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# SCHOOL TRAVEL PLAN

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## Carson Graham Secondary



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City of North Vancouver  
[www.cnv.org/SASTP](http://www.cnv.org/SASTP)

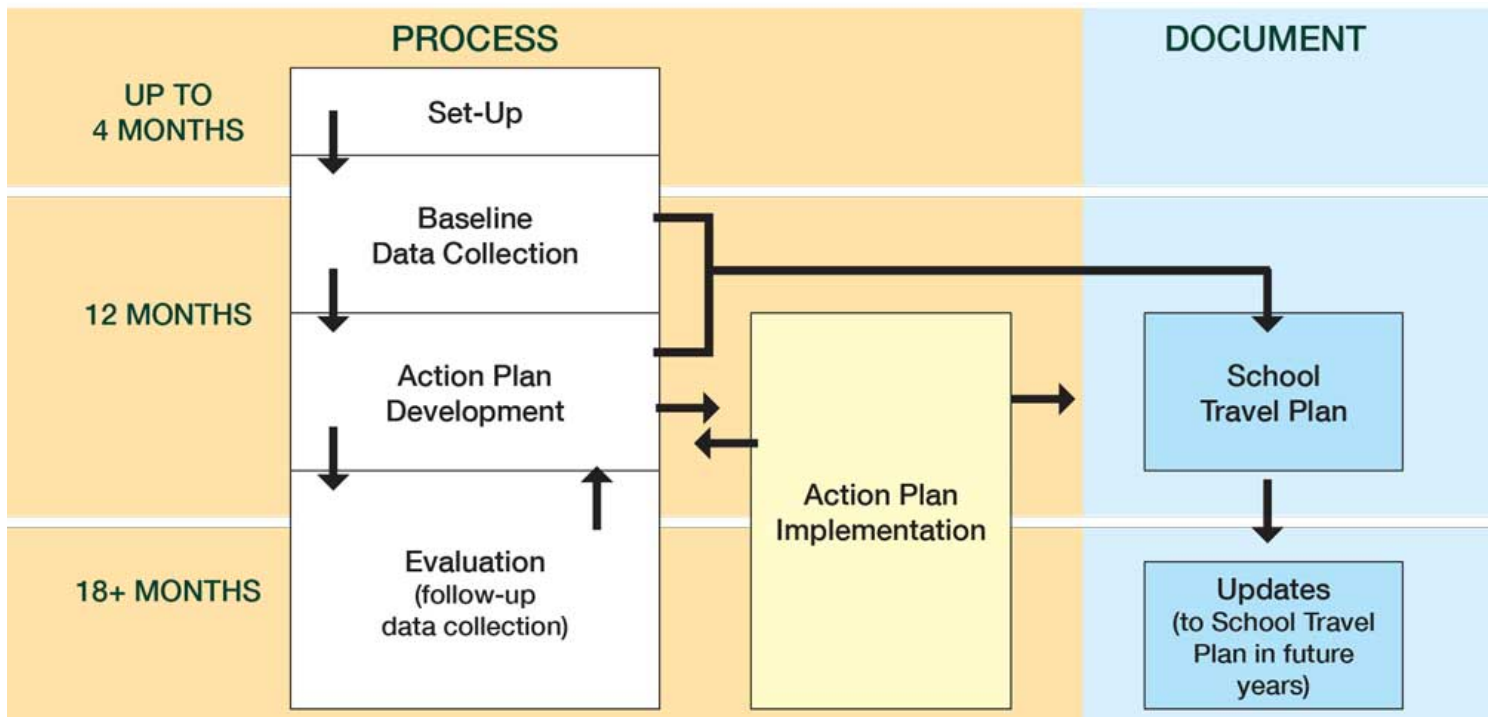
National Active & Safe  
 Routes to School  
[www.saferoutestoschool.ca/school-travel-planning](http://www.saferoutestoschool.ca/school-travel-planning)

HASTe BC  
[www.hastebc.org](http://www.hastebc.org)

## School Travel Planning

School Travel Planning (STP) is a community-based planning process that has been used with success to date in communities across Canada. The goal is to increase the number of families choosing active transportation modes to get to and from school. School Travel Planning uses a collaborative approach, working to involve all relevant stakeholders and enable communities to tackle the root causes of their schools’ transportation challenges.

School Travel Planning is overseen and resourced in each community by a Steering Committee comprised of representatives of key school transportation stakeholder groups. At individual schools, the School Travel Planning process is led by an STP Facilitator, who convenes a School Committee, comprised of staff, parents, administration, and other community stakeholders, to outline specific active school travel barriers and solutions, developing the foundation and specifics for each school’s School Travel Plan.



▲ The School Travel Planning Process

School Travel Planning employs a linear process that takes the better part of a year to complete. Individual stages inform subsequent ones but can overlap, so the overall process is kept flexible in order to address issues and respond to opportunities as they emerge.

## School Travel Planning in the City of North Vancouver

In 2013, a survey was conducted in partnership with the North Vancouver School District (SD44) and the District of North Vancouver in order to better understand issues specific to the areas surrounding schools and determine how students currently get to and from school.

The City's Safe and Active School Travel Program (SASTP) combines education and outreach with improvements to the transportation infrastructure surrounding schools in order to encourage safe and healthy travel habits. The City of North Vancouver, in cooperation with the North Vancouver School District, TravelSmart, and the Heart & Stroke Foundation, launched the SASTP at Queensbury Elementary in 2014.

After launching the SASTP, North Vancouver City staff and the RCMP reviewed each public elementary school zone while considering the results of the survey. School administration was consulted to identify which schools would be most appropriate for expanding the SASTP. North Vancouver City staff contracted HASTe (Hub for Active School Travel) to develop and implement actions that minimized safety issues around schools and facilitated programs that encouraged walking and cycling to school.

In spring 2015, the program was extended to Larson and Ridgeway Elementary Schools, with a HASTe staff member as facilitator. The program addressed safety issues beyond the immediate school property and included the development of Best Routes to School plans, taking walkability and safety issues into account. The program involved bringing together numerous stakeholders and partners, including school staff, parents, students, City of North Vancouver staff, and many others, to identify issues and develop solutions.

During this process, current transportation issues (such as busy crossings and barriers to active transportation) and opportunities (such as existing pedestrian and bicycle paths) were identified around each school.

City of North Vancouver staff have prioritized the SASTP due to growing concerns over school zone safety issues and low levels of physical activity amongst children in North Vancouver. With a shift in travel norms and lifestyles among families, there has been an increase in parents driving their children to school over the last few decades. The SASTP program allows City of North Vancouver staff to identify opportunities to make strategic and impactful improvements to the transportation infrastructure surrounding schools, educate and reach out to students and families about safer travel behaviour, and encourage walking and biking to and from school.

## The School Travel Plan

This School Travel Plan is a living document belonging to the school. It should be revisited regularly to update the status of Action Plan items and to incorporate future evaluation findings.

This document consists of information compiled since The City of North Vancouver Safe and Active School Travel Program (SASTP) began at Carson Graham Secondary School [hereinafter: Carson Graham] in the spring of 2017.

## School Profile

Carson Graham is a grade 8 to 12 public secondary school located at 2145 Jones Ave. in the City of North Vancouver and is part of North Vancouver's School District #44. Student enrolment during the 2017/2018 school year was 1300 students.

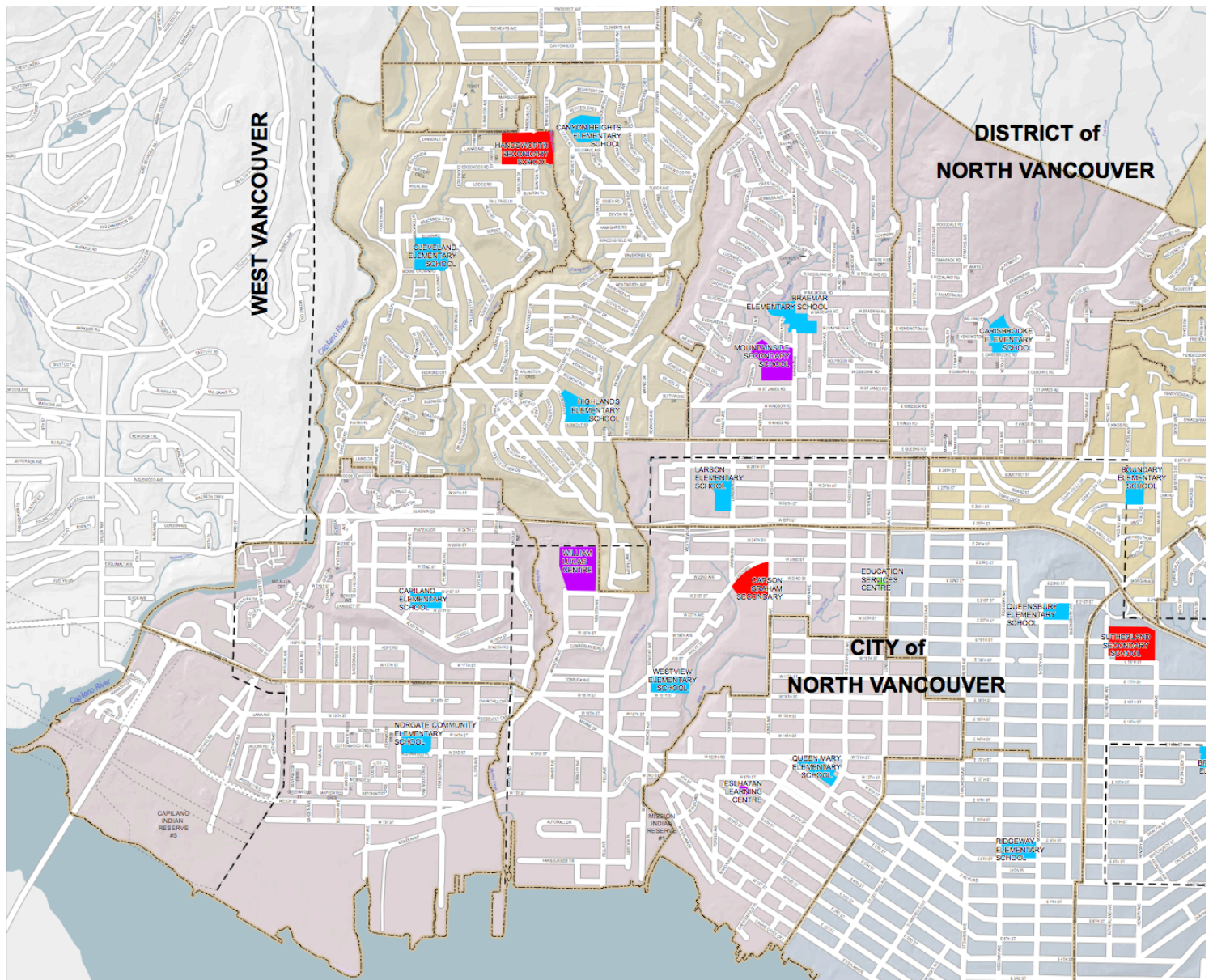
The school originally opened in 1965 and went through a series of upgrades in 1966, 1973 and 2001. In 2008 a seismic study determined that a new school building was required. The new school was opened on Friday, October 12, 2012, and was built with the capacity for 1100 students.

Carson Graham's new school building is among the most technologically advanced in the province and offers a number of unique facilities. The school offers several notable programs in the fields of arts, music, and athletics, along with a culinary arts program and the Peak Performance program. Carson Graham is an accredited International Baccalaureate World School that offers both the Middle Years Program for Grades 8-10 and the Diploma Program for Grades 11-12. According to its administration, the school's unique and diverse programs draw students from beyond its catchment area.

## Neighbourhood Profile

Carson Graham is located in a residential area south of the Trans-Canada / Upper Levels Highway.

The neighbourhoods that make up Carson Graham's catchment area are Braemar, Capilano, Carisbrooke, Central Lonsdale, Hamilton, Hamilton Heights, Lower Lonsdale, Norgate, Pemberton, Pemberton Heights, Princess Park, Queensbury, Squamish Nation, and Upper Lonsdale. Its family of schools includes Braemar, Carisbrooke, Larson, Capilano, Norgate, Westview, and Queen Mary Elementary Schools. Mahon Park, Chris Zuehlke Memorial Park and Fen Burdett Stadium are all within a 5-minute walk of the school.



▲ Carson Graham’s catchment area (rust coloured area in the centre)

### Transportation Profile

The front entrance of the school faces Larson Cr. and 23rd St. West and is fronted by a staff and visitor parking lot. Jones Ave. runs along the school’s east side, and to the south is a laneway, which leads to the school’s playing field and more staff parking.



Larson Park is a forested area located on the west side of the school off of Larson Road. The City of North Vancouver has built an off-street multi-use path for walking and biking along Jones Ave. called the Green Necklace and has closed vehicle access to 21st St. West from Jones Ave., making it easier and safer for students to walk to school from nearby routes.

Carson Graham is accessible by several nearby transit routes, including the #232 on Capilano Rd., the #246 on Westview Dr., the #240 on 15th St. West, and the #229 and #230 on Lonsdale Ave. Transit stops for all routes are within a 10-15 minute walking distance of the school. In addition to these, there is a school special bus operated by TransLink that travels between the Pemberton Heights neighbourhood and the school twice a day, with its own designated transit stop located at the intersection of Jones Ave. and 21st St. West.

Carson Graham has a Walk Score of 68/100, suggesting that some errands in its neighbourhood can be accomplished on foot; Walk Score is a measure of neighbourhood walking accessibility, and is often an indicator of community health and well-being ([www.walkscore.com](http://www.walkscore.com)).

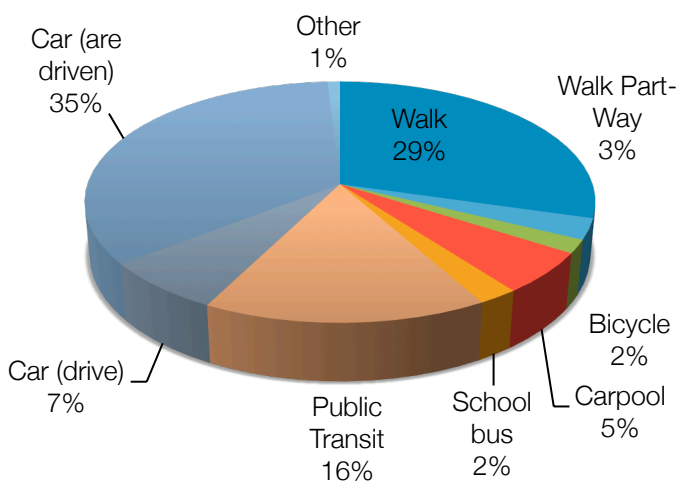
## Methodology

School Travel Data at Carson Graham was collected by means of an online survey completed by students. Over the course of a week, from May 19<sup>th</sup> to May 24<sup>th</sup>, 2017, teachers made time for students to fill out the survey on their computers or mobile devices.

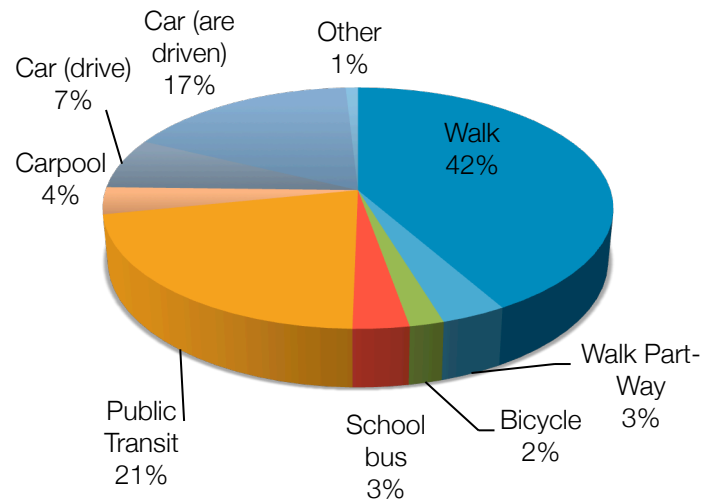
## Results

684 students completed the survey, representing 53% of the school population.

### Mode Share



▲ To school travel mode share

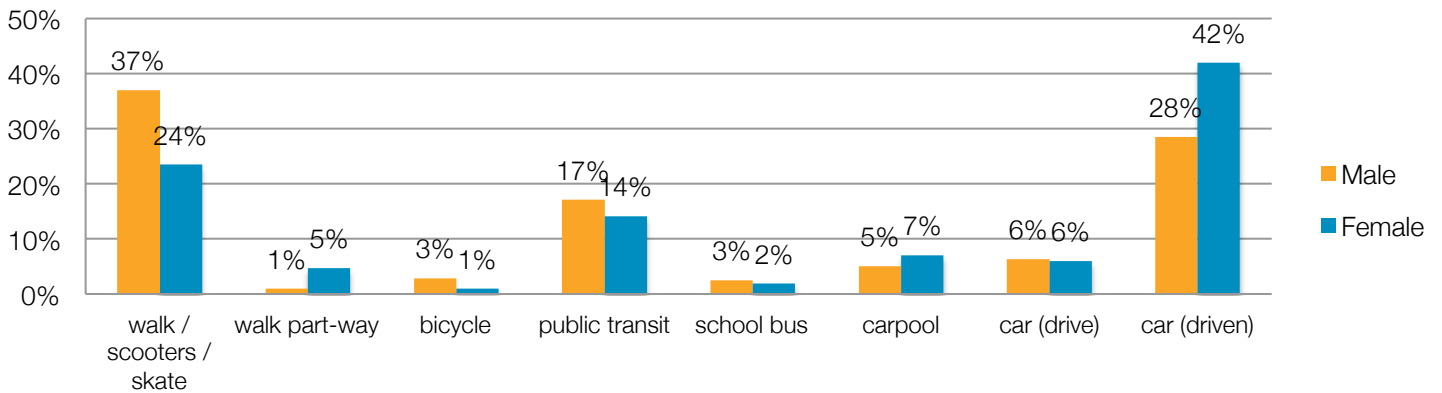


▲ From school travel mode share

When asked how they usually get to school, the largest proportion of students at Carson Graham indicated that they are driven (35%), while a slightly smaller proportion (29%) indicated that they walk. 16% of students usually take public transit to school, while others drive themselves (7%), carpool (5%), walk part-way (3%), take a school bus (2%) or ride their bike (2%)

In the afternoon, the largest proportion of students at Carson Graham leave school on foot (42%), while 21% take transit and 17% are picked up by a vehicle. 7% drive themselves, while 4% depart via a carpool, 3% walk part-way, 3% take a school bus, and 2% ride their bike.

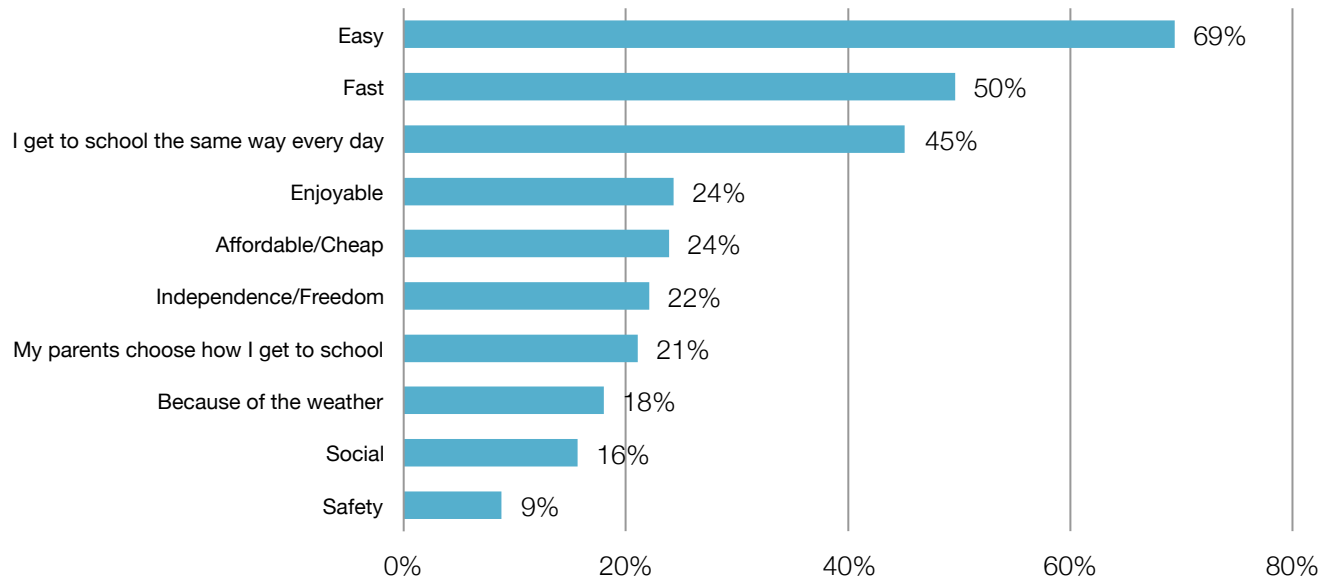
While it is not usual to see lower rates of driving in the afternoon compared to in the morning, the driving rate at Carson Graham drops by almost half in the afternoons. This suggests that many of the driving trips to school at Carson Graham are elective, and could be replaced by other modes of travel under current conditions.



**▲ Male and female students report how they usually travel to school**

According to data collected by the student travel survey, there is a strong correlation between gender and travel mode to school at Carson Graham. Male students were 58% more likely to report that they usually walk to school, 203% more likely to report that they usually bike to school, and 21% more likely to report that they usually take transit to school, than were female students. On the other hand, female students were 48% more likely to report that they are usually driven to school than were male students.

Reasons for choosing transportation modes



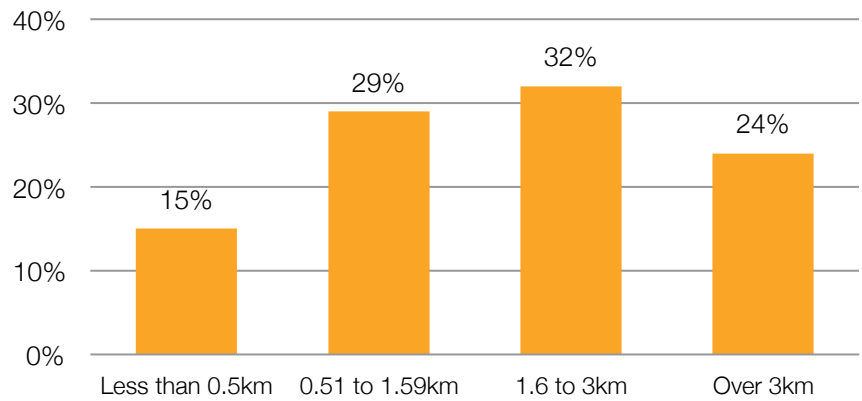
When asked why they chose to travel to and from school as they do, the most popular answer given by students at Carson Graham was because it was “easy” (69%), followed by because it was “fast” (50%). Just less than a quarter of students reported choosing their mode of travel because it was “enjoyable” or “affordable” (24%). “Safety” was the least important consideration, with only 5% of students indicating that it influenced how they chose to travel to school.

While “easy” was the reason most commonly given by students regardless of how they travel to school, cyclists and students who drove themselves were the most likely to indicate that they chose to do so because it is “fast” (75%/83%) or “enjoyable” (50%/57%), while those who took transit were the most likely to indicate that they did so because it was “affordable” (39%).

Though the travel choices made by male and female students at Carson Graham were often quite different, the reasons they reported for making their choices were largely the same. Male students were more likely to report that they make transportation choices on the basis of “independence/freedom” (+17%) or “affordability” (+47%), while female students were more likely to make transportation choices based on the “weather” (+25%).

Older students at Carson Graham were more likely to report that they choose how they travel based on “ease”, “independence/freedom” or “enjoyment”, and less likely to report that their “parents choose how [they] get to school”, than were their younger peers.

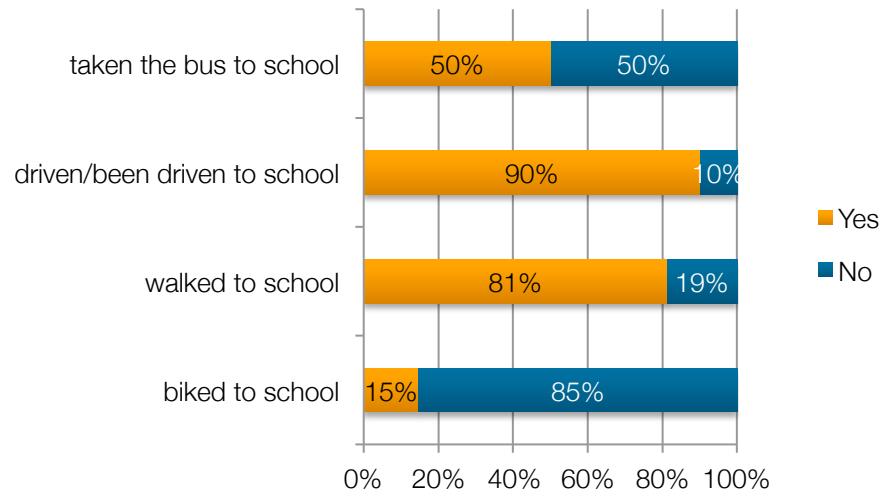
**Distance to school**



When asked how far away from school they live, the largest portion of Carson Graham students (32%) indicated that they live between 1.6km and 3km away from school. 29% of students indicated that they live between .5km and 1.5km away from school, 24% that they live more than 3km away from school, and only 15% that they live within 500m of the school.

These distance-categories are based on widely accepted data about walking distances. The Transportation Association of Canada uses 1.2 meters/second as the assumed average walking speed. At that rate, a student living within 500 meters of the school would be able to walk to school in less than 7 minutes; a student living between .5km and 1.5km away from school would be able to walk to school in between 7 and 21 minutes; and a student living between 1.6km and 3km away from school would be able to walk to school in between 22 and 42 minutes, and a student living more than 3km away from school would be able to walk to school in over 43 minutes.

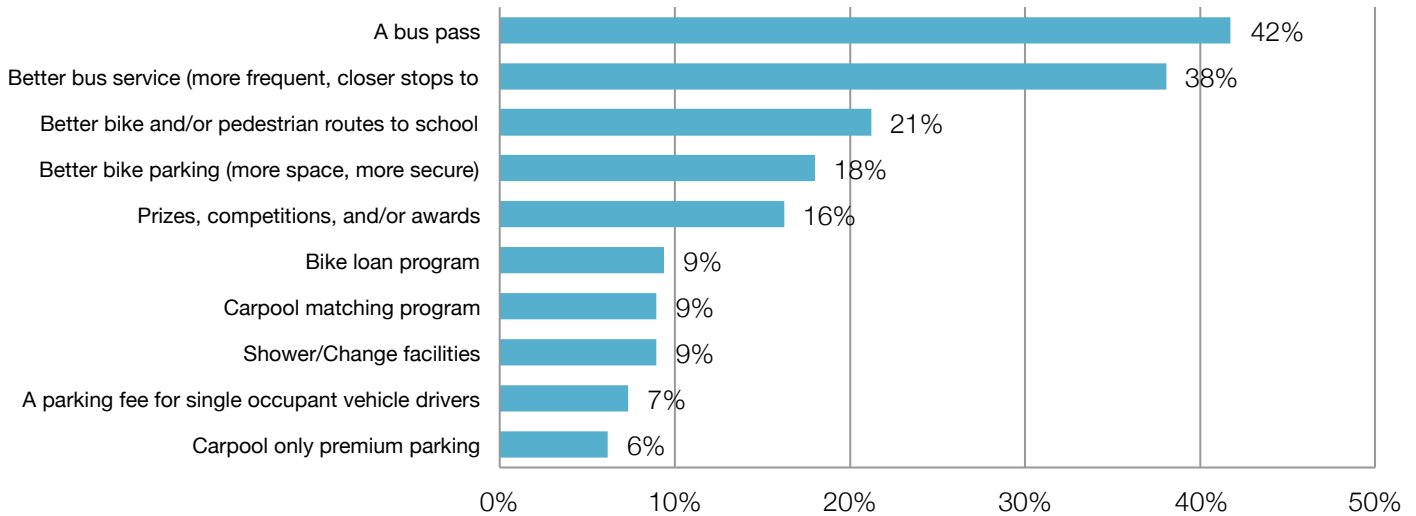
Since September, have you...



90% of Carson Graham students reported having driven or been driven to school at least once since the beginning of the school year. 81% reported that they had walked to school at least once, while 50% reported that they had taken the bus. Only 15% of students reported that they had ridden their bike to school since the start of the school year.

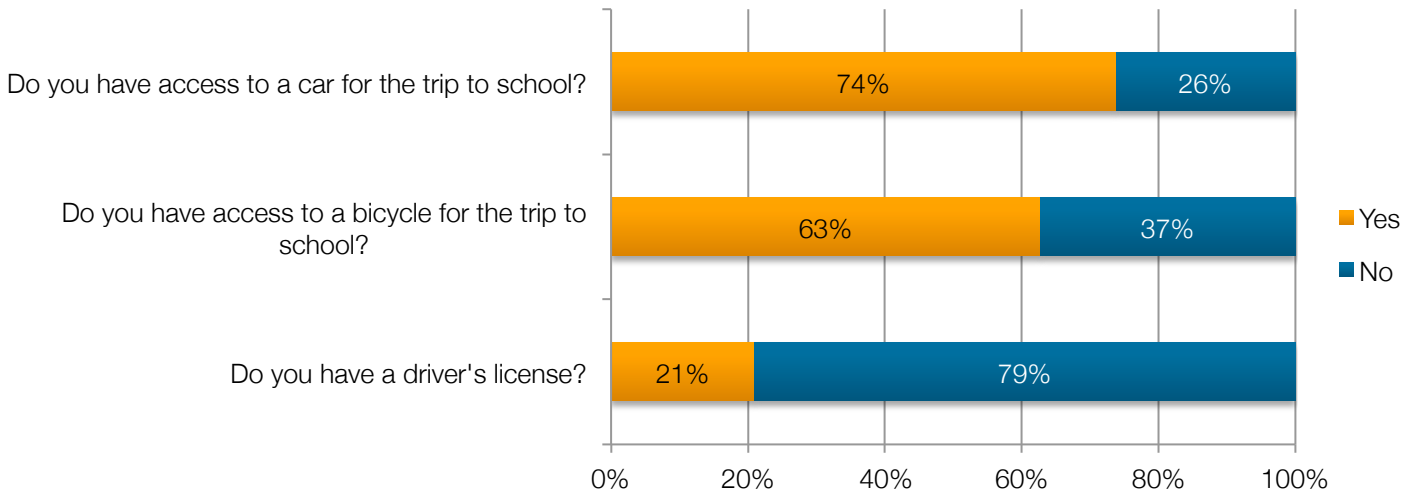
Taken in conjunction with other data from the online student survey, these results suggest that there is a fair amount of flexibility in how Carson students travel to and from school. 29% of students indicated that they usually walk to school – but more than twice as many (81%) reported having done so at least once since starting school that year in the fall. Similarly, while only 17% of students usually take public transit to school, almost three times that number (50%) reported having done so at some point in the school year.

What would encourage shifts to sustainable transportation modes



When asked what programs or initiatives would encourage them to use or switch to using a sustainable (i.e. non-driving) mode of transportation to and from school, students were most likely to select “a bus pass” (42%), “better bus service” (38%), or “better bike and/or pedestrian routes to school” (21%). Parking incentives or disincentives, such as carpool-only premium parking (6%) or a parking fee for single occupant vehicles (7%), were the least commonly selected options.

Access to transportation options



63% of students reported that they had access to a bicycle for the trip to school, while 74% of students reported that they had access to a car for the trip to school, while only 21% of students reported having a driver’s license.

Fewer students reported having access to a car for the trip to school (74%) than reported having driven or been driven to school at least once since the beginning of the school year (90%). On the other hand, four times as many students reported having access to a bicycle for the trip to school (63%) as reported having ridden to school at some point in the school year (15%). These differing correlations suggest that there are barriers other than access that are keeping students from cycling to and from school, and corroborate the popularity of “ease” and “speed” among reasons students choose to travel to and from school as they do

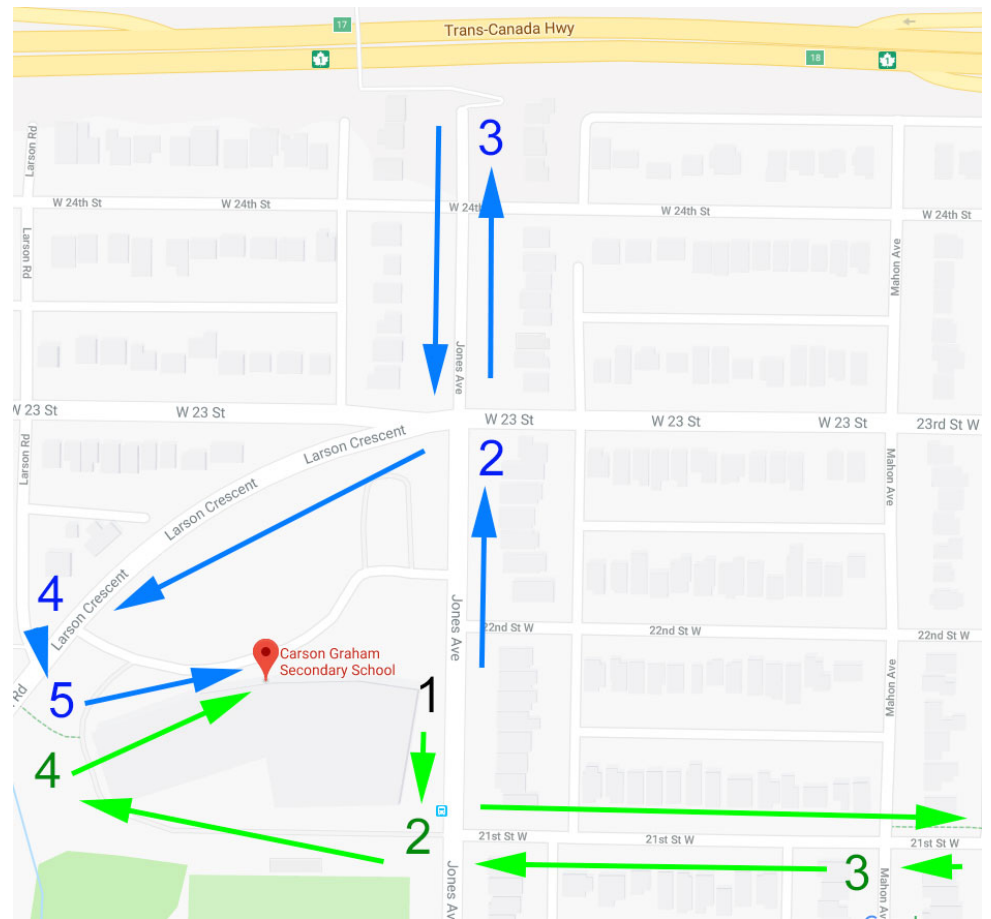


## Walkabout



### ▲ Students review traffic safety conditions on Jones Ave.

A walkabout was conducted for Carson Graham on the morning of October 24, 2017. Participants included Principal Ian Kennedy, teacher Rob Olson, School Board Trustee Christie Sacré, Natalie Corbo and Daniel Watson from the City of North Vancouver, JoAnne Burleigh from Vancouver Coastal Health, Kulvir Mann from HASTe BC, and 26 Carson Graham students. Participants were split up into 2 groups, each of which followed a different route to observe and discuss areas of interest and concern. The walkabouts proceeded along the routes outlined below:



▲ Map of the Carson walkabout routes

Group 1

1. The first group met in front of the school to observe bike routes, sidewalks and bus stops on Jones Ave.
2. They then walked north to observe pedestrian crossings at the intersection of Jones Ave. & 23rd St. West.
3. They continued north to observe the pedestrian overpass over the Trans-Canada Highway.
4. They then proceeded southwest along Larson Cr. to observe the crosswalk across Larson Cr. at Larson Rd.
5. They then headed south to observe the trailhead at Larson Park, before heading back to the school.

Group 2

1. The second group met in front of the school to observe bike routes, sidewalks and bus stops on Jones Ave.

2. They then proceeded south to observe the crosswalk at Jones Ave. and 21st St. West,
3. They turned east to observe the walking route on 21st St. West.
4. They then headed west to observe the trailhead at Larson Park before heading back to the school.



▲ **Carson Graham students and staff gather for a picture after the walkabout**

After the walkabout, both groups gathered in front of the school and recorded their observations and ideas by completing a short questionnaire.

School travel challenges are the barriers to active travel faced by students, families, and staff at Carson Graham. These challenges were identified through the student online survey, and through meetings with students, school administrators, and parents.

This section, along with Carson Graham's School Travel Action Plan, which is attached to this document as Appendix 1, identifies some of the challenges and presents recommended solutions, drawn from the school community and best practices in the field of ASRTS, to overcome the barriers to active travel at Carson Graham.

# 1.

## Pedestrian crossings at the intersection of Jones Ave., Larson Cr. and 23<sup>rd</sup> St. West

In the student online survey, students identified the intersection of Jones Ave., Larson Cr. and 23<sup>rd</sup> St. West to the north of the school as a source of frustration. This complex, five-way intersection includes two minor arterial roads and a collector road, and features full traffic controls and pedestrian activated signals and countdown timers on its north, east and south sides. On the west side of the intersection, 23<sup>rd</sup> St. West and Larson Cr. divide in a Y-junction, and there is no provision for pedestrians crossing 23<sup>rd</sup> St. West.

Carson Graham's location on the west side of Jones Ave., along with the lack of sidewalk on the east side of Jones Ave., means that students walking to or from the neighbourhoods north of the school must cross the intersection at Jones Ave., Larson Cr. and 23<sup>rd</sup> St. West in two stages. Students mentioned that they frequently observed drivers speeding or driving through the intersection late while they're waiting to cross, and pedestrians crossing Jones Ave. midblock south of the intersection rather than waiting for the light to change. They also mentioned that turning through the intersection was particularly difficult for cyclists.



▲ Looking south through the intersection of Jones Ave., Larson Cr. and 23<sup>rd</sup> St. W. towards the school



▲ **Looking west through the intersection of Jones Ave., Larson Cr. and 23<sup>rd</sup> St. West.**

During the walkabout, participants discussed some ideas for improving the intersection, including reducing wait times for pedestrians, normalizing the west side, installing additional signage, and adding a crosswalk across 23<sup>rd</sup> St. West. City of North Vancouver staff mentioned that because of the amount of traffic flowing through the intersection, much of it to and from Provincial Highway 1, they would need to review the situation further before any plans to change the intersection could be made.



▲ **The east side of Jones Ave. south of 23<sup>rd</sup> St. West has no sidewalk, but is a popular walking route and drop off location.**



▲ **Looking north towards the crosswalk on Larson Cr.**

## 2.

### Pedestrian crossings at the intersection of Larson Rd. and Larson Cr.

Larson Rd. intersects with Larson Cr. in a Y-junction to the west of the school. In the student online survey, students expressed concerns about their visibility and safety while crossing Larson Cr., and about the speeds of motor vehicles approaching the intersection.

At its intersection with Larson Rd, Larson Cr. is a busy two-lane minor arterial road with sidewalks and on-street painted bike lanes on both sides. There is a marked and signed east-west crosswalk across Larson Cr., with letdowns from both curbs, on the north side of the intersection just south of the school's driveway. This section of Larson Cr. is a signed school zone with a reduced 30km/h speed limit.



▲ **Foliage on the east side of Larson Dr. and its curved profile impact the visibility of pedestrians in the crosswalk.**

The curved profile of Larson Cr., along with the heavy roadside foliage of Mahon Park, may reduce the visibility of pedestrians in the crosswalk or waiting to cross. Installing “crosswalk ahead” signage or pedestrian-activated beacons at this crosswalk would improve driver awareness, especially in low-light situations.

### 3.

#### Traffic safety and congestion on Jones Ave.

Jones Ave. is a two-lane collector road that runs north-south on the east side of the school. It is heavily used by students travelling to and from Carson Graham, whether on foot, by bike, on public transit or by car.

The section of Jones Ave. adjacent to the school includes provisions for parking on its east side and on-street painted sharrows, and is a signed school zone with a reduced 30 km/h speed limit. Two raised, marked and signed east-west crosswalks facilitate pedestrian crossings on Jones Ave. at its intersections with 22<sup>nd</sup> St. West and 21<sup>st</sup> St. West. There are sidewalks on the west side of Jones Ave., including a marked multi-use path south of the school, and along some sections of its east side.

There are bollards on the west side of Jones Ave. between 23<sup>rd</sup> St. West and 22<sup>nd</sup> St. West, signs prohibiting stopping on the west side of Jones Ave. between 22<sup>nd</sup> St. West and 21<sup>st</sup> St. West, and the curb on the west side of Jones Ave. has been widened several meters to both the north and south of its intersection with 21<sup>st</sup> St. West. All of these measures are aimed at calming traffic in the school zone and preventing cars from parking or stopping on the west side of Jones Ave. near the school.



▲ Looking north on Jones Ave. through the school zone.



▲ **Crosswalks, speed humps, sharrows and multi-use paths on Jones Ave.**

In the student online survey, a number of students complained about the lack of a sidewalk on the east side of Jones Ave. between 23<sup>rd</sup> St. West and 22<sup>nd</sup> St. West. Students mentioned that they often walk along this section of Jones Ave. rather than waiting to cross to the west side of the road at the intersection of Jones Ave., Larson Cr. and 23<sup>rd</sup> St. West, and that it is often muddy or covered in snow during the winter. Students also mentioned that drivers often use the intersections of Jones Ave. and 21<sup>st</sup> St. and Jones Ave. and 22<sup>nd</sup> St. to make U-turns in the school zone.



▲ **Bollards on the west side of Jones Ave. north of the parking lot prevent parking and drop-off.**

During the walkabout, participants observed a number of parents dropping off students in the no-stopping zone on the west side of Jones Ave. outside of the school. This stretch of curb is clearly signed as a bus stop and fire zone.





- ▲ **The stop outside of the school on Jones Ave. is used for a special school bus for students travelling to and from the Pemberton Heights neighbourhood.**

## 4.

### Lack of transit service

In the survey, students mentioned factors that prevented them from or made it difficult for them to use transit to travel to and from Carson Graham.

The barrier most commonly identified by students was a lack of bus stops or routes near the school. There are several public transit bus routes within a few blocks of the school: on Lonsdale Ave. to the east, 15<sup>th</sup> St. West to the south, and on Westview Dr. to the west. There is also a school special bus operated by TransLink that runs twice daily between the school and the Pemberton Heights neighbourhood.

Students asked for transit routes that included Jones Ave., pointing to the bus stop located next to the school and mentioning the existence of the bus to Pemberton Heights. Postal code data collected through the student survey shows a strong concentration of transit trips to school originating in the Pemberton Heights area, suggesting that more accessible and direct routes could indeed boost the number of transit trips made to and from Carson Graham.

In particular, students from the Upper Lonsdale area noted that having to travel to and from Lonsdale Ave. from both home and school added considerable time to their trips. These comments are reflected by postal code data collected through the online student survey, which shows a strong concentration of vehicle trips to school originating in the Upper Lonsdale area, especially on the east side of Lonsdale Ave.

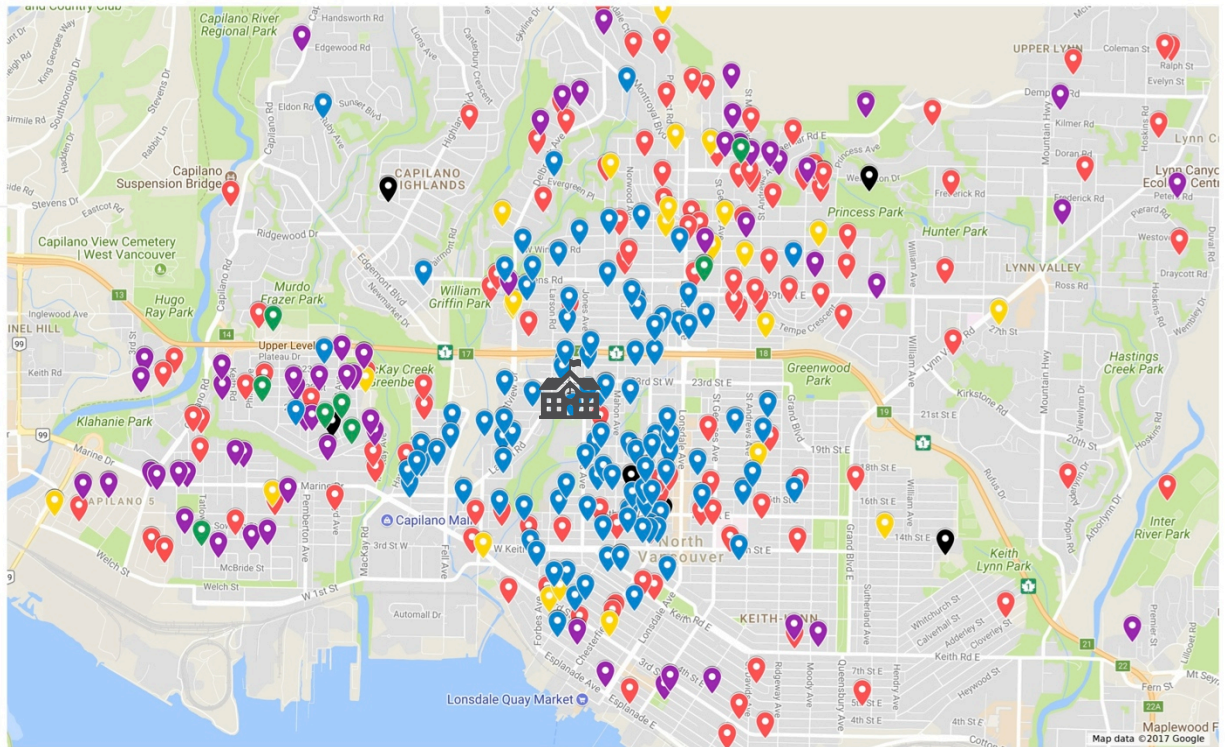
The School Travel Planning facilitator reached out to TransLink to determine whether anything could be

done to accommodate student requests. TransLink staff noted that the Pemberton Heights “school special” bus was grandfathered in from a previous era and that TransLink’s mandate as the regional transportation authority no longer allows it to provide school bus services.

Including bus routes through the Carson Graham catchment area on the Best Routes to School map could help more students identify transit routes that they could use to travel to and from school. Alerting the school community to future consultation opportunities would ensure that its students’ needs are considered should transit service expansion in North Vancouver be considered in the future.

Carson Graham Secondary Survey Postal Codes.csv

- Car
- Walk
- Transit
- Carpool
- School bus
- Bicycle



- ▲ Mapped trip origin data from the online student survey shows a high concentration of transit trips (purple) to Carson Graham originating from the west side of the catchment, which includes the Pemberton Heights neighbourhood.

# 5.

## Barriers to cycling to school

In the student online survey, students identified factors that were keeping them from cycling, or impacting their cycling trips, to and from school.

There are several cycling routes that lead to or close to Carson Graham School. Jones Ave. on the east side of the school has on-street sharrow markings along with the Green Necklace, a multi-use path, which runs south of the school. Larson Cr. on the west side of the school has painted on-street bike lanes on both sides. Further afield, Chesterfield Ave. to the east and 17<sup>th</sup> St. West to the south are both designated bike routes with signage and wayfinding – though neither features cycling-specific infrastructure.



▲ The Green Necklace multi-use path on Jones Ave., south of the school



▲ On-street bike lanes on Larson Rd., west of the school.

Despite this, a lack of quality bike routes to school was the most commonly cited barrier to cycling identified by Carson Graham students. Students were more likely to ask for “better” bike routes than additional bike routes, suggesting that they don’t find the current options attractive or safe enough.

Students also identified topography as a barrier, particularly those travelling from the Lower Lonsdale area or Lynn Valley.

Over the course of the STP process at Carson Graham, a number of interventions were undertaken to address barriers to active school travel and encourage walking and cycling trips to school. Encouragement interventions encourage students and families to travel actively; Education and Engagement interventions inform members of the school community about active transportation; Enforcement interventions compel awareness of and compliance with traffic laws and bylaws; and Engineering interventions are physical changes that make walking and cycling safer, more comfortable and more convenient.

Interventions undertaken during the STP process at Carson Graham are detailed in the section below. Interventions identified that have yet to be undertaken can be found in Carson Graham's School Travel Action Plan (Appendix 1).

## Encouragement

### Walk and Wheel Week

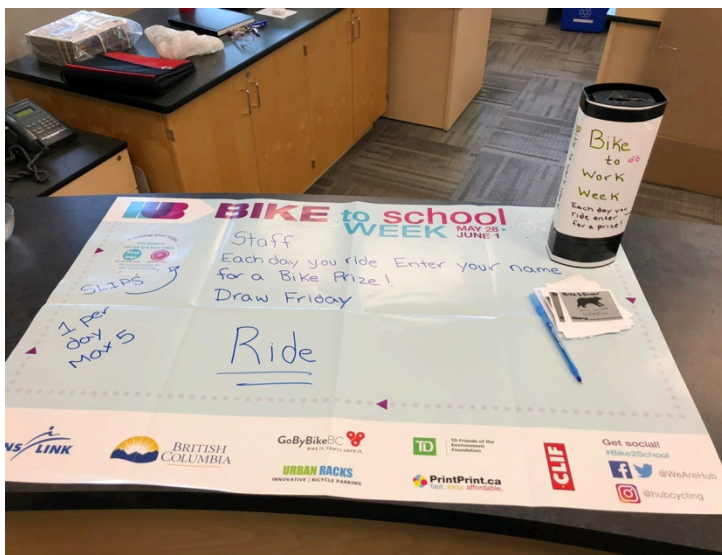
In the fall of 2017, Carson Graham took part in the annual International Walk to School Week event. Students were encouraged to walk, bike and take transit to school all week long via daily morning school announcements, posters at the school, an email message from the principal, and peer encouragement efforts.

### Bike to School Week



▲ Full bike racks at Carson Graham during Bike to School Week

Carson Graham registered for Bike to School Week in the spring of 2018. Over 40 students biked to school every day, as did many teachers and staff members. Principal Kennedy set a strong example, riding his bike to school for the whole month of May. He secured prize donations from Lynn Valley Bikes and set up a station in the school office where cyclists could enter daily draws. Promotional messages were communicated to students, staff, and parents via the school’s outdoor electronic sign, daily morning in-class announcements, posters around the school, an email message from the principal, and student and staff peer encouragement efforts.



▲ Promotion efforts during Bike to School Week at Carson Graham

▲ Promotion efforts during Bike to School Week at Carson Graham

## Engagement

### Student Leadership


In the spring of 2018, 34 students from grades 9 to 10 in the Junior Community Initiatives Leadership Class, along with their teacher Shannon Van Baalen, took part in a modified version of HASTe’s Cool Routes to School student engagement program. In an effort to encourage more safe and active travel to school at both Carson Graham and its feeder schools, students worked in

teams to design a slogan, create a poster, and produce a video, all showcasing the benefits of active transportation.

In April the students divided into groups, each of which developed its own message and strategy. HASTe staff met with the students as they started their projects to provide information and answer questions, and again towards the end of the program to provide feedback before they submitted their final versions.

**MAKE HASTE**

**YOU CAN BE THE DIFFERENCE**



Global pollution levels are one of Canada's largest concerns. Just one person making the choice to walk to school can inspire others and change our country. Walking to school can increase overall productivity in students as well as improve mood. Take the time today to walk to school. You can be the difference.

▲ Student-designed poster promoting active travel.

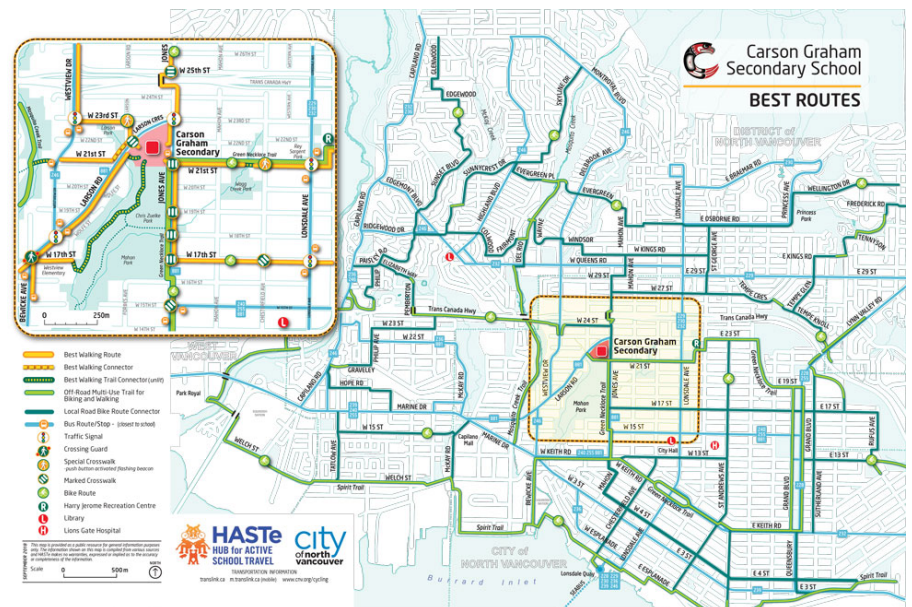
In May the students presented their projects before a judging panel which included City of Vancouver Mayor Darrell Mussatto and staff member Natalie Corbo, Harvey Kooner from ICBC, Corporal Ingrid Stevens from the North Vancouver RCMP, their teacher Rob Olson, and Cheryl Mitchell, Carson Graham’s PAC chair. Three winning projects were chosen, and members of the top team were given VIP tickets to the City of North Vancouver’s summer Slide the City Event.

The City of North Vancouver promoted and shared the videos through its social media outlets and its website. In June, the top 3 videos were shown at a City of North Vancouver Council Meeting, and the winning teams were given certificates by Mayor Mussatto.

## Education

### Best Routes to School Map

The Best Routes to School Map (Appendix 2) provides students with the best routes to walk or bike to and from school, along with information about bike and transit routes in the catchment. The school received a poster version of the map for their lobby, and the map will be available to download through the school’s website.



▲ Best Route to School Map for Carson Graham

## Enforcement

### Safety Blitz



▲ **Students and RCMP handed out think of me cards to drivers in the school zone.**

In the fall of 2017, the City of North Vancouver partnered with the RCMP, bylaw officers, the fire department, ICBC, and the community police to organize a back-to-school school safety blitz at Carson Graham. Carson Graham students handed out “Think of Me” Cards to drivers in the school zone and participated in traffic-safety awareness activities, including a “walk the line” station at which they tried to navigate a straight line while wearing vision-obscuring “Fatal Vision Goggles”. Principal Ian Kennedy, several staff members, and many students took part in the event – including students from the community leadership class and the school’s football team.

A second safety blitz was organized after spring break. Principal Kennedy handed out “Think of Me” cards to drivers in the school zone. During the blitz, participants remarked happily that many more students seemed to be arriving on foot, by bike, and on transit than during the fall event.



## Engineering

### 21<sup>st</sup> St. West infrastructure improvements

During the 2017/18 school year, as part of the Green Necklace project, the City of North Vancouver installed a number of enhancements to 21<sup>st</sup> St. West between Jones Ave. and Lonsdale Ave. that have improved safety and comfort for pedestrians and cyclists.



#### ▲ The new cul-de-sac prevents vehicles from accessing the greenway from Jones Ave.

Improvements included a cul-de-sac at the intersection of Jones Ave. and 21<sup>st</sup> St. West, a reduced 30km/h speed limit, new pedestrian-scale lighting and enhanced crossings, and a multi-use path on the south side of the road. The changes make 21<sup>st</sup> St. West a safe and comfortable walking route for students travelling to and from school or accessing transit on Jones Ave.



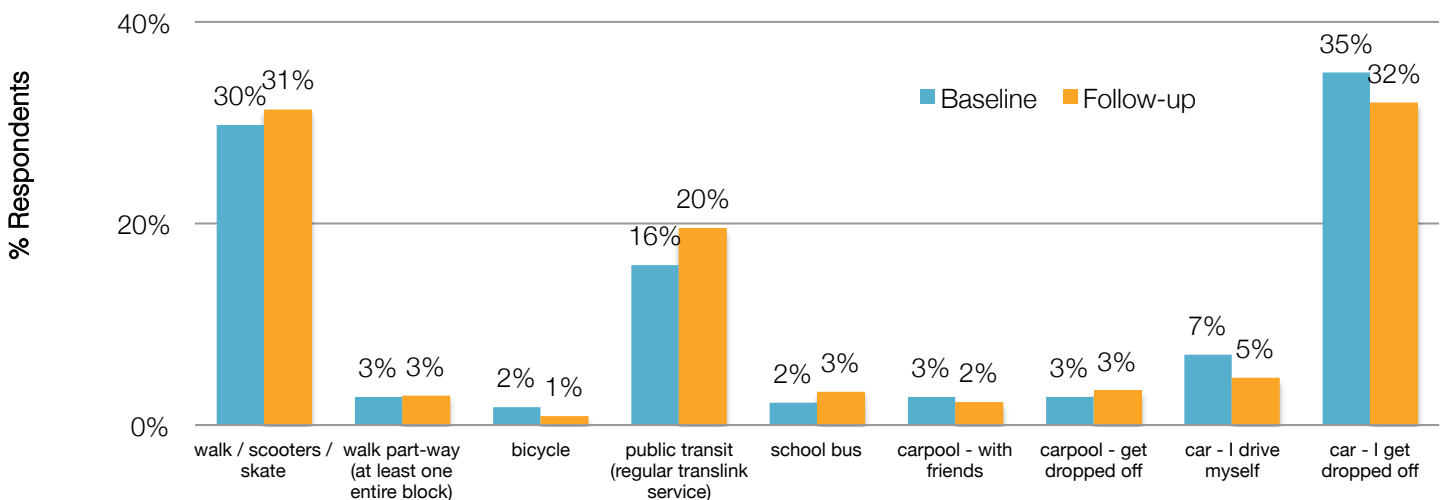
▲ The new multi-use path on the south side of 21<sup>st</sup> St. West.

Follow-up School Travel Data at Carson Graham was collected by means of an online survey completed by students. Over the course of a week, from December 10<sup>th</sup> to the 13<sup>th</sup>, 2018, teachers made time for students to fill out the survey on their computers or mobile devices. A total of 801 students completed the follow-up survey, for a response rate of 61.6%.

The follow-up survey collected information from students about how they travel to and from school; why they choose to travel the way they do; whether their travel habits had changed, and how; and which ASRTS interventions had been the most effective for them.

Notable comparisons between baseline and follow-up data are included in this section. When comparing the results of the baseline survey to those of the follow-up survey, it should be noted that baseline data was collected in May, while follow-up data was collected in December; the travel behaviour data from each survey was likely impacted by the weather, amount of daylight, and time of year when it was collected.

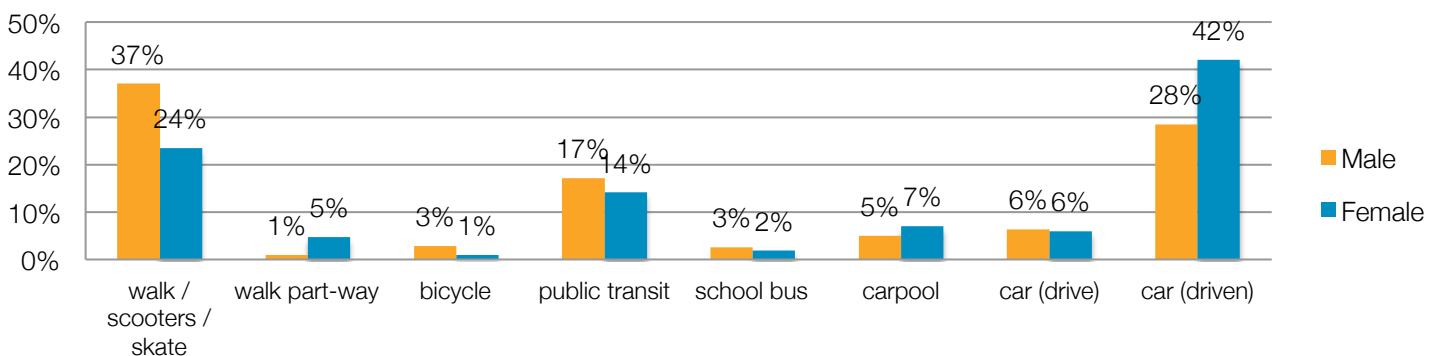
### Mode Share



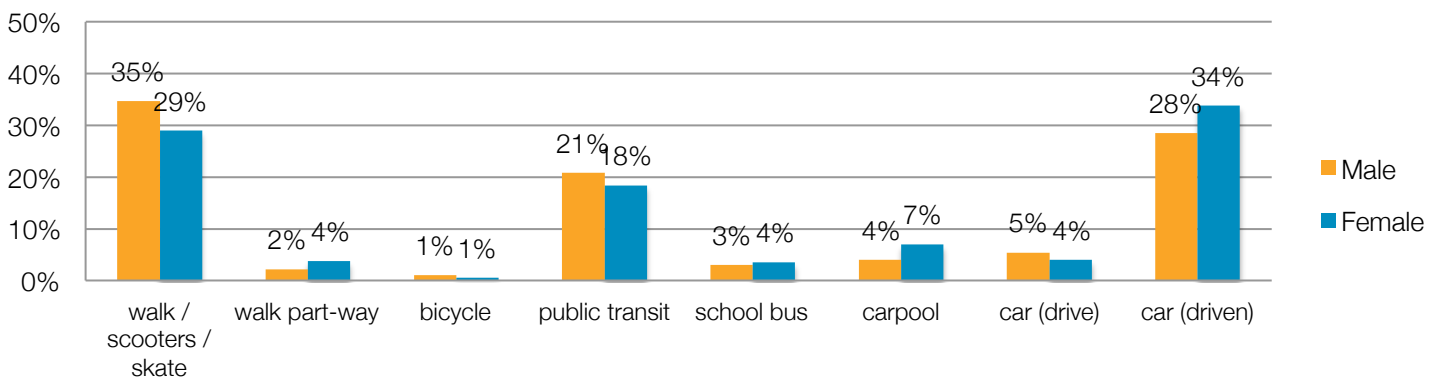
### ▲ How do you usually get to school?

School travel mode share splits changed little between the baseline and follow-up surveys. A slightly greater proportion of students reported that they usually walk or take transit to school, while a slightly smaller proportion reported that they usually drive or are driven.

An aspect of school travel mode share that did change substantially between the baseline and follow-up surveys was the degree of correlation between gender and travel behaviour. Male students were still more likely to report that they usually walk (+19%), cycle (+115%), or take public transit to school (+14%), and less likely to report that they were usually driven to school (-16%), than were female students. However, the differences were not nearly as pronounced in the follow-up data as they were in the baseline data.



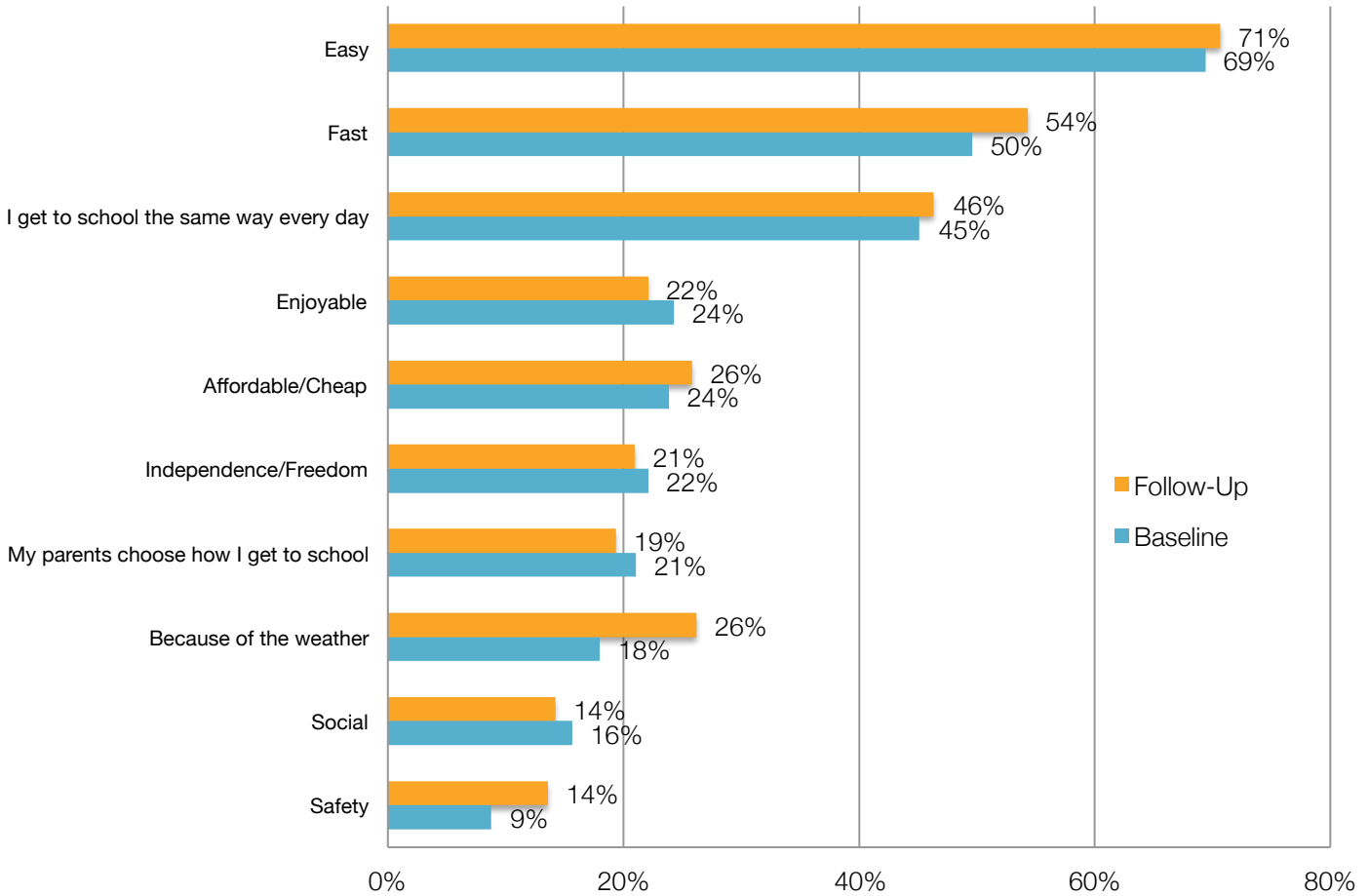
▲ Male and female students report how they usually travel to school in the **BASELINE** survey



▲ Male and female students report how they usually travel to school in the **FOLLOW-UP** survey

According to data from the follow-up student travel survey, most of the increases in sustainable travel, and decreases in driving trips, can be attributed to female students at Carson Graham.

Reasons for choosing transportation modes

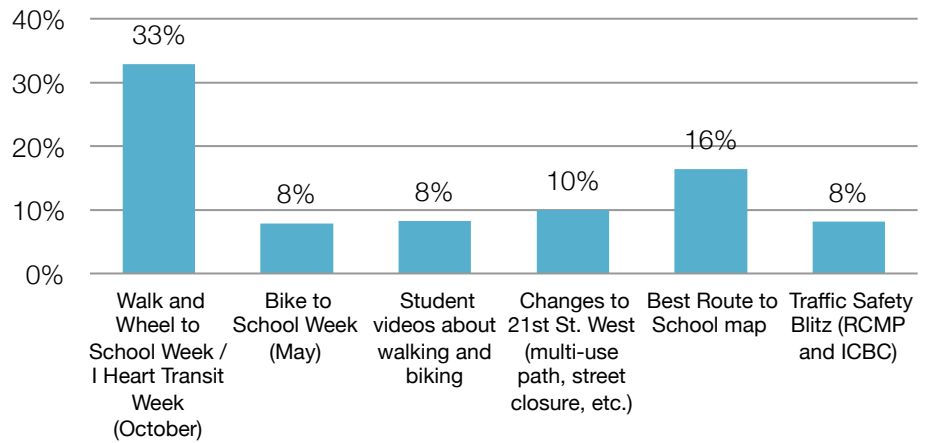


When asked why they choose to travel to and from school as they do in the follow-up survey, the most popular answer given by students at Carson Graham were the same as the ones they gave in the baseline survey: because it is “easy” (71%), followed by because it is “fast” (54%).

Notably, while the popularity of most of the reasons changed little between the baseline and follow-up surveys, “the weather” (+44%) and “safety” (+56%) were cited as being substantially more influential by students in the follow-up data than in the baseline data. These changes support the notion that the time of year at

which the baseline and follow-up surveys were run likely impacted the data that was collected by each survey.

### Impact of Interventions



When asked which ASRTS transportation interventions they had found effective or participated in during the previous year, Carson Graham students were most likely to select “Walk and Wheel to School/I Heart Transit Week” (33%) and the “Best Route to School Maps” (16%) than any other initiative.

It is worth noting that both of these interventions occurred during the same school year as the follow-up survey, while other initiatives, such as “Bike to School Week”, the “Student Videos about Walking and Biking”, and the “Changes to 21<sup>st</sup> St. West (multi-use path, street closure, etc.)” all happened during the previous school year.

Notably, female students at Carson Graham were considerably more likely to report that they had participated in or been affected by the “Student Videos about Walking and Biking” (+35%) and the “Changes to 21<sup>st</sup> St. West (multi-use path, street closure, etc.)” (+61%) than were male students. This suggests that female students at Caron Graham were more affected by media- and infrastructure-related interventions than were their male counterparts, or that such interventions have had a more lasting impact for them.

## School Travel Planning Members

The School Travel Planning process at Carson Graham 2017-2018 involved a School Travel Planning school committee, and the Children and Youth Safe and Active Travel working group. Key members of each committee are listed below.

### School Committee

Principal: Ian Kennedy

Teachers: Rob Olson and Shannon Van Baalen

PAC chair: Cheryl Mitchell

### Children and Youth Safe and Active Travel Working Group

City of North Vancouver Sustainable Transportation Coordinator: Natalie Corbo

City of North Vancouver Administrative Assistant: Hayley Reiss

City of North Vancouver Bylaw Manager: Guy Gusdal

NVSD Trustee: Christie Sacré

SD44 Communications Manager: Deneka Michaud and Nevasha Naidoo

RCMP: Cpl. Peri Mainwaring

TransLink: Karen Halex

ICBC: Harvey Kooner

Vancouver Coastal Health: Jo-Anne Burleigh

North Vancouver Recreation Commission: Janet Wallace

HASTe BC / North Van District Parent Committee: Kulvir Mann

NoVA Rep / Braemar Principal: Sandra Singh

Appendix 1: School Travel Action Plan

Appendix 2: Best Route to School Map

Appendix 3: Points of Origin Map

Appendix 4: Student Online Survey

Appendix 5: Walkabout Notes