections.
- There appears to be only a 5-percent probability of queues exceeding 2 vehicle lengths during the analysis time periods.

Things That Could Be Improved

- There appears to be confusion as to who has right-of-way at the minor street stop controlled intersection of Gallant Avenue and Panorama Drive, especially on summer weekends when traffic volumes are highest. This issue appears to be caused by visitors who are unfamiliar with the intersection.
- Although the intersection of Gallant Avenue and Panorama Drive does not warrant a traffic signal at this time, consideration could be given to converting this two-way stop into a four-way stop control. Adding stop signs for Gallant Avenue is not expected to cause significant delay and may provide better control over vehicle/pedestrian conflicts. Many vehicles were observed to already treat this intersection as a four-way stop.



6.3 Road Safety

- The most recent five years of collision data (January 2008 to December 2012) indicated that 146 collisions were recorded in Deep Cove during that period.
- There were 39 collisions reported in 2009 and 41 collisions reported in 2010, which are nearly twice the number of annual collisions reported in 2008, 2011 and 2012. It is not clear why there were so many reported collisions during 2009 and 2010.
- Collisions are somewhat more likely to occur on weekends (Friday or Saturday) and during the summer (June and July) when compared with other days of the week and months of the year. Conversely, collisions were somewhat less likely to occur on midweek (Tuesday or Wednesday) and during the month of October.
- The majority of the collisions occurred during “standard” business hours of 9 a.m. to 6 p.m.
- The most frequent type of collision that was recorded was the side impact collision which typically occurred during parking manoeuvres



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Appendix A – Methodology

- **Site Visit** - Conducted a site visit to Deep Cove in order to observe parking and traffic patterns and existing land use; confirm on-street parking, laning configuration at each of the intersections, available sight distance at problem locations, as well as pavement markings and signing inventory; take ground photos at each intersection in the village; and document transit service in Deep Cove as well as the bicycle and pedestrian networks as they provide critical infrastructure for people to walk to and from their parked cars and opportunities to shift modes.
- **Background Information** - Background and mapping information was downloaded from the Internet and the following data was provided by the District during the Project Initiation Meeting:
 - transportation system improvements that the DNV reports as programmed, committed, or highly likely during the study period;
 - historic intersection traffic volumes for streets and intersections in Deep Cove;
 - information about significant study area developments that have been approved or are likely to occur within the next five years; and
 - ICBC collision claims data.
- **Existing Land Use Information** - Based on information extracted from GeoWeb and observations made during the site visit, the land use composition for the study area was broken down into by number and type; i.e. residential, retail, restaurants, office, institutional (schools, churches, day care, museums); and recreational (city parks and trails, marinas, theatres).

PARKING

- **Parking Inventory** - The DNV has an extensive database which documents the parking areas as well as time restrictions. This was used as a basis for the survey. As it is important to understand what percentage of the total parking supply is controlled by the DNV, the entire parking inventory, both public and privately owned or controlled in terms of location, quantity and type was identified. The amount and location of accessible stalls, bicycle racks, moped / motorcycle / scooter stalls, car / van pool stalls, etc. was confirmed.
- **Parking Survey** - Modern license plate recognition (LPR) technology, namely AutoVu was used to measure demand and length of stay at regular intervals throughout the study area. Data that was collected from vehicles parked on-street and in public off-street parking lots included license plate, location and time-date stamp. In order to preserve privacy, we commit to not sharing the license plate data and to discarding the license plate data upon completion of the study. The number of bicycles parked at bicycle racks were counted as well as bicycles parked along railings, trees, road signs, etc. in order to determine the full extent of bicycle parking in the area. The time periods for data collection were 3 pm to 9 pm on a weekday (Friday, May 16, 2014) plus 1 pm to 7 pm (Saturday, May 17, 2014) on the Victoria Day Long Weekend. This holiday weekend is typically very busy in Deep Cove and therefore resulted in the capture of peak parking demand. Data was collected once per hour.



- **Parking Analysis** - When the data entry was complete; a series of customized Microsoft Excel macros was used to assist in the processing and interpretation of the data set. Four metrics were calculated and analyzed for all public parking spaces, including average utilization, peak utilization, average duration; and average turnover. This analysis determined demand patterns, including areas with excess demand and areas with surplus parking available. Utilization was calculated for subareas where appropriate.
- **Parking Regulations, Fees, Charges and Enforcement** - Existing time restrictions, fees and charges was documented for both DNV and privately operated parking facilities, including any planned rate increases or time restriction modifications. The on-street regulations were reviewed keeping in mind locations of bus stops, loading zones, fire hydrants, etc. The DNV's parking enforcement program was reviewed with a view to understanding the effectiveness of parking regulations in Deep Cove. Any sharing arrangements that were identified were also documented.

VEHICULAR TRAFFIC ANALYSIS

- **Turning Movement Counts** - MMM's Miovision Scout Video Collection Unit was used to count vehicles, cyclist, and pedestrians at Panorama Drive / Gallant Avenue. Traffic counters conducted turning movement counts at 5 other intersections in Deep Cove. The intersection counts were conducted at 15-minute intervals on a weekday (Thursday, May 15, 2014) from 7 am to 9 am and 4 pm to 6 pm as well as on a Saturday, May 17, 2014 from 12 noon to 2 pm.
- **Operational Analysis** - Synchro 8 software was used to evaluate operating parameters including level of service (LOS), volume to capacity ratio (v/c ratio) and queuing patterns (95th percentile queues) at the study intersections for each of the two peak periods, i.e. weekday PM and Saturday Midday peak hours.

SAFETY ANALYSIS

- The most recent five years of ICBC crash data was reviewed in detail for the study area provided by the DNV. Crash trends, patterns, characteristics and causal factors were analyzed. The critical crash rates were calculated at each location. The crash data was summarized using appropriate text and graphics.



Appendix B – Public Opinion Survey



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NORTH VANCOUVER
DISTRICT

Deep Cove Parking Public Opinion Report

August 7, 2014

Prepared by:

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INTRODUCTION

The District of North Vancouver retained MMM Group and NRG Research Group to conduct a traffic and parking study in Deep Cove. As part of this study, NRG Research Group was tasked with gathering information regarding current experiences and perceptions of traffic and parking in the study area. Given the complexity of the topic, the District of North Vancouver identified the need to collect information from three stakeholder groups: Residents, Visitors and Businesses.

Given the unique nature of each stakeholder group, NRG Research Group and MMM Group worked with the District of North Vancouver to develop the most appropriate method to collecting feedback. It was determined that the following general approaches would be used for each stakeholder group for the public opinion research:

1. Residents – Online Survey
2. Visitors – Intercept Survey and Online Survey
3. Businesses – Focus Group and In-depth Interviews

The data collection tools (surveys and moderator guide) were developed by NRG Research Group in coordination with MMM Group and the District of North Vancouver. Given the various approaches used, this report contains three main subsections: Resident Survey, Visitor Survey and Business Focus Group. Each subsection details the background, methodology, findings, and summary.

1. RESIDENT SURVEY

1.1. RESIDENT SURVEY

Background and Methodology

BACKGROUND

The online resident survey were designed to gather feedback on perceived challenges regarding parking and traffic in Deep Cove.

PURPOSE

The purpose of these surveys were to better understand the current experiences of residents.

OBJECTIVES

The primary objectives of the Resident research were to:

- ✓ Gauge residents' perception of extent of current parking and traffic issues;
- ✓ Identify times/seasonality of parking and traffic issues,
- ✓ Understand the perceived impact various groups have on parking and traffic; and,
- ✓ Determine main concerns of current parking and traffic volumes.

The primary objectives of the Visitor research were to:

- ✓ Understand visitors' patterns to and within Deep Cove;
- ✓ Measure visitors' parking experiences; and,
- ✓ Gauge likelihood of using alternative transportation modes.

METHODOLOGY

Approach: The research is based on an online, self-administered survey available in Appendix 1. Two approaches were used for data collection: a personalized postcard sent to area residents that drove them to a password protected online survey, and an online open link. The postcard was printed and mailed on July 3, 2014 to resident addresses in Deep Cove and Indian Arm. The open link was posted on the District of North Vancouver’s website and provided to residents who did not receive a postcard. Both online surveys were available to residents between July 4, 2014 and July 20, 2014.

Response Rate: Of the 1,252 households that were sent postcards, 19 postcards were returned therefore we assume the remaining 1,233 were delivered. A total of 350 surveys were completed using the unique link provided on the postcard. This represents an overall response rate of 28%. This represents a maximum margin of error of +/- 4.43% at a 95% confidence interval.

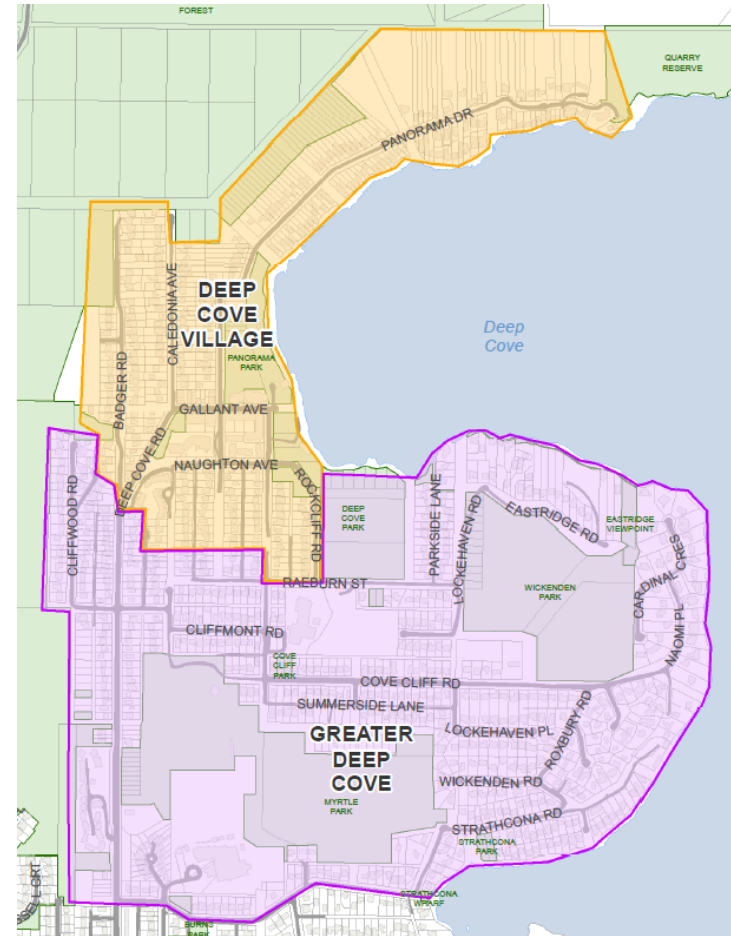
Response Rate of Deep Cove Parking Study – Resident Survey

Initial Sample	1,252
Bouncebacks/Undeliverable	19
Deliverable Addresses	1,233
Completes	350
Completion/Response Rate	28%

In addition to the 350 study-link completes, 63 surveys were also completed using the open link for a total of 413 completed surveys. Included in this are 6 surveys that were done by hand after the survey had closed. For many questions, due to missing responses and skip patterns, the total sample size may be less than 413.

ANALYSIS AND INTERPRETATION

- Most questions are reported as an overall total and then broken down by subgroups to highlight any differences. The following are the defined subgroups:
 1. **Total:** All respondents to that question, base size and skips are noted in the base size.
 2. **Study Link:** All ‘targeted’ respondents – those who had been mailed a postcard with a unique ID to complete the survey. Most completed using the unique link provided; however, some used the Open Link but provided their unique ID and/or their address which was matched to the unique ID during analysis.
 3. **Open Link:** All respondents who completed the survey using the open link provided on the District of North Vancouver’s website (excluding those noted above who could be matched to the targeted list).
 4. **Study Link – DC Village:** A subset of Study Link respondents (as noted above) who reside in the orange area of the map shown to the right.
 5. **Study Link – Greater DC:** A subset of Study Link respondents (as noted above) who reside in the purple area of the map shown to the right.
- In addition to the above, Indian Arm residents skipped Q8 through Q15. They were asked three questions unique to their situation. All responses from both the Study and Open Link are included in the Indian Arm Residents section.
- Statistical differences have been calculated at the 95% confidence level and are noted with a red circle. ○



1.2. RESIDENT SURVEY FINDINGS

Household Characteristics in Study Area

1.2. RESIDENT SURVEY FINDINGS - Household Characteristics in Study Area

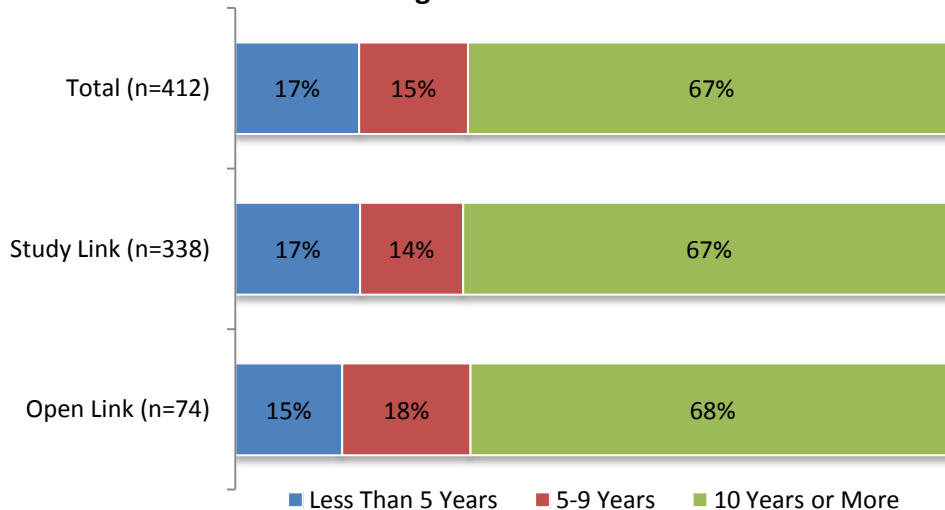
LENGTH AT CURRENT RESIDENCE

- Deep Cove residents tend to be well established in the area with two-thirds having lived at their current dwelling for 10 years or more.

HOME OWNERSHIP

- Over 9-in-10 residents (91%) of Deep Cove who completed the survey using the study link mailed to them own their home. This is significantly higher than the 78% of residents who completed the survey via the open link which was posted on the District of North Vancouver’s website. This suggests that those completing the open link survey are more likely to be renters living in the area.

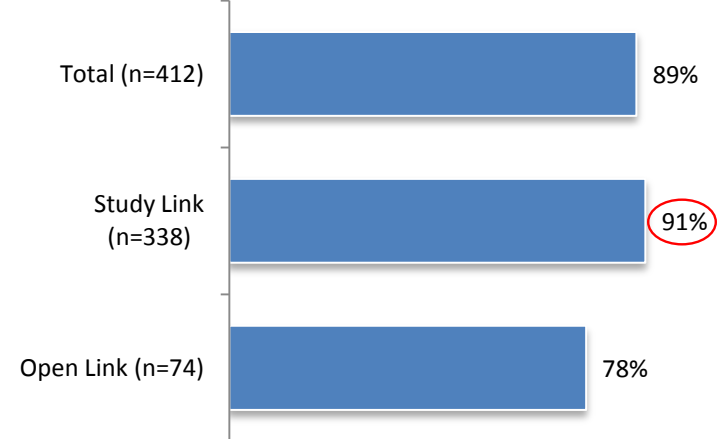
Length in Current Residence



Q3. How long have you resided in this location?
Base: All residents.

Home Ownership

% Yes – Own



Q4. Do you currently rent or own your home?
Base: All residents.

1.2. RESIDENT SURVEY FINDINGS - *Household Characteristics in Study Area*

PEOPLE IN HOUSEHOLD

- Most households (53%) in Deep Cove report having two to three residents.
- On average, Deep Cove households have 3.0 people. Within households who responded using the study link on the postcard mailed out to them, residents of Greater Deep Cove have a significantly higher average number of people in their household than those in the Deep Cove Village area (3.2 vs. 2.7). Given the higher concentration of condos and apartments in the Village area, which tend to have smaller number of household members, this result is not surprising.

Number of People in Household

# of People in HH	Total (n=410)	Study Link (n=336)	Open Link (n=74)	Study Link – DC Village (n=160)	Study Link – Greater DC (n=164)
1	8%	8%	5%	14%	2%
2	33%	32%	35%	34%	29%
3	20%	21%	18%	18%	23%
4	19%	18%	23%	15%	22%
5 or More	11%	11%	12%	8%	14%
Prefer Not to Say	10%	10%	7%	12%	10%
Average	3.0	2.9	3.0	2.7	3.2

Q5. How many people currently live in your household?
Base: All residents.

RENTALS

- Overall, only 7% of respondents who own noted that they have any tenants that share their address. On average, they have 1.5 tenants.

PARKING USE AND CAPACITY

- On average, Deep Cove residents have 2.3 off-street parking spots. Residents in the Greater Deep Cove area have a significantly higher average number of private off-street parking spots than their Deep Cove Village area counterparts (2.5 vs. 2.1, respectively). It should be noted that the term off-street is used in this context to identify private, residential parking capacity located off-street such as garages, driveways, underground parking spots, etc.
- On the whole, there appears to be off-street capacity for residents' vehicles. In fact, Deep Cove residents have an average of 2.2 vehicles in their households which is close but lower than the average number of off-street parking spots (2.3).
- Despite this capacity, on average, each household has 0.5 vehicles regularly parked on the street.
- There is an average surplus of off-street parking for Greater Deep Cove households (0.21 spaces left after subtracting the number of vehicles in each household). In contrast, there is a net negative (-0.08) amount of off-street parking available for households in Deep Cove Village.
- Excluding Indian Arm residents, 14% of respondents indicated they live in a condo or apartment building. Of these, 30% note that their building has designated visitor parking spaces.

Vehicles and Parking Use

	Total (n=368-373)	Study Link (n=316-321)	Open Link (n=52)	Study Link – DC Village (n=155-158)	Study Link – Greater DC (n=161-163)
Avg. # of Off-Street Parking Spots	2.3	2.3	2.3	2.1	2.5
Avg. # of Vehicles in Household	2.2	2.2	2.4	2.2	2.3
Avg. # of Vehicles Regularly Parked on Street	0.5	0.5	0.6	0.6	0.5
Avg. Net Off-Street Parking Per Household Capacity (off-street parking minus # of vehicles - calculated for each household)	0.07	0.08	-0.02	-0.08	0.21

Q8. How many off-street parking spaces, if any, do you have at this address?/
 Q9. How many vehicles belong at your address?/
 Q10. And how many of those <Q9> vehicles are regularly parked on the street?
 Base: All residents excluding Indian Arm.

1.3. RESIDENT SURVEY FINDINGS

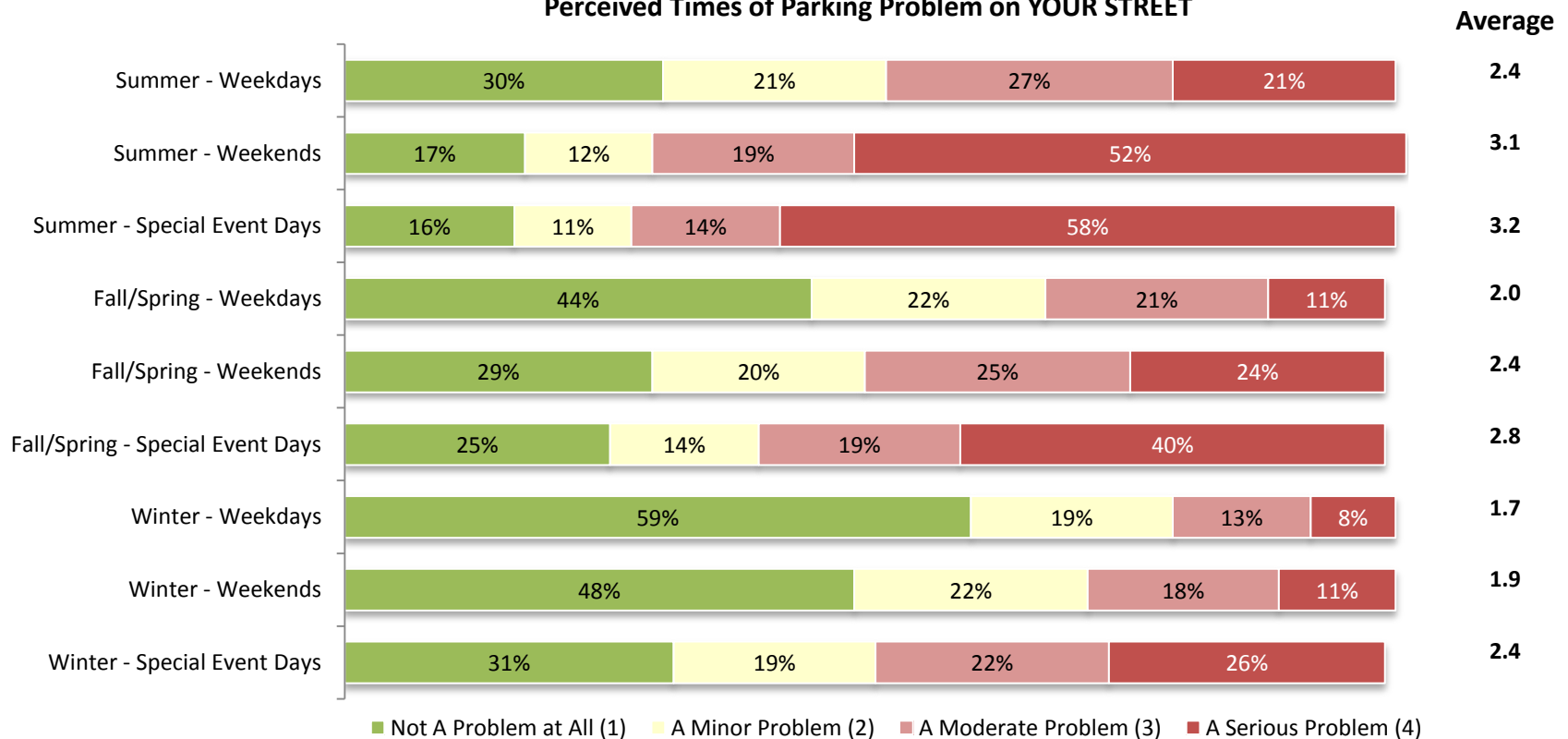
Perceived Parking Issues

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

SEASONALITY OF PERCEIVED PARKING PROBLEM

- Over half of respondents rate the number of vehicles parking on their street as a serious problem during the Summer on Weekends (52%) and Special Event Days (58%). Special Event Days in the Fall and Spring are also rated as a serious problem by 4-in-10 residents.
- In contrast, nearly 6-in-10 (59%) don't think there is a parking problem at all on weekdays in the Winter.
- Not surprisingly, within each season, the most problematic times appear to be Special Event Days followed by Weekends. Weekdays are least problematic for residents in terms of the number of vehicles parked on their street.

Perceived Times of Parking Problem on YOUR STREET



Q11. To what extent is the number of vehicles parking on YOUR STREET a problem, if at all, during the following times:
 Base: All residents excluding Indian Arm, n=367.

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- As the table below shows, residents in Deep Cove Village are significantly more likely to perceive parking as a problem at all times during the year (although varied by season) than their Greater Deep Cove counterparts.
- Special Event Days in the Summer and Fall/Spring as well as Summer Weekends are times where, on average, residents report the number of vehicles parking on their street as a moderate problem.
- Deep Cove Village residents rate Summer Weekends and Special Event Days as a serious problem (average rating of 3.6 on a scale of 1 to 4).

Perceived Times of Parking Problem on YOUR STREET – Average Rating of Problem

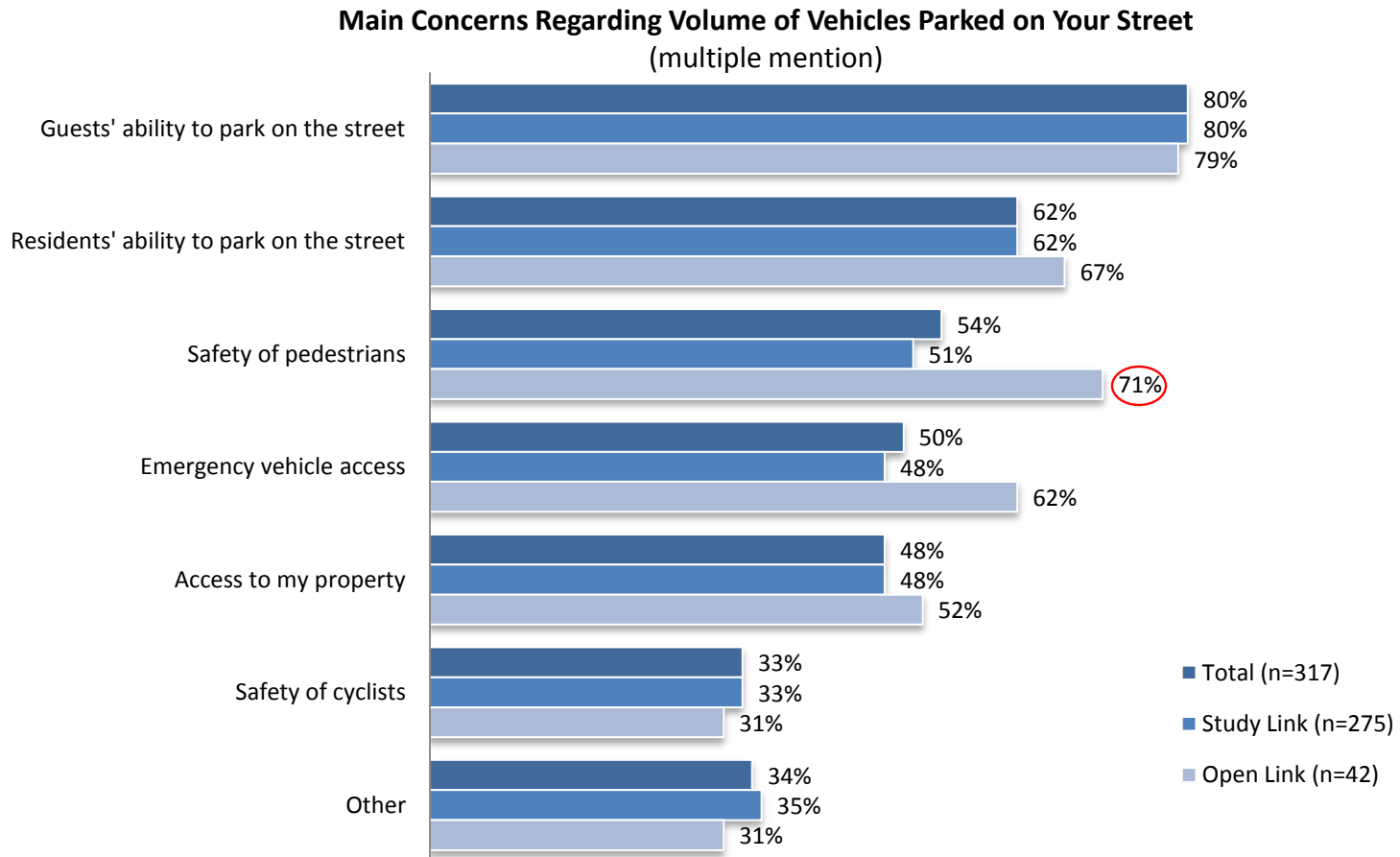
Time of Year and Week	Total (n=367)	Study Link (n=317)	Open Link (n=50)	Study Link – DC Village (n=157)	Study Link – Greater DC (n=160)
Summer - Weekdays	2.4	2.4	2.4	2.9	1.9
Summer - Weekends	3.1	3.1	3.2	3.6	2.5
Summer - Special Event Days	3.2	3.1	3.3	3.6	2.7
Fall/Spring - Weekdays	2.0	2.0	2.0	2.4	1.6
Fall/Spring - Weekends	2.4	2.5	2.4	3.0	1.9
Fall/Spring - Special Event Days	2.8	2.7	2.8	3.2	2.3
Winter - Weekdays	1.7	1.7	1.8	1.8	1.5
Winter - Weekends	1.9	1.9	2.1	2.2	1.6
Winter - Special Event Days	2.4	2.4	2.4	2.9	2.0

■ Not A Problem at All (1) ■ A Minor Problem (2) ■ A Moderate Problem (3) ■ A Serious Problem (4)

Q11. To what extent is the number of vehicles parking on YOUR STREET a problem, if at all, during the following times:
Base: All residents excluding Indian Arm.

CONCERNS/PROBLEMS WITH VOLUME OF VEHICLES PARKED ON THEIR STREET

- The main concerns residents have is the ability of guests to park on their street (80%) as well as their ability to park on the street (67%).
- Approximately half of residents are also concerned for the safety of pedestrians (54%), emergency vehicle accessibility (50%) and residents' own access to their property (48%).



Q12. You noted that street parking on your street may be problematic at certain times. What specific concerns do you have regarding the number of vehicles parked on your street?

Base: Total who gave rating of >1 in Q11

CONCERNS/PROBLEMS WITH VOLUME OF VEHICLES PARKED ON THEIR STREET – OTHER VERBATIM COMMENTS

- ❖ Ability of service vehicles being able to manipulate cul-de-sac.
- ❖ Although we pay for a resident's pass for one car, it is impossible to park in the permit parking area on summer weekends and most nice summer weekdays. Towing is the only solution. Tickets don't work.
- ❖ At busy times when traffic volume is high, it can be difficult to get down Panorama Drive when cars are parked on both sides of street and many people are driving around looking for a spot, i.e.. at times two cars cannot pass (although this has MUCH improved with the new rules re: parking on only one side of the street). We have had concerns as to how emergency vehicles would get down the road, b/c at times in the past, it would have been impossible for them to get to the end of Panorama without much "jockeying" for position. Last year, we often had difficulty getting to our home as cars would park partway across our driveway and when cars parked on both sides of the road, we could not pass; again, this has significantly improved with the new parking regulations (i.e.. with parking only on one side of road). We have also seen "abuse" of the available parking on Panorama Drive - i.e.. especially during the summer, cars may park on the street for several days - we've observed people parking then going out on their boats (at the yacht club) for several days at a time - the parking is free and they are rarely ticketed, so they leave their cars there. The same would apply to people who live down Indian Arm - they don't pay property taxes in the Cove, yet they take advantage of "long term" daily parking on the street.
- ❖ At the bend in the road near the bottom, the visitors to the cove and resident parking on the right just before the corner going down the hill totally obstructs the vision and is very tight for two cars passing on the corner. The visitor parking is going further up the hill all the time with increasing numbers of visitors on the weekends. Not an issue yet for the middle and top of the street but is starting to become one.
- ❖ At the very top of Cliffmont Rd there have, at times, been cars parked right at the corner on both sides.....the road is very narrow just where you turn from Raeburn onto Cliffmont and if cars are parked on both sides I am concerned garbage trucks and emergency vehicles such as fire trucks might not be able to get past. In my opinion, it is only a problem on a short part of the road.
- ❖ Because the Baden Powell trail is incredibly popular we have a constant turnover of traffic. The trail takes under an hour to complete so there is a relatively fast turnover from dawn to dusk. We get the avid regular fitness fanatics who want to park at the trailhead, we get the dog walkers who regularly let their dogs loose, we get the hikers who prefer the free Baden Powell compared to the have to pay for parking grouse users. Hundreds of people use this trail daily however there is no trailhead parking. This trailhead is on a narrow cul-de-sac in someone's driveway. Access is ridiculous for this volume of people. Frustration is especially high on weekends when everybody funnels through the panorama car park then turns right up panorama drive to find parking so they can access the trail. Signs are ignored and bylaw doesn't ticket. Weekdays the regulars continue to park, turn, cars are damaged trying to fit into spots too small and damage to cars occurs because of turning on the narrow street. Our driveways become turning zones with a constant stream of traffic in and out.
- ❖ Before restrictions were put in place the situation was a nightmare, even though we live near the marina. It was very difficult and slow to drive down the street as well as dangerous.
- ❖ Buses difficulty negotiating many double parked cars
- ❖ Cars aggressively entering driveways to turn around. Children often play in driveways. Adults do gardening there. Many driveways have poor visibility to incoming cars. The noise when cars bottom out on steep driveways.
- ❖ Cars are frequently parked illegally on my street Cars often ground out when attempting to turn around in steep driveways on this street - our driveway surface has been damaged by this.
- ❖ Cars are not obeying the stop sign on the corner of Banbury and Raeburn. It can become very congested with the amount of cars and people traffic now on my street
- ❖ Cars being hit when visitors are trying to turn around. Also, turning around in our drive way. Safety of animals.

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- ❖ Cars circling looking for spaces makes up a huge portion of the deep cove traffic, as people get frustrated they tend to drive aggressively and endanger kids and pedestrians.
- ❖ Cars regularly park illegally across the street from our house in the no-parking zone. This makes it difficult to turn-around in the cul-de-sac and given the steepness of our driveway, can make access difficult.
- ❖ Congestion on this narrow street during events in Deep Cove. difficult to get in and out
- ❖ Construction of two nearby houses
- ❖ Damage to other vehicles. (Because of the continual illegal parking which occurs at drop-off and pick-up times by patrons of the "My Little School" preschool, there have been many minor "fender benders" on our street. It has been a hazard for years.)
- ❖ Difficult to get out of our driveway when events such as the Polar Bear Swim or Friday night summer concerts are going on. Constant flow of traffic that rarely lets vehicles in.
- ❖ Difficult to navigate
- ❖ District should be looking at homes that are occupying more than 3 spaces on the street on a F/T regular basis.
- ❖ Drive gets blocked, cars parked on roads that don't have a parking lane blocking traffic making only one available for traffic
- ❖ Drivers come down Strathcona Road extremely fast... both residents and non-residents do this. In the summer, it is a safety issue.
- ❖ Due to the location of our property (right across the street from the Rockcliff Rd. Parking lot exit), cars often turn around in our driveway, sometimes damaging our bushes or rock border.
- ❖ Eastleigh is currently a 2 way street that is very narrow and has very limited visibility of the cars coming up-down the street. There are many children on the street and visitors to the area drive too fast on this street, almost getting into an accident numerous times at my drive way due to limited visibility. I am urging for Eastleigh to be a 1-way street and not a thru way. The safety of our kids, animals and residences are at risk.
- ❖ Emergency vehicle access is MOST IMPORTANT
- ❖ Existing seasonal resident parking sign is mainly ignored, permits would be a lot better.
- ❖ For us there has not been a problem since the resident parking went into effect. Before, it was utter chaos.
- ❖ Frantic speeding turning cars looking for parking on cul-de-sac. foul language and frustration damage to residents gardens and property. People spending overnight outside our house sleeping in their cars
- ❖ Getting out of our driveway when cars are parked directly across. When icy or snowy, or dirty, inability of trucks to properly clean e.g. snow removal, or salting, or cleaning of the road.
- ❖ I feel like we need to make the street we park on residential. Rarely are there every any parking spots available. Now that there is the new Cove Gardens (that have 2 parking spots down below) there is even less spots. I feel it is unfair to already have 2 spots and still park on the street where people who don't have parking in there home. I also want it to become residential parking so that visitors don't take our spots in the summer. I am constantly frustrated with this situation and feel that we may need to move soon... I am really hoping to get this problem resolved. I have 2 young children that I am not happy to crossing the street with.. OR parking ages away from my home. Please consider this and make the Street Caledonia residential please!
- ❖ I frequently am not able to park in front of our house. This is a problem as I have two young children and it is also a hassle when bringing in groceries etc.
- ❖ I had a car mirror knocked off at start of year and in a separate incident in May an indicator damaged and scraping of front of car while parked as road too narrow, following building of town homes opposite and change to road layout. Neither person responsible for each of these accidents left contact details. The District didn't seem to care when I raised the mirror issue.
- ❖ I have a young daughter and crossing the road is a nightmare during peak season. the cars are parked bumper to bumper so you have to step into the road to get a clear view of traffic. The traffic itself races down the road without due consideration for residents and schools.
- ❖ I have on numerous occasions returned from work to find someone parked in my driveway

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- ❖ Illegally parked vehicles impeding bus route and the associated traffic flow problems on Naughton Ave.
- ❖ In the summer months, cars try to park in non designated parking spots which are clearly marked "no parking". The streets around the cove are already quite tight so there is no extra space for illegally parked vehicles. Parking needs to be monitored more and tickets given out accordingly.
- ❖ Inconvenience.
- ❖ Incorrect parking
- ❖ Indian Arm water access residents parking many vehicles for longer than 72 hrs. and using the only 2 street spots leaving no parking avail. for long residents & guests.
- ❖ Kids safety to play
- ❖ Many cars parked on a very narrow street illegally just off Deep Cove Rd and especially at 4500 blocks Raeburn
- ❖ No parking allowed on Eastleigh lane
- ❖ Noise is a big problem from visiting cars, trucks and motor bikes on my street.
- ❖ Non resident parking is not permitted on our street and is clearly posted. However, it's not enforced. The top of Banbury has no parking at all nor does it have a turn around. People still park there making the dead end street congested and very difficult for others looking for parking to turn around. It's entertaining to watch people navigate the congestion but the residents vehicles and property are at risk of damage during that time
- ❖ Not a safe place for children to play or use the cul-de-sac
- ❖ On the road (Cliffmont) which accesses Deep Cove Road there are no "NO parking" signs so people park illegally. (i.e. they are parked so that people have to drive around them on the other side into incoming traffic which is exacerbated by the turn off of Deep Cove Road) There are so many close calls as people try to get around the illegally parked cars. On my own street we often cannot park in front of our own home if we go out on the weekends.
- ❖ One house on Cliffwood Lane has zero off street parking but has a secondary suite and older children. There are regularly 4-5 cars and now a boat parked on the street. This limits the parking for the rest of us and our visitors. In addition, the 4-5 cars and their visitors often park illegally which limits access to driveways for the rest of us and potentially impacts emergency vehicles, garbage trucks etc..
- ❖ Our section of panorama drive is a lane way not a street. Any parking spaces on the lane are owned by the Taxpayers of the street. Who took property from the front of their homes for parking.
- ❖ Our street is too narrow with the amount of street parking currently available for access for a fire truck to make it up to the end of the street where we live.
- ❖ Parking too close to my driveway to see up and down the street to oncoming traffic when coming down my steep driveway. Plus the public is very disrespectful and leave garbage constantly on the street.
- ❖ Parkside lane prohibit parking on the street making it very difficult for residents and guests to find parking. The only option right now is to park all the way on Rayburn street which is very congested on summer days, weekends and events weekends.
- ❖ People don't respect the yellow painted areas. Speed is a huge issue, not slowing down. No painted crosswalk where people cross from kayak shop on Rockcliff. People camp and overnight with campers, RVs etc. no one obeys the BC no idle law. Cars run and run in the parking lots and street at night. No signs for park closed. People double park for events on both sides of street despite signs no parking. People use our driveways as turn arounds. People dump garbage on street and parking lot.
- ❖ People have even parked in my driveway!
- ❖ People just keep driving around looking for parking as they don't know of alternatives, such as school parking lots.
- ❖ People parking on personal property
- ❖ Personal safety. I have witnessed a fistfight over a parking space. I have been threatened and sworn at when I have pointed out to people that they are encroaching on property access by parking across neighbouring driveways.

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- ❖ I have on numerous occasions returned from work to find someone parked in my driveway
- ❖ Illegally parked vehicles impeding bus route and the associated traffic flow problems on Naughton Ave.
- ❖ In the summer months, cars try to park in non designated parking spots which are clearly marked "no parking". The streets around the cove are already quite tight so there is no extra space for illegally parked vehicles. Parking needs to be monitored more and tickets given out accordingly.
- ❖ Inconvenience.
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- ❖ People have even parked in my driveway!
- ❖ People just keep driving around looking for parking as they don't know of alternatives, such as school parking lots.
- ❖ People parking on personal property

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- ❖ Personal safety. I have witnessed a fistfight over a parking space. I have been threatened and sworn at when I have pointed out to people that they are encroaching on property access by parking across neighbouring driveways.
- ❖ Please spell neighbourhood correctly-we are not in the USA
- ❖ Property damage due to vehicles turning in driveways - up to 40 turn-arounds per hour. Personally, my garage suffered a vehicle hit and run. Minor damages to residents cars due to drivers trying to park on street.
- ❖ Quality of life
- ❖ Quite often people tramp on my garden, and park so close to the driveway that I have very restricted vision upon entering the road. Sometimes people park so close together that they have a hard time maneuvering from their position. Other times people park so far out from the front of the house that it makes it very hard for cars to turn into an adjoining street or to continue on their travel.
- ❖ Relocate the trail head to Indian River Road most of the problems would be gone.
- ❖ Residents and merchants using street parking
- ❖ Residents using street parking take up space that should be shared with visitors to the cove more equally
- ❖ Safety of cars and bikes passing through Cliffmont when it is jammed with traffic and parked cars
- ❖ safety of drivers as many drivers conduct themselves in unsafe practices stopping, reversing, turning in driveways in unsafe manner, driving slowly, turning suddenly, making u turns on Panorama at Gallant and Gallant and Badger, ignoring the 2 way stop sign at Panorama and Gallant..... Pedestrians also step out in front of cars along Panorama and walk on the road unsafely especially at S curves (sidewalk is often taken up with parked cars)
- ❖ Safety of other cars
- ❖ Safety of residents accessing our street and property. Cars are often parked in unusual spots i.e.: beside a gravel "pullout"
- ❖ Safety problems exacerbated by absence of any sidewalks on our street. We have to walk on the narrow street side of the parked cars with our toddler and in busy traffic at those times.
- ❖ School parents has no respect for resident parking. Children are picked up and dropped off where cars are double parked on the street, blocking resident driveways or parking on private property. When changes are made to parking with the school residents are not consulted. When the school went in Residents were told teachers would be parking off Raeburn. What happened to that? Parking sign in front of 1800 & 1700 Banbury on school day 8-4 is only 15 min. and residents have had tickets for parking longer. Since there is resident parking permits on 1900&2000 block Banbury and Rockcliff visitors/vacationers have been parking up the hill to 1800 & 1700 Banbury Rd. and 4300 Cliffmont sometime using up the small amount of parking bays available for residents and parking on the narrow street.
- ❖ Short section of Caledonia Ave has cars parking on it, but the parking is dangerous because the road has only one narrow lane each way.
- ❖ Should be residents' guest parking overnight at Strathcona Park.
- ❖ Sometimes when cars are parked on either side of the street, it makes it tight/difficult to get through, as well as hard to see if other vehicles are trying to get through at the same time. it can be dangerous on many levels. on garbage pick up days, it is difficult to get around the trucks, when cars are parked along street, especially when parked on both sides. this can result in long waits.
- ❖ Speed
- ❖ Speed of vehicles driving through the s bend. frustration of drivers when unable to access parking. constant turning of cars on driveway. unable to reverse safely down my steep driveway. number of trucks coming at high speed either way. danger crossing the road because of lack of sidewalk
- ❖ Steep street and snow or icy conditions make driving hazardous when many vehicles parked on both sides of the street.
- ❖ Street is narrow in 4600 block and 2-way traffic is not always easy when vehicles are parked on both sides of road.

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- ❖ Summer weekends brings massive traffic to the Cove, we are on the high end of Badger Road so not normally a problem, the people on the lower end experience lots of parked cars. We have lots of cars using or driveway to turn around in.
- ❖ The biggest problem with our parking on 1900 Caledonia stems from the Little School House Day Care. Although they have a parking lot at the front and at the back of the day care, staff is always parked on the street, taking up the spaces that residents require for our vehicles. The parents park on the street for drop off and pick up, and especially on special event days at the day care. These parents block drive ways and constantly ignore the NO PARKING signs (which require replacement and clean up so they are more visible, and I have put in writing for this to happen over a year ago), to the extent of double parking and blocking the streets. This is a huge SAFETY hazard in the event that emergency vehicles need access to our street. Parents and staff park throughout the day, creating traffic congestions, when double parking, backing into drive ways, and making u turns on the street. The neighbourhood has been very patient with the safety issues and major inconveniences caused by this business in a residential area for the last 20 years, and we deserve some resolution to this major problem addressed by the District.
- ❖ The lanes and streets are not really wide enough for parked cars
- ❖ The new parking regulations on Panorama has caused heavy traffic on our street. Overnight street parking has become more common. Tenants take street parking. Overnight boaters/campers. I also find it problematic when people park on the curb on 4300 Cliffmont. Is parking allowed outside of the lay-bys on Cliffmont? The intersection of Caledonia and Cliffmont is also problematic. Can the curbs be painted yellow? and can no parking signs be put up? It can be very difficult to exit southbound onto Deep Cove road via Cliffmont.
- ❖ The parking issues in this street (Parkside lane) are not due to general (although notably increasing) cove visitor traffic. They are caused by a few residents of this street and their visitors seriously lacking consideration for their neighbors and a few vocal "parking enforcers". Neither of which should be given too much notice.
- ❖ The safety of our children is our biggest concern...our daughter was almost hit by a speeding car while crossing the road recently, and the following day almost hit by a car doing a U-turn in the middle of the street while she was walking on the sidewalk...both right outside our house. The situation in the spring and summer is completely unacceptable and needs to be remedied as soon as possible. I have tried to contact the district to perhaps put more signage up to remind tourists of the speed limits, but have not had a positive response from them, unfortunately.
- ❖ There are 2 parks close to our house and there are children in the parks all through the year. Parking exacerbates what is already a problem with speeding cars.
- ❖ There are 7 children under 10 that play together amongst our immediate neighbours. There is effectively no on street parking on our street at it is very narrow. Never the less, on weekends, the constant flow of traffic looking for parking spots means that they cannot ride their bikes until after dinner and have to be ever vigilant when crossing the street.
- ❖ There are many pedestrians on the street, we always take extra caution, but visitors are not aware of the risks.
- ❖ There are no side walks on Badger road and west side of Deep Cove road and visibility of pedestrians is sometime difficult between cars.
- ❖ There is a poorly marked fire hydrant across from my house that people often park in front of. While it is poorly marked, it is still obviously there and people should know to stay back 5 meters.
- ❖ There is no on-street parking in 1900-2000 panorama. Anyone who parks in these two blocks is parking on private property. In addition because we are only one lane wide, there is conflicts with Veh's going both directions. Vehicles also tend to speed on our street once they realize there are no parking opportunities.
- ❖ There is not enough residential parking on our road. It takes upwards of 10-15 mins to find a spot on busy days and its impossible to be close to our home. The parking directly outside our home is also a 2 hr spot, and I do not believe I should be ticketed to park on the road outside my home if I am there for longer than that period. I think if a residential sticker or pass was issued, residents should have first come first serve, not the numerous tourists

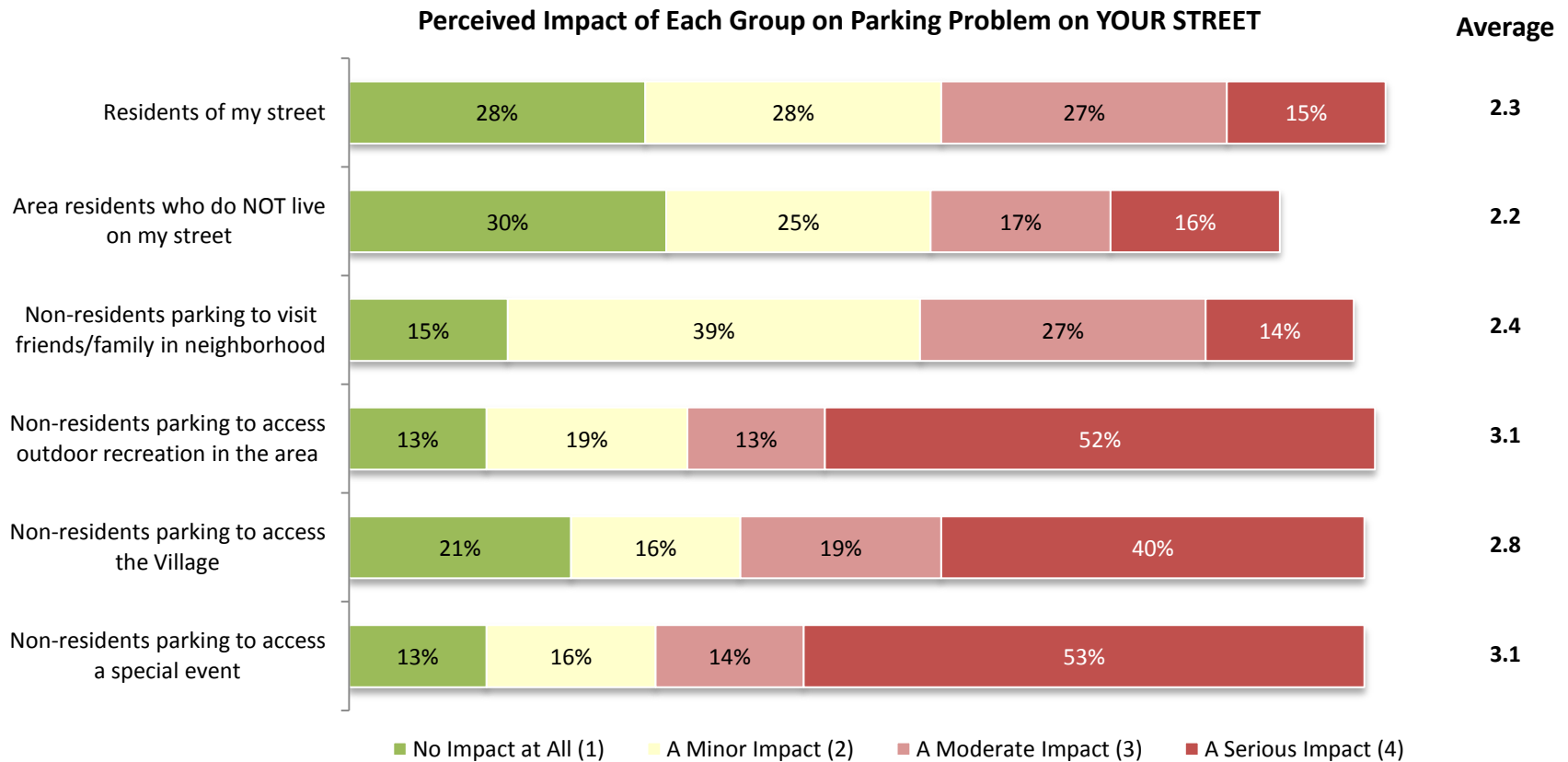
1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- ❖ There is not enough street parking for visitors on the corner of Roxbury and Wickenden.
- ❖ There should be no parking on the sharp corner beside 4304 Cliffmont. People take this corner very fast and it is very dangerous when cars park there as they cannot be seen by the cars driving to Deep Cove Road. This corner is dangerous at the best of times for cars and pedestrians, dog walkers and cyclists especially at busy times but always as few people take it slowly. Ours is the house on the other side of the corner and on many occasions we have almost been rear ended whilst waiting to enter our driveway. If we leave the parking bay in the front of our house to go out, it is filled right away by people looking for a space or by tenants of those houses with rental suites.
- ❖ time restricted parking.
- ❖ To safely pull out into Deep Cove Road traffic especially when larger vehicles are parked by our driveway.
- ❖ Today is Sunday in the summer and by 8 am when I walk my dog the parking lots are all full and tourists are squeezing into spots that block driveways, are too close to intersections and are otherwise not parking spots.
- ❖ Too many vehicles crash into my garden and destroy the plants.
- ❖ tour buses come up our street on Rockcliff which also creates a problem
- ❖ unauthorized vehicles park in our visitors parking leaving no place for OUR visitors to park.
- ❖ Until the recent parking restrictions were put in place, vehicles used residents' driveways to turn around. this problem is less now but still occurs because vehicles still go down the street looking for parking even though there are prominent signs at the beginning of the resident parking area.
- ❖ Vehicle and property damage due to traffic, parking, turn-arounds
- ❖ Visitors to the street are still not reading the signs and are causing dangerous congestion and are driving dangerously because they are frustrated.
- ❖ We are on a cul-de-sac and there is an ongoing construction on one lot . All parking in the day is taken by work vehicles
- ❖ we had over \$3000 damage to two of our vehicles last year by the congestion of cars along Rockcliff....side swiping.
- ❖ We have a limited number of parking bays on the 4300 Blk. Cliffmont Rd and people sometimes park on both sides of the street which basically makes it a one lane street.
- ❖ We have a public footpath at the south end of our cul-de-sac which is extremely busy during summer. We are concerned for pedestrian safety due to the continuous stream of cars looking for a space to park.
- ❖ We have no parking for family and friends who visit. It is often critical and we have lost the enjoyment of our property. That's not fair.
- ❖ With residential parking only the street is much quieter and parking is somewhat better. I have no off street parking and live close to the marina at the end of Panorama Drive. The number of people who live up the Arm and park in my area prevents me from often being able to find a parking spot. Also neighbours who do have quite a bit of off street parking (they have a boat, camper, etc.) have a tenant. So they use all three parking passes, the two with the driver's license and the visitor pass all the time. This also limits being able to find a parking spot. One thing about problematic parking. Parking is usually okay weekdays, it's the late afternoons, evenings, and night times when it can be super difficult. Another question I need to phone and ask about. If a company such as plumbers comes to fix the plumbing do they need to display the visitor's pass?
- ❖ With visitors fighting for the few parking spaces in peak times... the result is horrific traffic congestion (especially on Deep Cove Road)
- ❖ Your survey has not addressed the issue of film companies monopolizing the parking and, sometimes, the entire village.

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

SOURCES OF PARKING ISSUES

- Over half of respondents rate non-residents parking to access a special event (53%) and outdoor recreation in the area (52%) as a serious impact on number of vehicles parking on their street.
- The impact of residents on their street, area residents not living on their street and non-resident visitors is viewed as relatively minor.



Q13. Still thinking about street parking on your street, what impact do each of the following groups have on the number of vehicles parked on your street?
 Base: All residents excluding Indian Arm, n=363.

1.3. RESIDENT SURVEY FINDINGS - *Perceived Parking Issues*

- As the table below shows, residents in Deep Cove Village are significantly more likely to perceive the impact of each group as more substantial than their Greater Deep Cove counterparts.
- As previously noted, three main groups are seen to have, on average, a moderate impact on the number of vehicles parked on residents' street: Non-residents parking to access a special event (3.1), Non-residents parking to access outdoor recreation in the area (3.1) and Non-residents parking to access the Village (2.8).
- Deep Cove Village residents rate Non-residents accessing special events or outdoor recreation in the area as a serious impact on parking on their street (3.6 and 3.5, respectively).
- In contrast, the impact of their neighbours parking on the street is minor.

Perceived Impact of Each Group on Parking Problem on YOUR STREET – Average Rating of Impact

Source Group	Total (n=372)	Study Link (n=324)	Open Link (n=48)	Study Link – DC Village (n=156)	Study Link – Greater DC (n=157)
Residents of my street	2.3	2.3	2.2	2.4	2.2
Area residents who do NOT live on my street	2.2	2.2	2.1	2.5	1.9
Non-residents parking to visit friends/family in neighborhood	2.4	2.5	2.2	2.7	2.3
Non-residents parking to access outdoor recreation in the area	3.1	3.1	3.1	3.5	2.6
Non-residents parking to access the Village	2.8	2.8	2.8	3.3	2.3
Non-residents parking to access a special event	3.1	3.1	3.1	3.6	2.6

■ No Impact at All (1)
 ■ A Minor Impact (2)
 ■ A Moderate Impact (3)
 ■ A Serious Impact (4)

Q13. Still thinking about street parking on your street, what impact do each of the following groups have on the number of vehicles parked on your street?
 Base: All residents excluding Indian Arm.

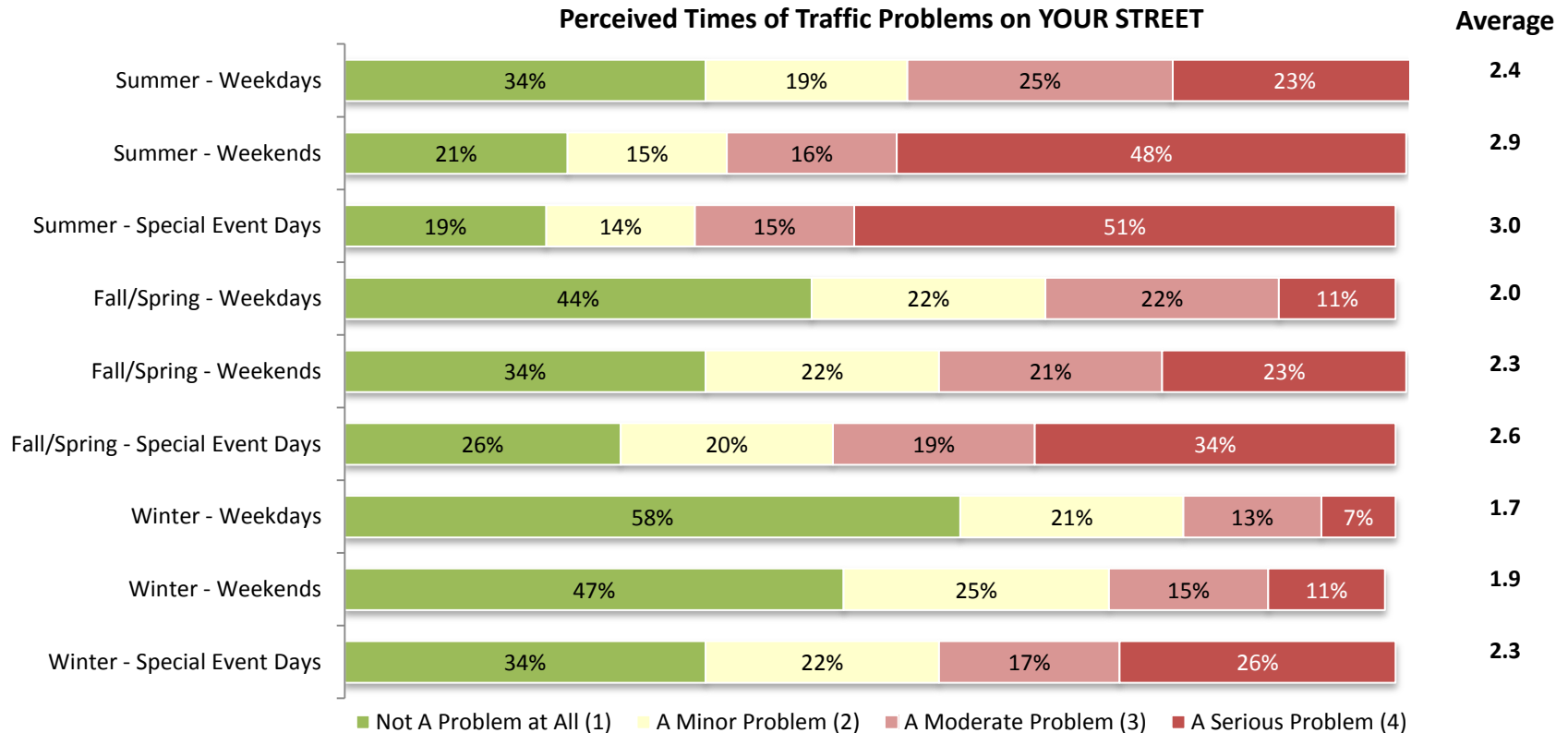
1.4. RESIDENT SURVEY FINDINGS

Perceived Traffic Issues

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

SEASONALITY OF PERCEIVED TRAFFIC PROBLEM

- Approximately half of respondents rate the amount of traffic on their street as a serious problem during the Summer on Weekends (48%) and Special Event Days (51%). Special Event Days in the Fall and Spring are also rated as a serious problem by one-third of residents (34%).
- In contrast, nearly 6-in-10 (58%) don't think there is a traffic problem at all on weekdays in the Winter.
- Following the same pattern as parking, within each season, the most problematic times appear to Special Event Days followed by Weekends. Weekdays are least problematic for residents in terms of the volume of traffic on their street.



Q14. To what extent is the amount of traffic on YOUR STREET a problem, if at all, during the following times:
 Base: All residents excluding Indian Arm, n=358.

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

- As the table below shows, residents in Deep Cove Village are significantly more likely to perceive traffic volume as a problem at all times during the year (although varied by season) than their Greater Deep Cove counterparts.
- Special Event Days in the Summer and Fall/Spring as well as Summer Weekends are times where, on average, residents report volume of traffic on their street as a moderate problem.
- Deep Cove Village residents rate Summer Weekends and Special Event Days as a serious problem (average rating of 3.5 and 3.6, respectively). Traffic volume is not a problem during weekdays in the winter. For Greater Deep Cove residents, traffic volume is not a problem at all also on Winter Weekends and Fall/Spring Weekdays.

Perceived Times of Traffic Volume Problem on YOUR STREET – Average Rating of Problem

Time of Year and Week	Total (n=358)	Study Link (n=311)	Open Link (n=47)	Study Link – DC Village (n=156)	Study Link – Greater DC (n=155)
Summer - Weekdays	2.4	2.4	2.3	2.8	1.9
Summer - Weekends	2.9	2.9	3.0	3.5	2.3
Summer - Special Event Days	3.0	3.0	2.9	3.6	2.5
Fall/Spring - Weekdays	2.0	2.0	1.9	2.3	1.7
Fall/Spring - Weekends	2.3	2.3	2.3	2.9	1.8
Fall/Spring - Special Event Days	2.6	2.6	2.4	3.2	2.1
Winter - Weekdays	1.7	1.7	1.6	1.9	1.6
Winter - Weekends	1.9	1.9	1.9	2.3	1.5
Winter - Special Event Days	2.3	2.4	2.3	2.8	1.9

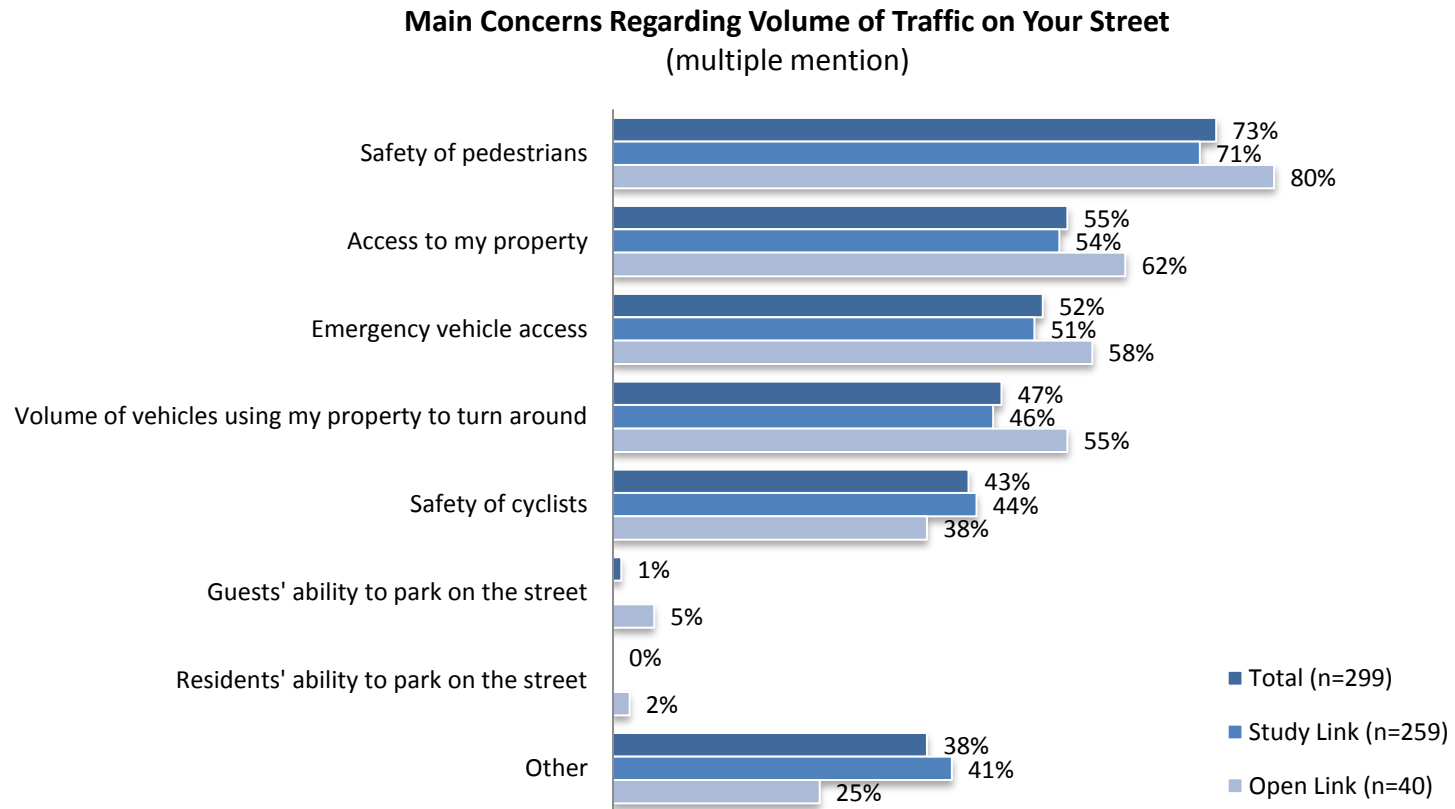
■ Not A Problem at All (1) ■ A Minor Problem (2) ■ A Moderate Problem (3) ■ A Serious Problem (4)

Q14. To what extent is the amount of traffic on YOUR STREET a problem, if at all, during the following times:

Base: All residents excluding Indian Arm.

CONCERNS/PROBLEMS WITH TRAFFIC VOLUME ON THEIR STREET

- The main concerns residents have regarding the volume of traffic is the safety of pedestrians (73%).
- Approximately half of residents are also concerned for their access to their property (55%), emergency vehicle accessibility (52%) and volume of vehicles using their property to turn around (47%).



Q15. You noted that traffic on your street may be problematic at certain times. What specific concerns do you have regarding the amount of traffic? (Multiple mentions)
Base: Total who gave rating of >1 in Q14

CONCERNS/PROBLEMS WITH TRAFFIC VOLUME ON THEIR STREET – OTHER VERBATIM COMMENTS

- ❖ 1900-2000 panorama is one lane wide. People are using the street in search of parking. There is only a few places where Veh's can pull over to let another vehicle pass. In addition, because our street is normally very quiet, and also has no sidewalks or pedestrian allowance, residents are use to meandering down the middle of the street. We have a blind hill in the1900 block and We often have Veh's racing down our street. There are children riding bikes and skateboards and just being kids. It's very dangerous.
- ❖ A lot of confusion exists at the junction of Gallant and Panorama especially with visitors unfamiliar with the area and who has right of way. Especially when there are lots of pedestrians. Possibly make this a four way stop and bigger signage to make drivers aware. I have seen quite a few close call accidents especially at the weekends when it is busy.
- ❖ Again, The amount of TRAFFIC on this street is the direct cause of the business of the day care in a residential area. (See above) As the Little School House is in operation ALL YEAR long, this is a constant problem, with cars backing out onto on- coming traffic, and heavy volume in the morning and in the late afternoons. Other times are minor problems compared to the Little School House. Please also note that the intersection at Caledonia and Cliffmont is also a major traffic concern (at the STOP SIGN). The street is very narrow to allow cars AT THE SAME TIME turning left onto Caledonia from Cliffmont and going out of Caledonia to Cliffmont– both left and right turns. Most people ignore the STOP sign, and cars do not slow down when turning left on to Caledonia. Many near misses
- ❖ Also there is a bus stop so it is a very tight squeeze with so many car when turning onto our street
- ❖ As I said before, noise is a factor, visiting trucks, cars and motor bikes are a problem.
- ❖ Because of the parked cars blocking the road the traffic backs up and people start to get frustrated and make stupid mistakes.
- ❖ Burns Ave has no turn around for people seeking but failing to find parking. Eastleigh lane has kids playing out back and frustrated tourists speed up the blind hill.
- ❖ Busy on the weekend.
- ❖ Cars circling looking for a parking spot. Frustrating for visitors and residents
- ❖ Cars endlessly circulating in search of a parking space
- ❖ Cars parked blocking access to our driveway or front steps to our home
- ❖ Cars trying to access the Cove in summer weekends or special events do a U turn at the bottom of Badger while local traffic trying to get up the street, and traffic using our driveway to turn around
- ❖ Come around the 2 corners too fast
- ❖ Congestion +++ in a very limited area.
- ❖ Constant number of vehicles turning around in my driveway
- ❖ Construction trades
- ❖ Depending on where you are on Cove Cliff, the less the problem is, the more serious problem is roughly the first block around Cove Cliff Elementary school. I live close to the Gospel Hall and it becomes less of a problem than other areas in the Cove. For me, its more parking for guests at special times like Carol Ship night, but as I said not that bad in my section of the street.
- ❖ Despite 'No Exit' signs, people turn either on Panorama/Naughton or Deep Cove Crescent/Naughton. Then speed becomes an issue ...
- ❖ Difficult to turn left from Panorama onto Gallant
- ❖ Driveway used extensively as a turn-around for local and non local car traffic, and for a significant number of construction and commercial vehicles. Our driveway is often used as a short term stopping area by commercial vehicles, to allow other commercial vehicles to pass.
- ❖ Due to the limited amount of parking bays on the 4300 blk. There are people who just park anywhere which renders the street a one lane road.

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

- ❖ Eastleigh is currently a 2 way street that is very narrow and has very limited visibility of the cars coming up-down the street. There are many children on the street and visitors to the area drive too fast on this street, almost getting into an accident numerous times at my drive way due to limited visibility. I am urging for Eastleigh to be a 1-way street and not a thru way. The safety of our kids, animals and residences are at risk.
- ❖ Excessive speed on narrow street
- ❖ Excessive speeding
- ❖ Extreme difficulty in turning left onto Gallant, when an endless steady stream of traffic is pouring into Deep Cove. People often stop at the intersection thinking they must stop, but there is no stop sign for traffic on Gallant. Poses a significant safety issue for pedestrians and drivers alike. There should be a 4 way stop at that intersection. It is a nightmare in the summer and on event days.
- ❖ General busyness and some speeding
- ❖ I am concerned that in emergency situations a driver of a person in duress would not know how to get out of Deep Cove if Gallant is blocked because of the complicated road structure.
- ❖ I AM ON THE BOARD OF THE SWYMOUR. I am on the Board of the Seymour Art Gallery. . Attendance to our gallery and sales in the Gallery Shop can be often diminished as non residents know that Parking is a major problem especially on weekends and special events
- ❖ I frequently am not able to park in front of our house. This is a problem as I have two young children and it is also a hassle when bringing in groceries etc.
- ❖ Illegally parked cars on narrow street just off Deep Cove Rd and 4500 blocks Raeburn
- ❖ In many places on the street it only has room for one vehicle to get by, the traffic gets too congested. Plus, the guests are very disrespectful to the speed.
- ❖ Increased amount of road rage on our street. It's becoming a regular occurrence. The amount of noise, especially the early morning hikers parking here is becoming offensive. There is no respect for us as residents in a neighbourhood area.
- ❖ Increased transit buses, tour buses, school charter buses, kayak rental patrons, tourism, and lack of parking for residence
- ❖ IT gets way to busy in Deep Cove in the summer time and things need to change to make it a safe environment!
- ❖ It is a cul-de-sac, single lane when residents use it for parking. My driveway is used at all times for turns by traffic. It is not a safe place for my children and others to play/use.
- ❖ It's not so much the amount of traffic but the speed. Cars go down our street doing 80km (particularly coming down the steep hill), we have a school cross walk and a church at the bottom of the hill and then a school at the end of the block. There are always a ton of kids on our street, it's just a matter of time before someone gets hit by a car. WE NEED SPEED BUMPS!!!!!! Please do something before one of our kids dies!!!
- ❖ It's periodic throughout the weekends. The street is single lane sometimes cars do not yield for cars coming in the opposite direction, same thing with pedestrians and bicyclists, still many cars trying to turn around on a single lane road.
- ❖ Just general unpleasantness of business of increase in traffic. And also near to elementary school.
- ❖ kids safety because of the traffic and the cars speed
- ❖ Lack of consideration due to parking over access to our home
- ❖ Last house on the street with steep driveway, want to ensure that if an emergency occurred, access would not be an issue.
- ❖ Left turn lane (southbound) on Deep Cove Rd at Mt. Seymour Pkwy creates massive congestion when light is red in peak times. Speeders going northbound on Deep Cove Rd cause potentially disastrous situations for drivers attempting to turn left from Cliffmont.
- ❖ Marina and Indian Arm residents add significant volume. They are much more likely to speed and park longer than 72 hours.
- ❖ Minor issue with speed and visibility of pedestrians.
- ❖ My biggest concern is the speed limit. At 50 it is too high and most drivers seem to go 60-70 down the street. It's crazy as there is a day care and Cove Cliff school for the kids to go to and there will be a serious accident. WE need traffic calming and enforcement too Every weekend and special event I will have 10 cars using my driveway for turning around - unreasonable and particularly dangerous. somebody even parked their car on my driveway and left to go to the Cove last year!!!

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

- ❖ My driveway appears to be the chosen driveway for non residents to turn vehicles around.
- ❖ Need traffic lights on intersection
- ❖ No available residence or guest parking
- ❖ No concerns
- ❖ No place for visitors to park overnight
- ❖ No thru street and no turn around yet everyone drives down it looking for a parking spot
- ❖ Noise
- ❖ Noise
- ❖ Not a major issue because we are a cul-de-sac.
- ❖ Often vehicles use our driveway access to U-turn and go back the other direction. Motorcycle groups - often 20 or more frequent Deep Cove Road all summer long - extremely loud and disruptive to any attempt to spend time on the patio.
- ❖ On a beautiful day, there are line ups of traffic as cars go in circles looking for parking. Almost like a rush hour!
- ❖ On a summer week end I have counted 10 vehicles in a 15 minute period driving up our street and then speeding down our street after turning around in a neighbors driveway. There is a constant stream of traffic looking for parking and they get frustrated and then race around trying to find a spot. I have witnessed folks fighting over parking places.
- ❖ Once again, the traffic which is generated at pick up and drop-off for "My Little School" is especially problematic (particularly during the school year). This would be first thing in the morning and around 4:00 - 6:30 in the evening. People do not drive on our little lane with due care and attention.
- ❖ Our driveway is constantly used for turn around from the neighbours, visitors, working crews and drivers noticing the dead end / no access to the Village. We would call it HIGH TRAFIC. 20 to 30 cars per day using our driveway to turn around. We had to hire a paving company to fixed the wear and tear of the lower section of our driveway due to this high volume of traffic.
- ❖ Our road is so poorly maintained that there is no room for additional traffic parked on the side.
- ❖ Parents accessing Cove Cliff School to drop off students are the worst problem on weekdays during the school year. They don't obey the speed limit and if trying to go out ourselves at drop off/pick up times, it is impossible to exit our property and afterwards to get to Deep Cove Road. There should be a light at the Cliffmont/Deep Cove junction and speed bumps on the 4300 block of Cliffmont up to the school. Parents at the school end park all over the place and I have problems with safety when walking my dog in that vicinity.
- ❖ People are so focused at times Poking for parking that they are unaware of children entering or coming along the street.
- ❖ People don't realize that there is NOT a stop sign on Gallant at Panorama, and it takes a lot longer to leave the cove or get home, because people continually stop. Also, at the turn around at the foot of Gallant, there used to be no parking signs, they disappeared and people tend to park there on occasion, or else just stop and sit there, which doesn't allow people to turn around. Also what really bugs me (you asked) is that the ROAD that goes down to the Yacht Club and my garage is constantly filled with people, who don't seem to recognize or care that it is a road and not a sidewalk...there is a foot path there, and a sidewalk but nobody uses it. When we have friends over in the evening they can usually find a spot in the park parking, it's rarely on the street.
- ❖ People drive dangerously on the street and make turns in the middle of the street sometimes. Our garage door has been seriously damaged twice by vehicles and the owners of the vehicles left without even an apology.
- ❖ People not familiar with the area tend to procrastinate at intersections...not sure where they can park or turn.
- ❖ Please note that while our mailing address is 2107 Deep Cove Road, we access our home from Badger Road and park our cars off this road. All my answers to this questionnaire reflect the problems we experience on Badger Road. The primary and most serious problem we have is the speed at which many residents/non-residents drive down the hill to get to Deep Cove Road. There are many children, teens, adults and dogs walking or playing on the street and speeding drivers pose a serious threat.

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

- ❖ Relocate the trail head to Indian River Road.
- ❖ Safety of drivers as vehicles often drive too fast or too slow and the drivers are looking for parking, not focused on driving
- ❖ Safety of residents leaving and returning to their homes
- ❖ Same comments apply regarding safety issues due to lack of sidewalk.
- ❖ School parents has no respect for resident parking. Children are picked up and dropped off where cars are double parked on the street, blocking resident driveways or parking on private property. When changes are made to parking with the school residents are not consulted. When the school went in Residents were told teachers would be parking off Raeburn. What happened to that? Parking sign in front of 1800 & 1700 Banbury on school day 8-4 is only 15 min. and residents have had tickets for parking longer. Since there is resident parking permits on 2000 block Banbury and Rockcliff visitors/vacationers have been parking up the hill to 1800 & 1700 Banbury rd. and 4300 Cliffmont sometime using up the small amount of parking bays available for residents and parking on the narrow street.
- ❖ See answer to question about parking on the street - same situation applies
- ❖ See previous comment
- ❖ Slow driving down street
- ❖ Some speeding in the area and noise of buses
- ❖ Someone backed into my fence while turning around and it had to be replaced costing a couple of hundred dollars.
- ❖ speed
- ❖ Speed and speed and speed. People pass ,people get agitated when they can't park. They don't slow for the crossing from the deep cove kayak shop although there is no painted crossing there. People blow their horns if we are backing out and they can't get by fast enough. People park at night and play loud music and party in the park. No park closed sign. Need more by laws patrols hourly in the evening over summer. But speed the issue
- ❖ Speed at which vehicles travel. We could use a speed bump.
- ❖ Speed down deep cove road, especially late at night
- ❖ Speed of traffic, difficulty in getting out of driveway due to heavy volume of traffic
- ❖ Speed of vehicle traffic. Driving too fast for a residential neighbourhood
- ❖ Speeding and running stop sign
- ❖ Speeding traffic
- ❖ Teachers and parents dropping off at school, very often blocking access. Also speeding in school zone is a major problem
- ❖ The amount of drivers trying to park round the Quarry Rock trail head is a huge problem it is very dangerous on Panorama Drive.
- ❖ The Baden Powell trail creates very dangerous situations with hikers crossing from between parked cars and exiting the hiking path quickly on to the street
- ❖ The Baden Powell trailhead was never meant to accommodate this amount of people. It's no longer enjoyable for residents or visitors to hike this trail at certain times. People want to park close to the trailhead and don't know that there are overflow car parks.
- ❖ The cross street near Osaka sushi should be a four way stop. NO ONE knows how to use that street, and the majority of road users are using it as a four way regardless of signage, which is and has been very dangerous. I have had right of way when people think it is there go and drive straight through the main road.
- ❖ The intersection At panorama and gallant is not a four way stop but non residents during high traffic times treat it as such and traffic backs up two blocks up deep cove road. This causes confusion for pedestrians and motorists.
- ❖ The intersection not being a 4 way stop creates problems. It helps a lot if it becomes a 4 way stop. It will regulate the traffic much better and prevents massive line up formations behind the stop signs.

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

- ❖ The intersection of Gallant & Panorama is a huge issue - people are always coming down Gallant & stopping, where there is no stop sign because they think it is a 4 way & of course the locals know it isn't so they come down and go straight threw. That intersection is just an accident waiting to happen. I have witnessed several very close calls. It also is a problem when you come off Panorama to turn to head towards North Vancouver & nobody again knows what to do because cars are stopping when they shouldn't be. This intersection should definitely become a 4 way stop with signs.
- ❖ The new parking restrictions on Panorama Drive NORTH of Gallant Ave has doubled the traffic on Panorama Drive SOUTH of Gallant Ave as visitors search for parking on the surrounding streets. Panorama Drive 2000 block is only lane allowance wide and was never meant to be a street.
- ❖ The safety of my children! Some cars go pretty fast.
- ❖ The sheer volume of noisy vehicles using the road.
- ❖ The street is a cal de sec, but many visitors do not know, so they have to turn around. that creates potential hazards to pedestrians. traffic on Caledonia is very dangerous because local residents know that is the entry of a trail to deep cove village, so they walk their dogs, or run, kids bike too, but visitors do not know, so traffic on the street before the entry of the trail is very dangerous.
- ❖ The tourist traffic in the spring and summer is too heavy in our area, and has increased this year due to rerouting to our area, and the lack of parking for tourists all along panorama. there is contradicting signage that relates to our block the next block north of us on Banbury, and another sign was erected on our block this year which only affects two houses on our block of nine.
- ❖ The traffic on Cliffmont is horrendous...constant noise and serious danger crossing the street. West bound joining Deep Cove road backs up every morning during school year, mornings, and afternoons. Turning onto Cliffmont from Deep Cove Rd, cars fly around the corner and race down the street. Any parking on the street creates serious risks. Cliffmont is a terrible feeder route for all areas of the cove, yet it is 1 of only 3 options in and out.
- ❖ There are 7 children under 10 amongst our immediate neighbours that play together. The street is narrow there is a constant flow of traffic looking for non-existing parking spots. Speed is an issue from time to time due to limited visibility.
- ❖ There is a constant flow of cars using my driveway to turnaround when they figure out that there is limited and "faraway" from the Cove
- ❖ Time to arrive/leave home
- ❖ To be able to find a space at all
- ❖ Tour buses
- ❖ Traffic and parking in my neighbourhood is impacted when there are special events at the Secondary School. These do not happen too often, and the duration of the impact is not significant.
- ❖ Traffic jams
- ❖ Traffic speed tends to increase in the winter for commuters heading to the marina to head up the Arm.
- ❖ Uncontrolled intersections at Gallant & Panorama, causes confusion as some drivers stop and others do not. Nobody knows when it is safe to make a turn...
- ❖ Unsafe for neighbours to play in their front yard/street
- ❖ Volume of traffic can be very high during summer season and holidays - can be dangerous to "navigate" on foot across the street and parking lot into the park. Access to our driveway has improved since parking has been limited to one side of the road - this restriction should continue to apply year 'round as it is otherwise problematic at many times during the year. Traffic would commonly become completely blocked in the past (when parking was on both sides of the street) and nothing - including emergency vehicles - would be able to get through. Many times throughout the year we were frustrated that we could not access our own driveway without much difficulty. - Again, this has improved with the one-side parking restriction.
- ❖ Volume of vehicles not noticing that our street is a cul-de-sac and racing down only to find they have to turn around and race back up.
- ❖ We have had construction ongoing for 2 years on a neighbour's house requiring huge trucks almost daily blocking our street and constant noise from the construction site

1.4. RESIDENT SURVEY FINDINGS - *Perceived Traffic Issues*

- ❖ We have the biggest driveway on our street and the safety of our children is a concern due to people turning around in our driveway
- ❖ We live above Deep Cove road so our street is not effected per say by traffic but the noise volume is increased. We find it difficult to cross the road & sometimes blinding with all the cars parked on the main road / side streets. (Deep Cove Road & Badger road to be specific) There is no cross walk!!
- ❖ We live across from a waterfront park & 3 houses from a children's playground and cars regularly drive well over the 30 km POSTED speed limit
- ❖ We live on a narrow lane and traffic speed is a concern

1.5. RESIDENT SURVEY FINDINGS

Indian Arm Residents

VEHICLES LEFT IN DEEP COVE

- Indian Arm residents leave an average of 1.86 vehicles in Deep Cove when they are at their water-only access property.

	Total (n=35)	Study Link (n=12)	Open Link (n=23)
Average # of Vehicles	1.86	1.83	1.87

Q16A. How many vehicles do you regularly leave parked in Deep Cove when you are at your property?
Base: All Indian Arm residents.

- It appears that most Indian Arm residents tend to have one parking spot at Deep Cove Marina (formerly known as Seycove Marina) but use residential streets to park additional vehicles and/or park all vehicles if the marina is full. Below are responses to Q17A which asked: Where do you leave your vehicle(s) parked while at your property?

- 2 on Panorama 1 in marina*
- one at marina and one on panorama drive*
- One in the marina which we pay for because we have a boat slip. One on the road*
- Sometimes on the 2800 block Panorama Drive. Sometimes at Deep Cove Marina.*
- At the Deep Cove Marina but if full or we have a guest or two on Panorama*
- Panorama drive as there is no parking available at Seycove marina*
- Deep cove marina*
- The marina end of Panorama Drive, close to our mailbox*
- Panorama Drive at the marina end.*
- 2 are parked at the deep cove marina. 2 are parked on panorama drive*
- Panorama Drive*
- 2 are parked at deep cove marina. Two are parked on panorama drive*
- 1 at Marina, one on street*
- Seycove marina*
- Deep Cove Marina*
- 1 Car @ Seycove Marina 1 Car @ Panorama Drive*
- One at the Marina. One wherever parking is available, usually Panorama Drive*
- North end of Panorama Drive for both vehicles*
- Near 2933 Panorama Drive*
- 1 vehicle at marina, 1 vehicle on Panorama Drive (North/east end), we also have visitors to our home that need to park on Panorama Drive (north/east end)*
- I have a Seycove marina paid parking for 1. Currently using Panorama & Banbury for other vehicle parking.*
- We try to park max 1 car at marina when bother are required we park the 2nd on Panorama. If no parking avail @ marina we park 2 on Panorama.*

1.5. RESIDENT SURVEY FINDINGS – *Indian Arm Residents*

- Indian Arm residents appear to have various challenges or issues when parking in Deep Cove ranging from conflicts with area residents to frustration with parking restrictions. Below are responses from Q18a which asked: Have you had any issues surrounding parking your vehicle(s) in Deep Cove?

Indian Arm residents need to be able to park on Panorama just the same as the residents of Panorama when we have boat access only and no road to our properties

Weekends in the summer.

One car was keyed One car was messed up Verbal abuse from street residents Not able to find spots No parking for guests

Generally we have managed although it can be a long walk to the marina. I was towed once at considerable expense plus ticket due to parking on Panorama for four days when I was sick and couldn't leave Brighton Beach and wasn't aware of the 3 day limit. Otherwise it is just inconvenience.

Not until recently, although some weekends it is a challenge to find parking

At times there is no parking in the marina parking lot, and no parking on Panorama Drive. I am a 66 year-old woman who has lived on Indian Arm for 26 years. If there is a restriction on parking on Panorama Drive I don't know how I will access my home.

Had a second car for a while but had to get rid of it as parking didn't allow us more than 72 hours on one block. Even though we used our the main vehicle mostly to CARPOOL having to move the other car became too much! Parking tickets and towing. We were working on saving gas by coming into town as little as possible but having to take a boat trip to move your car is just un-do-able and Guest visiting have had a very hard time finding overnight or weekend parking on the summer weekend even right in the park.

Would of course prefer to park the vehicle at Seycove marina if that was possible but no issues otherwise on panorama drive

No space. Too crowded, especially on weekends.

In general no. That said, on a long weekend or when there is an event going on it can be tricky to find a space.

No. That said, long weekends or when an event is being hosted in the Cove, parking can be tricky. but that is all part of living in any great part of North Vancouver

Not being able to find a spot to park that is close to the marina where our boat is kept.

Not until permits came in

parking when we have a visitor

during the summer when the lot is full there can be the issue of no room at the marina which means parking on the Drive. If we occasionally wish to have a guest, there is nowhere near for them to access any parking.

Unable to get annual parking at Seycove Marina

On busy days it has been difficult to find space on Panorama Drive for our second vehicle. It has been much improved with the new regulations.

I can't park on Panorama because of new regulations. I'm going to have to walk a mile to get to my car. And my girlfriend is going to have to walk a mile to get to her car. How come people living on Panorama Drive get 3 passes with DRIVEWAYS!!!???

I have parked on Panorama for 22 years. It is the closest road to my property just as the other residents along Panorama. I should be treated the same as those who reside along Panorama. I get a guest pass and they get 2 residents and 1 guest. All those houses should have adequate parking or their lots should never have been subdivided. I need street parking MORE than they do and yet I get 1/3 this is a great injustice. With the current parking permit the street will be ½ empty while Indian Arm residents walk ½ mile to their car. This is an over reaction to a few outspoken complainer residents.

Yes - there have been times when we do not find parking near the marina and have had to park 1-2 km away. This poses significant problems to access our marina to then travel to our permanent home.

Have definitely had issues - can't find parking.

1.6. RESIDENT SURVEY FINDINGS

General Feedback

1.7. RESIDENT SURVEY FINDINGS

Summary and Conclusions

1.7. RESIDENT SURVEY FINDINGS – *Summary & Conclusions*

- Overall, Deep Cove and Indian Arm residents believe that there is a parking problem – particularly in the summer months and on special event days.
- Residents who live closer to the Village centre are more likely to believe that there is a parking problem than those in Greater Deep Cove.
- Residents perceive the two main sources of the parking problem in Deep Cove to be non-residents accessing outdoor recreation, and special events or activities in the village.
- Residents from areas which typically see Indian Arm residents parking on the street (Deep Cove Village residents – particularly Panorama Drive) view non-residents accessing outdoor recreation, and special events or activities in the village as having a greater impact on the parking situation, than do Greater Deep Cove residents.
- The main concerns Deep Cove residents have regarding parking is that their guests and, to a lesser extent, their household members, cannot park on their street.
- The main concerns Deep Cove residents have regarding traffic volumes, in contrast to parking, is safety and access to their property.
- Concerns about traffic volumes follows a similar pattern to that of parking concerns. The seasonality is consistent and residents in Deep Cove Village are more likely to see traffic volume as a more serious problem year round than their Greater Deep Cove counterparts.
- Indian Arm households have, on average, two vehicles, and typically park them at the marina as well as on the street (particularly on Panorama Drive) when they are at their water access only properties. Because these DNV residents do not have road access to their properties they feel they should have equal resident parking status on the closest road to their boat (Panorama Drive).
- Off-street parking in Deep Cove averages 2.3 spots per residential property. Residents have an average of 2.2 vehicles per property. On the whole, there should be limited need to park on the street however, on a per-household basis, we see that there is in fact an off-street parking deficit (meaning more vehicles than private parking spaces) specifically in Deep Cove Village area.
- Although feedback varies, residents are well engaged in providing possible solutions as demonstrated by the open-ended comments provided at the conclusion of the survey.

2. VISITOR SURVEY

2.1. VISITOR SURVEY

Background and Methodology

BACKGROUND

The visitor survey were designed to gather feedback on perceived challenges regarding parking and traffic in Deep Cove.

PURPOSE

The purpose of these surveys were to better understand the current experiences of visitors.

OBJECTIVES

The primary objectives of the Visitor research were to:

- ✓ Understand visitors' patterns to and within Deep Cove;
- ✓ Measure visitors' parking experiences; and,
- ✓ Gauge likelihood of using alternative transportation modes.

METHODOLOGY

Approach: The visitor survey, available in Appendix 2, was conducted using two approaches: onsite intercept and online open link. The onsite intercept survey was conducted over two days (Saturday July 5th and Friday July 11th). The online open link was marketed to visitors via two Parks department signs in Deep Cove as well as a postcard the onsite interviewer provided to those who did not want to do the survey at that time. In addition, the District of North Vancouver posted links of the survey on its website. The online survey was available between July 4th and July 20th.

Response Rate: The onsite interviewer completed 80 interviews with visitors over the two days onsite. In addition, 71 visitors completed the survey online for a total of 151 completes.

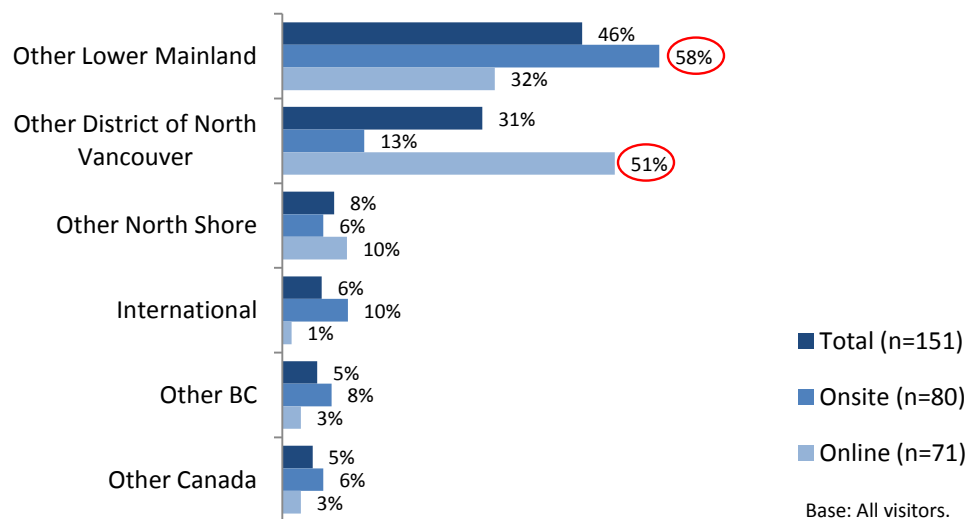
2.2. VISITOR SURVEY

Findings

VISITOR CHARACTERISTICS

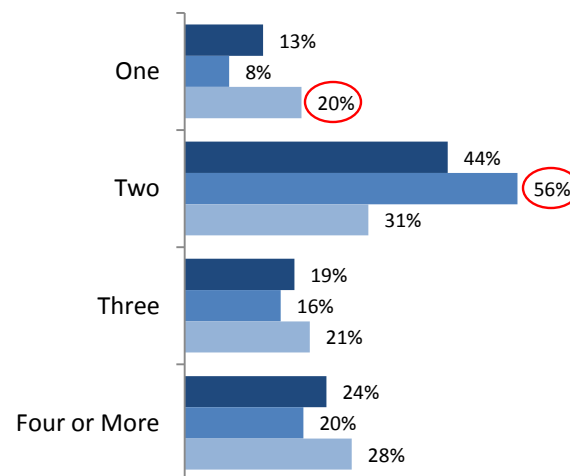
- With only 31% of visitors being from the DNV (outside of Deep Cove), most visitors travel relatively significant distances to visit Deep Cove. In fact, nearly half (46%) of visitors are from the lower mainland outside of the North Shore. As the graph shows below, respondents using the online survey are significantly more likely to be from other areas within the District of North Vancouver (51% vs. 13%) while those intercepted onsite are more likely to be from other areas of the lower mainland (58% vs. 32%) and international (10% vs. 1%). This is somewhat expected given the open-link method used which was displayed on hiking trail and park signage as well as on the District of North Vancouver’s website.
- In addition to travelling a distance to experience Deep Cove, one-in-five (20%) travel parties bring a pet with them. Those who responded online and, therefore, are more likely to be from other areas of the DNV are significantly more likely to have brought a pet than visitors intercepted onsite (28% vs. 13%). The relatively high proportion of visitors with pets indicates that these visitors may have a larger barrier to using alternative transportation methods. Those coming to Deep Cove for the primary purpose of hiking are more likely to bring a pet with them compared to those visitors looking to partake in other recreation or shopping/restaurants.
- Most visitors are in Deep Cove either by themselves (13%) or with one other person (44%). On average, Deep Cove visitor travel party size is 2.75 people. Online respondents are more likely to be alone, combined with the high proportion of DNV residents, this suggest that these visitors may be more repetitive users.

Visitor Origin



Size of Travel Party

Average Travel Party = 2.75 People

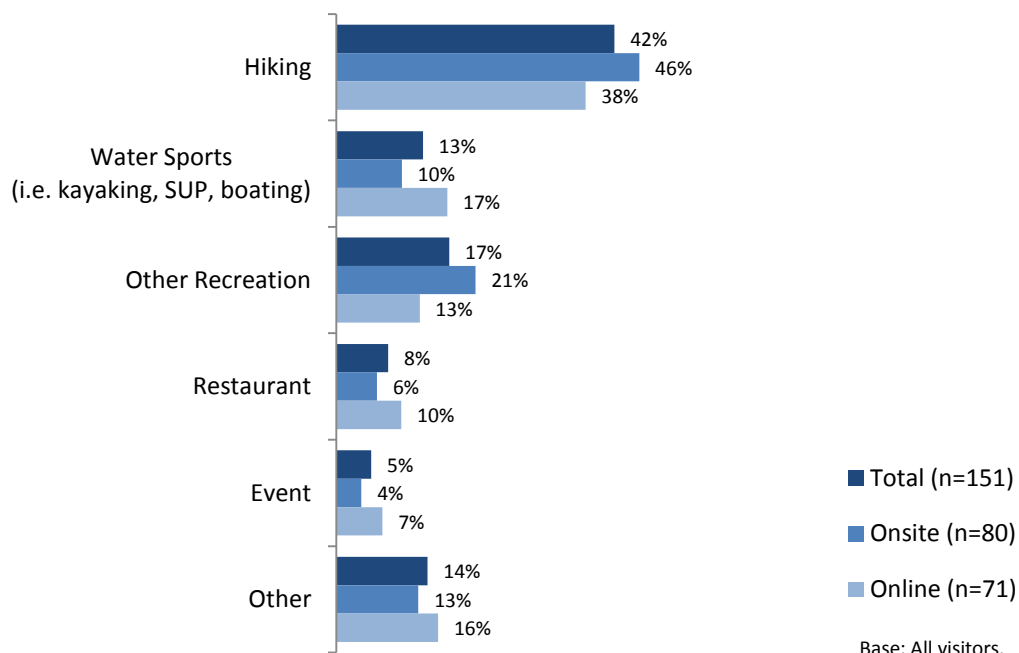


Base: All visitors.

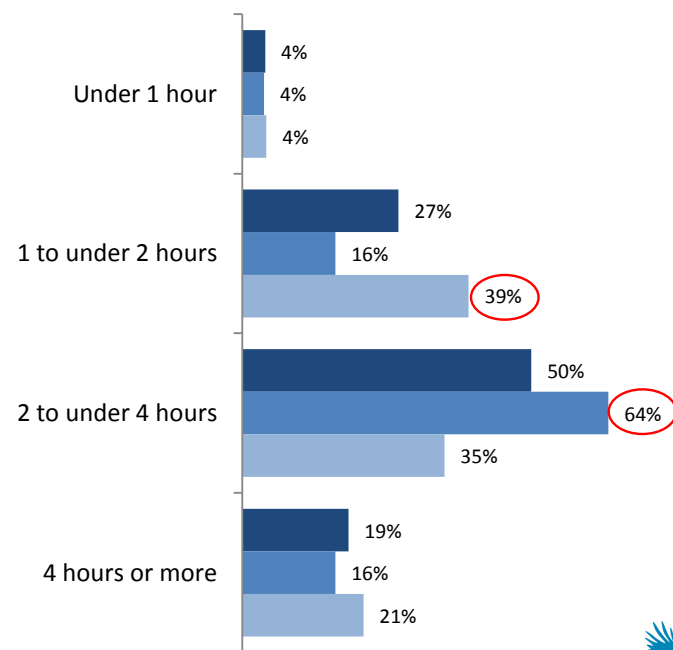
TRIP CHARACTERISTICS

- Most visitors coming to Deep Cove are primarily coming to partake in recreation activities, particularly hiking (42%). The primary trip purpose is relatively consistent between the two respondent groups.
- Half of visitors are staying between 2 hours and 4 hours in Deep Cove; however, 19% are staying 4 hours or more. Consistent with the idea that online respondents are likely more repeat visitors in nature, they are significantly more likely to stay in Deep Cove 1 to under 2 hours. Those visitors intercepted onsite, in contrast, as more likely to stay 2 to under 4 hours. Given that those intercepted are more likely to be from outside of the District, the longer time spent in Deep Cove is somewhat expected.
- It is important to note that Visitors likely have a large economic impact on local business given that 76% of visitors report that they spent money with local merchants in the village while on this trip.

Trip Purpose



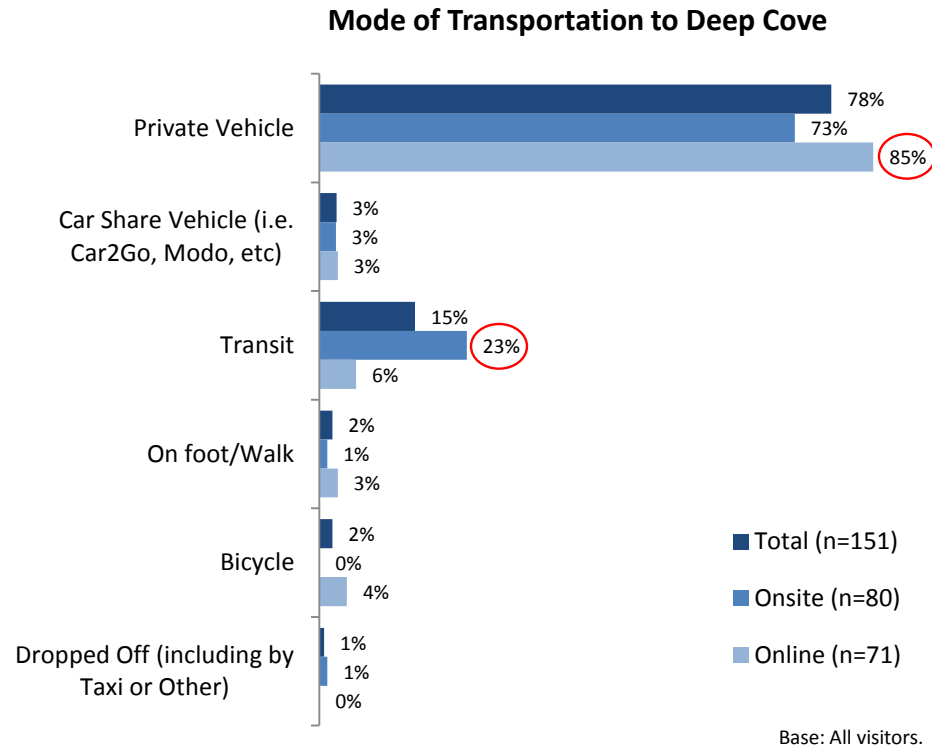
Length in Deep Cove



Base: All visitors.

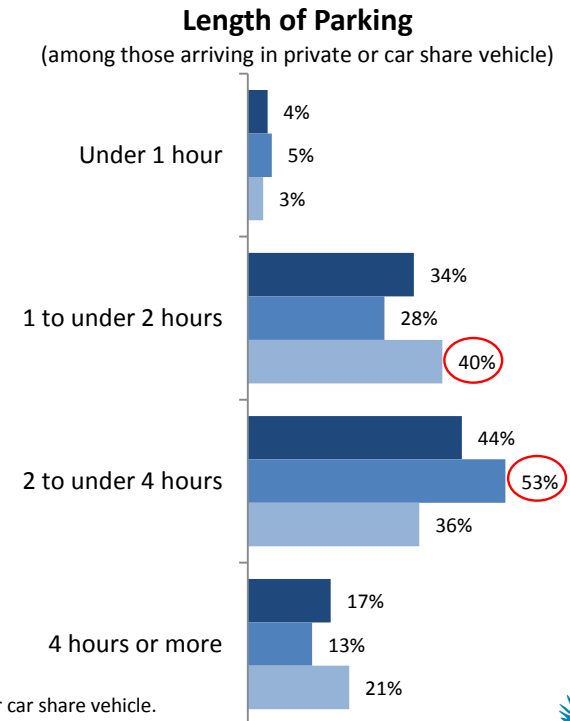
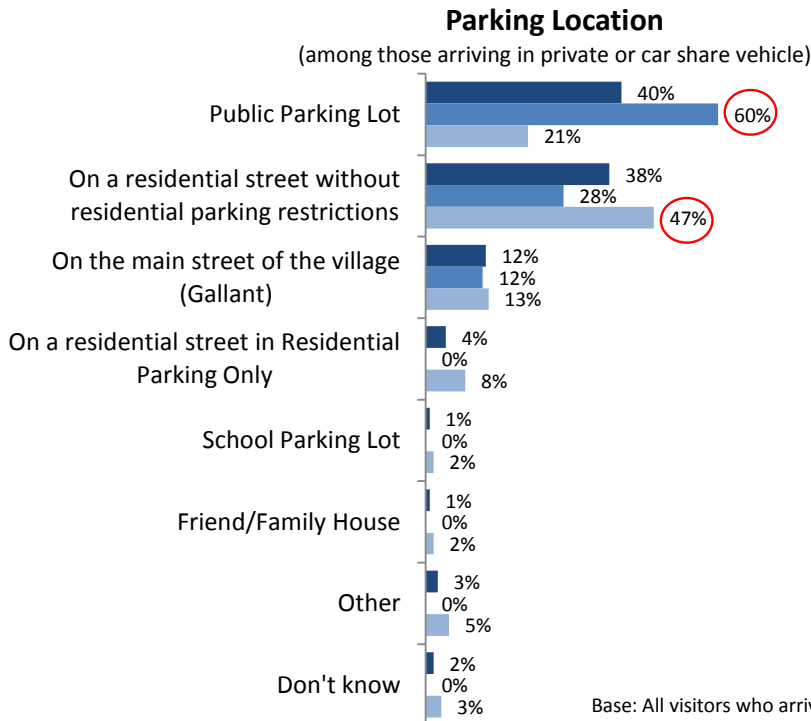
Mode of Transportation

- Nearly 8-in-10 visitors (78%) arrive in Deep Cove via private vehicle with an additional 3% arriving in a car share vehicle. Only 15% of visitors choose public transportation as their mode of transportation to Deep Cove. Those visitors intercepted onsite were significantly more likely to take transit to Deep Cove. In fact, 23% noted that they arrived in Deep Cove via Transit compared to 15% of those visitors who completed online.
- Of those who didn't arrive in a vehicle, just under half (48%) have previously driven to Deep Cove. Of these, one-third noted that their previous experience had contributed to them choosing not to drive to Deep Cove on this trip.



Parking Challenges

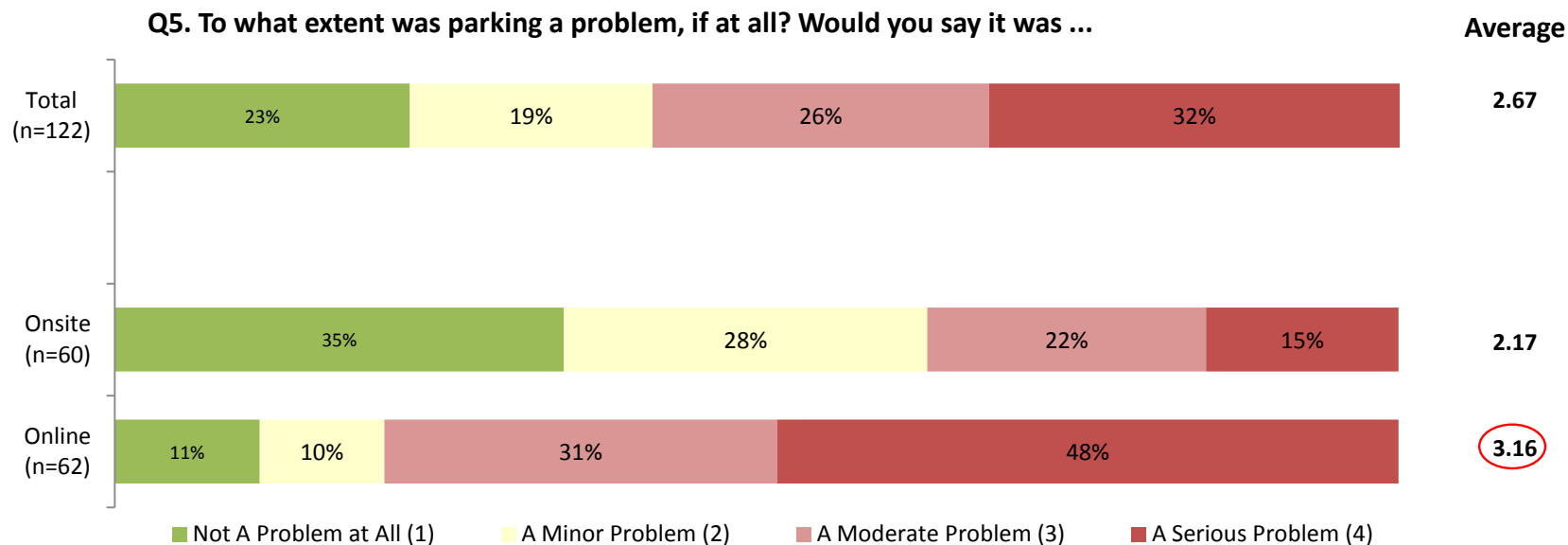
- Of those who have ever driven to Deep Cove, 15% reported that they have had a conflict with residents or other motorists when looking for parking in Deep Cove.
- The most common area to park for visitors to Deep Cove is a public parking lot (40%) followed closely by parking on a residential street without residential parking restrictions (38%). It should be noted that 4% of visitors indicated they parked on a residential street in residential parking only.
- The most common length of parking is 2 hours to under 4 hours which is consistent with many of the parking restrictions in the area. Consistent with other results, online respondents (who tend to be more local) are more likely to stay 1 hour to under 2 hours and park on residential streets without parking restrictions. This suggests a possible familiarity level that is higher than visitors intercepted onsite.



Base: All visitors who arrived in Deep Cove via private vehicle or car share vehicle.

2.2. VISITOR SURVEY - FINDINGS

- Overall, over 4-in-5 visitors had some degree of a problem parking in Deep Cove. In fact, 32% noted that parking was a serious problem and an additional 26% said parking was a moderate problem. In total, the average rating on a scale of 1 to 4 where 1 is 'Not a Problem at All' and 4 is 'A Serious Problem' is 2.67 (moderate problem).
- Visitors who were intercepted onsite view the parking condition more favourably than their online respondent counterparts. As previously noted, the onsite intercepts was conducted on Saturday July 5th and Friday July 11th. The online respondents; however, could respond to the survey anytime between July 4th and July 20th. This time span may have included more problematic times and/or visitors who experienced problems may be more likely to take the time to complete the survey online. Despite the significant differences between the respondent groups, on average visitors rate the parking situation in Deep Cove between a minor and moderate problem.

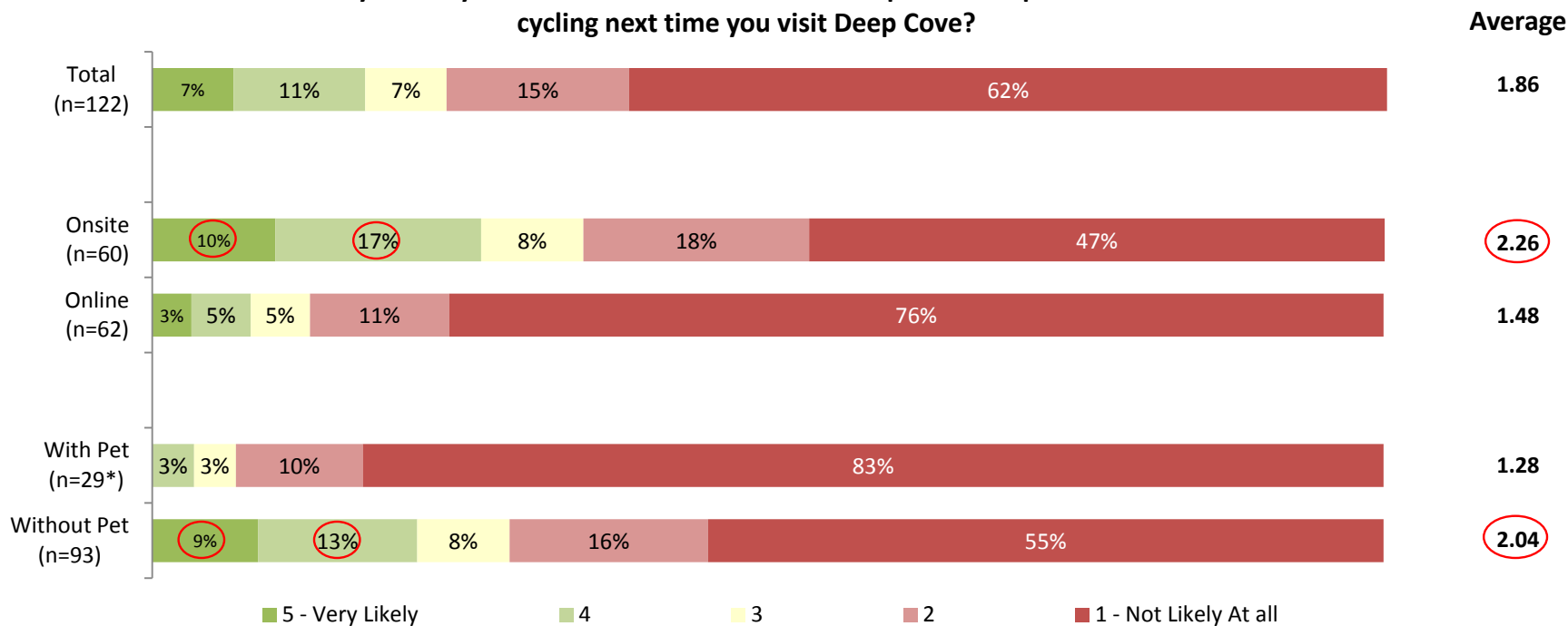


Base: All visitors who arrived in Deep Cove via private vehicle or car share vehicle.

Future State

- Nearly 8-in-10 visitors are not very likely to consider alternative transportation options such as transit or cycling the next time they visit Deep Cove. This is even more pronounced for those who arrived with a pet (20% of visitors). In fact, 83% of those who brought their pet with them on this trip to Deep Cove indicated they were 'Not Likely at All' to consider alternative transportation options next time they visit Deep Cove.
- Nearly two-thirds (65%) of visitors would still choose to drive to Deep Cove if parking was only available at a nominal cost. Similar to other results, visitors intercepted onsite differ from those who completed the survey online. In fact, 72% of those interviewed in Deep Cove would still choose to drive to Deep Cove compared to 59% of those who completed the survey online and tend to be more local and experience more parking challenged.

Q12. How likely would you be to consider alternative transportation options such as transit or cycling next time you visit Deep Cove?



Base: All visitors who arrived in Deep Cove via private vehicle or car share vehicle.
 * Caution: Small sample size, interpret with caution.

2.3. VISITOR SURVEY

Summary and Conclusions

VISITOR SURVEY SUMMARY AND CONCLUSIONS

- Visitor come from various areas but mostly other parts of the Lower Mainland and travel in parties of 1-2 people.
- Hiking is the most common reason for visitors' trip to Deep Cove and they typically stay between 2 and 4 hours in the area.
- The overwhelming majority of visitors arrive in Deep Cove by private vehicle and park in lots or on residential streets without parking restrictions.
- In-line with the length of stay in Deep Cove, visitors park their vehicles between 2 and 4 hours. However, it does appear that some visitors may move their vehicle to ensure they can stay longer (given the proportion difference between length of stay and time parking in current location).
- Parking appears to be, on average, a moderate problem for visitors.
- Visitors are not very likely to consider alternative forms of transportation to Deep Cove for their next trip – particularly if they have a pet with them (approximately 1-in-5 visitors bring their pet).

3. BUSINESS FOCUS GROUP

3.1. BUSINESS FOCUS GROUP

Background and Methodology

BACKGROUND

This section of the report is specific to the findings from Deep Cove businesses based on the focus group and the four interviews. The discussion guide (focus group and adapted in-depth interview) was designed to gather feedback on perceived challenges regarding parking and traffic in Deep Cove and better understanding the impact the current traffic and parking has on:

1. Customers/Clients;
2. Employees; and,
3. Business Operations.

GROUP COMPOSITION

The focus groups was conducted at the Deep Cove Cultural Centre on July 8th at 7:00 pm. The group, recruited by the NRG Research Group, consisted of local business owners and managers who had agreed to participate in a focus group. Lea Anne Sexton of Two-Way Consulting moderated the focus group. The moderator summary is available in section 3.2. Liddie Sorensen-Lawrence of NRG Research Group conducted all in-depth interviews. The moderator guide, developed in coordination with the project team, was developed by NRG Research Group and is available in Appendix 3.

In addition to the discussion during the focus groups, participants also completed a worksheets aimed and providing some quantitative information regarding traffic and parking in the area. The worksheet is available in Appendix 4.

PURPOSE

The purpose of this focus group and four in-depth interviews is to determine what issues, if any, businesses have regarding parking and traffic in Deep Cove.

OBJECTIVES

The primary objectives of this research are to:

- ✓ Understand what current challenges are;
- ✓ Identify what role, if any, businesses play in the challenges; and,
- ✓ Understand the impact parking and traffic has on local business.

Based on these objectives, the moderator guide focused on:

1. Perceived Issues/Challenges
2. Business Operations – Deliveries and Waste
3. Business Operations - Staff
4. Business Operations – Patrons/Customers/Clients
5. Parking Hours and Pay Parking

3.2. BUSINESS FOCUS GROUP

Moderator Summary

Moderator Summary Report

On Tuesday July 8, 2014 a focus group with local business representatives was held in the meeting room of the Cultural Center in Deep Cove. The focus group was part of the District of North Vancouver's Deep Cove Parking and Traffic Study. The purpose of the focus group was to gather input from the business owners in Deep Cove with respect to their experiences and issues with traffic and parking. The materials provided to the participants included a study area map as well as focus group worksheet. There were no incentives provided for participation other than refreshments. The participants arrived between 7:00 and 7:15 pm so the meeting began a bit late.

There were eight participants representing six private businesses and two non-profits. The businesses were all located along Gallant Avenue except for one which is located on Banbury Road. Many of the participants were long time residents of Deep Cove and had run or managed their businesses for several years if not decades. They were well versed in the changes that had taken place in their "village" over time. The participants were a friendly chatty group and most knew each other. They were able to share information comfortably and had lots to discuss regarding the current situation and issues with respect to parking and traffic in Deep Cove. Their primary interest was parking issues that affected their customers. As a whole they did not seem to have significant concerns with waste management, however, issues with respect to delivery services as well as pick-up and drop-off services were more important. They all had customer impact stories to share related to parking issues and there seemed to be less issues with staff as many of them biked, walked or took transit to work.

The conversation focused mainly on parking challenges that occur throughout the summer or on any sunny day in Deep Cove. According to one participant, the word is out that Deep Cove is a regional destination! The general consensus of the group was that it was good to be a desirable and busy destination, however, they felt they may soon be reaching the point where the parking issues may impact the bottom line of their businesses.

One participant explained that a diversity of people ranging from employees, residents, visitors who come and then leave on a boat or a hike for the day or visitors who come and stay for a few hours in the area use the parking in the Deep Cove area. Participants mentioned that special events, nightly events (i.e. dragon boat training, a wedding at the yacht club or an artist's opening), film work and changes along Panorama Drive to residents only parking impacted the situation. When discussing the impact of parking on their customers the participants used word like stressful, confusing and frustrating. The lack of all day parking was a problem for visitors who were heading off for the day or for those staying in an all day workshop as they would have to run out after 3 hours to find another parking spot or risk a ticket. There was also concern expressed regarding the lack of bicycle parking as well as boat slips. One participant often had her parking spot underground taken illegally and this would impact her customers who required the spot. Some of the participants stated that they had lost volunteers because they could not find suitable (nearby for seniors) 3-4 hour parking and others had lost customers who left the area

1



after parking could not be found even when they had tickets to a play. The lack of signs regarding parking alternatives was also expressed as a problem for their customers as well the different hours of parking for example in one block there is one-hour parking on one side of the street and 2 hours parking on the other side making it confusing.

With respect to deliveries, the participants said that their delivery vehicles had challenges especially for those businesses with no back doors as there are no spots for commercial deliveries on Gallant Ave. The method they use to do deliveries (i.e. double park) often results in traffic tickets. Participants also expressed issues with customers needing to double-park on Gallant Ave. if they needed to quickly run in and pick up a pizza or if they were dropping off materials for a workshop. There was one participant who expressed challenges with waste management as they had four different companies come on four different days to pick-up. The pick-up area is challenging as it is a sloped driveway into a parkade which the trucks have to back up into and subsequently block access and egress to the parkade. As well there is a playground and other businesses nearby so pedestrians walk around the sloped driveway and it is unclear as to where they should be walking to be safe or that they should even be concerned about trucks in the area.

When asked about pay parking the reaction was negative. One participant was willing to consider pay parking options only if the funds received would go back to enhancements/improvements to Deep Cove and not just general District of North Vancouver funds. The participants felt that pay parking would impact on the way customers spend their time in Deep Cove. Currently a customer will come for one reason or another to Deep Cove and then will often continue on to another business before heading back to their cars- people are having a "package experience" when in Deep Cove not just a one stop shop and go.

The participants did discuss throughout the evening solutions that they are currently using to address the situation and proposed solutions with one participant providing a map of solutions. One participant is advising their clients when they make reservations to: arrive early to find parking; suggesting alternative parking locations; car pooling; and recommending they come by transit if possible. She is also considering alternatives for her employees. Another participant moved their gallery openings to another time and day in the hopes that more parking spaces nearby would be available for their customers, volunteers and staff. A few participants mentioned the need for a commercial zone for 15 to 20 minutes to accommodate deliveries on Gallant Ave. Another participant suggested that in the Panorama parking lot the 3 hour parking limitation should end at 5pm to accommodate customers who were coming for an evening meal and entertainment. And finally one participant stated it was terrible that there was a 3 hour limit at all in the park parking while another felt more all day parking should be provided.

Overall, the participants were engaged and interested on the topic throughout the meeting. They were all encouraged to discuss in a friendly and open manner their experiences with the parking and traffic situation in Deep Cove. The focus group ended around 8:30pm.

2



3.3. BUSINESS FOCUS GROUP

Observations

PERCEIVED ISSUES/CHALLENGES

Nice days – particularly in the summer – result in Deep Cove being over capacity for parking and traffic. One participant stated that there are four main groups who are accessing Deep Cove parking: Employees, Residents, Park & Go Visitors, Visitors (2-4 hour). On sunny days, all four of these groups are trying to access parking in Deep Cove therefore capacity is reached quickly. It was suggested that rainy days brings only two of these groups.

Newer parking restrictions in some areas are creating a crunch or shift to other areas. There appears to be a perception that the resident-only restrictions on Panorama, in particular, have pushed that volume to other areas within Deep Cove. In addition, some restrictions vary by location (even by side of street) and therefore are confusing.

There is some concern regarding intersection of Gallant and Panorama. Although not an issue for all businesses, several did mention that the lack of a 4-way stop is not only dangerous for pedestrians, but also creates a backlog for anyone needing to make a left from Panorama Drive (in either direction). The hill leading into the village also contributes to some vehicles travelling quite fast. All of the in-depth interviewees noted that this intersection was a very large safety concern for them and that accidents are common. One business owner noted that she can sit on Panorama Drive for over 5 minutes waiting to make a left onto Gallant (heading west).

Although businesses depend on cross-customers (i.e. those who go to more than one business in the Cove), the degree parking is an issue varies by business type. For example, one retail location noted that although visitors or tourist increase traffic, her loyal customers which she depends on for year-round revenue are displaced due to lack of parking. The experience at a business like this requires only several minutes therefore taking up to 30 minutes to find parking is not viable. However, for other businesses that have longer experiences – particularly those which are based on reservations – parking is not as detrimental.

There is a sense that Deep Cove has reached the tipping point. Several participants noted that parking and traffic are starting to negatively impact the experience many visitors are coming to the area for. As such, there is a sense that traffic will not continue to increase, at least at the same rate as it has over the last five year.

BUSINESS OPERATIONS – DELIVERIES AND WASTE

Lack of back access creates issues for deliveries. Several businesses only have access to their location through the front door on Gallant Avenue. This results in challenges for deliveries both to and from (i.e. pizza delivery service, prescription delivery service) the business as there are no commercial loading zones. As such, many deliveries double park while transferring goods.

There is no area for larger trucks therefore they regularly double park in the middle of the street for deliveries. It was noted that the bylaw officers do ticket for this; however, the practice continues and the drivers just hope they don't get a ticket and a bus doesn't need to get by.

Although not typically deliveries, people parking in the round-about at the end of Gallant does create issues for traffic and larger vehicles such as delivery trucks and buses. This is regularly use by people dropping visitor off and/or taking in the view as there is no where else to stop.

Waste does not appear to be a large concern for most businesses. That being said, two businesses in the same building at the end of Gallant Avenue (4390 Gallant) did note that there are four different companies that do waste and recycling at their building and each come twice a week. In addition to this large volume, the trucks need to back down the hill. This not only is a bottle neck but it is also very dangerous as pedestrians regularly mistake the road for being relatively inactive and part of the park rather than a road and driveway. In addition, the hill is quite steep and flanked by landscaping that limits the drivers' ability to see pedestrians.



BUSINESS OPERATIONS – STAFF

Most businesses have limited parking, if any, yet most staff drive. Some businesses encourage carpooling and alternative transportation; however, employees do tend to drive and park in lots or other areas in the Village. One business has identified this as an issue and is currently looking into ways to encourage staff to use parking lots ‘out of the zone’ such as Myrtle Park. Being proactive regarding where employees are parking appears to be limited. It was an important observation that many visitors do not know where alternate parking locations are and/or how to get to the village from them therefore way finding is needed.

Biking, although limited, is hard to promote to employees given that there are only a few bike racks. This is becoming more of an issue for visitors as well given that cycling to/within Deep Cove increases in popularity. Sidewalks in front of some businesses get filled with bikes as riders sit on the patio. There was some concern that there may not even be enough room for racks on sidewalks given the volume of foot traffic combined with the patio areas.

Volunteer-dependent organizations are finding it difficult to fill timeslots during ‘peak’ Deep Cove times (weekends in summer). Many volunteers tend to be senior citizens and therefore many prefer or need to park as close as possible. However, the lack of available parking and, more specifically, available parking close to the Deep Cove Cultural Centre and Art Gallery,

BUSINESS OPERATIONS – PATRONS/CUSTOMERS/CLIENTS

Businesses receive complaints from customers several times per day regarding parking. As previously noted, this is typically in the summer but expanding to any sunny day throughout the year.

Resident customers tend to avoid the village in the summer. Due to the volume of people and lack of parking, there is a perception that locals tend to avoid the village in the summer. This is of some concern for businesses which rely on regular clientele.

Customers tend to come from all over and are not just local to Deep Cove or even the North Shore therefore need to drive. That being said, there is a perception that many customers come all that way only to not be able to find parking and leave without stopping in the village as initially intended.

3.3. BUSINESS FOCUS GROUP - OBSERVATIONS

The theatre clientele tends to be elderly and travel from all over the lower mainland therefore require evening parking close to the venue which allows for over 3 hours of parking. As described by one business, Deep Cove is a package of businesses for customers. As such, they tend to use more than one business in one visit – for example, a customer may come for dinner then go to a play after. This type of experience requires different parking regulations compared to other types of businesses which have a shorter customer experience (i.e. pizza).

Businesses are diverse and therefore the customers are as well. One businesses runs workshops which draws clients from across the lower mainland but does have a distinct need to transport/carry supplies in/out of the venue. This is a much different need than patrons at the coffee shop, for example, who may stop in while passing by or have planned the stop into their day excursion to Deep Cove.

Businesses generally do not have parking assigned for customers. Of the few that do, the spots are regularly ‘poached’ by unknown vehicles desperate for a parking spot.

The parking and traffic issues are perceived to be negatively impacting the customers experience as they are stressed out by the time they arrive (if they were successful in finding a parking spot). This is particularly true for businesses where customers are coming specifically for that businesses compared to other businesses which may/can depend on foot traffic more.

PARKING HOURS AND PAY PARKING

Most businesses do not appear to support pay parking. Interestingly, there appears to be resistance by some businesses due to the perception that pay parking would change the culture in the village. In addition, some were also concerned that it would be a revenue stream for the DNV and Deep Cove would see no funds from the pay parking. Most participants were interpreting ‘pay parking’ to be meters of some sort. There is concern that pay parking would deter customers from staying longer.

Many suggested that evening parking restrictions need to be different than day time restrictions. This would allow for more flexibility for evening experiences such as plays, dinner, etc.

3.4. BUSINESS FOCUS GROUP

Summary and Conclusions

CONCLUSIONS

- The impact of parking and traffic on customer/clientele appears to vary by type of business (Service versus Retail).
- There are many issues regarding parking in Deep Cove which impact employees, clients and some deliveries.
- It appears that there may be lack of information available for visitors on areas to park outside the village.
- Traffic is often disrupted due to parking issues. For example, deliveries often have to be made from the street therefore block traffic.
- The issue is compounded for several businesses which only have access to their storefront through the front.
- Current parking restrictions on Gallant are confusing due to different time limitations on either side of the street.
- Businesses have two main, yet competing, needs: ability for clients to park for an extended period of time so as to maximize the Deep Cove experience and ensure cross-over business; and, creating turnover for short-term local and/or loyal customers to more retail types of businesses or quick service (i.e. Lala's, Pharmacy, Pizza pick ups).
- There is a lack of bike racks available and there is sense that possible locations may be limited.
- There are no commercial loading zones therefore many park in middle of road (double park).
- Traffic at the round-about at the end of Gallant gets backed up due to pick ups/drop offs or view watchers.
- Sunny days transforms the area and impacts customers – many find it frustrating to find parking. Businesses hear this from their customers daily.
- Several businesses cater to senior clientele which require parking closer to the venue. As such, they find that they lose many customers due to parking.
- Time spent at businesses ranges from 5 minutes to pick up pizza, to a 20 minute gallery tour, to 1.75 hours for dinner, to a 2 hour kayak rental to an 8 hour workshop.
- Most employees appear to drive. Several businesses depend on volunteers which are hard to get/keep for weekend shifts.
- Some staff park a distance away but many also use the lots or any free spot they can find. Some businesses are trying to address by encouraging staff to carpool, use other forms of transportation and to park at locations outside the area (i.e. Myrtle Park).

3.4. BUSINESS FOCUS GROUP - SUMMARY & CONCLUSIONS

- Gallant @ Panorama creates issues due to a lack of 4-way stop. Although some do not feel that this is a large issue, those nearer this intersection and on the block of Gallant west of Panorama do feel that this is an issue.
- Generally there is a reluctance to have pay parking as it doesn't fit with the village culture and it is important for cross-over business traffic that

APPENDIX 1:

Resident Survey

This study is regarding parking and traffic in Deep Cove. We are interested in hearing your perspective on these topics. For statistical purposes, please tell us a little about you and your household.

IF OPEN-LINK, ASK Q1-Q2, IF DIRECT LINK, WILL CONFIRM ADDRESS FIRST

Q1. Where in the District of North Vancouver do you currently live? *Please select most accurate response.*

1. Deep Cove
2. Indian Arm
3. Seymour
4. Parkgate
5. First Nation Reservation
6. Other Areas within the District of North Vancouver
7. DO NOT LIVE WITHIN THE DISTRICT OF NORTH VANCOUVER

IF Q1=3-7, THANK AND TERMINATE – PUSH TO VISITOR SURVEY

Q2. ASK IF Q1= 1, And what area within Deep Cove do you currently live. *Please select most accurate response.*

1. [COLOUR ON MAP] - Deep Cove Village Area
2. [COLOUR ON MAP] –Deep Cove Outside of Village Area
3. REFUSE

IF Q2=3, THANK AND TERMINATE

Q3. How long have you resided in this location? *Please select the most appropriate response.*

- a. Less than 5 years
- b. 5-9 years
- c. 10 years or more
- d. REFUSE

Q4. Do you currently rent or own your home? *Please select the most appropriate response.*

- a. RENT
- b. OWN
- c. OTHER (Please specify: _____)

d. REFUSE

Q5. How many people currently live in your household? (i.e. family, roommates) *Please enter the number of people below.*

_____ [VALID: 0-15]

REFUSE

Q6. ASK IF OWN, Do you have any tenants that share your address?

- a. YES
- b. NO – SKIP TO Q8

Q7. ASK IF Q6=YES, How many tenants do you have? *Please enter the number of people below.*

_____ [VALID: 0-15]

REFUSE

IF Q1=2 INDIAN ARM, SKIP TO Q16

Q8. How many off-street parking spaces, if any, do you have at this address (including driveway, garage, etc.)? *Please enter the number below.*

_____ [VALID: 0-15]

REFUSE

Q9. How many motorized vehicles belong to this address? *Please enter the number below.*

_____ [VALID: 0-15]

REFUSE

Q10. And how many of those [ANSWER to Q8] vehicles are regularly parked on the street? *Please select the most appropriate response.*

_____ [VALID: 0-Q8 ANSWER]

REFUSE

SECTION 2– This section is focuses on **PARKING** in your neighborhood. For this section, parking refers to the amount of vehicles parked on the street where you live. We would like to better understand residents’ perceptions of parking in their area as well as perceived issues.

Q11. To what extent is the number of vehicles parking on your street a problem, if at all, during the following times: [ANSWER OPTIONS: 1- Not A Problem at All, 2- A Minor Problem, 3 – Moderate Problem, 4 – Serious Problem]

- a. Summer – Weekdays
- b. Summer – Weekends
- c. Summer – Special Event Days
- d. Fall/Spring - Weekdays
- e. Fall/Spring - Weekends
- f. Fall/Spring – Special Event Days
- g. Winter – Weekdays
- h. Winter – Weekends
- i. Winter – Special Event Days

Q12. ASK IF ANY Q10>1, You noted that street parking on your street may be problematic at certain times, what specific concerns do you have regarding the number of vehicles parked on your street? Please select all that apply.

- a. Safety of pedestrians
- b. Safety of cyclists
- c. Access to my property
- d. Residents’ ability to park on the street
- e. Guests’ ability to park on the street

- f. Emergency vehicle access
- g. Other (please specify:_____)

Q13. Still thinking about street parking on your street, what impact do each of the following groups have on the number of vehicles parked on your street? [ANSWER OPTIONS: 1- No Impact at All, 2- A Minor Impact, 3 – Moderate Impact, 4 – Serious Impact]

- a. Residents of my street
- b. Area residents (including Indian Arm residents) who do NOT live on my street
- c. Non-residents parking to visit friends/family in neighborhood
- d. Non-residents parking to access outdoor recreation in the area
- e. Non-residents parking to access the village
- f. Non-residents parking to access a special event

SECTION 3– This section is focuses on **TRAFFIC** in your neighborhood. For this section, traffic refers to the amount of vehicles travelling on the street where you live. We would like to better understand residents’ perceptions of levels of traffic in their area as well as perceived sources of traffic.

Q14. To what extent is the amount of traffic on YOUR STREET a problem, if at all, during the following times: [ANSWER OPTIONS: 1- Not A Problem at All, 2- A Minor Problem, 3 – Moderate Problem, 4 – Serious Problem]

- a. Summer – Weekdays
- a. Summer – Weekends
- b. Summer – Special Event Days
- c. Fall/Spring - Weekdays
- d. Fall/Spring - Weekends
- e. Fall/Spring – Special Event Days
- f. Winter – Weekdays
- g. Winter – Weekends
- h. Winter – Special Event Days

Q15. ASK IF ANY Q13>1, You noted that traffic on your street may be problematic at certain times, what specific concerns do you have regarding the amount of traffic? Please select all that apply.

- a. Safety of pedestrians
- b. Safety of cyclists
- c. Access to my property
- d. Emergency vehicle access
- e. Volume of vehicles using my property to turn around
- f. OTHER (please specify:_____)

ASK Q16-18 IF Q1=2 INDIAN ARM IN OPEN LINK OR INDIAN ARM IN SAMPLE

Q16. How many vehicles do you regularly leave parked in Deep Cove when you are at your property? _____ [Valid 1-15]

Q17. Where do you leave your [PIPE IN Q16 ANSWER] vehicle(s) parked while you are at your property? If you have more than one vehicle parked in Deep Cove, please indicate where each is parked. Open End, Refused

Q18. Have you had any issues surrounding parking your vehicle(s) in Deep Cove?

Q19. What other feedback, if any, do you have for the District of North Vancouver regarding parking or traffic in your neighborhood? Open End, Refused

THANK YOU PAGE: That completes the survey. Thank you for your participation!

APPENDIX 2: *Visitor Survey*

Welcome to the Deep Cove traffic and parking survey!

This survey is being conducted on behalf of the District of North Vancouver by NRG Research, to gather public input on traffic and parking in Deep Cove. We are interested in hearing your perspective on these topics as a visitor to the area. This survey should take five minutes or less to complete, depending on your answers.

Is this the right survey for you?

If you saw this survey advertised on a recent trip to Deep Cove and have since returned home, please complete the survey with your most recent trip in mind. If you are a Deep Cove resident or business owner and would like to provide your input, please use the resident survey, located at www.nrg-surveys.com/deepcoveparking

How to navigate...

When you are ready to proceed in the survey, click the NEXT button.

If you wish to change a response on a previous page, click the BACK button.

Please DO NOT use the forward or back buttons of your web browser (at the top of the page).

Can I pause?

You may pause and return to the survey at a later time. Simply exit the survey. Sign back into the survey using the link and ID provided; you will automatically be taken to the last page you completed.

Press "Next" to start the survey.

If you have questions regarding the purpose or content of the survey, please contact the District of North Vancouver at enquiries@dnv.org or by phone at 604-990-2311.

To verify this study, please contact the Market Research and Intelligence Association (MRIA) by phone or online at www.surveverification.ca (English) or www.verificationsondage.ca (French) and reference project number 20140612-664).

Q1. Where do you live? Please select the best answer

1. Deep Cove
2. Other Areas within the District of North Vancouver
3. Other North Shore
4. Other Lower Mainland
5. Other BC
6. Other Canada
7. International
8. Prefer not to answer

IF DEEP COVE, PREFER NOT TO ANSWER, THANK AND TERMINATE

The following questions reference your most recent trip to Deep Cove. If you are still in Deep Cove while completing this survey, please think of your current trip and reference it for questions that refer to a specific trip.

Q2. Including yourself, how many people travelled with you to Deep Cove on your most recent trip? ENTER #

Prefer not to answer → THANK AND TERMINATE

Q3. How did you arrive in Deep Cove on your most recent trip? Please select the best answer

1. On foot/Walk
2. Bicycle
3. Transit
4. Dropped Off (including by Taxi or Other)
5. Car Share Vehicle (i.e. Car2Go, Modo, etc)
6. Private Vehicle
7. Prefer not to answer → THANK AND TERMINATE

Q4. ASK IF Q2=PRIVATE VEHICLE OR CAR SHARE, Where did you park? Please select the best answer

1. Public Parking Lot

2. Yacht Club Parking Lot
3. School Parking Lot
4. On the main street of the village (Gallant)
5. On a residential street without residential parking restrictions
6. On a residential street in Residential Parking Only
7. Friend/Family House
8. Other
9. Don't Know
10. Prefer not to answer → Thank and Terminate

Q5. ASK IF Q2=PRIVATE VEHICLE OR CAR SHARE, To what extent was parking a problem on your most recent trip, if at all? Would you say it was: Please select the best answer

1. Not A Problem at All
2. A Minor Problem
3. A Moderate Problem
4. A Serious Problem
5. Prefer not to answer

Q6. ASK IF Q2=PRIVATE VEHICLE OR CAR SHARE, How long did you leave your vehicle parked there on your most recent trip? Please select the best answer

1. Under 1 hour
2. 1 to under 2 hours
3. 2 to under 4 hours
4. 4 hours or more

Q7. ASK IF Q2=Private Vehicle or Car Share, Have you ever come to Deep Cove in a private vehicle or car share vehicle? Please select the best answer

1. Yes
2. No
3. Prefer not to answer

Q8. IF Q7=YES OR Q2=PRIVATE VEHICLE OR CAR SHARE, Have you ever had any conflicts with residents or other motorists when looking for parking in Deep Cove? Please select the best answer

1. Yes
2. No
3. Prefer not to answer

Q9. IF Q7=Yes, Did your previous experience parking in Deep Cove influence your decision not to drive on your most recent trip? Please select the best answer

1. Yes
2. No
3. Prefer not to answer

Q10. ASK ALL, What was the main reason for your visit to Deep Cove on your most recent trip?

Please select the best answer

1. Hiking
2. Event
3. Water Sports (i.e. kayaking, SUP, boating)
4. Other Recreation
5. Shopping
6. Restaurant
7. Other

Q11. ASK ALL, Did you or anyone in your travel party bring their pet with them on your most recent trip? Please select the best answer

1. Yes
2. No
3. Prefer not to answer

Q12. ASK IF Q2=Private Vehicle or Car Share, On a scale of 1 to 5 where 1 is 'Not Likely at All' and 5 is 'Very Likely', how likely would you be to consider alternative transportation options such as transit or cycling next time you visit Deep Cove? Please select the best answer

1. Not Likely At all
- 2.

- 3.
- 4.
5. Very Likely
6. I do not know

Q13. ASK IF Q2=Private Vehicle or Car Share, Would you still choose to drive to Deep Cove if parking was only available at a nominal cost? Please select the best answer

1. Yes
2. No
3. Prefer not to answer

Q14. ASK ALL, How long did you spend in Deep Cove on your most recent trip? Please select the best answer

1. Under 1 hour
2. 1 to under 2 hours
3. 2 to under 4 hours
4. 4 hours or more

Q15. ASK ALL, Did you spend any money at any of the stores or restaurants directly in the village?

[SHOW MAP] Please select the best answer

1. Yes
2. No
3. Prefer not to answer

That completes the study, thank you for your time.

APPENDIX 3:

Business Focus Group Moderator Guide

MARKET & PUBLIC OPINION RESEARCH



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 www.nrgresearchgroup.com

MEMORANDUM

To: Lea Anne Sexton From: Liddie Sorensen-Lawrence

CC: Lesley Duncan, Mairi Welman, Stephanie Smiley Date: June 30, 2014

Re: DNV Parking Study – Area Business Focus Group Moderator Guide

Moderator: Lea Anne Sexton
Client: District of North Vancouver
Project: DNV Parking Focus Groups
Focus Group Date: July 8th (Deep Cove)
Focus Group Location: Art Gallery in Deep Cove
Focus Group Times: 7:00 pm

Primary Objectives:

- ✓ Understand impact of parking situation in Deep Cove has on business operations.
- ✓ Determine staff requirements and use of parking in the area.
- ✓ Identify particular challenges directly related to businesses due to parking and traffic in the area.
- ✓ Determine if there is an appetite for pay parking in the area.

NOTE: A worksheet to identify some quantitative information will be provided.

Top-line Moderator Guide:

1. Introduction (10 Minutes)

- a. Moderator Intro:
 - i. Introduction of self and notetaker
 - ii. Welcome/thank you for participating
- b. Things to cover today:
 - i. Study on behalf of DNV

- ii. Talking about traffic and parking in Deep Cove to help understand what impact, if any, it has on local business. Keep in mind that this discussion is to better understand the situation or issues with traffic and parking in the area but not to necessarily identify solutions
- iii. Explanation of Focus Groups –
- iv. Ground rules:
 - a. WE WANT YOU TO DO THE TALKING.
 - We would like everyone to participate.
 - I may call on you if I haven't heard from you in a while.
 - b. THERE ARE NO RIGHT OR WRONG ANSWERS
 - Every person's experiences and opinions are important.
 - Speak up whether you agree or disagree.
 - We want to hear a wide range of opinions.
 - c. WE WILL BE AUDIO RECORDING THE GROUP
 - We want to capture everything you have to say.
 - d. CONFIDENTIALITY/ANONYMITY
 - We don't identify anyone by name in our report. You will remain anonymous.
 - v. Cell Phones off
 - vi. Observers – not participating and will address particular questions after the group if appropriate

c. Respondent Intro:

- i. First Name only
- ii. What business you are representing
- iii. how long they have been in business in Deep Cove
- iv. little ice breaker – since we are in the Cultural Center tell us your favourite artist or play.

2. Perceived Issues (10 minutes)

Looking at the map take a few minutes to identify the areas that you have experienced or seen traffic and/or parking issues- use the markers to express different situations i.e. parking narrows the road and block deliveries or traffic congestion during events in this area delays arrival of staff and customers

- a. Going around the table, tell me what challenges does your business face regarding parking and traffic in Deep Cove? [BRAIN STORM - WRITE ON FLIP CHART]



PROBE: looking at the list on the flip chart. What would you say are the main issues for your business in regards to parking? and traffic?

[STAR OR CIRCLE ON FLIP CHART]

3. Business Operations – Deliveries and Waste (10-15 minutes)

(Order of this may change depending on outcome of question 2)

- a. I want to go into a little more depth on each of these issues or challenges identified. Tell me a little about the logistics of deliveries for your business.

PROBE: How many deliveries do you receive a week?

PROBE: When (what time of day) do the deliveries typically come? How long do they take?

PROBE: What type of vehicle do your deliveries come in?

PROBE: Where do they stop to unload? Are they challenged by anything?

- b. What about waste management, are there any areas of concern with waste management in relation to parking and traffic in Deep Cove?

PROBE: How about things like space for your dumpster, waste management access to your business, impact on appeal of business.

PROBE: Do deliveries or waste management ever interfere with public transportation, traffic flow or parking? IF SO – how?

4. Business Operations – Staff (10 minutes)

- a. I want to talk about your staff. What impact does the current parking and traffic levels have on your staff?

PROBE: Do your employees commute to work (i.e. live outside Deep Cove)?

PROBE: How do employees get to work? (i.e. walk, transit, bike, drive, car share)

PROBE: If they drive or car share, where do they usually park?

PROBE: Does the number of workers you have fluctuate by season? How are your concerns different by season?

- b. Tell me about how your business deals with these issues?

PROBE: Do you coordinate transportation? Provide transportation options?

PROBE: Do you provide parking spaces? If so, how many? Where?

PROBE: Do you provide a storage area for bikes? Where? How many?

5. Business Operations – Patrons/customers (10 minutes)

- a. Let talk about your clientele a little – is your business the primary reason for your patrons/clients to be in Deep Cove i.e. have they come to just your business or will they be visiting others too?

PROBE: Why do they come to Deep Cove? (i.e. hiking, water sports, dinner, event, play, etc)

PROBE: Where are most of your patrons/clients from? Are they typically Deep Cove residents? What percentage of each area?

PROBE: How long does a typical patron spend at/in your business?

- b. What impact does the current parking and traffic situation have on your patrons?

PROBE: Where do most customers park?

PROBE: Do you think you get more/less patrons as a result of current parking and traffic situation?

6. Parking hours and pay parking (5-10 Minutes)

- a. The current time limit in the parking lots is 3 hours and street parking is 1 hour. What are your thoughts on these regulations?
- b. Are the regulations well enforced?
- c. What time limits would work best for your patrons?
- d. What impact do you think pay parking would have on the topics we discussed?

PROBE: Would it make it better? IF SO – How would pay parking make the current situation better? IF NOT – Why, specifically, would pay parking not help the current parking and traffic situation?

- e. What impact would pay parking have on your business?

PROBE: Do you think you would have more business? IF SO – How would pay parking increase business? IF NOT – Would pay parking decrease business or just not impact your business? IF DECREASE - Why, specifically, would pay parking decrease business?

7. Wrap Up (5 Minutes)

- a. Are there any last comments you would like to provide us regarding traffic and parking in Deep Cove?
- b. Please fill out the form (details on # of staff, parking spaces etc)
- c. Next steps for the project
- d. Thank you!

APPENDIX 4:

Focus Group Worksheet

DISTRICT OF NORTH VANCOUVER - DEEP COVE PARKING AND TRAFFIC ASSESSMENT

BUSINESS FOCUS GROUP – WORKSHEET


Q1. How many employees currently work at your location in Deep Cove? Please specify the number of each type of employees.

FULL TIME: _____

PART TIME: _____

Q2. How many designated off-street parking spots does your business have? Please specify the number of parking spaces that are designated use to your company.

Q3. How do your employees get to work? Please enter the approximate % of employees who commute to work by each main mode.

_____ % - Drive  Where do they typically park? _____

_____ % - Dropped-off

_____ % - Transit

_____ % - Bike

_____ % - Walk

Q4. To what extent is parking a problem, if at all, for YOUR EMPLOYEES during the following times?

Please select most appropriate response per row.

	1- Not A Problem at All	2- A Minor Problem	3 – Moderate Problem	4 – Serious Problem
a. Summer – Weekdays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Summer – Weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Summer – Special Event Days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Fall/Spring - Weekdays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Fall/Spring - Weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Fall/Spring – Special Event Days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Winter – Weekdays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Winter – Weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Winter – Special Event Days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5. How does parking and/or traffic, if at all, impact your business' ability to recruit and retain EMPLOYEES?

Q6. How many customers visit your premises on a typical summer day? Please select most appropriate response.

- <10
- 11-50
- 51-100
- >100

Q7. On average, how long do your customers typically stay? Please select most appropriate response.

- 5 MINUTES OR LESS
- 6-15 MINUTES
- 16 - 30 MINUTES
- 31 - 60 MINUTES
- 1 - <2 HOURS
- 2 - <3 HOURS
- 3 HOURS OR MORE

Q8. To what extent is parking a problem, if at all, for YOUR CUSTOMERS during the following times?

Please select most appropriate response per row.

	1- Not A Problem at All	2- A Minor Problem	3 – Moderate Problem	4 – Serious Problem
j. Summer – Weekdays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Summer – Weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Summer – Special Event Days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Fall/Spring - Weekdays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Fall/Spring - Weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Fall/Spring – Special Event Days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Winter – Weekdays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Winter – Weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Winter – Special Event Days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9. How does parking and/or traffic, if at all, impact your business' ability to attract and retain CUSTOMERS?

Q10. How many deliveries do you receive in a typical week? Please enter the number of deliveries.

Q11. What types of vehicles make your deliveries? Please select all that apply.



Passenger cars, light single unit trucks



Single Unit Trucks



Semi-Tractor Trailers

Q12. How many times per week is your waste / recycling picked up?

Please enter the number below.

THANK YOU!



Appendix C – Raw Traffic Count Data



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Study Name Deep Cove Parking Study
Start Date Thursday, May 15, 2014 4:00 PM
End Date Saturday, May 17, 2014 2:00 PM
Site Code Panorama Drive and Gallant Avenue

Report Summary

Time Period	Class.	Southbound						Westbound						Northbound						Eastbound						Crosswalk				
		R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	Total	Bicycles on Crosswalk	Pedestrians	Total	
Peak 1	All Vehicles (no classification)	65	5	6	0	76	105	8	79	0	0	87	104	1	1	33	0	35	68	63	97	96	1	257	178	455	SB	0	18	18
Specified Period	%	100%	100%	100%	0%	100%	96%	89%	98%	0%	0%	97%	98%	100%	33%	100%	0%	95%	100%	100%	98%	99%	100%	99%	99%	98%		0%	100%	
4:00 PM - 6:00 PM	Bicycles on Road	0	0	0	0	0	4	1	2	0	0	3	2	0	2	0	0	2	0	0	2	1	0	3	2	8	WB	1	69	70
One Hour Peak	%	0%	0%	0%	0%	0%	4%	11%	2%	0%	0%	3%	2%	0%	67%	0%	0%	5%	0%	0%	2%	1%	0%	1%	1%	2%		1%	99%	
5:00 PM - 6:00 PM	Total	65	5	6	0	76	109	9	81	0	0	90	106	1	3	33	0	37	68	63	99	97	1	260	180	463	NB	2	31	33
	PHF	0.9	0.62	0.75	0	0.9	0.83	0.75	0.78	0	0	0.78	0.85	0.25	0.38	0.59	0	0.58	0.77	0.75	0.85	0.81	0.25	0.88	0.94	0.93		6%	94%	
	Approach %					16%	24%					19%	23%					8%	15%					56%	39%		EB	2	22	24
																												8%	92%	
																												5	140	145

Report Summary

Time Period	Class.	Southbound						Westbound						Northbound						Eastbound						Crosswalk				
		R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	Total	Bicycles on Crosswalk	Pedestrians	Total	
Peak 1	All Vehicles (no classification)	54	7	4	0	65	39	5	45	1	0	51	48	3	1	36	0	40	28	20	41	33	0	94	135	250	SB	0	9	9
Specified Period	%	100%	88%	100%	0%	98%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	100%	93%	95%	100%	100%	0%	99%	100%	99%		0%	100%	
7:00 AM - 9:00 AM	Bicycles on Road	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	2	WB	0	41	41
One Hour Peak	%	0%	13%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	5%	0%	0%	0%	1%	0%	1%		0%	100%	
8:00 AM - 9:00 AM	Total	54	8	4	0	66	39	5	45	1	0	51	48	3	1	36	0	40	30	21	41	33	0	95	135	252	NB	0	31	31
	PHF	0.71	0.4	0.5	0	0.75	0.75	0.62	0.7	0.25	0	0.71	0.8	0.38	0.25	0.64	0	0.67	0.68	0.66	0.73	0.82	0	0.88	0.73	0.89		0%	100%	
	Approach %					26%	15%					20%	19%					16%	12%					38%	54%		EB	0	14	14
																												0%	100%	
																												0	95	95

Report Summary

Time Period	Class.	Southbound						Westbound						Northbound						Eastbound						Crosswalk				
		R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	Total	Bicycles on Crosswalk	Pedestrians	Total	
Peak 1	All Vehicles (no classification)	98	52	37	0	187	179	36	102	4	0	142	153	14	20	66	0	100	99	43	102	123	0	268	266	697	SB	2	129	131
Specified Period	%	98%	96%	100%	0%	98%	97%	97%	96%	100%	0%	97%	97%	100%	91%	99%	0%	97%	98%	100%	95%	98%	0%	97%	97%	97%		2%	98%	
12:00 PM - 2:00 PM	Bicycles on Road	2	2	0	0	4	6	1	4	0	0	5	5	0	2	1	0	3	2	0	5	3	0	8	7	20	WB	5	227	232
One Hour Peak	%	2%	4%	0%	0%	2%	3%	3%	4%	0%	0%	3%	3%	0%	9%	1%	0%	3%	2%	0%	5%	2%	0%	3%	3%	3%		2%	98%	
12:45 PM - 1:45 PM	Total	100	54	37	0	191	185	37	106	4	0	147	158	14	22	67	0	103	101	43	107	126	0	276	273	717	NB	0	161	161
	PHF	0.71	0.61	0.77	0	0.92	0.78	0.77	0.76	0.5	0	0.9	0.9	0.58	0.79	0.8	0	0.76	0.81	0.83	0.89	0.79	0	0.83	0.86	0.91		0%	100%	
	Approach %					27%	26%					21%	22%					14%	14%					38%	38%		EB	0	85	85
																												0%	100%	
																												7	602	609

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Banbury Road
 Minor Route: Naughton Avenue
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-04 (Banbury-Naughton-Thurs)

Date: May 15 2014
 Day-of-week: Thursday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Naughton Avenue
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Overcast

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	11:30	0.00
P.M. Shift	16:00	2.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)

PM Peak Period

Location: Banbury Road @ Naughton Avenue

Date: May 15 2014

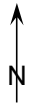
Notes: Bikes and peds not included in following data



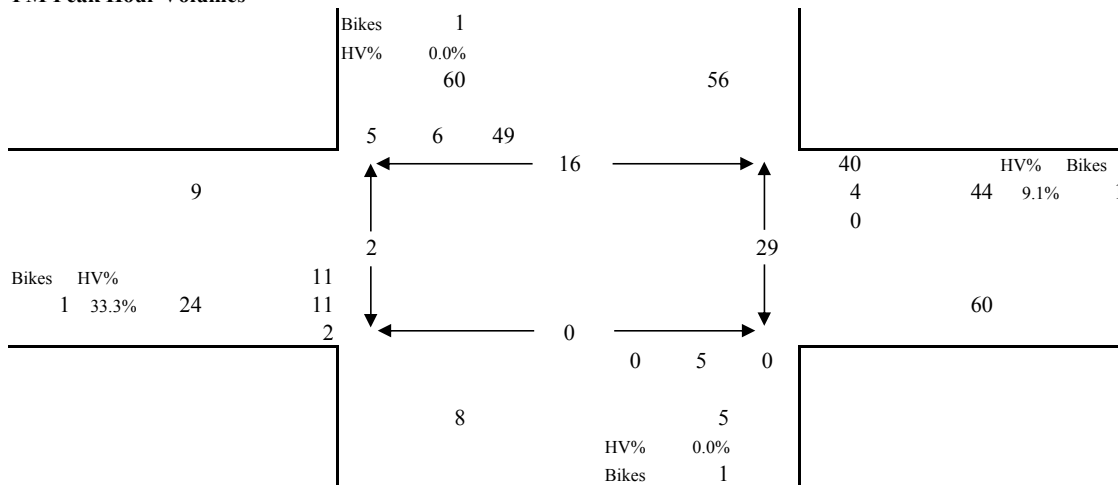
Time Period	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	Pedestrians				Bikes			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E
16:00	8	1	2	0	3	0	3	2	1	0	2	5	27	3	1	5	4	2	0	0	0
16:15	5	2	1	0	1	0	2	2	0	0	0	9	22	7	0	0	24	0	0	0	0
16:30	7	0	4	0	0	0	3	2	0	0	1	13	30	2	0	0	31	0	0	1	1
16:45	7	0	1	0	0	0	2	1	0	0	0	7	18	3	0	1	11	1	0	1	0
17:00	10	2	1	0	1	0	4	4	0	0	3	9	34	3	0	0	13	0	0	0	0
17:15	17	1	2	0	1	0	2	2	1	0	1	11	38	3	0	1	4	1	0	1	0
17:30	15	2	1	0	1	0	2	1	0	0	0	7	29	5	0	1	7	0	1	0	0
17:45	7	1	1	0	2	0	3	4	1	0	0	13	32	5	0	0	5	0	0	0	1

Total	76	9	13	0	9	0	21	18	3	0	7	74	230	31	1	8	99	4	1	3	2
Pk Hr	49	6	5	0	5	0	11	11	2	0	4	40	133	16	0	2	29	1	1	1	1
15x4	68	4	8	0	8	0	16	16	0	0	0	52	#N/A	12	0	4	16	4	0	4	0
Avg H	38	5	7	0	5	0	11	9	2	0	4	37	115	16	1	4	50	2	1	2	1

Peak Hour 17:00
 Peak 15min 17:15
 North Leg PHF 0.75
 South Leg PHF 0.63
 West Leg PHF 0.75
 East Leg PHF 0.85



PM Peak Hour Volumes



Average Hour Period

Location: Banbury Road @ Naughton Avenue
May 15 2014



NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E

Survey

Total	76	9	13		9		21	18	3		7	74	230	31	1	8	99	4	1	3	2
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	38	5	7		5		11	9	2		4	37	115	16	1	4	50	2	1	2	1

AM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Noon Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

PM Period

Total	76	9	13	0	9	0	21	18	3	0	7	74	230	31	1	8	99	4	1	3	2
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	38	5	7	0	5	0	11	9	2	0	4	37	115	16	1	4	50	2	1	2	1

Average Hour Volumes

	AM	-	-	-	
	Noon	-	-	-	
	PM	7	5	38	
	Total	7	5	38	
					AM Noon PM Total
					- - 37 37
					- - 4 4
					- - 0 -
AM	-	-	-	-	
Noon	-	-	-	-	
PM	0	5	0	0	
Total	-	5	-	-	

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Burns Avenue (Panorama Drive)
 Minor Route: Naughton Avenue
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-05 (Burns-Naughton-Thurs)

Date: May 15 2014
 Day-of-week: Thursday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Naughton Avenue
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Overcast

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	11:30	0.00
P.M. Shift	16:00	2.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)

Average Hour Period

Location: Burns Avenue (Panorama Drive) @ Naughton Avenue
May 15 2014



NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volum	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E

Survey

Total	52	4	39		3		23	3			3	19	146	28	2	2			1	1	1	1
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	26	2	20		2		12	2			2	10	73	14	1	1			1	1	1	1

AM Period

Total																						
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																						

Noon Period

Total																						
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																						

PM Period

Total	52	4	39	0	3	0	23	3	0	0	3	19	146	28	2	2	0		1	1	1	1
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	26	2	20	0	2	0	12	2	0	0	2	10	73	14	1	1	0		1	1	1	1

Average Hour Volumes

AM	-	-	-
Noon	-	-	-
PM	20	2	26
Total	20	2	26

AM	Noon	PM	Total
-	-	10	10
-	-	2	2
-	-	0	-

AM	Noon	PM	Total
-	-	12	12
-	-	2	2
-	-	0	-

AM	-	-	-
Noon	-	-	-
PM	0	2	0
Total	-	2	-

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Banbury Road
 Minor Route: Naughton Avenue
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-06 (Banbury-Naughton-Sat)

Date: May 17 2014
 Day-of-week: Saturday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Naughton Avenue
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Partly Cloudy

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	12:00	2.00
P.M. Shift	16:00	0.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)

Noon Peak Period

Location: Banbury Road @ Naughton Avenue

Date: May 17 2014

Notes: Bikes and peds not included in following data



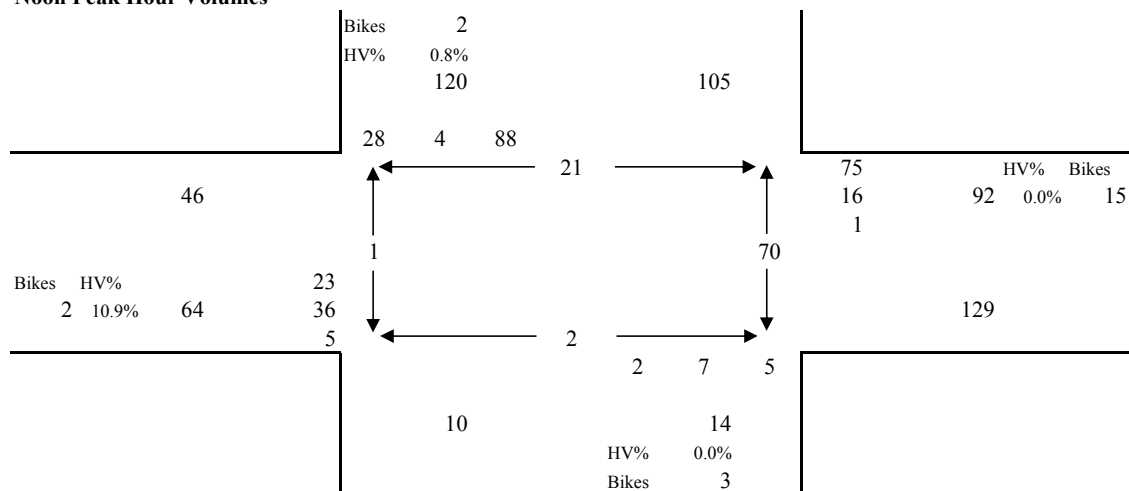
Time Period	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volum	Pedestrians				Bikes			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E
12:00	28	0	10	2	4	0	8	9	1	0	1	20	83	4	0	0	12	0	0	0	6
12:15	21	0	8	0	1	1	6	10	2	0	6	23	78	2	2	1	8	2	0	2	5
12:30	24	3	7	0	2	2	4	9	2	1	1	13	68	5	0	0	34	0	3	0	4
12:45	15	1	3	0	0	2	5	8	0	0	8	19	61	10	0	0	16	0	0	0	0
13:00	25	1	6	0	0	2	4	11	0	1	5	20	75	13	0	0	32	0	0	2	0
13:15	16	4	7	0	2	0	1	6	0	1	5	16	58	9	0	2	26	0	1	1	1
13:30	19	5	4	0	1	2	8	9	6	0	3	19	76	18	2	0	19	0	0	0	0
13:45	19	0	9	0	0	0	4	6	1	0	5	17	61	16	0	0	15	0	3	0	0

Total	167	14	54	2	10	9	40	68	12	3	34	147	560	77	4	3	162	2	7	5	16
Pk Hr	88	4	28	2	7	5	23	36	5	1	16	75	290	21	2	1	70	2	3	2	15
15x4	112	0	40	8	16	0	32	36	4	0	24	92	#N/A	16	0	0	48	0	0	0	24
Avg H	84	7	27	1	5	5	20	34	6	2	17	74	280	39	2	2	81	1	4	3	8

Peak Hour 12:00
 Peak 15min 12:00
 North Leg PHF 0.79
 South Leg PHF 0.58
 West Leg PHF 0.89
 East Leg PHF 0.79



Noon Peak Hour Volumes





NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volum	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E

Survey

Total	167	14	54	2	10	9	40	68	12	3	34	147	560	77	4	3	162	2	7	5	16
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	84	7	27	1	5	5	20	34	6	2	17	74	280	39	2	2	81	1	4	3	8

AM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Noon Period

Total	167	14	54	2	10	9	40	68	12	3	34	147	560	77	4	3	162	2	7	5	16
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	84	7	27	1	5	5	20	34	6	2	17	74	280	39	2	2	81	1	4	3	8

PM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Average Hour Volumes

AM	-	-	-
Noon	27	7	84
PM	-	-	-
Total	27	7	84

AM	Noon	PM	Total
-	74	-	74
-	17	-	17
-	2	-	2

AM	Noon	PM	Total
-	20	-	20
-	34	-	34
-	6	-	6

AM	-	-	-
Noon	1	5	5
PM	-	-	-
Total	1	5	5

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Burns Avenue (Panorama Drive)
 Minor Route: Naughton Avenue
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-07 (Burns-Naughton-Sat)

Date: May 17 2014
 Day-of-week: Saturday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Naughton Avenue
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Partly Cloudy

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	12:00	2.00
P.M. Shift	16:00	0.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)

Noon Peak Period

Location: Burns Avenue (Panorama Drive) @ Naughton Avenue

Date: May 17 2014

Notes: Bikes and peds not included in following data



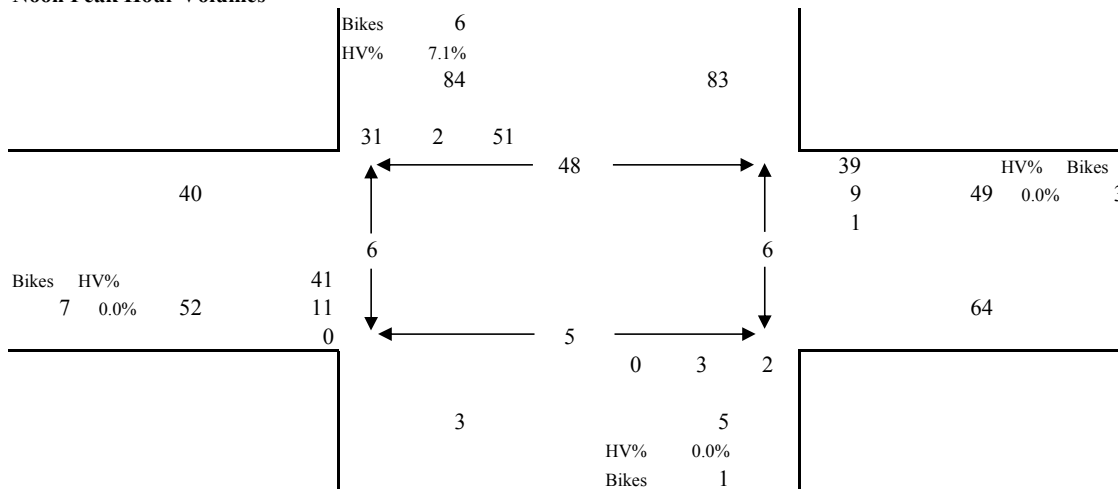
Time Period	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volum	Pedestrians				Bikes				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E	
12:00	16	0	6	0	0	0	5	5	0	0	3	9	44	10	0	0	0	0	0	0	0	0
12:15	12	1	5	0	0	0	9	2	0	0	3	10	42	6	0	0	0	3	0	0	0	0
12:30	11	0	9	0	0	0	7	5	0	0	2	4	38	19	0	0	4	0	0	3	1	
12:45	12	0	7	0	1	0	10	4	0	0	2	10	46	13	2	0	0	1	1	0	2	
13:00	16	1	8	0	1	0	15	1	0	0	2	11	55	12	0	4	6	5	0	1	0	
13:15	6	0	5	0	0	0	10	1	0	0	3	11	36	10	0	0	0	0	0	1	1	
13:30	17	1	11	0	1	2	6	5	0	1	2	7	53	13	3	2	0	0	0	5	0	
13:45	11	1	4	0	1	0	7	0	0	0	0	14	38	7	2	0	4	0	0	3	0	

Total	101	4	55	0	4	2	69	23	0	1	17	76	352	90	7	6	14	9	1	13	4
Pk Hr	51	2	31	0	3	2	41	11	0	1	9	39	190	48	5	6	6	6	1	7	3
15x4	68	4	44	0	4	8	60	4	0	0	12	44	#N/A	52	12	8	0	0	0	20	0
Avg H	51	2	28	0	2	1	35	12	0	1	9	38	176	45	4	3	7	5	1	7	2

Peak Hour 12:45
 Peak 15min 13:00
 North Leg PHF 0.72
 South Leg PHF 0.42
 West Leg PHF 0.81
 East Leg PHF 0.88



Noon Peak Hour Volumes



Average Hour Period

Location: Burns Avenue (Panorama Drive) @ Naughton Avenue
May 17 2014



NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volum	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E

Survey

Total	101	4	55		4	2	69	23		1	17	76	352	90	7	6	14	9	1	13	4
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	51	2	28		2	1	35	12		1	9	38	176	45	4	3	7	5	1	7	2

AM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Noon Period

Total	101	4	55	0	4	2	69	23	0	1	17	76	352	90	7	6	14	9	1	13	4
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	51	2	28	0	2	1	35	12	0	1	9	38	176	45	4	3	7	5	1	7	2

PM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Average Hour Volumes

AM	-	-	-
Noon	28	2	51
PM	-	-	-
Total	28	2	51

AM	Noon	PM	Total
-	38	-	38
-	9	-	9
-	1	-	1

AM	Noon	PM	Total
-	35	-	35
-	12	-	12
-	0	-	-

AM	-	-	-
Noon	0	2	1
PM	-	-	-
Total	-	2	1

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Banbury Road
 Minor Route: Raeburn Street
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-08 (Banbury-Raeburn-Sat)

Date: May 17 2014
 Day-of-week: Saturday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Raeburn Street
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Partly Cloudy

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	12:00	2.00
P.M. Shift	16:00	0.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)



NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volum	N	S	W	E	N	S	W	E

Survey

Total	2	10	1	25	5	63		6	25	71	38	3	249	9	13	12	46		9	5	1
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	1	5	1	13	3	32		3	13	36	19	2	125	5	7	6	23		5	3	1

AM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Noon Period

Total	2	10	1	25	5	63	0	6	25	71	38	3	249	9	13	12	46	0	9	5	1
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	1	5	1	13	3	32	0	3	13	36	19	2	125	5	7	6	23	0	5	3	1

PM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Average Hour Volumes

AM	-	-	-
Noon	1	5	1
PM	-	-	-
Total	1	5	1

AM	Noon	PM	Total
-	2	-	2
-	19	-	19
-	36	-	36

AM	Noon	PM	Total
-	0	-	-
-	3	-	3
-	13	-	13

AM	-	-	-
Noon	13	3	32
PM	-	-	-
Total	13	3	32

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Banbury Road
 Minor Route: Cliffmont Road
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-09 (Banbury-Cliffmont-Sat)

Date: May 17 2014
 Day-of-week: Saturday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Cliffmont Road
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Partly Cloudy

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	12:00	2.00
P.M. Shift	16:00	0.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)



NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volum	N	S	W	E	N	S	W	E

Survey

Total	2	32	75	71	25		62		41		1	1	310	7	26	12	3	5	10	1	
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	1	16	38	36	13		31		21		1	1	155	4	13	6	2	3	5	1	

AM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Noon Period

Total	2	32	75	71	25	0	62	0	41	0	1	1	310	7	26	12	3	5	10	1	0
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	1	16	38	36	13	0	31	0	21	0	1	1	155	4	13	6	2	3	5	1	0

PM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Average Hour Volumes

AM	-	-	-
Noon	38	16	1
PM	-	-	-
Total	38	16	1

AM	Noon	PM	Total
-	1	-	1
-	1	-	1
-	0	-	-

AM	Noon	PM	Total
-	31	-	31
-	0	-	-
-	21	-	21

AM	-	-	-
Noon	36	13	0
PM	-	-	-
Total	36	13	-

VEHICLE TURNING MOVEMENT SURVEY



Major Route: Deep Cove Road
 Minor Route: Cliffmont Road
 Municipality: District of North Vancouver
 Filename: 5014221-001-CAL-10 (Deep Cove-Cliffmont-Sat)

Date: May 17 2014
 Day-of-week: Saturday

Speed Limit Major Rte: 50 km/hr
 Speed Limit Minor Rte: 50 km/hr

East/West Route: Cliffmont Road
 Intersection Type: 4-leg
 Signalized (y/n?): n
 Weather: Partly Cloudy

	Lanes							Grade	Bus Stop		Bus Bay
	TLR	R	(ch)	TR	T	TL	L		Near	Far	
North Approach	1										
South Approach	1										
West Approach	1										
East Approach	1										

note: (ch) - channelized A: parallel lane B: taper

	Start	Duration
A.M. Shift	7:00	0.00
Noon Shift	12:00	2.00
P.M. Shift	16:00	0.00
Total		2.00

Comments: _____

Notes: North Approach - vehicles approaching intersection from the north
 15x4 - 15 min volume (from max 15 minute period [+] in peak hour period [*]) x 4
 Pedestrians - N indicates pedestrians crossing north approach (east/west)
 Bikes - treat same way as cars (N = bikes approaching from the north)



NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volum	Pedestrians				Bikes			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		N	S	W	E	N	S	W	E

Survey

Total	15	463	8	23	502	127	2	3	22	153	2	13	1333	26		13	27	14	14	3	3
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	8	232	4	12	251	64	1	2	11	77	1	7	667	13		7	14	7	7	2	2

AM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Noon Period

Total	15	463	8	23	502	127	2	3	22	153	2	13	1333	26	0	13	27	14	14	3	3
Hours	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Avg H	8	232	4	12	251	64	1	2	11	77	1	7	667	13	0	7	14	7	7	2	2

PM Period

Total																					
Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg H																					

Average Hour Volumes

AM	-	-	-
Noon	4	232	8
PM	-	-	-
Total	4	232	8

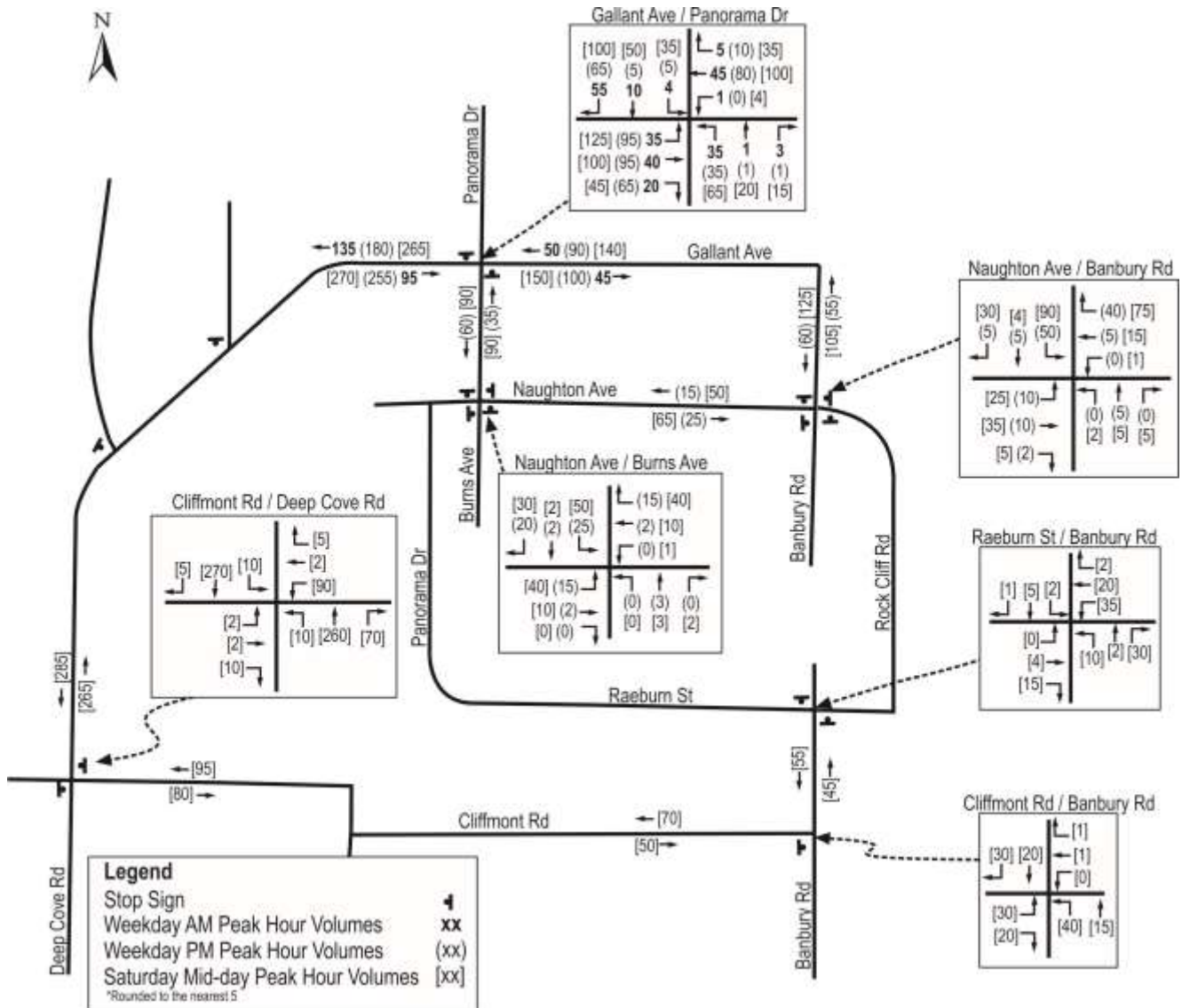
AM	Noon	PM	Total
-	7	-	7
-	1	-	1
-	77	-	77

AM	Noon	PM	Total
-	1	-	1
-	2	-	2
-	11	-	11

AM	-	-	-
Noon	12	251	64
PM	-	-	-
Total	12	251	64



Appendix D – Turning Movements





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Appendix E – Synchro Reports



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Intersection

Intersection Delay, s/veh 4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	96	97	63	0	79	8	33	1	1	6	5	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	105	68	0	86	9	36	1	1	7	5	71

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	95	0	0	174
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Follow-up Headway	2.218	-	-	2.218
Pot Capacity-1 Maneuver	1499	-	-	1403
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Time blocked-Platoon, %	-	-	-	-
Mov Capacity-1 Maneuver	1499	-	-	1403
Mov Capacity-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0	14	9.7
HCM LOS			B	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	439	1499	-	-	1403	-	-	841
HCM Lane V/C Ratio	0.087	0.07	-	-	-	-	-	0.098
HCM Control Delay (s)	14	7.581	0	-	0	-	-	9.7
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.283	0.224	-	-	0	-	-	0.326

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

5014221-001: Deep Cove Parking and Access Study Burns Ave/Panorama Dr & Naughton Ave
 HCM 2010 AWSC

Existing (2014) Weekday PM Peak Hour

Intersection												
Intersection Delay, s/veh	7											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	16	2	0	0	2	14	0	3	0	27	2	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	2	0	0	2	15	0	3	0	29	2	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	6.6	7.1	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	89%	0%	57%
Vol Thru, %	100%	11%	12%	4%
Vol Right, %	0%	0%	88%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	18	16	47
LT Vol	3	2	2	2
Through Vol	0	0	14	18
RT Vol	0	16	0	27
Lane Flow Rate	3	20	17	51
Geometry Grp	1	1	1	1
Degree of Util (X)	0.004	0.023	0.017	0.055
Departure Headway (Hd)	4.035	4.219	3.517	3.884
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	887	849	1016	924
Service Time	2.059	2.242	1.544	1.901
HCM Lane V/C Ratio	0.003	0.024	0.017	0.055
HCM Control Delay	7.1	7.3	6.6	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0.2

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	11	11	2	0	4	40	0	5	0	49	6	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	12	2	0	4	43	0	5	0	53	7	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	6.8	7.2	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	46%	0%	82%
Vol Thru, %	100%	46%	9%	10%
Vol Right, %	0%	8%	91%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	24	44	60
LT Vol	5	11	4	6
Through Vol	0	2	40	5
RT Vol	0	11	0	49
Lane Flow Rate	5	26	48	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.006	0.03	0.047	0.076
Departure Headway (Hd)	4.113	4.136	3.531	4.18
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	868	862	1008	858
Service Time	2.15	2.177	1.574	2.203
HCM Lane V/C Ratio	0.006	0.03	0.048	0.076
HCM Control Delay	7.2	7.3	6.8	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0.2

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	8.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	123	102	43	4	102	36	66	20	14	37	52	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	134	111	47	4	111	39	72	22	15	40	57	107
Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	150	0	0	158	0	0	623	561	134	559	564	130
Stage 1	-	-	-	-	-	-	402	402	-	139	139	-
Stage 2	-	-	-	-	-	-	221	159	-	420	425	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1431	-	-	1422	-	-	398	436	915	440	435	920
Stage 1	-	-	-	-	-	-	625	600	-	864	782	-
Stage 2	-	-	-	-	-	-	781	766	-	611	586	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1431	-	-	1422	-	-	288	390	915	381	389	920
Mov Capacity-2 Maneuver	-	-	-	-	-	-	288	390	-	381	389	-
Stage 1	-	-	-	-	-	-	561	538	-	775	780	-
Stage 2	-	-	-	-	-	-	639	764	-	517	526	-
Approach	EB	WB			NB			SB				
HCM Control Delay, s	3.6	0.2			20.6			15.2				
HCM LOS	C			C			C					
Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	338	1431	-	-	1422	-	-	554				
HCM Lane V/C Ratio	0.322	0.093	-	-	0.003	-	-	0.367				
HCM Control Delay (s)	20.6	7.775	0	-	7.539	0	-	15.2				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.358	0.309	-	-	0.009	-	-	1.675				

Notes
 ~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

5014221-001: Deep Cove Parking and Access Study Burns Ave/Panorama Dr & Naughton Ave
 HCM 2010 AWSC Existing (2014) Saturday Midday Peak

Intersection												
Intersection Delay, s/veh	7.4											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	41	11	0	1	9	39	0	3	2	51	2	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	12	0	1	10	42	0	3	2	55	2	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	6.9	7	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	79%	2%	61%
Vol Thru, %	60%	21%	18%	2%
Vol Right, %	40%	0%	80%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	52	49	84
LT Vol	3	11	9	2
Through Vol	2	0	39	31
RT Vol	0	41	1	51
Lane Flow Rate	5	57	53	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.006	0.068	0.054	0.102
Departure Headway (Hd)	3.953	4.301	3.671	4.027
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	895	828	966	885
Service Time	2.021	2.351	1.731	2.076
HCM Lane V/C Ratio	0.006	0.069	0.055	0.103
HCM Control Delay	7	7.7	6.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.2	0.3

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	23	36	5	1	16	75	2	7	5	88	4	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	39	5	1	17	82	2	8	5	96	4	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.3	7.3	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	36%	1%	73%
Vol Thru, %	50%	56%	17%	3%
Vol Right, %	36%	8%	82%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	64	92	120
LT Vol	7	36	16	4
Through Vol	5	5	75	28
RT Vol	2	23	1	88
Lane Flow Rate	15	70	100	130
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.083	0.107	0.154
Departure Headway (Hd)	4.25	4.392	3.856	4.246
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	846	821	935	835
Service Time	2.256	2.392	1.856	2.324
HCM Lane V/C Ratio	0.018	0.085	0.107	0.156
HCM Control Delay	7.3	7.8	7.3	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.4	0.5

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	4	15	35	20	2	10	2	28	2	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	16	38	22	2	11	2	30	2	8	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	24	0	0	21
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Follow-up Headway	2.218	-	-	2.218
Pot Capacity-1 Maneuver	1591	-	-	1595
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Time blocked-Platoon, %	-	-	-	-
Mov Capacity-1 Maneuver	1591	-	-	1595
Mov Capacity-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.5	8.8	9.7
HCM LOS			A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	980	1591	-	-	1595	-	-	785
HCM Lane V/C Ratio	0.044	-	-	-	0.024	-	-	0.014
HCM Control Delay (s)	8.8	0	-	-	7.312	0	-	9.7
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.139	0	-	-	0.073	-	-	0.042

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	32	0	20	0	1	1	40	16	0	0	20	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	0	22	0	1	1	43	17	0	0	22	35
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	144	143	39	154	161	17	57	0	0	17	0	0
Stage 1	39	39	-	104	104	-	-	-	-	-	-	-
Stage 2	105	104	-	50	57	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	825	748	1033	813	731	1062	1547	-	-	1600	-	-
Stage 1	976	862	-	902	809	-	-	-	-	-	-	-
Stage 2	901	809	-	963	847	-	-	-	-	-	-	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	806	727	1033	779	711	1062	1547	-	-	1600	-	-
Mov Capacity-2 Maneuver	806	727	-	779	711	-	-	-	-	-	-	-
Stage 1	949	862	-	877	786	-	-	-	-	-	-	-
Stage 2	874	786	-	943	847	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.4		9.2			5.3			0			
HCM LOS	A		A									
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1547	-	-	880	852	1600	-	-				
HCM Lane V/C Ratio	0.028	-	-	0.064	0.003	-	-	-				
HCM Control Delay (s)	7.394	0	-	9.4	9.2	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0.087	-	-	0.206	0.008	0	-	-				
Notes												
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined												

Intersection												
Intersection Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	2	11	90	2	6	12	262	69	9	269	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	12	98	2	7	13	285	75	10	292	7
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	668	701	296	670	666	322	299	0	0	360	0	0
Stage 1	315	315	-	348	348	-	-	-	-	-	-	-
Stage 2	353	386	-	322	318	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	372	363	743	371	380	719	1262	-	-	1199	-	-
Stage 1	696	656	-	668	634	-	-	-	-	-	-	-
Stage 2	664	610	-	690	654	-	-	-	-	-	-	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	361	355	743	357	371	719	1262	-	-	1199	-	-
Mov Capacity-2 Maneuver	361	355	-	357	371	-	-	-	-	-	-	-
Stage 1	687	649	-	659	626	-	-	-	-	-	-	-
Stage 2	647	602	-	670	647	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	11.4			18.7			0.3			0.3		
HCM LOS	B			C								
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1262	-	-	577	369	1199	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.028	0.289	0.008	-	-				
HCM Control Delay (s)	7.882	0	-	11.4	18.7	8.027	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0.031	-	-	0.087	1.175	0.025	-	-				
Notes												
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined												

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Appendix F – Comments from the Public

The following comments were received from the public are listed by location and have not been edited other than to remove specific references that may identify a specific person or place:

- “Just wanted to say thank you for the parking arrangements for the last couple of days. It was wonderful!! Is there anywhere that a space could be available during the summer to accommodate my son and daughter? All of this makes me so anxious...the speed of traffic. I know is a separate issue. I would welcome your assistance with the parking.”

- Resident, Panorama Drive

- “Safety concern as cars are parked in no parking zone in front of homes all day today also parking in front of hydrant across the street waiting for parking spot
 - hundreds of people crossing road cannot see oncoming cars as cars blocking their view
 - people honking, angry arguing as dangerous and blocking traffic
 - blocking driveways
 - turning around in driveways
 - continuous line of traffic and as some get angry revving of cars and yelling
 - very dangerous as lots of families and children
 - need to stop the traffic from coming down this road looking for only a few parking spaces
 - at this time there is a XXX and a XXX partially blocking our driveway
 - difficult to see getting out of my driveway
 - huge safety concerns - lots of honking”

- Resident, Panorama Drive

- “We live on Panorama Dr and very much appreciate all of the District's efforts in alerting hikers to use alternative parking when coming to Quarry Rock. We urge you to keep monitoring the various websites publicizing Quarry Rock and to keep trying of enforce the current Respect the Neighbours philosophy. We are most concerned about emergency vehicles not being able to access someone in need if the current chaos that ensues on Panorama continues. I think STRONGER signage would help: NO PARKING BEYOND PARK.”



-Resident, Panorama Drive

- “I would like to see a 4-way stop at Gallant and Panorama, lots of additional parking for the Lynn Valley and other high density area folks, a drop off at the park for people who have to drop off people, picnic baskets, etc. and park a long ways away. I would also like a marked crosswalk at the beginning of the trail, better signs to divert visitors to the trail and residential parking since my car has been damaged several times.”

-Resident, Panorama Drive

- “We live in a nice area and don't mind sharing our streets, parks, green spaces and other recreation spaces with non-resident visitors. If anything, we should create more parking spaces for visitors to make it easier for them to come and enjoy the park and wilderness here. We are aware of other neighbours here who feel the same way and don't mind sharing. This is not Point Grey Road in Vancouver. We appreciate the new ‘No parking’ restrictions on one side of Panorama Drive as this eases the congestion near the parking lot entrances of Panorama Park. We think this was a good improvement.”

-Resident, Panorama Drive

- “This is my 50th year on this street. Love it.”

-Resident, Panorama Drive

- “My prime concern is ensuring emergency vehicles have room to get up the street and this is a problem when cars are parked illegally with existing regulations. This usually happens on "event days" and I doubt that the residential parking zone will solve this problem. While bylaw officers are more visible, cars are not towed from no parking zones which does seem to me to defeat the purpose. It also seems to me to be unreasonable for residents to pay a \$30.00 fee for each vehicle registered to a resident. I support resident parking on a trial basis.”

-Resident, Caledonia Ave

- “As a further comment I would note that Caledonia gets the increased pressure from the work done to restrict parking on Panorama. We are at the very top of Caledonia (second house from the end) so obviously a popular spot for the trail. The ‘no



parking zone' across the street from our house in honoured in the breach more than in the actual restriction. Given the very steep driveway we have it can be difficult when cars are across the street in the no parking zone. I am of the view that further restrictions will force the cars up on Caledonia to a greater degree. I would first want to see that what is in place is actually enforced before we bring something else in."

-Resident, Caledonia Avenue

- "I just want to let you know that I am supportive of putting restrictions on the parking for visitors as it is really challenging to get parking for residents on these very narrow streets. It does put pressure on the residents. However, I don't want our community to be un-hospitable to visitors and would request that excellent, tasteful signage is placed in the cove to appropriately direct visitors to the public parking lots."

-Resident, Caledonia Avenue

- "I hate being a pest on our parking problem but last Thursday the woman from Save-On-Foods delivering my groceries had to park in Panorama Parking lot as there is no area provided on Gallant for deliveries of any kind. What really got me on this delivery was that the lady driver had to stack four large cases full of groceries on to a two-wheeler and struggle down to XXXX Gallant Ave; now that is a considerable distance and for a woman making her living delivering groceries that is over the top. A few years ago we had a woman running a dry cleaning shop right next door to XXXX Gallant where I live. She applied for and received relief in that you installed a pickup & delivery area right in front of her shop so that she could carry on her business. I think there should be a delivery area setup for trucks delivering whatever (just come & go) on Gallant as the abuses of residents & merchants parking on Gallant who have their own private parking spaces I'm sure wouldn't create a big problem. Now I know with your new DNV permits you are trying out you are into our parking problems big time and trying your best to choose the best solutions to parking in our area. I'm 90 years old and three years ago I gave my car to one of my daughters so I'm not crying for myself but for the good of all."

- Resident, Gallant Avenue

- "I understand that there is a study being done to look into the parking problem in Deep Cove. I don't see any alternative to pay parking out here and I urge you all to vote in favour of it. I would appreciate to know where you individually stand on this



issue. There would be no need for parking meters and could have, instead, a couple of parking ticket dispensers that would dispense tickets that you could then place on the inside of your windshield. I would also propose a three hour limit on parking of any kind. I would also like to hear how you each feel about the noise issue that I wrote to you about a couple of weeks ago. (Leaf blowers, power washers, etc.) Thanks for your consideration.”

- Resident, Banbury Road

- “I am writing, with the support of my neighbours, to request "resident only" parking in our cul-de-sac. [Ed. Note - 1900 block, Banbury Road]. There are 8 houses in this cul-de-sac, with a total of 22 vehicles between us. We utilize our driveways and the road to accommodate our vehicles. Parking can be challenging at the best of times, but with the onset of nice weather, it becomes extremely difficult to park near our homes, due to the number of visitors who come here to enjoy Deep Cove and Panorama Park. The (below the stairs/path) block of 1900 - 2000 Banbury already has "residents only" parking signage. We would very much appreciate it if you could provide us with the same benefit. I do not know if this would then require us to secure some kind of decal for our vehicles or if you have a way of looking up licence plates to see the address to which they are registered.”

- Resident, Banbury Road

- “While I am at it, please consider paid parking here as well. There would be no need for parking meters instead three or four parking ticket machines at which to buy your tickets and place them on your vehicle. I can't think of any other municipality around with the tourist traffic we get that provides free parking lots and street parking. Why is this happening? That money made from parking could go to a lot of things like fixing our roads, etc. – not only bike lanes or bike parking lots either!”

- Resident, Banbury Road

- “Thank you for your enquiry. Gallant Ave - Panorama Drive is indeed a crossing where on summer-weekends a constant stream of pedestrians try to cross when cars + motor cycles + bikes come from all directions. I feel sorry for all the drivers trying to find -- without any result -- a little place to park. There is lots of empty parking at Myrtle Park, just a nice ten minutes' walk from Deep Cove Park and Gallant Ave, with all its little restaurants. But nobody knows about that. If Deep



Cove Authorities could put a big sign at corner of Deep Cove Road and Cliffmont Road --> PARKING --> that may help. Thanks for making Deep Cove such a popular area!”

- Resident, Deep Cove

- “I am a Deep Cove resident with a house on Caledonia Ave. I completed the survey you sent out last month - but feel compelled to add more detail. I have been on my deck this afternoon and have watched as 100s of cars have come up and down Caledonia Ave searching for parking. Many of them are grounding out when attempting to turn around in the steep driveways. I also have a view of the Panorama parking lot and have watching so many cars circle around and around the same lot endlessly. Just now we witnessed an aggressive confrontation between two drivers that almost came to blows. We are quite a distance away and could hear the shouting. In addition to this we have seen many cars u-turning in the road and make abrupt stops when searching for parking. Two weeks ago we had two illegally parked cars on the street directly outside our house which were blocking the road to such an extent that an emergency vehicle could not have got through. I am convinced that this has gone way beyond a mere parking issue and is now a traffic safety issue. I see two important changes that must be made immediately:
 - Bylaw enforcement needs to be available on a Sunday. I do not wish to involve the RCMP in parking matters - but find it frustrating that on the worst day of the week the bylaw officers are not available.
 - Clear signage needs to be added to Deep Cove Rd directing visitors to park in a Myrtle Park, Cove Cliff and Seycove parking lots. These are currently not well utilized - and are an obvious solution to help with the problem.”

- Resident, Deep Cove

- “I have quietly followed the parking restriction proposal for Panorama Drive for some months. It was my hope that matter would conclude with a just and equitable decision based on objective evidence. Regrettably the conclusion is not just, and, possibly more worrisome is that Council was misinformed of the material reasons for parking issues on Panorama. Indeed, with the increase in the number of hikers to Quarry Rock there is increased demand for parking on Panorama. However, that demand is very seasonal (mostly on weekends) and occurs only during the daylight



hours. A 24/7 bylaw prohibition is overkill. The real problem on Panorama occurs 24/7 365. It has nothing to do with tourists or residents of Indian Arm. I specifically visited Panorama Drive when poor weather would keep tourists away. And I took photos to show how a public street is being utilized by the residents. Those photos follow.



Apparently one residence has 12 cars. Some shrouded in tarpaulins. Another residence has 6+ cars. Another residence has a car parked on the street with flat tires. Another residence owns a vehicle too large to fit onto its parking pad, so the



back end sticks out over the road. I cannot count the number of private residences on Panorama but they appear to far exceed the number of separate residential lots on the street. These issues are all bylaw matters which, if properly addressed, would alleviate the concerns re parking. Instead, it appears that Panorama Drive residents believe that a public street should be ceded to them for private use. All residents of the District have an equitable right to access and park on Panorama including the residents of Indian Arm. Conferring special privilege is un-Canadian. I trust the bylaw creating conferring special access for Panorama Drive residents to public road space will be overturned. And those pesky tourists? You know the ones using the kayak business that some local residents seem to speak of with disdain. Perhaps we might court those tourists, since they bring money into the District. That is the subject of future correspondence.”

- Resident, North Vancouver



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Appendix G – Summary of Special Events

Table G.1 – Special Events at Panorama Park (2010-2014)

Year	Months	# Private Picnics	# Public Events	Public Event Descriptions	Parking & Traffic Plan?
2010	Jan - May		2	Penguin Plunge Regatta	Deep Cove Dash Regatta - yes
	June		1	Regatta	
	Jul - Aug		6	Deep Cove Daze Concerts (x5)	Deep Cove Daze - no Concerts- no
	Sep - Dec		2	Regatta Carol Ships	Carol Ships - yes
	Year Total	0	11		
2011	Jan - May	1	2	Penguin Plunge Regatta	Deep Cove Dash Regatta- yes
	June	6	1	Regatta	
	Jul - Aug	16	8	Trail Race Deep Cove Daze Concerts (x 6)	Iron Knee Race - yes Deep Cove Daze - no Concerts - no
	Sep - Dec	3	4	Regatta (x2) Trail Race Carol Ships	Regatta - no Race - (Canuck Place Adventure Challenge) – yes Carol Ships- yes
	Year Total	26	15		
2012	Jan - May	1	2	Penguin Plunge Trail Race	Penguin Plunge - no Deep Cove Dash Regatta - yes
	June	9	1	Regatta	Regatta - no
	Jul - Aug	13	8	Deep Cove Daze Trail Race Concerts (x 6)	Deep Cove Daze - alternate parking Trail Race (Iron Knee Tender Knee) - yes Concerts - No
	Sep - Dec	2	3	Trail Race Regatta Carol Ships	Trail Race - yes Regatta - no Carol Ships - yes
	Year Total	25	14		
2013	Jan - May	4	2	Penguin Plunge Trail Race	Penguin plunge - no Trail Race - yes
	June	7	1	Regatta	
	Jul - Aug	16	8	Deep Cove Daze Trail Race Summer Concerts (x6)	Deep Cove Daze - alternate parking Trail Race (Iron Knee Tender Knee) - yes Concerts - no
	Sep - Dec	4	3	Regatta (x2) Carol Ships	Carol Ships- yes
	Year Total	31	14		
2014	Jan - May	3	1	Penguin Plunge	
	June	4	2	Regatta Trail Race	Trail Race (Buckin' Hell) - yes
	Jul - Aug (to date)	15	8	Deep Cove Daze Trail Race Summer Concerts (x6)	Deep Cove Daze - alternate parking Trail Race (Iron Knee Tender Knee) - yes Concerts - no
	Sep – Dec (to date)	1	3	Regatta (x2) Carol Ships	Carol Ships- yes
	Year Total (to date)	23	14		

Source: DNV Parks Department, August 2014



Table G.2 – Special Events at Deep Cove Park (2010-2014)

Year	Months	# Private Picnics	# Public Events
2010	Jan - May	0	0
	June	0	0
	Jul - Aug	0	0
	Sep - Dec	0	0
2011	Jan - May	0	0
	June	1	0
	Jul - Aug	2	0
	Sep - Dec	0	0
2012	Jan - May	0	0
	June	0	0
	Jul - Aug	10	0
	Sep - Dec	1	0
2013	Jan - May	0	0
	June	2	0
	Jul - Aug	6	0
	Sep - Dec	0	0
2014	Jan - May	0	0
	June	0	1
	Jul – Aug (to date)	6	0
	Sep – Dec (to date)	0	0

Source: DNV Parks Department, August 2014

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