



Winter 2019

*Safe and Active Routes to School Action Plan*

# Sutherland Secondary School



## Safe and Active Routes to School Action Plan

Winter 2019

Report prepared by Urban Systems on behalf of the City of North Vancouver

### Project partners include:

- **City of North Vancouver**
- **Sutherland Secondary**, including Administration, PAC, and Student Leadership Council
- **Child and Youth Safe and Active Travel (CYSAT) Working Group**, including the City of North Vancouver, District of North Vancouver, North Vancouver School District 44, TransLink, ICBC, Vancouver Coastal Health, and North Vancouver Recreation and Culture Commission



## Contents

<b>Executive Summary</b> .....	<b>4</b>
<b>Safe and Active School Travel Program</b> .....	<b>6</b>
Overview .....	6
Benefits of Active Transportation .....	7
SASTP Process .....	8
<b>Sutherland Secondary School Overview</b> .....	<b>11</b>
<b>Survey Analysis (Baseline)</b> .....	<b>17</b>
Travel Patterns .....	17
Mode Choice Rationale .....	19
Perceived Safety .....	22
Opportunities for Active Transportation .....	22
<b>Survey Analysis (Follow Up)</b> .....	<b>25</b>
Travel Patterns .....	25
Mode Choice Rational .....	27
Perceived Safety .....	29
Opportunities for Active Transportation .....	30
Program Awareness and Final Comments .....	31
<b>Visioning Workshop</b> .....	<b>33</b>
<b>Engagement Events</b> .....	<b>37</b>
Sustainable Commute Instagram Contest .....	37
Bike to School Week Celebration Station .....	38
Back to School BBQ Engagement Event .....	39
Transportation-themed Kahoot Quiz .....	40
School Travel Map Art Collaboration .....	41
<b>Action Plan</b> .....	<b>42</b>
Engineering Action Items .....	43
Transit Action Items .....	57
Education & Encouragement Action Items .....	58
Enforcement Action Items .....	60
Evaluation Action Items .....	61
<b>Next Steps</b> .....	<b>62</b>
<b>Contacts and Resources</b> .....	<b>63</b>
<b>Appendix A: Safe and Active Routes to School Brochure</b> .....	<b>66</b>
<b>Appendix B: Family Survey Questions</b> .....	<b>67</b>
<b>Appendix C: Student Survey Questions</b> .....	<b>71</b>
<b>Appendix D: Detailed Survey Response Summary</b> .....	<b>75</b>
<b>Appendix E: Kahoot Quiz Questions and Results Summary</b> .....	<b>89</b>
<b>Appendix F: Sutherland Art Map</b> .....	<b>93</b>

---

## Executive Summary

This **Safe and Active Routes to School Action Plan** is an output of the **Safe and Active School Travel Program (SASTP)**, a City of North Vancouver program that promotes safe, active, and sustainable school travel. Over the course of the 2018-2019 and 2019-2020 school years, the City of North Vancouver, with support from SASTP facilitation professionals, worked with Sutherland Secondary to gather transportation data, identify challenges and opportunities for safe and active travel, and address barriers to walking and cycling, both in terms of infrastructure and behaviour. The SASTP process involved meeting with Sutherland administration, staff, students, and parents, while also collaborating with school travel stakeholders such as the North Vancouver School District, TransLink, ICBC, and the RCMP.

Sutherland Secondary has a population of nearly 900 students and is located in the City of North Vancouver, with a 9.1 square kilometre catchment area that stretches into the District of North Vancouver. The school is relatively well served by transit as well as walking and cycling facilities – including the Green Necklace. As a result, Sutherland already has a very high sustainable mode share, with approximately half of all students travelling to and from school by active transportation (walking, cycling, skateboarding, scootering, and other human-powered modes) and another 23-24% travel by public transit.



Despite these positive numbers, there are still a number of possible improvements in terms of infrastructure and behaviour change. Through surveys, site visits, a community walkabout, and various discussions and engagement events, a number of key opportunities and challenges were identified, including intersections and corridors that are problematic for students. The most frequently mentioned area was the intersection of 19<sup>th</sup> Street E and Grand Boulevard E, which connects Sutherland Secondary to the Green Necklace and a number of transit routes. Another frequently mentioned issue was the connection to the Eastview area across Upper Levels Highway, which currently suffers from uncomfortable and indirect pedestrian connections. The Action Plan section of this document lays out a detailed series of action items that address these and other issues.

In addition to infrastructure upgrades, the Action Plan identifies a number of education, encouragement, enforcement, and evaluation action items that are meant to further increase safe and active travel at Sutherland. Many of these items involve engaging the school community through school communications

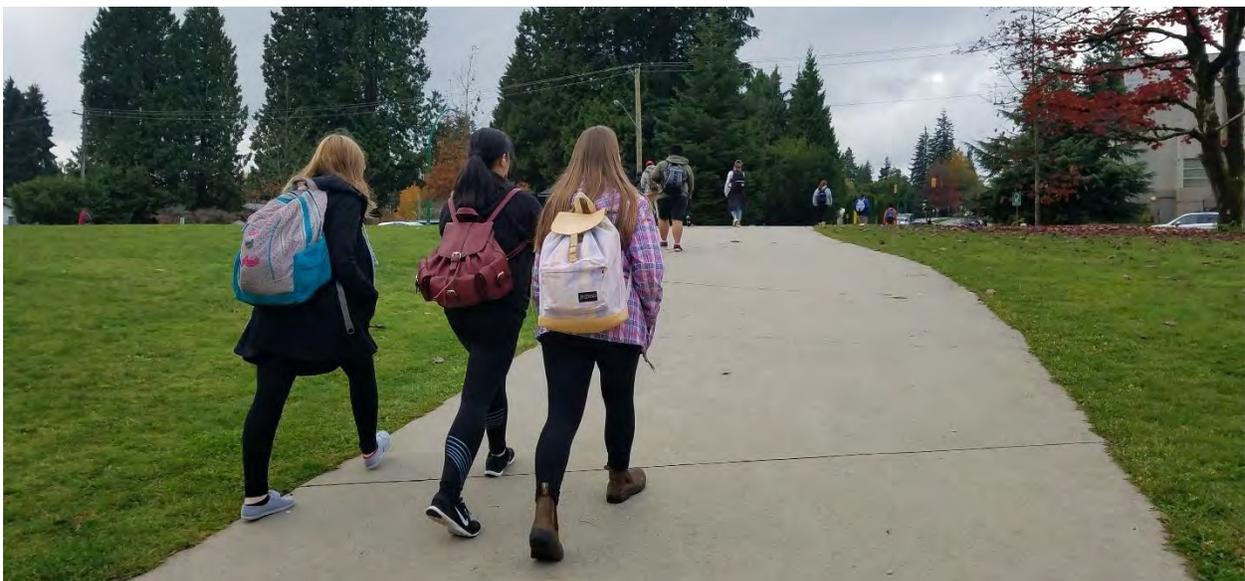
and events, including social media contests, lunch time quizzes, and larger-scale school events such as Bike to School Week. Enforcement involves working closely with the RCMP to mitigate transportation issues, while evaluation involves monitoring progress and adapting to new situations. This **Safe and Active Routes to School Action Plan** is intended to be a living document that should be updated frequently to ensure it remains relevant and useful for the Sutherland community.

The basis for all future transportation improvements at Sutherland Secondary is the school travel vision, which was formed as part of a visioning session with grade 11 students. Students worked with the SASTP facilitation team to create the following school travel vision for Sutherland Secondary:

**Sutherland Secondary students will have MORE and BETTER transportation options.  
School transportation will be convenient, active, safe, social, and sustainable.**

In order to achieve this vision and implement the Action Plan, all project partners must work together. This includes the City of North Vancouver, the Sutherland Secondary community, and the entire CYSAT Working Group, including the City of North Vancouver, District of North Vancouver, North Vancouver School District 44, TransLink, ICBC, Vancouver Coastal Health, and North Vancouver Recreation and Culture Commission. Each stakeholder has an important role to play in implementing the various action items.

A list of key contacts and resources is provided at the end of this document. These resources, along with the contents of this Action Plan, will help to enable positive change at Sutherland. It is important that leaders and champions are identified within each of the project partners in order to carry momentum forward year after year. By working together, it is possible to make safe, active, and sustainable transportation a part of daily life for everyone in the Sutherland Secondary community.



## Safe and Active School Travel Program

### Overview

The **Safe and Active School Travel Program (SASTP)** is a City of North Vancouver program that works with schools, the North Vancouver School District, and other stakeholders to promote active and sustainable school travel, improve road safety, and identify and address infrastructure and behavioural barriers to walking and cycling. Active transportation modes include walking, cycling, scooting, skateboarding, using a wheelchair, and any other type of human powered transportation. An important objective of the SASTP is to build long-term capacity within the school community so that active school travel continues to be prioritized even after the program's completion.

This **Safe and Active Routes to School Action Plan** is an output of the SASTP process at Sutherland. The Plan provides an overview of SASTP initiatives undertaken with Sutherland Secondary throughout the 2018-2019 and 2019-2020 school years. This includes student and family surveys, a community walkabout, a visioning session, and various engagement events. The Action Plan section then lists recommendations for improving school travel under four categories: engineering, enforcement, education and encouragement, and evaluation. The appendices contain the SASTP materials created for Sutherland Secondary, including a Safe Routes to School brochure, copies of the survey questions, and detailed survey results.



## Benefits of Active Transportation

There are several reasons why promoting active transportation to and from school is important, including:

- **Health:** The Public Health Agency of Canada (PHAC) recommends children and youth aged 5-17 get at least one hour of physical activity a day. Walking, rolling, or cycling to school can help students become more active and create good habits for an active lifestyle.
- **Friends, Family, and Community:** Active travel promotes social connections with friends, family, and neighbours and creates safer communities.
- **Academic Performance:** Students that walk or roll to school arrive more alert and ready to learn, have better concentration in class, and are happier. Active transportation has also been shown to increase alertness and grades at school.
- **Environment:** Across Metro Vancouver, approximately 40% of greenhouse gas emissions come from on-road transportation. Every active trip reduces traffic, emissions, and pollution.
- **Reduced traffic impacts:** Getting more people out of their vehicles helps to reduce motor vehicle congestion, parking problems, and safety concerns, which are especially evident at pick-up and drop-off times around schools. Large numbers of motor vehicles entering and exiting school sites can create safety and congestion issues that affect not only the school community, but the neighbourhood at large.
- **Lifelong Skills:** Walking, rolling, and cycling is fun for students and helps promote positive perspectives towards physical activity and teaches the importance of individual health.
- **Independence:** Active travel builds confidence and promotes independence. Travelling actively allows students to reach destinations on their own, encourages students to navigate and explore the City, and helps foster independence.



## SASTP Process

Sutherland Secondary was identified as a candidate for the SASTP by the City of North Vancouver in the summer of 2018 and the program was officially launched in October 2018. The City of North Vancouver oversaw the SASTP process at Sutherland with support from SASTP facilitation consultants, whose team includes professional transportation planners and engineers. The SASTP facilitation team worked closely with school administration, staff, and leadership students to gather information and coordinate events.

The SASTP process at Sutherland Secondary is summarized below, with a timeline provided in **Figure 1**.

- **Kick-Off Meeting (Oct 31, 2018):** The SASTP facilitation team met with Sutherland Secondary administration to kick-off the SASTP process and identify initial transportation issues.
  - **Site Visit #1 (Oct 31, 2018):** The SASTP facilitation team examined the school site and surrounding catchment area to better understand transportation challenges and opportunities.
  - **Parent Advisory Committee Meeting (Nov 5, 2018):** The SASTP facilitation team met with the Sutherland Parent Advisory Committee (PAC) to introduce the SASTP process, make the PAC aware of upcoming opportunities for involvement, provide updates about data collection and events, and gather input regarding transportation issues and opportunities.
  - **Family Survey #1 – Baseline (Nov-Dec 2018):** An online family survey was circulated to the school community to better understand students and their family's travel to school (mode share) on both sunny and rainy days, as well as travel behaviours and attitudes. The survey was completed in December 2018 and also asked questions regarding overall traffic safety concerns that affect parents' decision to allow children to walk or bicycle to school. The survey results were analyzed and summarized, providing valuable insight into the travel patterns at Sutherland Secondary and the issues and opportunities associated with active modes.
  - **Student Survey #1 – Baseline (Nov-Dec 2018):** In addition to the Family Survey, students at Sutherland were given class time to complete a similar online survey, geared towards the students. The survey was also conducted in December 2018.
  - **CYSAT Meeting #1 – 'Rolling' Community Walkabout (Dec 5, 2018):** A community walkabout was conducted as part of the Child and Youth Safe and Active Travel (CYSAT) Meeting. CYSAT is a working group that brings together the City of North Vancouver and associated stakeholders such as TransLink and the North Vancouver School District to discuss safe and active school travel. For this meeting, members were invited to join the SASTP facilitators and City staff on a 'rolling' CYSAT meeting which visited the two North Vancouver schools participating in the SASTP program, including Sutherland Secondary. The walkabout explored the immediate school neighborhood, looked at well-used routes, and brainstormed engagement opportunities to address travel issues. Sutherland Secondary's school principal joined the group and provided an overview of transportation at Sutherland.
  - **Student Leadership Council Meeting (Jan 29, 2019):** The SASTP facilitation team met with the Sutherland Student Leadership Council to introduce the SASTP process to student leaders and brainstorm ways to engage the greater student body.
  - **Site Visit #2 (Jan 29, 2019):** A second site visit was conducted to examine engineering issues that had been identified.
-

- **CYSAT Meeting #2 (Jan 31, 2019):** The SASTP facilitation team met with the CYSAT working group to report on progress at Sutherland Secondary, discuss upcoming initiatives, and hear feedback from CYSAT members.
  - **Student Visioning Workshop (Feb 6, 2019):** A critical component of the SASTP process is to identify a vision that describes what the school will look like after the SASTP process is complete. This vision come from the students themselves and was developed as part of an interactive visioning workshop with students and school staff. This workshop took place in a grade 11 social studies class which was discussing urban planning and transportation issues as part of their curriculum.
  - **Sutherland Steering Committee Meeting (Feb 15, 2019):** The SASTP facilitators met with a steering committee comprising the school principal and student leaders to discuss progress thus far and brainstorm ideas for future school travel engagement events.
  - **CYSAT Meeting #3 (May 29, 2019):** The SASTP facilitation team met with the CYSAT working group to report on progress at Sutherland Secondary, discuss upcoming initiatives, and hear feedback from CYSAT members.
  - **Engagement and Celebration Events:** A number of engagement events took place throughout the 2018-2019 and 2019-2020 school years to celebrate school travel planning. These events are discussed in detail below.
    - **Bike to Work Week Celebration Station:** May 29, 2019
    - **Back to School BBQ Engagement Event:** September 26, 2019
    - **Transportation-themed Kahoot Quiz:** December 2, 2019
    - **School Travel Map Art Collaboration:** Fall 2019 – Spring 2020
  - **CYSAT Meeting #4 (September 13, 2019):** The SASTP facilitation team met with the CYSAT working group to summarize the overall SASTP process Sutherland Secondary and discuss next steps for ensuring future success.
  - **Family Survey #2 – Follow up (Jan-Feb 2019):** To track the SASTP process, a second family survey was circulated in the Fall of the 2018/19 School Year. The results of the second Family Survey were then compared with the original survey to understand what has changed one year later, these results are presented in this document.
  - **Student Survey #2 – Follow up (Jan-Feb 2019):** A second student survey was also completed in the Fall of 2019. The results of all surveys conducted have been included in this document.
  - **Safe and Active Routes to School Action Plan:** This Plan was developed and refined throughout the SASTP process. The final output included a Safe and Active Routes to School Brochure (see Appendix A). The completed plan will be used by the City of North Vancouver as well as school administration, students, and parents to ensure that safe and active school travel remains a priority in upcoming school years.
-

Figure 1: SASTP Timeline

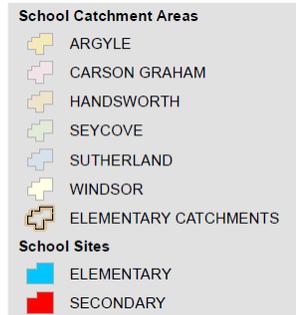


## Sutherland Secondary School Overview

Sutherland Secondary School is located at 1860 Sutherland Avenue in the City of North Vancouver, BC. During the 2018-2019 school year, 890 students were enrolled at Sutherland, including 92 international students. The school's catchment area is approximately 9.1 square kilometers in size and is split between the City of North Vancouver and the District of North Vancouver (Figure 2). The school is at the Northern end of its catchment which is roughly bordered by Upper Levels Highway and Lynn Valley Road to the north, Hastings Creek and Lynn Creek to the east, the waterfront to the south, and Lonsdale Avenue to the west.



Figure 2: Sutherland Secondary Catchment



Sutherland Secondary students use a combination of walking, cycling, driving, and public transit to travel to school. There are bike racks outside the school and skateboard racks inside. The school has a parking lot and dedicated drop-off zones in front of the school. Based on existing conditions, motor vehicle congestion during the pick-up and drop-off times does not appear to be a major issue. However, alternate drop-off locations have been identified on the Safe and Active Routes Brochure to ensure that congestion does not increase with school population growth. Additionally, it has been observed that when traffic is backed up on the Upper Levels Highway, Grand Boulevard E can be so backed up that it can be difficult for motor vehicles to exit the Sutherland Secondary area by turning right off of 19<sup>th</sup> Avenue E.



At the time of the action plan process, buses 228 and 255 ran along Grand Boulevard, with stops within one block of Sutherland Secondary that are well used by Sutherland students. As of April 2020, route 255 will no longer connect to Lynn Valley, but will serve the southern half of Grand Boulevard. Route 240 will increase its frequency to every 7 minutes between 6:30 – 9:00am. This change will better accommodate school-based ridership but should be well-promoted. Sutherland Secondary is also located adjacent to the Green Necklace, an urban greenway with off-street, all ages and abilities walking and cycling facilities. The Green Necklace stretches south along Grand Boulevard and west along 23<sup>rd</sup> Street W, providing a high-quality active transportation connection to Sutherland Secondary. 19<sup>th</sup> Street E and Grand Boulevard E is a key intersection that student must cross to reach transit connections as well as the Green Necklace. Additionally, the south side of 19<sup>th</sup> Street E between Grand Boulevard E and Sutherland Avenue is well used by students walking to school but lacks a proper sidewalk and consists of an unpaved gravel pathway. The following images show typical student behaviour at peak transit pick up and drop off periods.





The rest of the catchment is relatively walkable and bikeable, although some areas have steep topography. Upper Levels Highway creates a barrier to active transportation to and from the northeast quadrant of the catchment area. Students must travel along Boulevard Crescent through the 21<sup>st</sup> Street E intersection and underneath the Upper Levels Highway. The proposed Casano-Loutet Pedestrian/Cycling Overpass, which officially received provincial funding in June 2019, will help to alleviate this barrier once completed.



Above photos (clockwise from top): Eastbound painted bicycle lane at Boulevard Crescent approaching Highway 1 (Upper Levels Highway) connection, westbound painted bicycle lane at Boulevard Crescent approaching 19th Street East, end of eastbound painted bicycle lane at Boulevard Crescent and Lynn Valley Road.

## Survey Analysis (Baseline)

To better understand transportation patterns, challenges, and opportunities at Sutherland Secondary, two surveys – one directed at students and one directed at parents/caregivers – were conducted in from November to December 2018. The surveys had similar questions and focused on gathering background data, measuring attitudes about active transportation, identifying the key issues and opportunities for walking and cycling to school, and discovering opportunities for long-term behavior changes (see Appendices B and C for the full set of family and student survey questions).

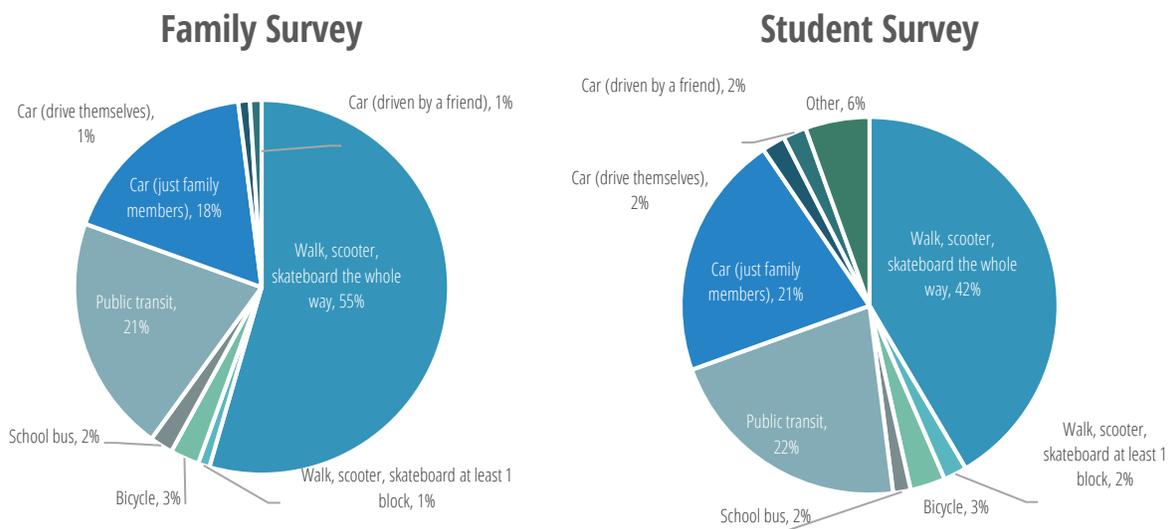
The baseline family survey received **52 responses**, which represents approximately 66 students (households with more than one student were asked to answer only one survey). The baseline student survey received **473 responses**, which represents just over half of all Sutherland students. The survey responses are summarized below. Additional survey analysis is provided in Appendix D.

### Travel Patterns (Baseline)

#### Mode Share (Baseline)

The family and student surveys show relatively similar results in terms of transportation mode share (**Figure 3**). Approximately 20-25% of students arrive at school by car, mostly with a family member. Another 23-24% arrive by public transit or a small percentage by school bus. The other half of students arrive by active transportation, with the majority of this group walking, scootering, or skateboarding the whole way to school. Through SASTP initiatives, the goal is to reduce the number of students arriving by car, helping to alleviate congestion and negative environmental impacts.

**Figure 3: Transportation Mode Share**



### Weather Impacts (Baseline)

Respondents were asked whether weather conditions impact their mode of transportation. As shown in **Figure 4**, less than half of respondents indicated that weather plays a factor. For the 40-48% of student who said 'yes', it may be possible to encourage increased active transportation on rainy and cold days by providing educational tips on the best way to dress for the weather.

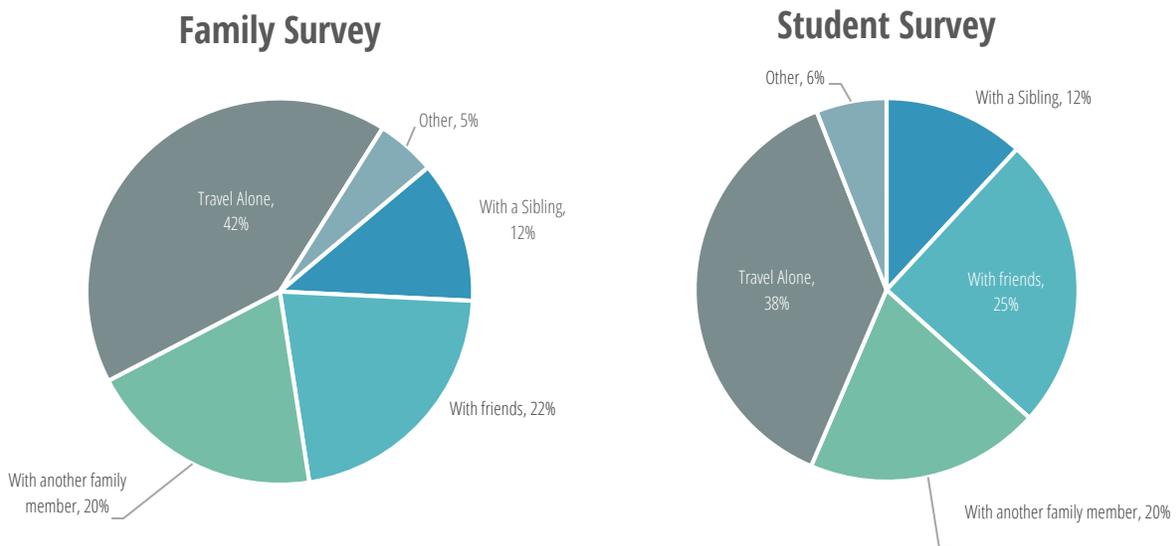
**Figure 4: Does Weather Impact Transportation Mode Choice?**



### Travel Patterns (Baseline)

Respondents were asked whether they travel alone, with family, or with friends. As shown in **Figure 5**, 38-42% of respondents indicated that they travel alone, 12% with a sibling, 20% with another family member, and 22-25% with friends.

**Figure 5: Who do you Travel With?**

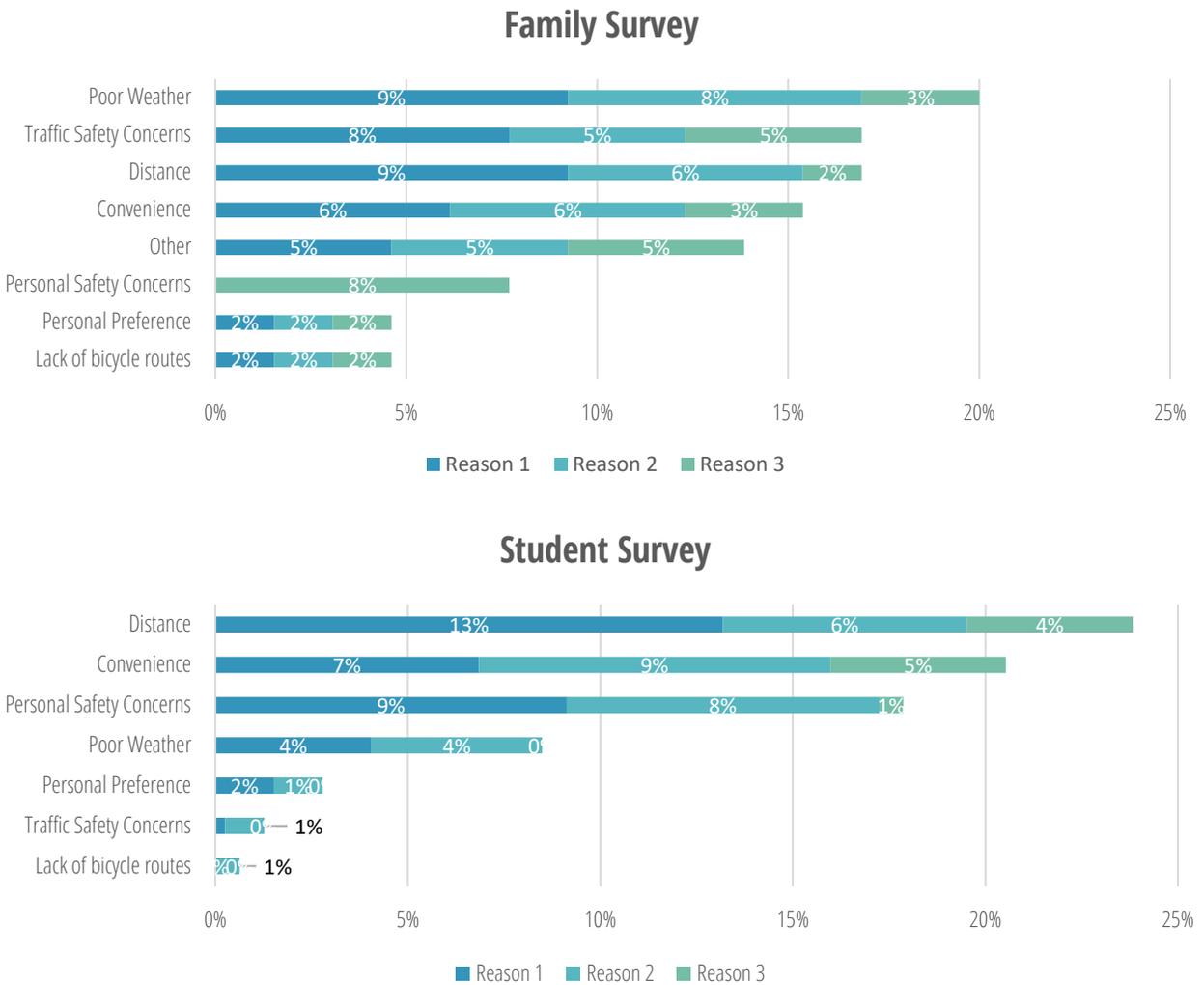


## Mode Choice Rationale (Baseline)

### Reason for Driving (Baseline)

Sutherland families and students were asked to rank the top three reasons that students are likely to travel to school by car. **Figure 6** ranks all answers in descending order for the family and student surveys. For Sutherland families, the top reasons for driving to school were **weather**, **traffic safety**, and **distance**. For Sutherland students, the top reasons for driving to school were **distance**, **convenience**, and **personal safety**.

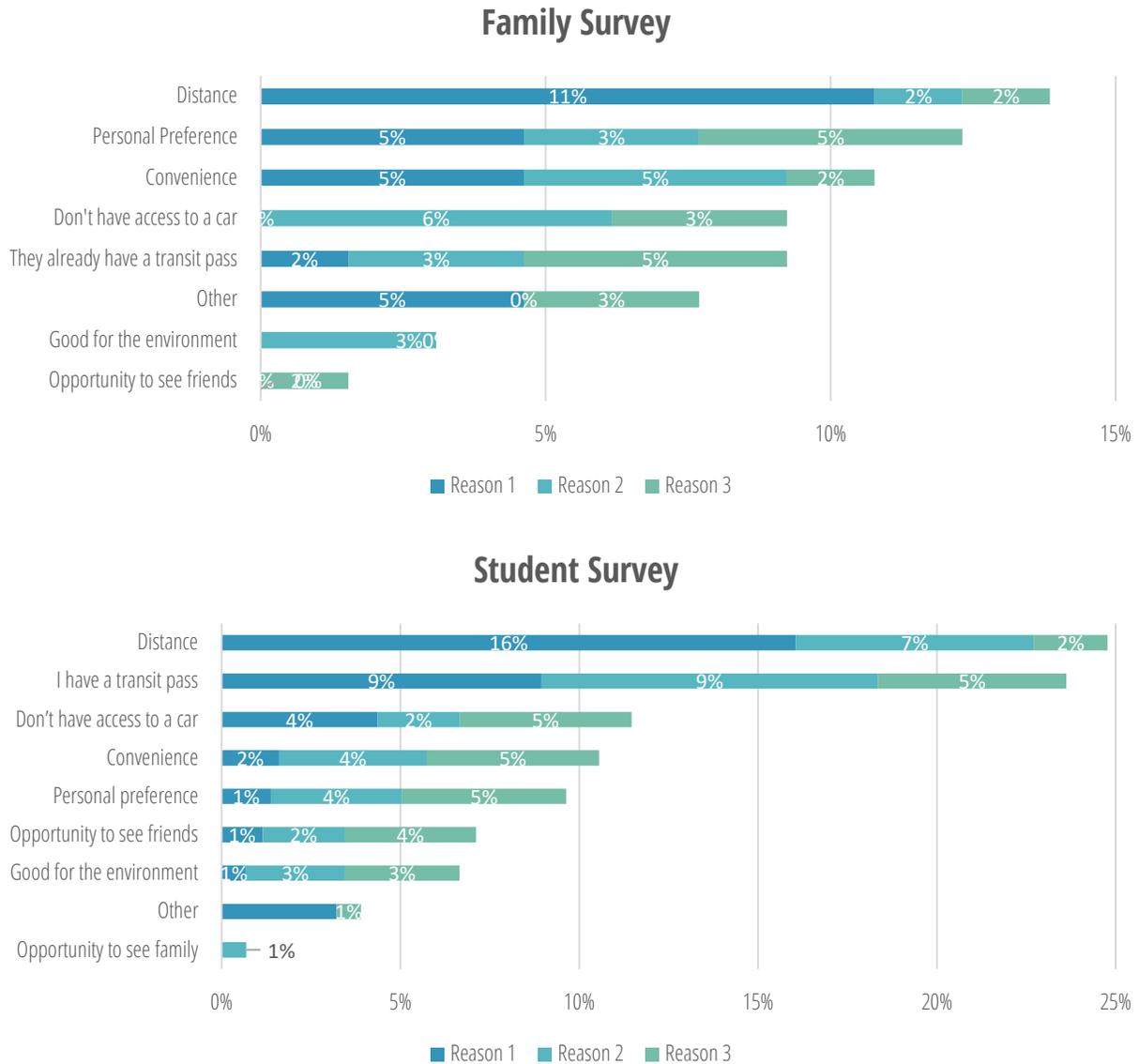
**Figure 6: Top Reasons that Students Travel to/from Sutherland by Car**



### Reason for Taking Transit (Baseline)

Sutherland families and students were asked to rank the top three reasons that students are likely to travel to school by transit. **Figure 7** ranks all answers in descending order for the family and student surveys. For Sutherland families, the top reasons for driving to school were **distance, personal preference,** and **convenience**. For Sutherland students, the top reasons for driving to school were **distance, access to a transit pass,** and **lack of access to a car**.

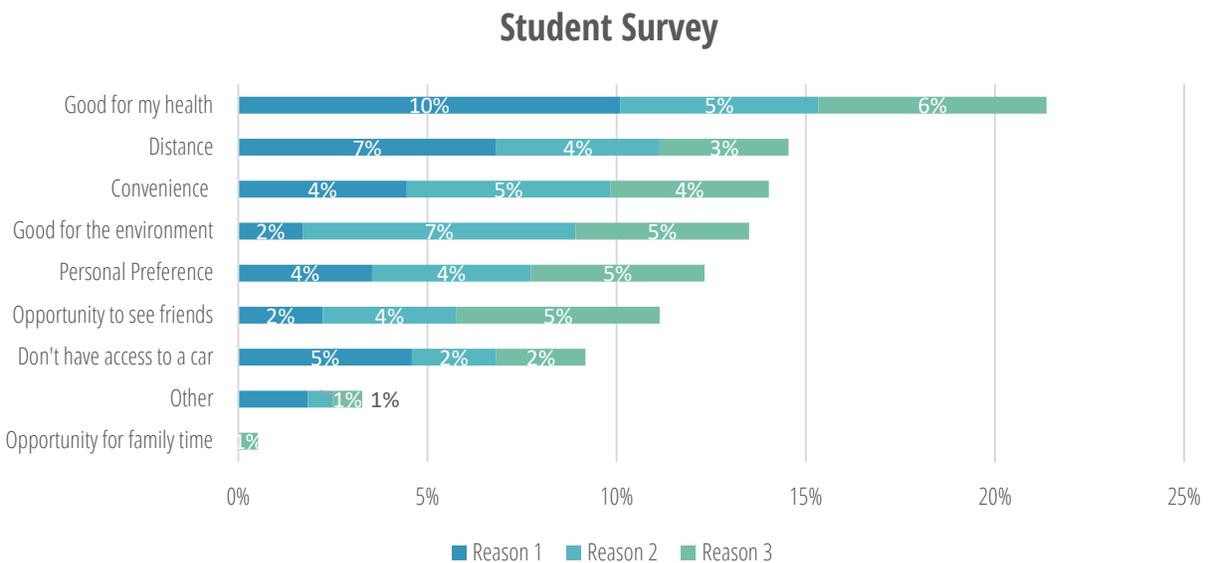
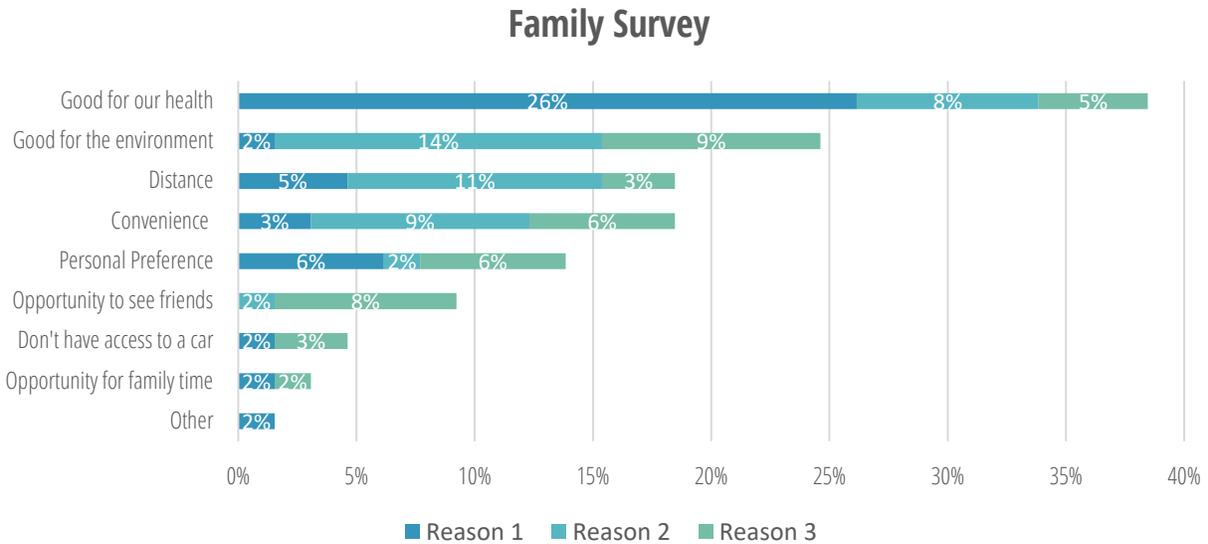
**Figure 7: Top Reasons that Students Travel to/from Sutherland by Transit**



### Reason for Using Active Transportation (Baseline)

Sutherland families and students were asked to rank the top three reasons that students are likely to travel to school by walk or cycling. Figure 8 ranks all answers in descending order for the family and student surveys. For Sutherland families, the top reasons for walking and cycling to school were **good for their health**, **good for the environment**, and **distance**. For Sutherland students, the top reasons for walking and cycling to school were **good for their health**, **distance**, and **convenience**.

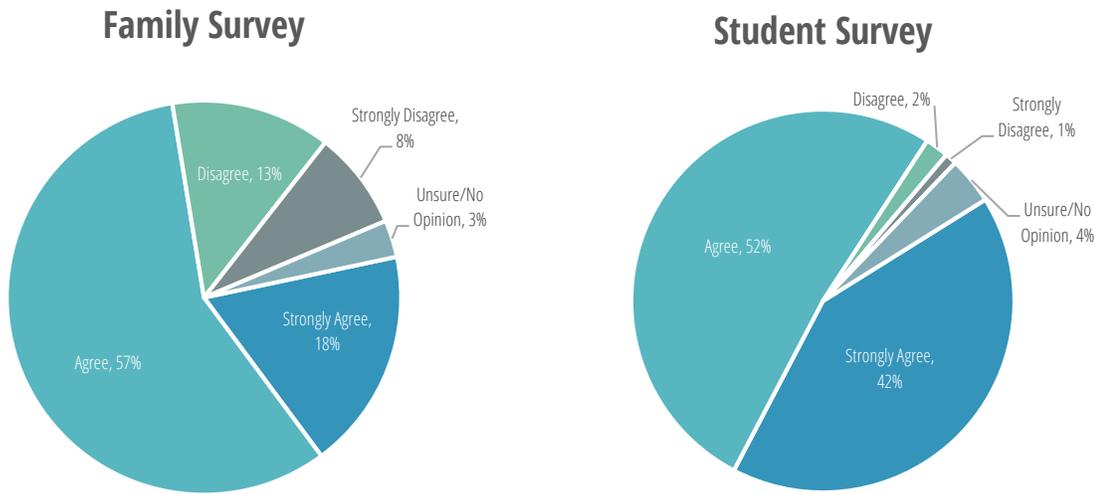
Figure 8: Top Reasons that Students Travel to/from Sutherland by Active Transportation



### Perceived Safety (Baseline)

Sutherland families and students were asked whether or not they felt that their neighbourhood is safe for walking and biking. **Figure 9** shows the responses for the family and student surveys. Overall, the students are more confident about the safety of their neighbourhood than the parents. 94% of students answered either agree or strongly agree, with only 75% of families choosing these responses.

**Figure 9: My Neighbourhood Is Safe for Active Transportation**



Respondents were also asked to identify specific locations where they feel unsafe or where they have noticed traffic concerns. A full summary of responses is provided in Appendix D. In particular, Grand Boulevard E stood out as an area of concern, both along the corridor and at intersections. The intersection nearest to Sutherland – Grand Boulevard E and 19<sup>th</sup> Street E – was mentioned 7 times alone by survey respondents. This is unsurprising as there is a lot of activity at this intersection during pick up and drop off times, including large groups of pedestrians and cyclists crossing the intersection and multiple transit stops nearby.

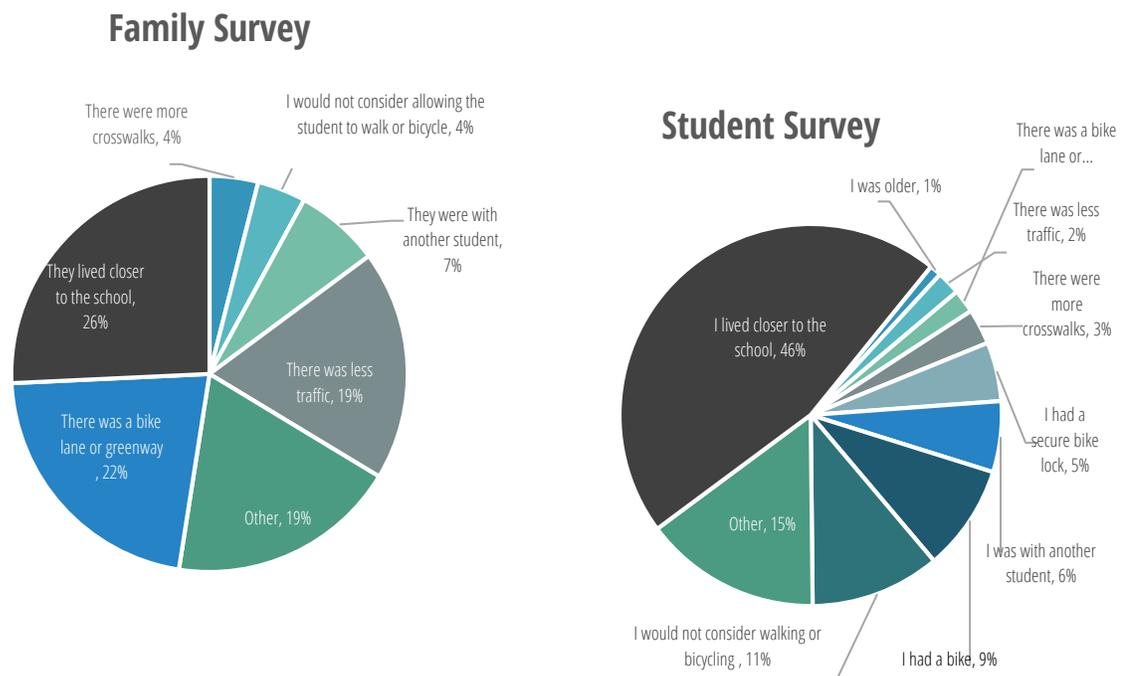
Other intersections along Grand Boulevard E between 13<sup>th</sup> Avenue E and 18<sup>th</sup> Avenue were also mentioned. Additional intersections of note include Lynn Valley Road/Boulevard Crescent and Highway 1, Ridgeway Avenue and Keith Road E, William Avenue at 18<sup>th</sup> and 21<sup>st</sup> Street E. Notable streets include Keith Road E, Sutherland Avenue, and Lynn Valley Road.

### Opportunities for Active Transportation (Baseline)

Sutherland families and students were asked what it would take to get students that are not already walking or biking to use active transportation. **Figure 10** ranks all answers in descending order for the family and student surveys. For Sutherland families, the top ways to get students to use active transportation were: **if they lived closer to school, if there was a bike lane or greenway, and other**. For Sutherland students, the top ways to get students to use active transportation were: **if they lived closer to school, other, and I would not consider walking or bicycling**. Some of the top responses for 'other' included:

- I had more time / I woke up earlier
- Biking was cooler
- If there wasn't as much uphill
- There were no extracurricular activities
- The weather was better
- There were more bike locks
- Less theft concerns with cycling
- There was less traffic
- I cycled/walked with someone

**Figure 10: I Would Use Active Transportation If...**



The following ideas were provided across both surveys for additional/other measures to encourage active transportation:

- Secure covered area to lock and store bicycles
  - Rentable locks.
- Implement outreach and education programs to highlight the benefits of walking/biking to school
- Implement coordinated school-wide carpooling programs
  - Program to facilitate carpooling for families that live in close proximity
- Implement incentive-based programs for walking/cycling/transit to school
  - Subsidize transit passes
  - Contests and competitions
- Road improvements
  - Safe bicycle routes and facilities
  - Additional sidewalks

- Casano-Loutet Pedestrian/Cycling Overpass
- Traffic control improvements
  - Marked crosswalks
  - Advance turn signals
  - No right on red lights
- Transit improvements
  - Bus schedule coordination with school hours
  - Additional busses to reduce overcrowding
  - Free transit for students that live in distant neighborhoods
- Road safety improvements
  - Speed enforcement
  - Road safety and rules enforcement
  - Crossing guards
  - Lighting
  - Vegetation management to maintain sightlines

It is clear from the survey responses that making improvements to traffic safety, especially with traffic calming within the Sutherland catchment, and incentivizing active transportation to and from school would help increase the likelihood that more students would travel by active means. It should be mentioned that each of these actions will require resources from different sources. Ensuring these resources are available will be critical to implementing the Safe and Active Routes to School Action Plan.

---

## Survey Analysis (Follow Up)

The following section presents the results of the follow up family and student surveys conducted in October and November of 2019. Some highlight and comparisons to the baseline surveys are provided below.

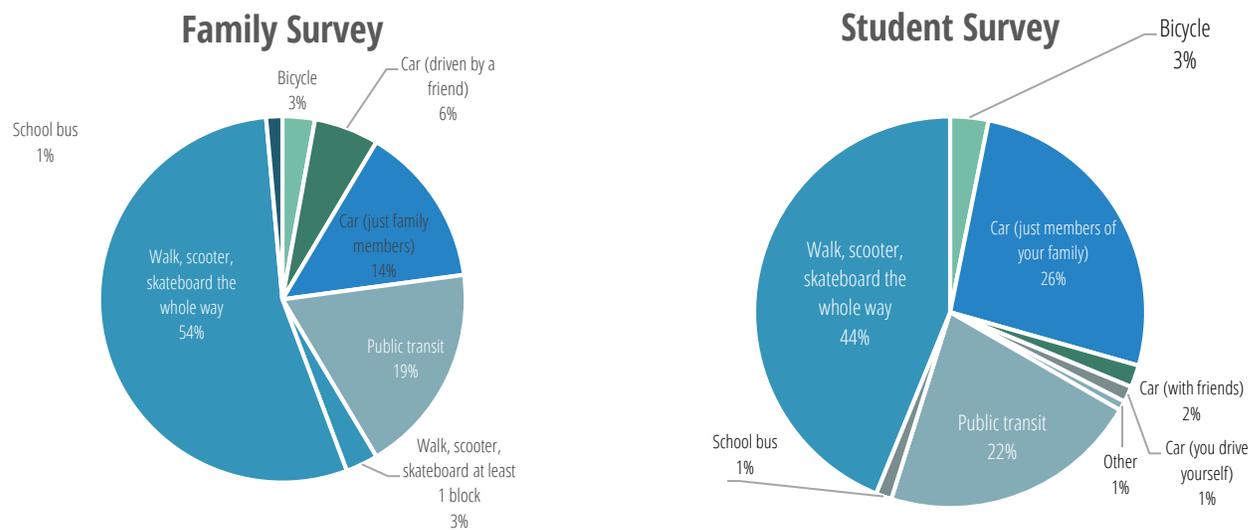
The follow up family survey received **35 responses** (compared to 52 responses on the baseline survey), which represents approximately 48 students (households with more than one student were asked to answer only one survey). The follow up student survey received **192 responses**, (compared to 473 responses on the baseline survey). The survey responses are summarized below.

### Travel Patterns (Follow-Up)

#### Mode Share (Follow-Up)

Figure 11 below show the transportation mode share in the student and family baseline and follow up surveys. The results from the follow up survey mostly have very little change when compared to the baseline survey. Walking still remains the most popular mode of transportation for students, results from the family survey show that **54%** of students walk the whole way (**55%** in baseline), and the student survey reports **44%** of students walk the whole way (**42%** in the baseline). However, students also reported a slight increase in car use with family members at **26%** (**21%** in baseline).

Figure 11: Transportation Mode Share Comparison



#### Weather Impacts (Follow-Up)

Respondents were asked again whether weather conditions impact their mode of transportation, and the findings were very similar to the baseline results. As shown in Figure 12, less than half of respondents

indicated that weather plays a factor. For the 39-46% of students who said 'yes', it may be possible to encourage increased active transportation on rainy and cold days by providing educational tips on the best way to dress for the weather.

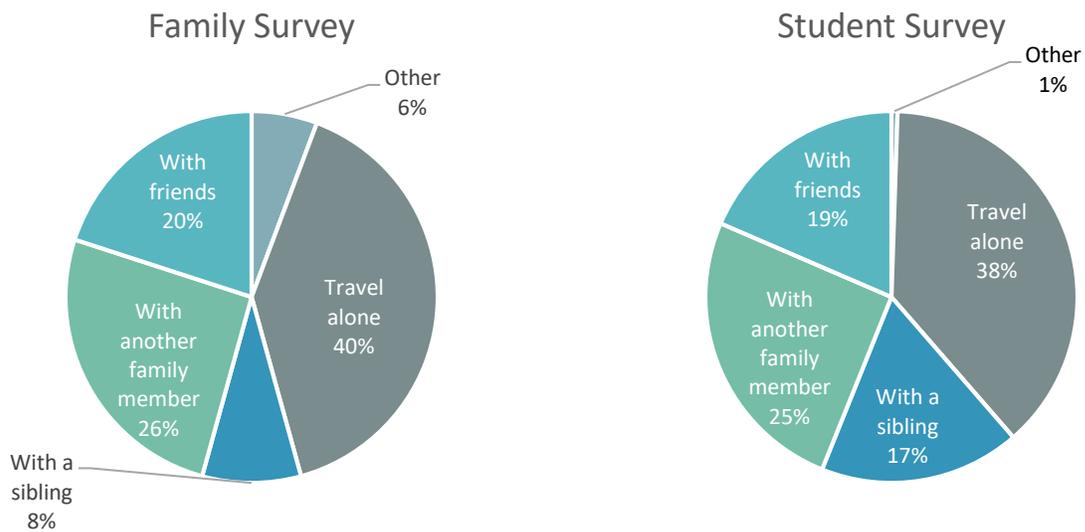
Figure 12: Does Weather Impact Transportation Mode Choice?



**Travel Patterns (Follow-Up)**

Respondents were asked on who they travel with, and around 40% of the responses was that students usually travel alone on a typical day as shown in Figure 13 below. Around 25% of students travel with another family member, usually through car use. When compared to the baseline results from the previous year, it was found that students travelling with another family member generally increased by around 5%.

Figure 13: Who do you Travel With?

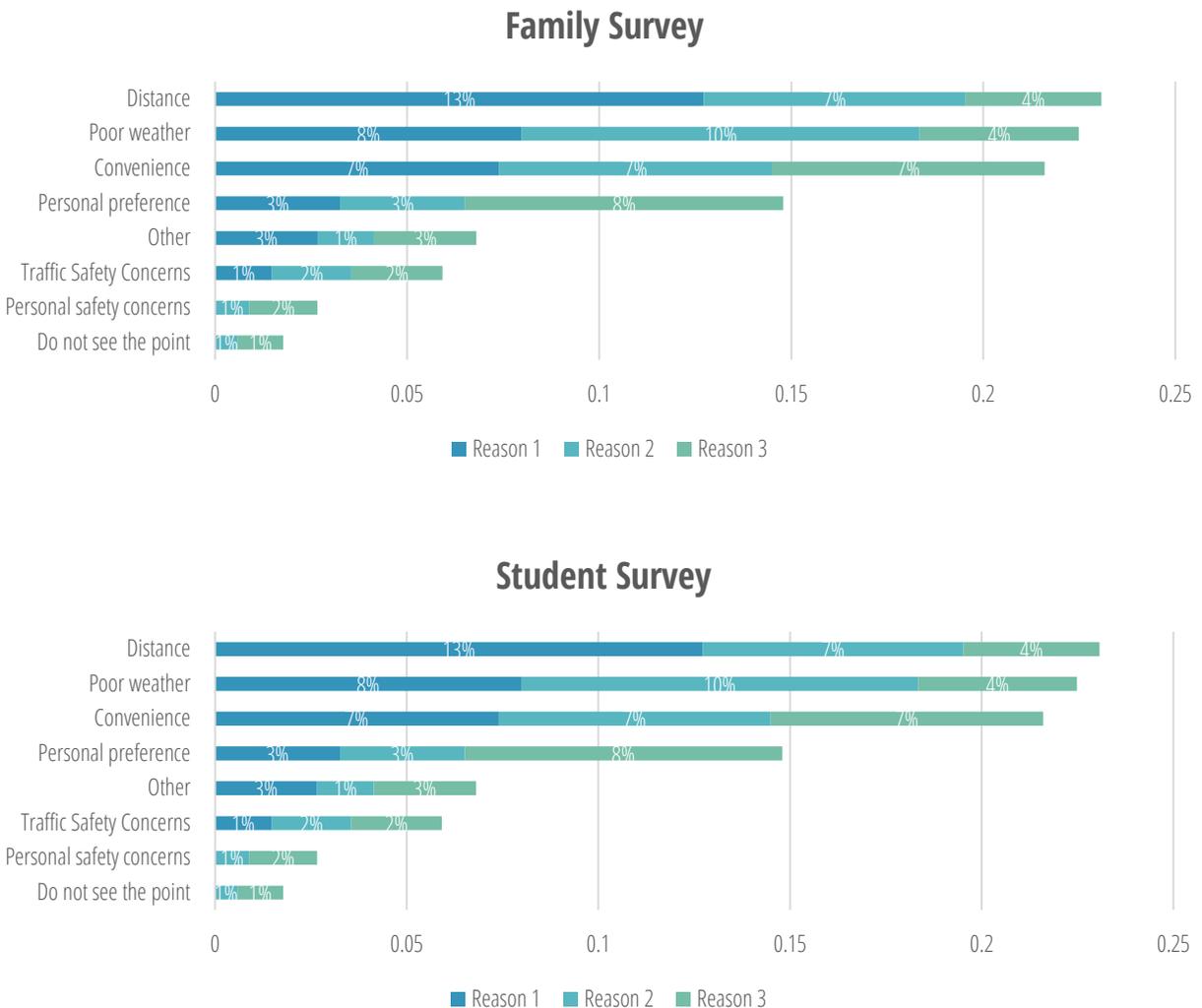


## Mode Choice Rationale (Follow-Up)

### Reason for Driving (Follow-Up)

Figure 14 below shows the reasons for driving given by respondents in the follow up student and family surveys. Poor weather and distance are both one of the biggest reasons parents choose to drive their children to school, while traffic safety concerns was much less of a concern when compared to last year’s baseline results. For students, distance and convenience remain in the top 3 reasons for driving to and from school. Poor weather was another big reason why students chose to drive instead of use more active methods of transportation.

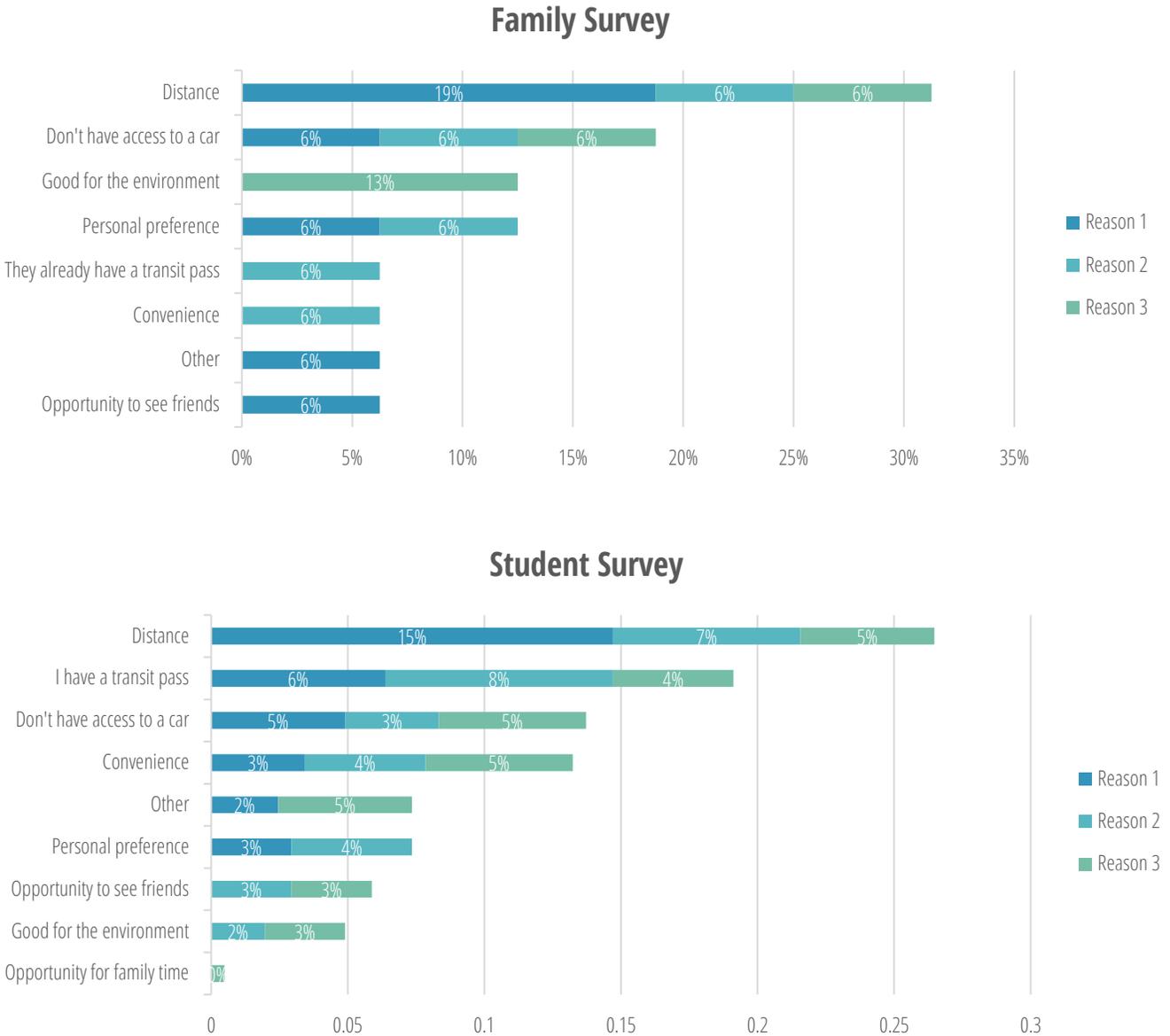
Figure 14: Top Reasons that Students Travel to/from Sutherland by Car



### Reason for Taking Transit (Follow-Up)

Figure 15 below shows the reasons for taking transit given by respondents in the follow up student and family surveys. From the family survey, distance remains the biggest reason for transit use, while not having access to a car and being environmentally friendly are the next biggest factors. For students, the top reasons for taking transit for school remains unchanged from last year’s baseline survey results.

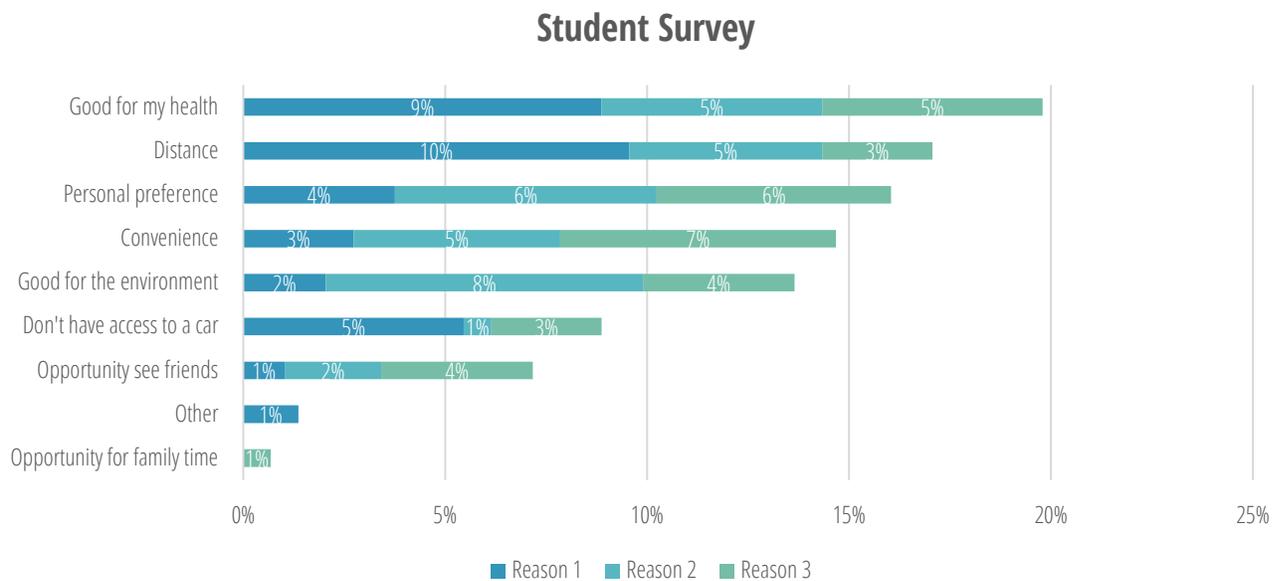
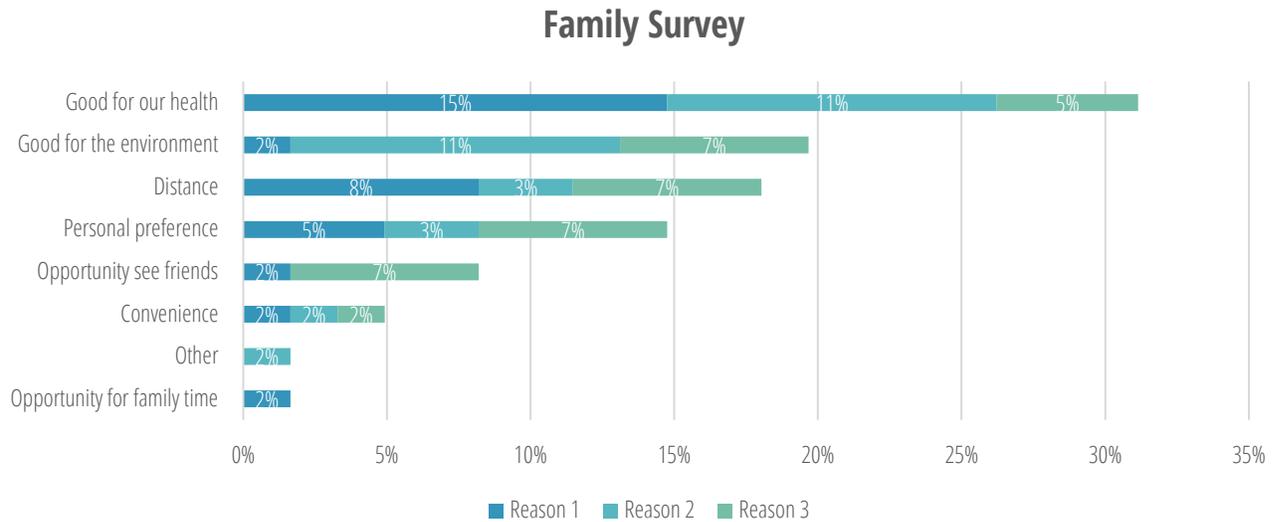
Figure 15: Top Reasons that Students Travel to/from Sutherland by Transit



**Reason for Using Active Transportation (Follow-Up)**

Figure 16 below shows the reasons for using active transportation given by respondents in the follow up student and family surveys. Results for this portion of the survey virtually remain unchanged from the year before, with health benefits being the biggest factor in choosing active transportation in both family and student surveys. Distance and being an environmentally friendly option remain the other top two reasons in the family survey. Distance and convenience are still prime reasons for students choosing active modes of transportation to and from school.

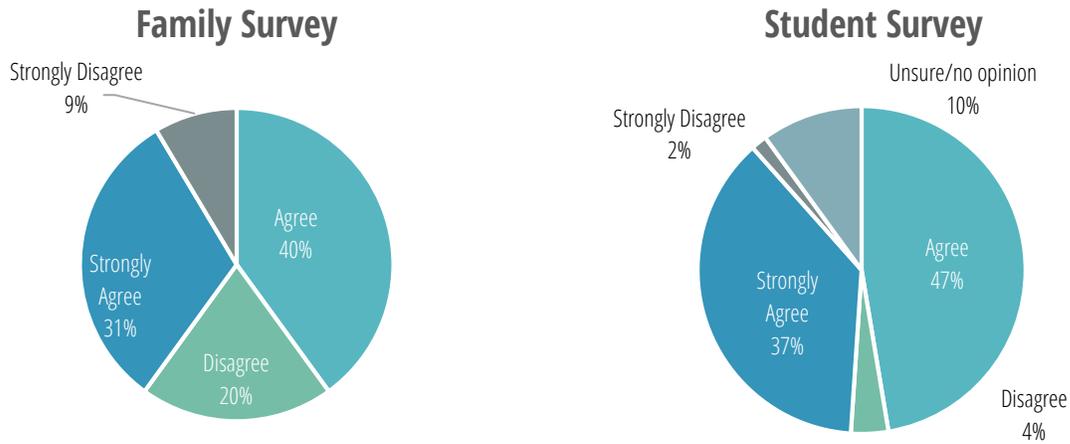
Figure 16: Top Reasons that Students Travel to/from Sutherland by Active Transportation



## Perceived Safety (Follow-Up)

In the follow up surveys, Sutherland families and students were again asked whether or not they felt that their neighbourhood is safe for walking and biking. Compared to the baseline results, although the changes are small, more students and parents felt that the neighbourhood was unsafe for active modes of transportation. The results are shown in **Figure 17** below.

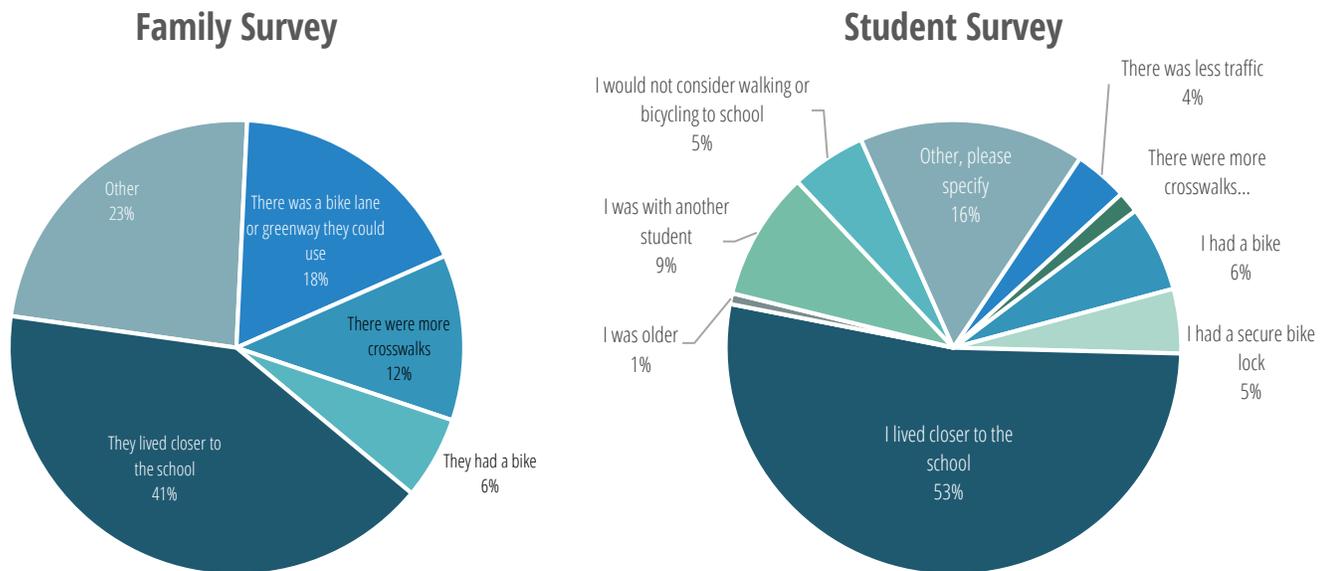
Figure 17: My Neighbourhood Is Safe for Active Transportation



### Opportunities for Active Transportation (Follow-Up)

Sutherland families and students were again asked what it would take to get students that are not already walking or biking to use active transportation. The results are shown in Figure 18 below. Both parents and students felt that if they would use active modes of transportation more if they lived closer to the school. From the family survey, 30% of responses said they would consider walking or biking to school if there were more crosswalks or bike lanes/greenways available, which is a large increase from the baseline survey.

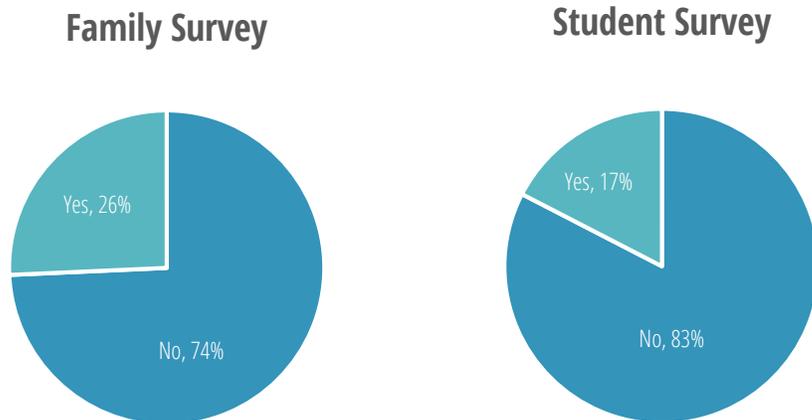
Figure 18: I Would Use Active Transportation If...



## Program Awareness and Final Comments

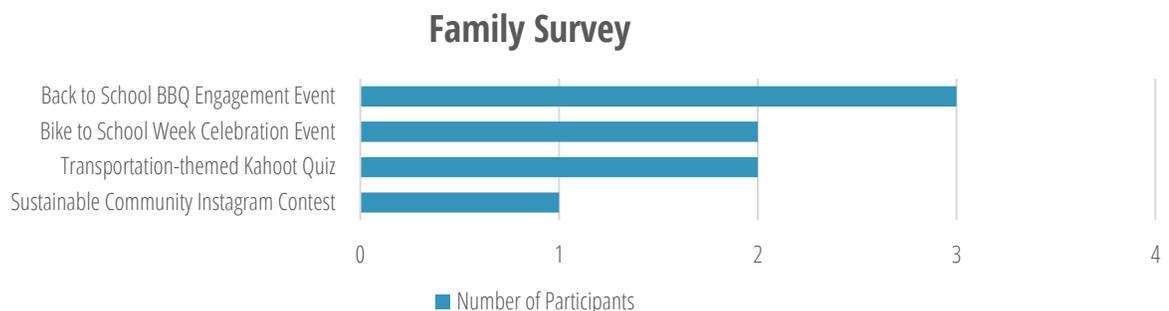
Survey respondents were asked if they were aware of the SASTP program (Figure 19). In the family survey, 26% of participants said yes, they were aware, while 74% said no. In the student survey, 17% of students said yes, they were aware, while 83% said no. This indicates that overall promotion could have been improved, and additional promotion should be considered for any future events.

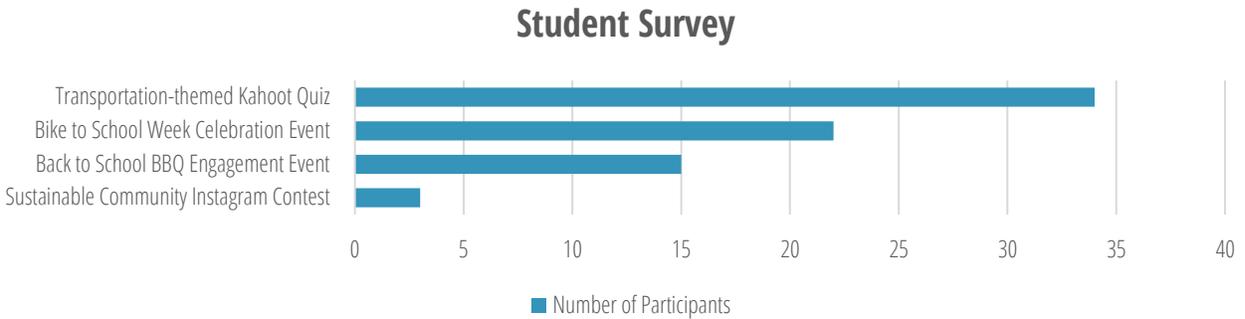
Figure 19: Sutherland SASTP Awareness



Additionally, respondents were asked if they participated in any of the SASTP events at Sutherland (see Figure 20). The most popular events were transportation themed Kahoot quiz and the bike to school week celebration event. This finding indicates that a lot of the survey respondents were likely members of the Student Leadership Committee, as the Kahoot quiz took place during an SLC meeting. Again, increased event promotion would be beneficial. Consistent branding and messaging are important to ensure that the school community can identify that events are part of a larger suite of SASTP events.

Figure 20: Sutherland SASTP Event Participation





Some of the final comments from students suggested more frequent busses, more transit routes, and noted that some students were impacted by transit route changes. Many students and parents felt the lack of sidewalks and crosswalks are a safety concern for students walking to school. In the family survey, many voiced their concerns about the safety of Grand Boulevard. There were also comments about the narrow sidewalks, the high volume of vehicles using the street, and the crossings at 13<sup>th</sup> and 15<sup>th</sup> Street, as well as general safety concerns about intersections in the school area.

Other final comments suggested more time to walk across the street at William Ave, a dissatisfaction with drivers in general, and the lack of buses. Some respondents said they hope for additional secure bike storage at the school and wished more parents would encourage their children to use active modes of transportation when possible.

## Visioning Workshop

The objective of the Visioning Workshop is to identify a vision for the future of transportation for the school. The vision is meant to come from the students themselves and should highlight the school's unique priorities, with a focus on making transportation more active and sustainable in the future. SASTP facilitators work with students to craft this vision, which also includes discussing goals, opportunities, and challenges related to school transportation.

At Sutherland Secondary, a Visioning Workshop took place on February 6, 2019, and was incorporated into a grade 11 social studies class taught by Mr. Aw-Yong. This class was identified by school administration as an ideal candidate for this type of discussion, as their curriculum was focused on local and regional urban planning issues, including transportation. Twenty-six students, along with two teachers and the principal, attended the workshop. The session was facilitated by two SASTP facilitators, including a graphic facilitator who recorded the discussion by sketching out ideas.

The visioning workshop was set up as a group discussion, but students were also provided with blank paper, markers, and custom posters that were developed to inspire students, featuring the school's sabretooth mascot. Students were asked to sketch out their ideas during the discussion, as a way to practice graphic recording and capture visual concepts.



The workshop began with an overview discussion about transportation at Sutherland Secondary, including existing conditions, opportunities, and challenges. Students talked about why they enjoy walking to school, including interacting with neighbours, enjoying nature, and unwinding after class. They also brought up a number of transportation issues. Some of these specific issues included:

- Upper Levels Highway crossing – dangerous/insufficient crossings from Eastview side
- Keith Road crossing
- 19<sup>th</sup> Street hill
- Sidewalk maintenance, including snow shoveling and sidewalk salting in winter (especially on hills)
- Road surface in poor condition
- Congestion from increasing density
- Temporary congestion and route closures from construction

After discussing existing conditions, students were asked to focus on their desires for the future of transportation at Sutherland. They were also asked to think about transportation in the region as a whole,

opening up a more fulsome conversation about transportation on the North Shore and in Metro Vancouver. The students provided a number of insightful comments and had a number of suggestions for improving sustainable and active transportation at Sutherland. A few of these ideas included:

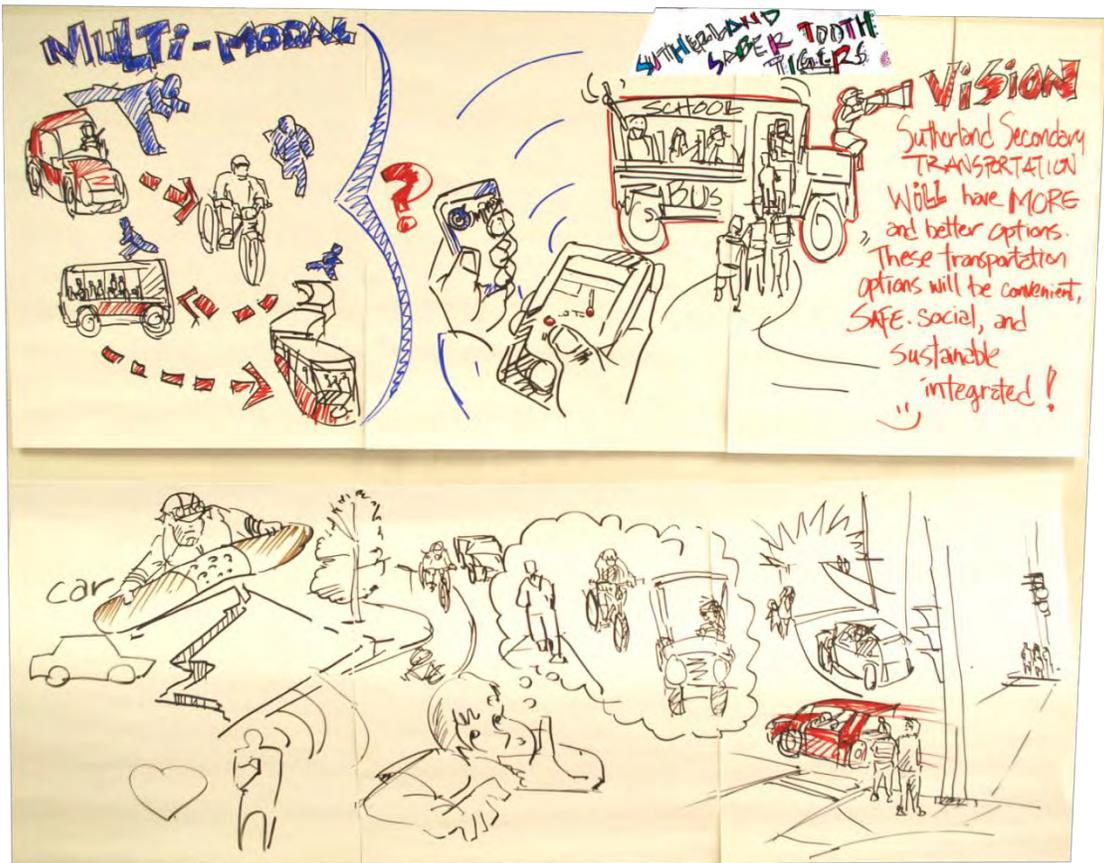
- Increased transit service (especially Bus 255)
- Transit incentive program (e.g. mandatory U-Pass like universities)
- Road operation changes and increased enforcement to increase pedestrian safety
- Rain protection at bus stops
- Form a AAA cycling network
- Innovative bicycle lift system to help cyclists travel up steep hills
- School-specific bike share system
- Incentives to promote sustainable travel decisions
- 3<sup>rd</sup> crossing of Burrard Inlet

This discussion led to the formation of the school travel vision for Sutherland Secondary:

**Sutherland Secondary students will have MORE and BETTER transportation options. School transportation will be convenient, active, safe, social, and sustainable.**

Photos, graphic facilitation, and student sketches from the visioning workshop are shown on the following pages. The school travel vision will help guide the implementation of this Safe and Active Routes to School Action Plan, as well as other future transportation decisions at Sutherland Secondary.







## Engagement Events

### Sustainable Commute Instagram Contest

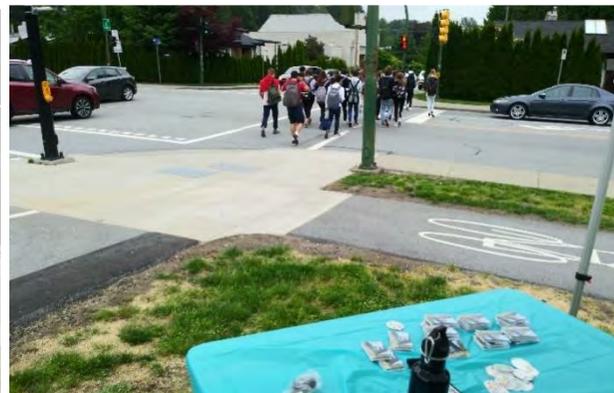
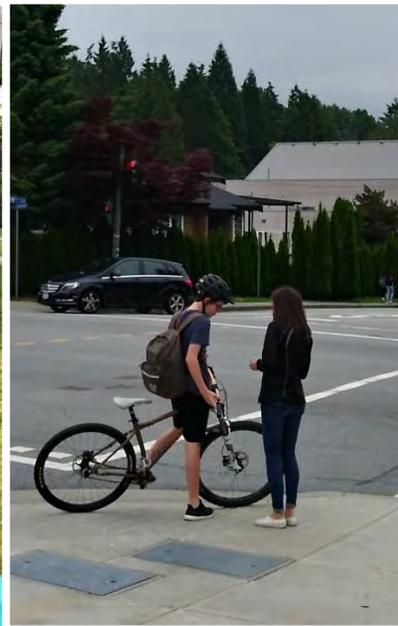
The first attempted engagement event was the Sutherland Sustainable Commute Instagram Contest. The intent was to have the SASTP facilitation team work together with the Sutherland Environmental Club to promote safe and active travel over Instagram by having students post photos of their sustainable commute using the hashtag #SutherlandSavesthePlanet. All participants would have the opportunity to win a prize for contributing photos, and the best photos were intended to be displayed at the school and in future school travel initiatives. The contest was scheduled to run from April 29 to May 3, 2019. Unfortunately, the contest did not garner much participation due to issues with coordinating and promoting the event. However, this type of contest via social media should be attempted again in the future, as it represents an excellent opportunity to partner with student organizations and engage directly with students.



## Bike to School Week Celebration Station

Bike to School Week is an annual event organized in Metro Vancouver by HUB Cycling to promote commuting by active transportation. It occurred from May 26 to June 1, 2019. On May 29, SASTP facilitators hosted a 'Celebration Station' to celebrate active transportation at Sutherland Secondary. HUB Cycling and other community partners host celebration stations around Metro Vancouver as a way to encourage people to ride to work and school.

The objective of the celebration station near Sutherland was to simply say 'thank you' to students who were arriving to school by a sustainable means of transportation. The station was set up from 8:00am to 10:30am and was strategically located at the intersection of 19<sup>th</sup> Street E and Grand Boulevard E along the Green Necklace and next to the bus stop to attract students on their way to school. SASTP facilitators spoke to a number of students, giving out prizes and raising awareness about Bike to School Week and the SASTP process at Sutherland Secondary. Prizes were provided by the City of North Vancouver and included water bottles, granola bars, North Shore bike maps, bike bells, bike lights, and reflectors.



## Back to School BBQ Engagement Event

On September 26, 2019, SASTP facilitators set up a booth at Sutherland's back to school BBQ, which serves to welcome grade 8 students and gather the rest of the school for fun and food. The school travel table included food giveaways, transit maps and information, City of North Vancouver prizes, copies of the draft action plan and Safe and Active Routes brochures, blown up versions of the brochure and map, and an engagement board seeking ideas for school transportation. Additionally, a table tennis table was set up to help attract and engage participants. Good conversations and hot dogs were enjoyed by all participants.



### Transportation-themed Kahoot Quiz

On December 2, 2019, an SASTP facilitator attended the Sutherland Student Leadership Committee (SLC) meeting to host a Kahoot Quiz, an online survey platform where students can participate using their smartphone. Kahoot provides live responses and updates to the top scorers, keeping the quiz engaging and exciting. Participants receive points for correct answers, but also for how quickly they select the answer. SLC students supported the quiz by coordinating the meeting, setting up the quiz online, and running it during the meeting, while the SASTP team crafted the questions and hosted the quiz.



A total of 56 students from a cross section of grades participated. Prizes were awarded to the top three finishers, with first place taking home a \$50 Cineplex gift card, second place receiving a \$25 Starbucks gift card, and third place receiving a \$25 Whole Foods gift card. The Sutherland Kahoot Quiz was transportation themed, with a series of twenty questions pertaining to active transportation, road safety, and local transportation issues. The quiz was relatively challenging, with the intention of educating students. Overall, the total percentage of correct responses was 31%. However, the top respondent had 14 correct answers (70%), while the second and third place each had 13 correct answers (65%).

The full set of questions and results is included in Appendix E. A snapshot of the results is shown below.

*Question 1: What % of GHG emissions in British Columbia are from the transportation sector?<sup>1</sup>*

- a) 28%
- b) 41%**
- c) 58%
- d) 70%

Transportation Quiz				
1 Quiz: What % of GHG emissions in British Columbia are from the transportation sector?				
Correct answers	41%			
Players correct (%)	37.50%			
Question duration	20 seconds			
Answer Summary				
Answer options				
is answer correct?	28%	41%	58%	70%
Number of answers received	10	21	9	8
Average time taken to answer (seconds)	3.17	3.63	4.81	3.30

<sup>1</sup> From the 2017 Provincial Inventory dataset, 40.6% in 2017.

<https://www2.gov.bc.ca/gov/content/environment/climate-change/data/provincial-inventory>

## School Travel Map Art Collaboration

The Sutherland School Travel Map project is a collaboration between Sutherland art students and the entire grade 11 cohort, and is coordinated Veis Dokhani, Sutherland's art instructor. The intent of this engagement project is to bring together grade 11 students to think collaboratively about how they get to school and why it is that they use their particular mode of travel.

The SASTP facilitation team worked with Ms. Dokhani to produce a largescale (42" by 70") base map showing Sutherland's catchment area. The base map was delivered to the school in November 2019. When set up, students were asked to draw their route to school using a line type that indicates their mode – walking, cycling, transit, or driving. By overlapping several routes, travel patterns will begin to emerge, showing popular routes and perhaps revealing differences in mode based on the user's origin and destination. As a result, the project combines visual art education with an awareness of school travel.



The full base map does not include street names, but a smaller 8.5" by 11" version with street names (shown below) was produced to allow students to orient themselves and practice their lines before marking up the actual piece. After the grade 11s make their marks, the map will be finished off by Ms. Dokhani's art class using a mixed media approach, turning the piece into a finished work of art. This portion of the exercise will be done in the Spring 2020 semester after students learn the basics of colour theory and mixed media art. It is estimated that the map will be complete in Spring 2020. Upon completion, the art will be displayed at City Hall during the summer so that the community can view the work.



## Action Plan

The purpose of the Action Plan is to identify steps for addressing identified transportation issues and achieving the school travel vision for Sutherland Secondary. It outlines a list of tasks and activities as well as timelines and who is responsible for implementing the actions. The Action Plan is a living document that should be reviewed and updated by project partners on a regular basis to ensure it stays current and relevant.

The Action Plan has been broken down into four sections:

- Engineering
- Education and Encouragement
- Enforcement
- Evaluation

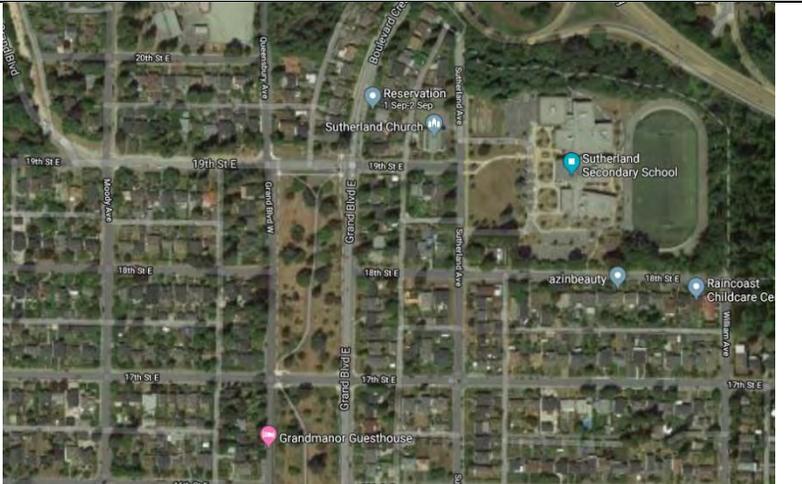
### Engineering Action Items

The City and District of North Vancouver’s Planning and Engineering departments are primarily responsible for implementing the recommended engineering actions within their respective jurisdictions. The recommended actions provided below will be considered through a municipality-wide prioritization process which includes commitments made to other schools involved in the City’s Safe and Active Travel Program. Certain action items may also require coordination with various internal departments (e.g. Parks and Recreation) and external stakeholders, such as the Squamish Nation, North Vancouver School District, or private landowners. The Sutherland community can help support these actions by providing their feedback to municipal staff, actively participating in open houses and engagement events, and asking their political representatives at all levels of government to support safe and active transportation.

These recommendations are dependent on available resources and further engineering analysis, and have not been confirmed. As part of the ongoing maintenance of this action plan, the City will develop a work pan to share with Sutherland Secondary School.

**\*Note:** For the Priority column, the following definitions apply: High (within 2 years), Medium (2-5 years), Low (with future development), Ongoing (maintain initiative)

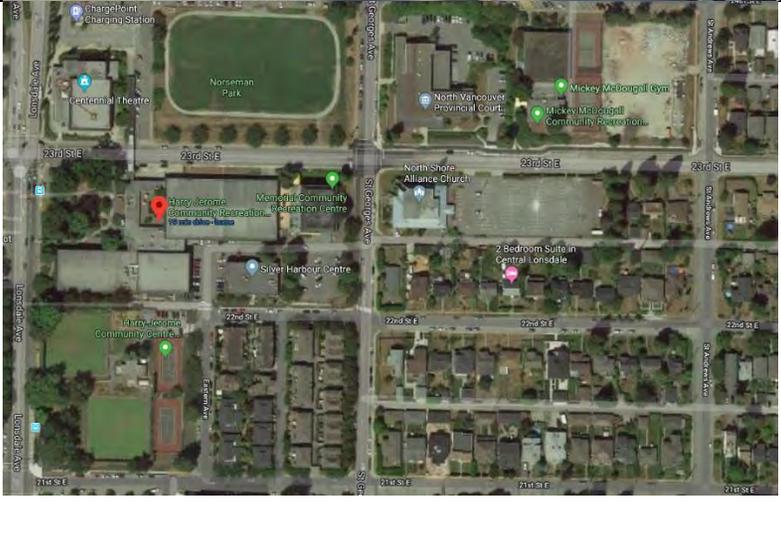
### Actions Within City of North Vancouver

Location	Issue	Recommendation	Priority*	Visual Reference
General	Students identified path maintenance in the wintertime as a barrier to walking.	<ul style="list-style-type: none"> <li>• Ensure adequate pathway maintenance along key walking and cycling routes, including the Green Necklace</li> <li>• Emphasize winter maintenance in school zones or prioritize routes to school for de-icing and snow clearance.</li> </ul>	High	

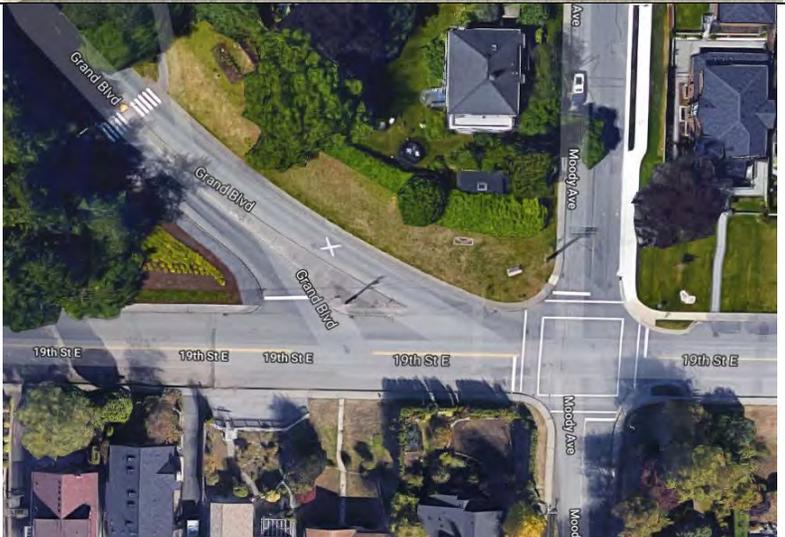
Location	Issue	Recommendation	Priority*	Visual Reference
Grand Boulevard E and 19 <sup>th</sup> St E	Incomplete cycling connection from Green Necklace to Sutherland Secondary. Motor vehicles travelling westbound on 19 <sup>th</sup> Street West turning right onto Boulevard Cres fail to stop at red light before turning right or failing to yield to pedestrians in crosswalk on a green phase.	<ul style="list-style-type: none"> <li>Explore feasibility of extending multi-use pathway from south-west corner of Grand Boulevard East to Sutherland Secondary along the south side of 19<sup>th</sup> St East to ensure multi-use connection to school access along Sutherland Avenue.</li> <li>Improve crossing of Grand Boulevard in conjunction with this potential project and explore prioritizing the south side connection to potential MUP expansion</li> <li>Explore opportunity to increase pedestrian lighting at this intersection</li> <li>Consider no right turn on red or advance turn signals at Grand Boulevard East</li> <li>If MUP expansion along 19<sup>th</sup> Street East is not feasible, prioritize sidewalk installation at this location.</li> <li>Explore opportunities to optimize signal timing to prioritize pedestrian movements, especially during times of peak student activity.</li> </ul>	<p>High</p> <p>Low</p> <p>Medium</p> <p>Medium</p> <p>High</p> <p>High</p>	
19 <sup>th</sup> Street East between Grand Boulevard East and Sutherland Avenue	Busy multimodal corridor, including mid-block lane accesses	<ul style="list-style-type: none"> <li>Signage at alleyway between Sutherland Avenue and Grand Boulevard East (yield to pedestrians), and explore practicality or effectiveness of painted crossing treatments.</li> </ul>	Medium	

Location	Issue	Recommendation	Priority*	Visual Reference
Sutherland Avenue pathway connection to Lynn Valley Road	Narrow pathway, could be enhanced to act as a multi-use pathway.	<ul style="list-style-type: none"> <li>• Explore opportunities to upgrade pathway to a multi-use facility with increased width</li> <li>• Review for vegetation management and CPTED principles</li> <li>• Consider adding wayfinding</li> </ul>	<p>Medium</p> <p>High</p> <p>Med</p>	
Boulevard Crescent and 21 <sup>st</sup> Street East	Limited visibility of slip lane crosswalk	<ul style="list-style-type: none"> <li>• Improve visibility of slip lane crosswalk on south-east side of intersection.</li> <li>• Continued vegetation management to ensure signage is visible to motor vehicle traffic.</li> <li>• Consider RRFB or other improvement</li> <li>• Consider multi-modal crossing treatment to connect to potential MUP at this location.</li> </ul>	<p>Low</p> <p>Ongoing</p> <p>High</p> <p>Low</p>	

Location	Issue	Recommendation	Priority*	Visual Reference
Lynn Valley Road/Boulevard Crescent (21 Street East to Morgan Road)	Gap in northbound cycling network between 21 St East and Morgan Road	<ul style="list-style-type: none"> <li>Explore opportunities to connect the cycling network along Boulevard Crescent</li> </ul>	Medium	
Highway 1 overpass at Lynn Valley Road/Boulevard Crescent	Limited pedestrian lighting identified as safety concern by students	<ul style="list-style-type: none"> <li>Explore opportunities to increase pedestrian based lighting levels underneath the underpass</li> </ul>	High	

Location	Issue	Recommendation	Priority*	Visual Reference
St George Ave and 19 <sup>th</sup> Street East	Wide intersection with no pedestrian accommodations	<ul style="list-style-type: none"> <li>Consider addition of pedestrian crossing at this location.</li> </ul>	Low	
Green Necklace – 23 Street East (from St Andrews Avenue to Lonsdale Avenue)	Lack of bicycle parking facilities at popular community destinations that are used by Sutherland students.	<ul style="list-style-type: none"> <li>Consider providing bicycle parking facilities along Green Necklace between St Andrews and Lonsdale Avenue along 23<sup>rd</sup> Street East where existing pathways connect to the Micky McDougall Community Recreation Centre, Harry Jerome Community Centre, Provincial Courts, Norseman Park, and Centennial Theatre.</li> <li>Explore opportunities to improve overall pathway connectivity to public facilities from Green Necklace for multi-modal connections</li> </ul>	<p>High</p> <p>Medium</p>	

Location	Issue	Recommendation	Priority*	Visual Reference
18 <sup>th</sup> Street East and William Avenue	Potential to create an alternate school drop off area	<ul style="list-style-type: none"> <li>Encourage alternate drop-off location (Sutherland and School District)</li> <li>Explore opportunities to provide lighting along alternate school entrance trails and/or widen to provide multi-modal connections (School District)</li> </ul>	High  Medium	
Grand Boulevard West and 15 <sup>th</sup> Street East	Crossing location identified as a concern by parents	<ul style="list-style-type: none"> <li>Explore opportunities to upgrade crossing with RRFB or other treatment</li> </ul>	Medium	

Location	Issue	Recommendation	Priority*	Visual Reference
13 <sup>th</sup> Street East and Ridgeway Avenue	Crosswalk could be enhanced	<ul style="list-style-type: none"> <li>Explore opportunities to upgrade crossing with RRFB or other treatment</li> </ul>	Medium	
Grand Boulevard, Moody Avenue, and 19 <sup>th</sup> Street East	Indirect pedestrian connection on north side of 19 <sup>th</sup> Street East	<ul style="list-style-type: none"> <li>On north side of 19<sup>th</sup> St East, provide a crosswalk with curb cuts across Grand Boulevard to connect to multi-use pathway</li> </ul> <p><i>Note: Currently, pedestrians are redirected north to cross Grand Boulevard. This is new infrastructure and was likely considered as part of original design</i></p>	Low	

Location	Issue	Recommendation	Priority*	Visual Reference
13 <sup>th</sup> Street East and St Andrews Avenue	Curb cut on north east corner is narrow and has a rough approach, making it difficult to navigate for people with impaired mobility.	<ul style="list-style-type: none"> <li>Improve curb cut on north east corner to ensure accessibility</li> </ul>	Low	
17 <sup>th</sup> Street and St Andrews Avenue	No pedestrian crossing facilities along recommended route. Vegetation on north east corner requires trimming to maintain sightlines.	<ul style="list-style-type: none"> <li>Consider providing a crosswalk treatment across St. Andrews Avenue</li> <li>Vegetation management on north east corner</li> </ul> <p><i>Note: Along recommended route.</i></p>	High  Ongoing	

**Actions Within District of North Vancouver (or combined with City of North Vancouver)**

Location	Issue	Recommendation	Priority*	Visual Reference
21 <sup>st</sup> Street East pathway connection to Lynn Valley Road	Enhance pathway connection	<ul style="list-style-type: none"> <li>Enhance pathway connection by widening pathway, providing vegetation management, wayfinding, and improved curb ramp</li> <li>Explore feasibility of lighting along this connection</li> </ul>	<p>Medium</p> <p>Medium</p>	
21 <sup>st</sup> Street East (Lynn Valley Road pathway to William Avenue)	No sidewalks or wayfinding	<ul style="list-style-type: none"> <li>Explore opportunities to improve active transportation connections by adding sidewalk along north side of 21<sup>st</sup> Street East to connect to pathway and William Avenue crosswalk.</li> <li>Provide wayfinding</li> </ul>	<p>Low</p> <p>Medium</p>	

Location	Issue	Recommendation	Priority*	Visual Reference
William Avenue and Lynn Valley Road	Indirect pedestrian route due to lack of pedestrian crossing on south west side	<ul style="list-style-type: none"> <li>Consider feasibility of crosswalk across Lynn Valley Rd on south west side of intersection.</li> <li>Consider relocating stop bars further back and consider no right turn on red due to limited sightlines.</li> </ul>	High  Medium	
Hendry Avenue and Keith Road East	Crossing location identified as a concern by parents	<ul style="list-style-type: none"> <li>Consider narrowing crossing distance by providing curb extensions.</li> <li>Explore opportunity to add RRFB treatment at this location</li> </ul>	Low  Low	

Location	Issue	Recommendation	Priority*	Visual Reference
Brooksbank Avenue from Cloverley Street to Brooksbank Elementary	Potential to better connect pedestrian network along Brooksbank Avenue	<ul style="list-style-type: none"> <li>Connect Brooksbank Elementary to the walking path and stairs at Cloverley Street by adding a sidewalk to at least one side of Brooksbank Avenue along this corridor</li> </ul> <p><i>Note: Approximately 20-minute walking distance, limited pedestrian activity</i></p>	Low	
13 <sup>th</sup> Street East and Hendry Avenue	Missing curb ramps on south corners of intersection	<ul style="list-style-type: none"> <li>Explore opportunities to increase accessibility by adding pedestrian refuge areas, and curb cuts.</li> </ul> <p><i>Note: Not on recommended routes, low priority, boundary of CNV and DNV.</i></p>	Low	

Location	Issue	Recommendation	Priority*	Visual Reference
Keith Road East and Sutherland Avenue	Lack of pedestrian connectivity	<ul style="list-style-type: none"> <li>• Explore feasibility of pedestrian crossing at Keith Road East and Sutherland Avenue</li> <li>• Install curb extension to narrow pedestrian crossing distance. Explore opportunity to work with Sutherland students to develop a design for this location if a temporary treatment is desired.</li> </ul> <p>Note: Not on recommended route.</p>	<p>Low</p> <p>Low</p>	
North east corner of Gladstone Avenue between 13 <sup>th</sup> Street East and 14 <sup>th</sup> Street East	Improvement to informal pathway could increase multi-modal connectivity for both Sutherland student and Brooksbank Elementary	<ul style="list-style-type: none"> <li>• Explore opportunities to normalize pathway by widening and paving connection.</li> <li>• Vegetation management</li> <li>• Consider providing pedestrian lighting</li> </ul>	<p>Low</p> <p>Ongoing</p> <p>Low</p>	

Location	Issue	Recommendation	Priority*	Visual Reference
St Andrews Avenue between 11 <sup>th</sup> Street East and 13 <sup>th</sup> Street East	Missing sidewalk on east side of St. Andrews Avenue	<ul style="list-style-type: none"> <li>Complete sidewalk along east side of St Andrews Avenue between 11<sup>th</sup> Street East and 12<sup>th</sup> Street East to link to existing curb ramp, and 12<sup>th</sup> Street East to 13<sup>th</sup> Street East.</li> </ul> <p><i>Note: Along recommended route, however one side of sidewalk network is complete.</i></p>	Low	
Casano-Loutet Pedestrian/Cycling Overpass	Proposed overpass connectivity with network to be explored	<ul style="list-style-type: none"> <li>Ensure multi-modal connectivity to school is prioritized in the design and implementation of the Casano-Loutet Pedestrian/Cycling Overpass</li> </ul>	High	

Location	Issue	Recommendation	Priority*	Visual Reference
Keith Road East, Heywood Street, and Brooksbank Avenue	Lack of pedestrian connectivity	<ul style="list-style-type: none"> <li>Explore opportunities to better connect pedestrian network to the north</li> </ul> <p><i>Note: Within 20 minute walk shed. Not on recommended route. Location identified as a concern within parent survey. Current project activity at this location may address crossing concerns.</i></p>	Low	

### Transit Action Items

Sutherland is directly serviced by transit along routes 228 and 255. Additional routes are shown on the Best Routes Map in the Safe and Active Routes to School brochure. A number of students and families noted transit issues throughout the SASTP process. The City of North Vancouver has a strong working relationship with TransLink and can support Sutherland in transit-related communications. However, the most effective means of communicating specific changes to transit routes and service are to reach out to TransLink’s Customer Service department. When larger numbers of requests come in regarding the same issue, it helps to build a stronger business case for TransLink staff to make the requested improvements.

It should be noted that as of April 6, 2020 improvements to the frequency of several routes in the City of North Vancouver will be increased including Route 240, and routing changes to Route 255.

Through the survey, a few specific transit comments were provided and are presented here for consideration:

- Additional bus service and higher bus frequency to Sutherland.
- Bus from Phibbs Exchange to Sutherland via Keith Rd
- Run the 881 bus to 19th St
- Coordination with school hours
- Reliable bus service
- Increased transit options

Theme	Action	Status	Responsibility
Transit Service	<ul style="list-style-type: none"> <li>• Provide resources and encouragement to students and parents to reach out directly to TransLink via their Customer Feedback form to request service changes that will improve transit connectivity for Sutherland students. This information has been included in the Safe and Active Routes brochure and should also be provided on the school website, along with relevant transit improvement suggestions.</li> </ul>	Ongoing	Sutherland / PAC / SLC / TransLink
Transit Service	<ul style="list-style-type: none"> <li>• Promote the transition to transit usage from Route 255 to 240 to maximize frequency changes and new routes as implemented in April, 2020</li> </ul>	High	Sutherland / TransLink / CNV

## Education & Encouragement Action Items

The education and action items below are primarily meant to be implemented by Sutherland Secondary in collaboration with the North Vancouver School District (SD 44) and key external partners such as the City of North Vancouver, TransLink, and ICBC. Where 'Sutherland' is indicated below, it refers primarily to the administration team and staff members. Additionally, the Parent Advisory Committee (PAC) and Student Leadership Council (SLC) are specifically mentioned for some items, as they represent key connections to the parent and student bodies. In order to make the SASTP successful, the entire school community must collaborate and coordinate their efforts.

Theme	Action	Status	Responsibility
Education – School Community	<ul style="list-style-type: none"> <li>• Work with teachers and the School District to add active and sustainable transportation-related content into regular coursework and lectures (for example, Mr. Aw-Yong's Social Studies class discusses urban planning and transportation issues). Make safe and active travel a part of everyday discussions.</li> <li>• Provide instruction for various active modes in physical education classes, including cycling, skateboarding, longboarding, rollerblading, and scootering</li> <li>• Utilize active and sustainable transportation whenever possible when travelling for school field trips.</li> </ul>	Ongoing	Sutherland / SD 44
Education – External Organizations	<ul style="list-style-type: none"> <li>• TransLink Transit 101 Workshop: TransLink staff teach student how to navigate the region's transit system.</li> </ul>	Ongoing	Sutherland / TransLink
	<ul style="list-style-type: none"> <li>• ICBC "Think of Me" campaign: students develop postcards that are then distributed among drivers. This will help to remind drivers that the area hosts many students are walking and biking to school and to be mindful.</li> </ul>	Ongoing	Sutherland / ICBC
	<ul style="list-style-type: none"> <li>• Promote connections to health benefits of active transportation by establishing partnerships with health agencies and associated programs.</li> </ul>	Ongoing	Sutherland / Vancouver Coastal Health / PAC
	<ul style="list-style-type: none"> <li>• Provide bike education and bike tune up events.</li> </ul>	Ongoing	Sutherland / HUB
Encouragement – Communications	<ul style="list-style-type: none"> <li>• Communication to families and students at start of year highlighting the benefits of active school travel, transit routes, parking restrictions in, and other transportation news. Send out the Safe and Active Routes to School Brochure that was developed as part of the SASTP process.</li> <li>• Make regular announcements at school reminding students to walk, bike, and take transit to school and related events in order to keep active and sustainable transportation top of mind.</li> <li>• Put up posters in the school to encourage active and sustainable transportation.</li> <li>• Add a 'getting to school' page on school website featuring information and encouragement for using active transportation modes, including a digital version of the Safe and Active Routes to School Brochure.</li> </ul>	Ongoing	Sutherland / PAC / SLC

	<ul style="list-style-type: none"> <li>• Develop an online presence that utilizes social media to promote active and sustainable travel and advertise events.</li> <li>• Encourage use of additional pick-up/drop-off locations identified on the Safe and Active Routes to School Brochure</li> </ul>		
Encouragement - Events	<ul style="list-style-type: none"> <li>• Host a fall kick-off event to build momentum for the school year.</li> <li>• Participate in Bike to School Week.</li> <li>• Utilize Kahoot Quiz to provide active transportation education and encouragement</li> <li>• Host a social media photo contest surrounding active transportation</li> <li>• Host a Walk/Bike to School Challenge that provides competition between students and encourages active transportation. Competition could be weekly (Walking Wednesday/Fitness Friday), monthly, annual, or a one-off event. Longer events help to promote the development of healthy habits.</li> <li>• Incorporate active and sustainable travel into all school events, offering information regarding bike parking, transit connections, and transportation routes when promoting events both on and off school property</li> <li>• Incorporate safe and active travel into existing events put on by clubs, groups, and specialized classes at Sutherland, such as the Environment Club and Outdoor Club.</li> </ul>	Ongoing	Sutherland / PAC / SLC
Encouragement – Cycling	<ul style="list-style-type: none"> <li>• Provide a bike lock rental program that students can use when parking bikes at Sutherland</li> <li>• Work with the City and District to promote the upcoming North Shore Bike Share</li> </ul>	Ongoing  Ongoing	Sutherland  Sutherland / City of North Vancouver / District of North Vancouver
Encouragement – Programs	<ul style="list-style-type: none"> <li>• Support student car-pooling by setting up a message board or online chat where students can easily share rides</li> </ul>	Ongoing	Sutherland / PAC / SLC

## Enforcement Action Items

The enforcement action items below are primarily meant to be implemented by the RCMP and ICBC. Sutherland administration should coordinate with the RCMP to plan visits and indicate problem locations that should be investigated. It is also important that Sutherland emphasize the education component of enforcement by communication with students and parents about enforcement issues.

Theme	Action	Status	Responsibility
Bylaw	<ul style="list-style-type: none"> <li>Conduct RCMP and ICBC Safety Blitz each year.</li> </ul>	Ongoing	RCMP / ICBC / Sutherland
Speed Reduction	<ul style="list-style-type: none"> <li>Request RCMP or community policing presence for a speed blitz along routes to schools (e.g. Grand Boulevard/Boulevard Crescent).</li> </ul>	Ongoing	RCMP / Sutherland
Traffic Safety	<ul style="list-style-type: none"> <li>Request RCMP or community policing presence for traffic safety enforcement at Grand Boulevard E and 19<sup>th</sup> Street E intersection to observe driver behaviour (numerous anecdotal reports of close calls between pedestrians and vehicles)</li> </ul>	Ongoing	RCMP / Sutherland

## Evaluation Action Items

The evaluation action items below are primarily intended to be implemented by Sutherland in collaboration with the City of North Vancouver. The SASTP Facilitation Team helped to coordinate the process to date, but it is now up to Sutherland and the City to champion this process, evaluate progress, and update the Action Plan accordingly.

Theme	Action	Status	Responsibility
SASTP Kickoff Meeting	<ul style="list-style-type: none"> <li>Introductory School Travel Planning meeting to kick off the SASTP program.</li> </ul>	Complete	Sutherland / SASTP Facilitator
PAC Meeting	<ul style="list-style-type: none"> <li>Meet with the Parent Advisory Committee to inform and update them on the progress of the SASTP program so they are up to date on how the Action Plan is being implemented.</li> </ul>	Complete	Sutherland / PAC / SASTP Facilitator
Community Walkabout	<ul style="list-style-type: none"> <li>Hold a community walkabout with Sutherland administration and the SASTP facilitation team.</li> </ul>	Complete	Sutherland / SASTP Facilitator
Baseline Survey	<ul style="list-style-type: none"> <li>Baseline data collection through the distribution and analysis of the family and student surveys.</li> </ul>	Complete	SASTP Facilitator
Follow Up Survey	<ul style="list-style-type: none"> <li>Follow up data collection through the distribution and analysis of the family and student surveys.</li> </ul>	Ongoing	SASTP Facilitator
Action Plan	<ul style="list-style-type: none"> <li>Develop the Draft SASTP Action Plan with feedback and guidance from school staff and administration, the City of North Vancouver, the PAC, and other stakeholders</li> </ul>	Ongoing	SASTP Facilitator
Implementation	<ul style="list-style-type: none"> <li>Implement the Action Plan items by organizing and tracking the completion of tasks and events, in addition to providing guidance and resources where available.</li> <li>Update the Action Plan as items are completed, edited, or added to the list.</li> </ul>	Ongoing	Sutherland / PAC / City of North Vancouver / District of North Vancouver
Reporting	<ul style="list-style-type: none"> <li>Report back to parents and students to highlight new infrastructure improvements and provide updates on past and upcoming events.</li> </ul>	Ongoing	Sutherland / PAC
Monitoring	<ul style="list-style-type: none"> <li>Work with the City of North Vancouver to develop a monitoring program that captures changes in school travel behaviour at Sutherland.</li> </ul>	Ongoing	Sutherland / City of North Vancouver

## Next Steps

This **Safe and Active Routes to School Action Plan** is only the beginning of the SASTP process at Sutherland Secondary. This document summarizes the SASTP process to date and provides direction for how to implement the action items it contains. Proper implementation is key in order to see on-the-ground results. The Action Plan itself is a living document that should be reviewed and updated regularly as the plan is implemented and/or new action items are identified.

In order to implement the Action Plan and encourage more active and sustainable school transportation, all project partners must work together. This includes the City of North Vancouver, the Sutherland Secondary community, and the entire CYSAT Working Group. As described in the Action Plan section of this document, each stakeholder has an important role to play in the various action item categories, including engineering, encouragement and education, enforcement, and evaluation.

The City of North Vancouver (and the District of North Vancouver, where applicable) will lead the implementation of the engineering actions. They will also coordinate with other stakeholders such as ICBC, RCMP, and TransLink to provide enforcement, education, and evaluation and monitoring. Ensuring that the program's progress is tracked is crucial, as this will allow the SASTP program to adapt depending on what components have the greatest positive effects.

The Sutherland Secondary community, meanwhile, will play a key role in education and encouragement. Safe and active school travel must be promoted across all platforms in order to get the message across. It should be incorporated into communications, school events, field trips, and daily classes. This will require teamwork from Sutherland students, administration, parents, PAC, SLC, and other clubs and groups at the school. It will also require coordination with the North Vancouver School District, along with other partners such as Vancouver Coastal Health, to work safe and active travel into the curriculum as well as into students' daily lives. Additionally, the Sutherland community can help support the SASTP by providing their feedback to municipal staff, actively participating in open houses and engagement events, and asking their political representatives at all levels of government to support safe and active transportation.

A list of key contacts and resources is provided on the following page. These resources, along with the contents of this Action Plan, will help to enable positive change at Sutherland. It is important that leaders and champions are identified within each of the project partners in order to carry momentum forward year after year. By working together, it is possible to make safe, active, and sustainable transportation a part of daily life for everyone in the Sutherland Secondary community.

---

## Contacts and Resources

### Sutherland Secondary

1860 Sutherland Ave  
North Vancouver, BC V7L 4C2  
Telephone: 604-903-3500  
Email: [Sutherland@sd44.ca](mailto:Sutherland@sd44.ca)  
[www.sd44.ca/school/Boundary](http://www.sd44.ca/school/Boundary)

### North Vancouver School District (No. 44)

Kulvir Mann, Trustee Liaison  
Telephone: 604-764-9464  
Email: [kmann@sd44.ca](mailto:kmann@sd44.ca)  
[www.sd44.ca](http://www.sd44.ca)

### City of North Vancouver

Natalie Corbo, Sustainable Transportation Coordinator  
Telephone: 604-982-3971  
Email: [ncorbo@cnv.org](mailto:ncorbo@cnv.org)  
SASTP website: [www.cnv.org/SASTP](http://www.cnv.org/SASTP)  
Look Think Go website: [www.cnv.org/LookThinkGo](http://www.cnv.org/LookThinkGo)  
Mayor and Council Contact Information: <https://www.cnv.org/your-government/mayor-and-council>

### City of North Vancouver - Bylaw Enforcement

<https://www.cnv.org/city-services/bylaw-services>

Telephone number based on concern:

- Animal Enforcement: 604-982-8302 (8:30am to 5:00pm, Monday to Friday); 604-607-1651 (all other times)
  - Bylaw Enforcement: 604-982-8302, [bylaw@cnv.org](mailto:bylaw@cnv.org)
  - North Vancouver City Hall Reception: 604-985-7761
  - After Hours – Engineering Emergency Services:  
604-988-2212 (after 4:30pm, Weekends & Holidays)
-

## District of North Vancouver - Bylaw Enforcement

[www.dnv.org/our-government/report-bylaw-infraction](http://www.dnv.org/our-government/report-bylaw-infraction)

Telephone number based on concern:

- Dogs: 604-990-3711
- Parking: 604-990-2400
- All other issues: 604-990-2311

## RCMP

North Vancouver Youth Intervention Unit

Cpl. Ingrid Stevens, North Vancouver Youth

Telephone: 604-969-7560

Email: [ingrid.stevens@rcmp-grc.gc.ca](mailto:ingrid.stevens@rcmp-grc.gc.ca)

Website: <https://nsyouth.ca/services/rcmp-youth-intervention-unit/>

<http://nvan.rcmp-grc.gc.ca/>

Community Speed Watch Team:

To request the Speed Watch Team or get involved, contact the City of North Vancouver Lower Lonsdale Community Policing Centre (604-969-7465) or the District of North Vancouver Crime Prevention Centre (604-990-2342).

<http://bc.rcmp-grc.gc.ca/ViewPage.action?siteNodeId=429&languageId=1&contentId=24949>

## ICBC

Harvey Kooner, Road Safety and Community Coordinator

Email: [Harvey.Kooner@icbc.com](mailto:Harvey.Kooner@icbc.com)

Telephone: 604-983-7176

## TransLink

Compass Cards

Compass cards can be purchased at [compasscard.ca](http://compasscard.ca), by phone, and at retail locations. Visit [translink.ca](http://translink.ca) or call 604-953-3333 to learn more.

Bulk Orders for Field Trips (10 days notice required)

Email: [bulkorders@translink.ca](mailto:bulkorders@translink.ca)

Telephone: 604-453-4490

Service Requests and Feedback

If you have ideas to improve service, please share them at <https://feedback.translink.ca>

Travel Smart Program

Email: [travelsmart@translink.ca](mailto:travelsmart@translink.ca)

---



## Appendix A: Safe and Active Routes to School Brochure





# Safe School Travel Tips

## Walking, Boarding and Cycling

### Be cautious

- Make eye contact when crossing paths with another user and never assume they have seen you
- Be extra cautious at intersections and look both ways for traffic before you cross
- Alert other roadway or greenway users by ringing a bell before passing, saying 'hello' and slowing down, and using a light during darker hours
- On multi-use paths, follow pavement markings
- Use caution around parked cars and ride where other road users can see you



**Health:** The Public Health Agency of Canada recommends children and youth aged 5-17 get at least one hour of physical activity a day. Walking, rolling, or cycling to school can help students become more active and create good habits for an active lifestyle.



**Friends, Family and Community:** Active travel promotes social connections with friends, family, and neighbours and creates safer communities.



**Academic Performance:** Students that walk or roll to school arrive more alert, have better concentration in class, and are happier. Active transportation has also been shown to increase grades at school.



**Environment:** Across Metro Vancouver, approximately 40% of emissions come from on-road transportation. Every active trip reduces traffic, emissions, and pollution.



**Lifelong Skills:** Walking, rolling, and cycling is fun for students, helps promote positive perspectives towards physical activity, and teaches the importance of individual health.



**Independence:** Active travel builds confidence and promotes independence. Travelling actively helps foster independence and encourages students to explore the City.



### Be courteous

- On multi-use paths, follow pavement markings and walk on the right side
- Watch for, and yield to, pedestrians and dogs on greenways and shared crosswalks

### Be safe and focused

- Stay off hand-held devices
- Ensure you can hear other road and greenway users



### Be predictable and visible

- Dress to be seen



### Worried about getting wet in the rain?



Wearing boots, rain jackets, and layers and taking an umbrella will keep you warm and make your trip to school more enjoyable all year around. Store an extra pair of shoes in your locker and you'll have warm, dry feet all day long.

# Safe and Active Routes to School

## Sutherland Secondary School

**School Travel Vision Statement:** Sutherland Secondary's transportation systems will have more and better options.

These transportation options will be convenient, safe, social, sustainable, and integrated.

To find out more about safe, active trips to school, visit:

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

**Look Think Go:** [cnv.org/LookThinkGo](http://cnv.org/LookThinkGo)

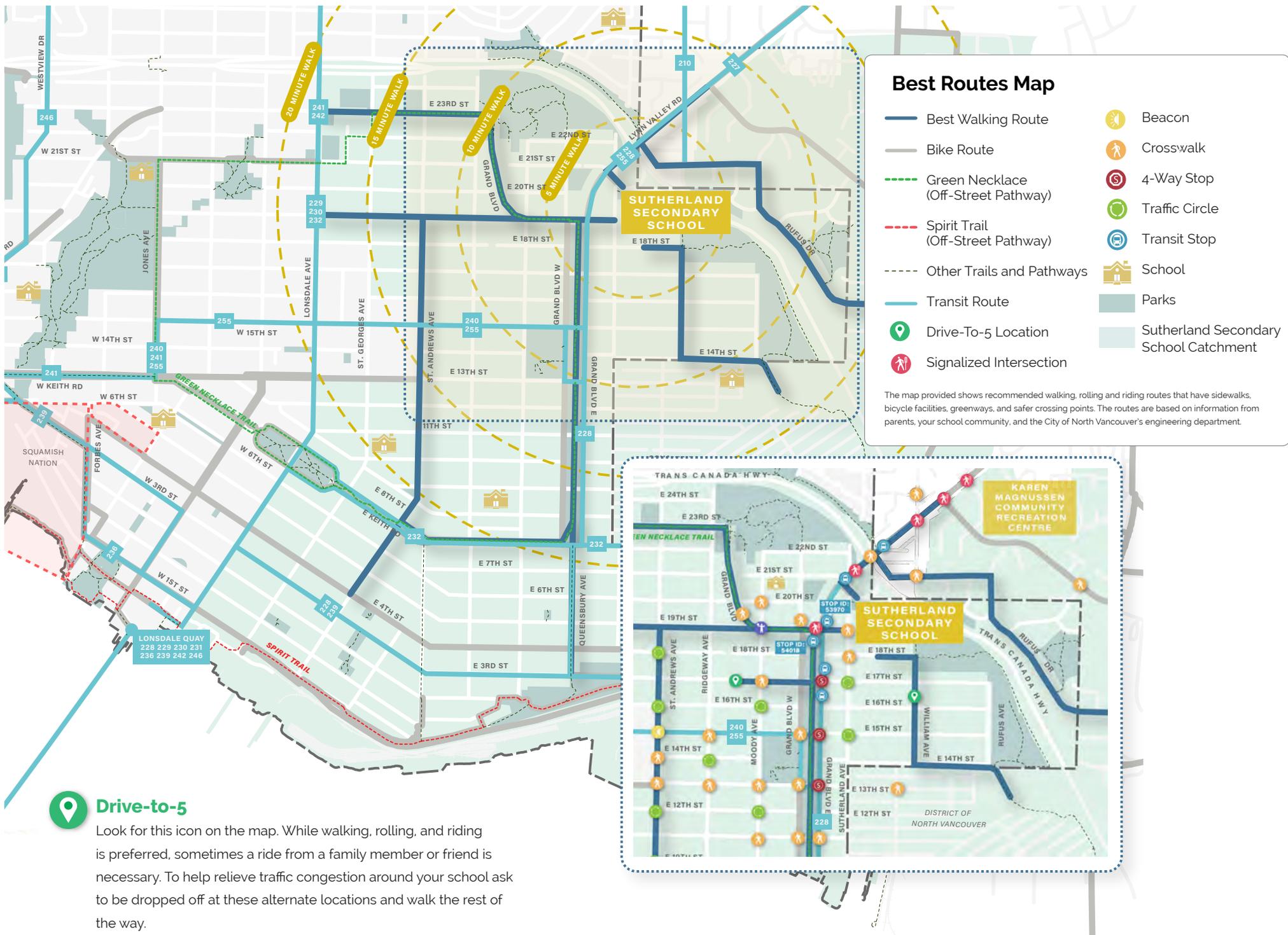
**North Shore Bike Map:** [cnv.org/cycling](http://cnv.org/cycling)

**TravelSmart:** [TravelSmart.ca](http://TravelSmart.ca)

**Sutherland is directly serviced by transit along routes 228 and 255. Additional routes are shown on this map.**

Compass cards can be purchased at [compasscard.ca](http://compasscard.ca), by phone, and at retail locations. Visit [translink.ca](http://translink.ca), text 33333, or call 604-953-3333 for schedule information. If you have ideas to improve service, please share them at [feedback.translink.ca](mailto:feedback.translink.ca)





## Appendix B: Family Survey Questions

### 2018/2019 SCHOOL TRAVEL SURVEY FOR FAMILIES

\*please complete one survey per family\*

Sutherland Secondary School

How many students attend this school in your household?

- One
- Two
- Three or more

Do(es) the student(s) in your household change their commute, depending on the weather?  
(e.g. do they walk when it's raining?)

- Yes
- No

On a typical day, how do(es) the student(s) in your household travel to and from school?

#### To School

- Walk, scooter, skateboard the whole way
- Walk, scooter, skateboard at least 1 block
- Bicycle
- School bus
- Public transit
- Car (just family members)
- Car (drive themselves)
- Car (driven by a friend)
- Other: \_\_\_\_\_

#### From School

- Walk, scooter, skateboard the whole way
- Walk, scooter, skateboard at least 1 block
- Bicycle
- School bus
- Public transit
- Car (just family members)
- Car (drive themselves)
- Car (driven by a friend)
- Other: \_\_\_\_\_

Who do(es) the students in your household generally travel to school with?

- With a sibling
  - With friends
  - With another family member
-

- Travel alone
- Other: \_\_\_\_\_

In your opinion, is your neighborhood safe for the student(s) in your household to walk or bicycle to school?

- Strongly agree
- Agree
- Disagree
- Strongly Disagree
- Unsure/no opinion

#### QUESTIONS FOR FAMILIES THAT USUALLY DRIVE TO SCHOOL

(For families that walk, bicycle, or take transit, please skip this section)

Please rank the top three reasons why the student(s) in your household is driven to school.

- 
- Distance
- Convenience (e.g. on the way to work or other activities)
- Poor weather
- Personal preference
- Personal safety concerns (e.g. bullies, strangers, crime)
- Lack of bicycle routes
- I don't see the point of walking or cycling to school
- Other, please specify: \_\_\_\_\_

I would allow the student(s) in my household to walk, cycle to school if...

- They had a bike
  - They had a secure bike lock
  - They were with another student
  - They were with an adult
  - They were older
  - They lived closer to school
  - There was less traffic
-

- There was a bike lane or greenway they could use
- There were more crosswalks
- I would not allow the student in my household to walk or cycle to school
- Other (please specify): \_\_\_\_\_

If the student(s) in your household has before- or after-school activities or travel to an after-school job, would you consider encouraging walking or bicycling to those activities?

- Yes
- No
- Not applicable (no before- or after- school activities or after-school job)

If no, please explain your response.

---



---



---

### QUESTIONS FOR FAMILIES THAT USUALLY WALK, BICYCLE OR TAKE TRANSIT TO SCHOOL

For Families that Typically Walk or Bicycle to School

Please rank the top three reasons why the student(s) in your household walk(s) or bicycle(s) to school. (Please write 1,2,3 next to your selections.)

- Good for our health (walking and bicycling)
- Distance
- Good for the environment
- Personal preference
- Convenience (e.g. easier than taking the bus or waiting for a ride)
- Opportunity for family time (if travelling with siblings)
- Opportunity to see friends
- Don't have access to a car (e.g. no car or car used by other family member)
- Other, please specify: \_\_\_\_\_

For families that typically take transit to school

Please rank the top three reasons the student(s) in your household takes transit to school. (Please write 1,2,3 next to your selections.)

- Distance
- They already have a transit pass
- Good for the environment
- Personal preference
- Convenience (e.g. easier than waiting for a ride or finding parking)
- Opportunity for family time (if travelling with siblings)
- Opportunity to see friends
- Don't have access to a car (e.g. no car or car used by other family member)
- Other, please specify: \_\_\_\_\_

Do you have any suggestions for encouraging walking, bicycling or transit use at Sutherland Secondary?

---



---



---

#### ADDITIONAL QUESTIONS FOR ALL FAMILIES

Thinking of the student(s) in your household's journey to school, please describe any specific locations where safety is a concern.

Please be as specific as possible (e.g. time of day, intersection, bus stop).

---



---



---

What is the intersection closest to your home?

Please provide the names of the two intersecting streets. **NOTE:** This information is used to create recommended routes to school based on where families live. Please provide the name of the community as well (example. City of North Vancouver, District of North Vancouver, etc.)

Thank you for your time and input!

## Appendix C: Student Survey Questions

### 2018/2019 SCHOOL TRAVEL SURVEY FOR STUDENTS

\*please complete one survey per student\*

Sutherland Secondary School

How many people in your household attend Sutherland Secondary?

- Just me
- Two
- Three (or more)

Do you change how you travel to school, depending on the weather?  
(e.g. do you walk when it's raining?)

- Yes
- No

On a typical day, how do you travel to and from school?

#### To School

- Walk, scooter, skateboard the whole way
- Walk, scooter, skateboard at least 1 block
- Bicycle
- School bus
- Public transit
- Car (just members of your family)
- Car (you drive yourself)
- Carpool (with friends)
- Other: \_\_\_\_\_

#### From School

- Walk, scooter, skateboard the whole way
- Walk, scooter, skateboard at least 1 block
- Bicycle
- School bus
- Public transit
- Car (just members of your family)
- Car (you drive yourself)
- Carpool (with friends)
- Other: \_\_\_\_\_

Generally, who do you travel to school with?

- With a sibling
  - With friends
  - With another family member
  - Travel alone
-

Other: \_\_\_\_\_

In your opinion, is your neighborhood safe for walking, bicycling or taking transit to school?

- Strongly agree
- Agree
- Disagree
- Strongly Disagree
- Unsure/no opinion

#### QUESTIONS FOR STUDENTS THAT TRAVEL TO SCHOOL BY DRIVING OR BEING DRIVEN BY SOMEONE ELSE

(For students that walk, bicycle, or take transit, please skip this section)

Please rank the top three reasons why you drive or are driven to school (Please write 1, 2, 3 next to your selections.)

- Traffic safety concerns (e.g. too many cars, speeding vehicles, large intersections to walk or bicycle)
- Distance
- Convenience
- Poor weather
- Personal preference
- Personal safety concerns (e.g. bullies, strangers, crime)
- Lack of bicycle routes
- I don't see the point of walking or cycling to school
- Other, please specify: \_\_\_\_\_

I would consider walking or bicycling to school if...

- I had a bike
  - I had a secure bike lock
  - I was with another student
  - I was with an adult
  - I was older
  - I lived closer to school
-

- There was less traffic
- There was a bike lane or greenway I could use
- I would not consider walking or bicycling to school
- There were more crosswalks
- There was somewhere to get changed once I got to school
- Other (please specify): \_\_\_\_\_

If you participate in before- or after-school activities or travel to an after-school job, would you consider walking or bicycling to those activities?

- Yes
- No
- Not applicable (no before- or after-school activities or after-school job)

If no, please explain your response.

---

---

### QUESTIONS FOR STUDENTS THAT USUALLY WALK, BICYCLE OR TAKE TRANSIT TO SCHOOL

(For students that drive or are driven, please skip this section)

For students that typically walk or bicycle to school:

Please rank the top three reasons why you walk or bicycle (Please write 1, 2, 3 next to your selections.)

- Good for my health (walking and bicycling)
- Distance
- Good for the environment
- Personal preference
- Convenience (e.g. easier than taking the bus or waiting for a ride)
- Opportunity for family time (if travelling with siblings)
- Opportunity to see friends
- Don't have access to a car (e.g. no car or car used by other family member)
- Other, please specify: \_\_\_\_\_

For students that typically take transit to school:

Please rank the top three reasons why you take transit to school (Please write 1, 2, 3 next to your selections.)

- Distance
- I have a transit pass
- Good for the environment
- Personal preference
- Convenience (e.g. easier than waiting for a ride or finding parking)
- Opportunity for family time (if travelling with siblings)
- Opportunity to see friends
- Don't have access to a car (e.g. no car or car used by other family member)
- Other, please specify: \_\_\_\_\_

Do you have any suggestions for encouraging walking, bicycling or transit use at Sutherland Secondary?

---



---



---

#### ADDITIONAL QUESTIONS FOR ALL STUDENTS

Thinking of your journey to school, please describe any specific locations where safety is a concern.

Please be as specific as possible (e.g. time of day, intersection, bus stop).

---



---



---

What is the intersection closest to your home?

Please provide the names of the two intersecting streets. **NOTE:** This information is used to create recommended routes to school based on where students live. Please provide the name of the community as well (example. City of North Vancouver, District of North Vancouver, etc.)

Thank you for your time and input!

## Appendix D: Detailed Survey Response Summary

### Survey Summary Memo – May 2019

*The City of North Vancouver's School Travel Planning Initiative is a component of the Safe & Active Schools Program. This year, as part of the program, the City is working with two schools to promote walking and cycling, overcome barriers to active travel, and improve road safety near schools. As part of this process and to help understand existing behaviour and attitudes at Sutherland, data was collected through a Family Survey and Classroom Survey.*

*The purpose of this memo is to outline some of the key findings from the Family Survey and Student Survey. The purpose of the Family Survey is to hear from parents of students attending the schools, to measure attitudes about walking, and to identify the key issues and opportunities for walking and cycling to school. The survey also helps to identify important routes to school and locations that may act as barriers. It is also a great tool to understand how many students are currently walking and cycling to school. The survey was available for families to respond online for several weeks from mid- November 2018*

*(<https://na1se.voxco.com/SE/111/sutherlandSTPfamily>) and  
(<https://na1se.voxco.com/SE/111/sutherlandSTPstudent>).*

### Family/Student Survey Response Summary

#### Response Rate

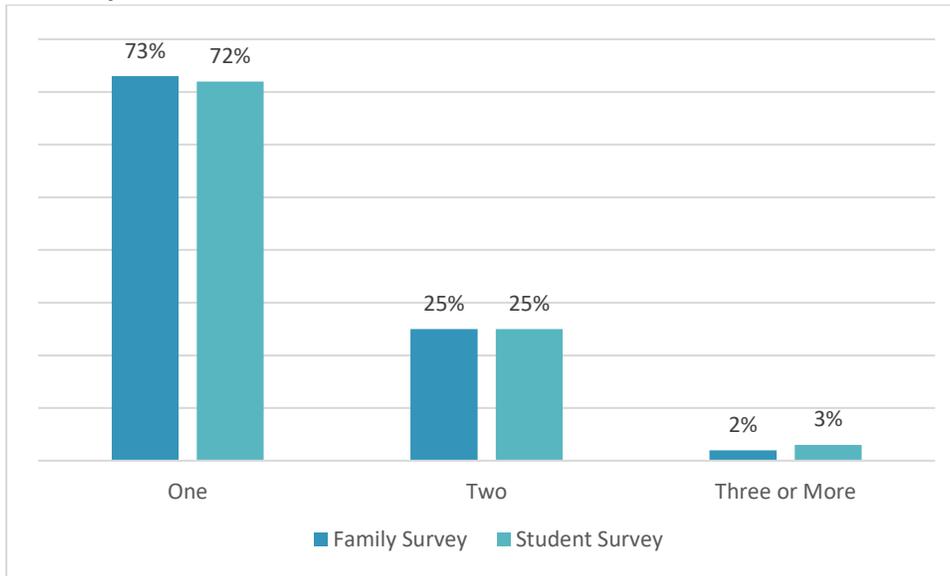
As shown in **Table 1**, 52 family survey responses were received. Households with more than one child attending the same school were also considered. As a result, the 52 survey responses represented nearly 66 students from the Sutherland, approximately 13% of the total student enrollment. The Student Survey produced 473 responses representing approximately 500 students, giving approximately 56% representation.

**Table 1: Survey Response Rate by School and Percentage of Representation**

School	Number of Completed Family Surveys	Number of Completed Student Surveys	Approximate Number of Students Represented in Family Survey	Total School Population
Sutherland	52	473	66	890

As shown in **Figure 1**, 73% of families who responded had only one child attending the school. 72% of students answered that they were the only student attending from their household. 25 % of Sutherland families and students stated that two students from their household attended Sutherland. The Family Survey and Student Survey indicated respectively that only 2% and 3% of those

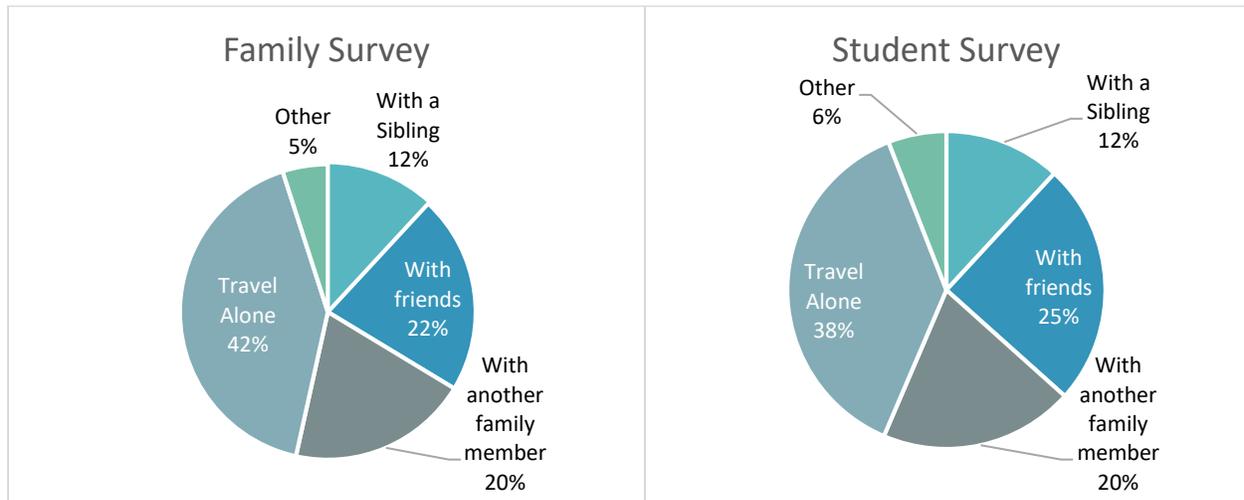
who answered had three or more students attending Sutherland. The Student Survey and the Family Survey produced very similar results in this case.



**Figure 1: How many children attend Sutherland in your family?**

### Travel Patterns

Respondents were asked several questions pertaining to students’ travel patterns and modes used to travel to/from school. More specifically, a question regarding who a student generally travels to school with. **Figure 2 and 3** shows that the Family and Student Survey generally agree on who students travel to school with.



**Figure 2 Figure 3**

To get a sense of the travel patterns of Sutherland, respondents were asked to identify how their children/selves typically travel to and from school. **Figure 4** shows that 47% use active transportation when going to school and 69% use active transport on the way from school according to the Family Survey.

Figure 5 shows that the students responses follow a similar trend with 47% taking active transport to school and 55% from school.

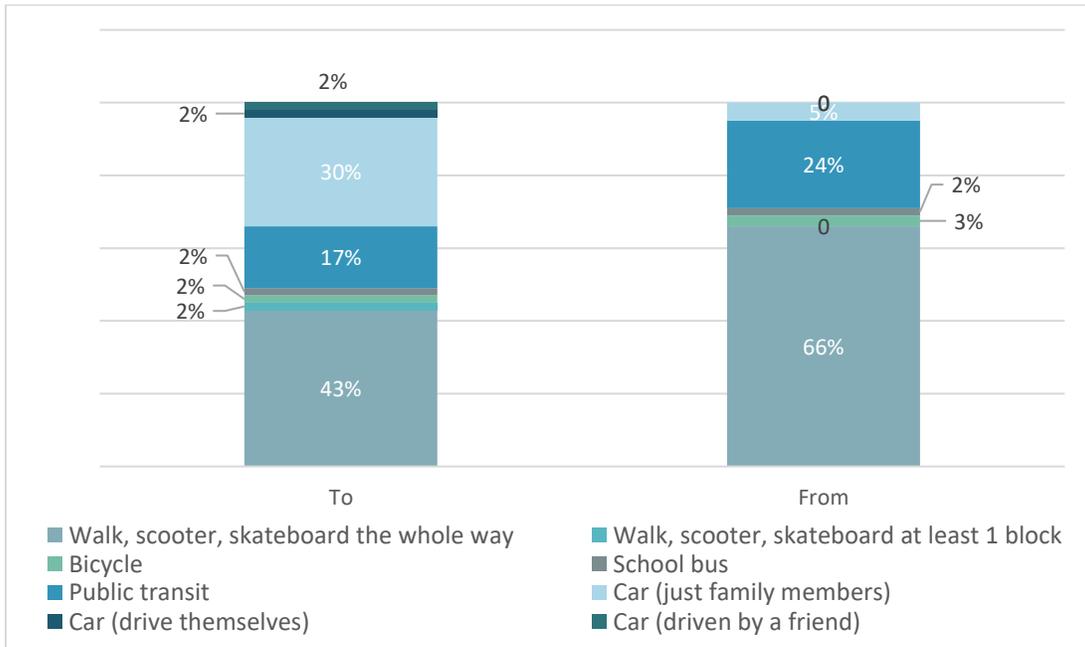


Figure 4: On a typical day, how does your child(ren)'s get to and from school?

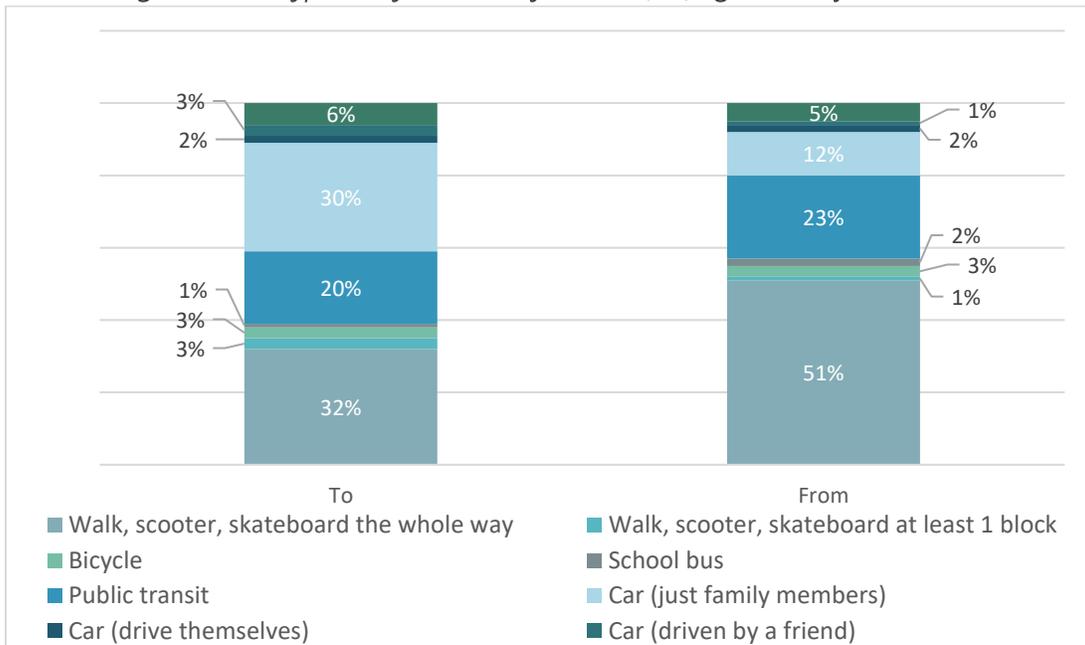
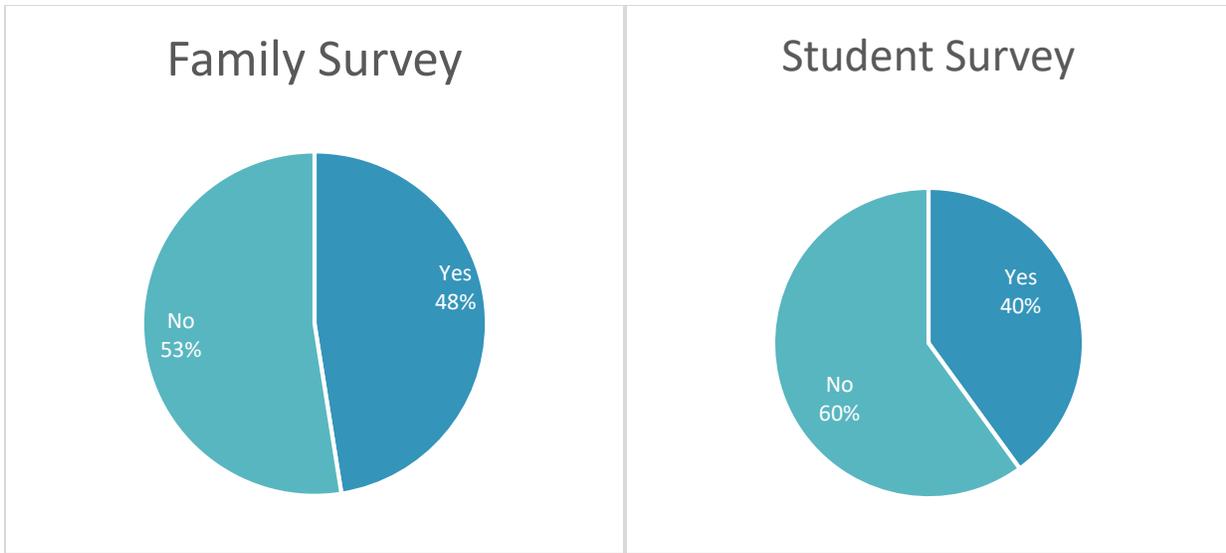


Figure 5: On a typical day, how do you get to and from school?

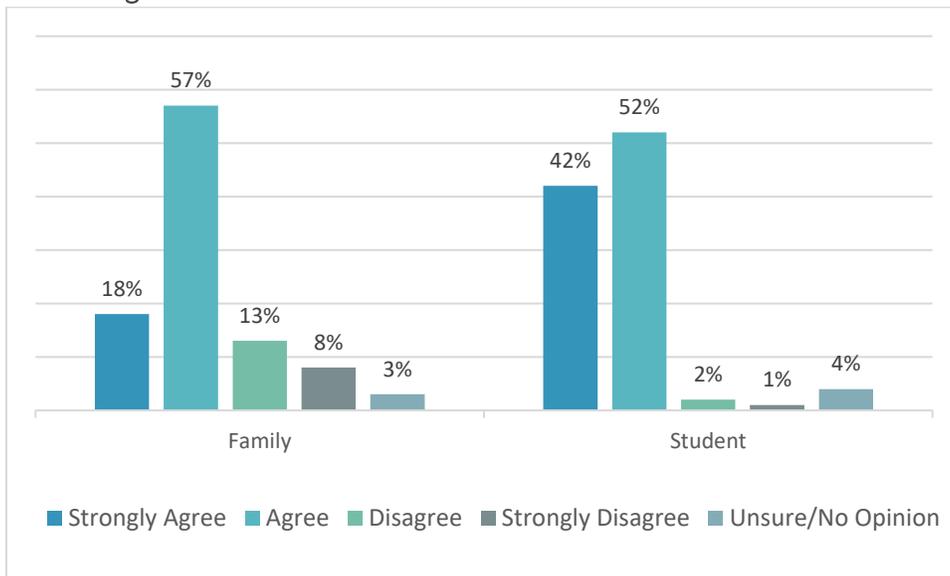
Recognizing the impact of different conditions on individual travel patterns to school, respondents were specifically asked about the impact of weather on their travel patterns. Figure 6 show how families and student commute depending on weather respectively.



**Figure 6: Does your commute to school vary depending on the weather? (e.g. Do you walk when it's raining?)**

### Transportation Issues

Transporting students to and from school can be complicated by any number of issues. If parents/students perceive their neighbourhood to be dangerous, it might affect whether students travel by active modes to and from school. When asked if Sutherland families thought their neighbourhood was safe to walk or bike, most agreed with 75% answering that they agreed/strongly agreed. Students felt strongly that their neighborhood was safe to walk or bike, with 94% answering that they agreed/strongly agreed, as shown in Figure 7.



**Figure 7: Is your neighbourhood safe to walk or bike to school?**

Sutherland caregivers and students were asked to rank the top three reasons that their children are likely to be driven/drive to school (Figure 8 and 9). The tables below rank all answers in descending order for each school. For Sutherland families, the top reasons for driving to school were weather, traffic safety

and distance. For Sutherland students, the top reasons for driving to school were distance, convenience and personal safety. Suggesting that students are driven/drive to and from school largely due to proximity and safety concerns.

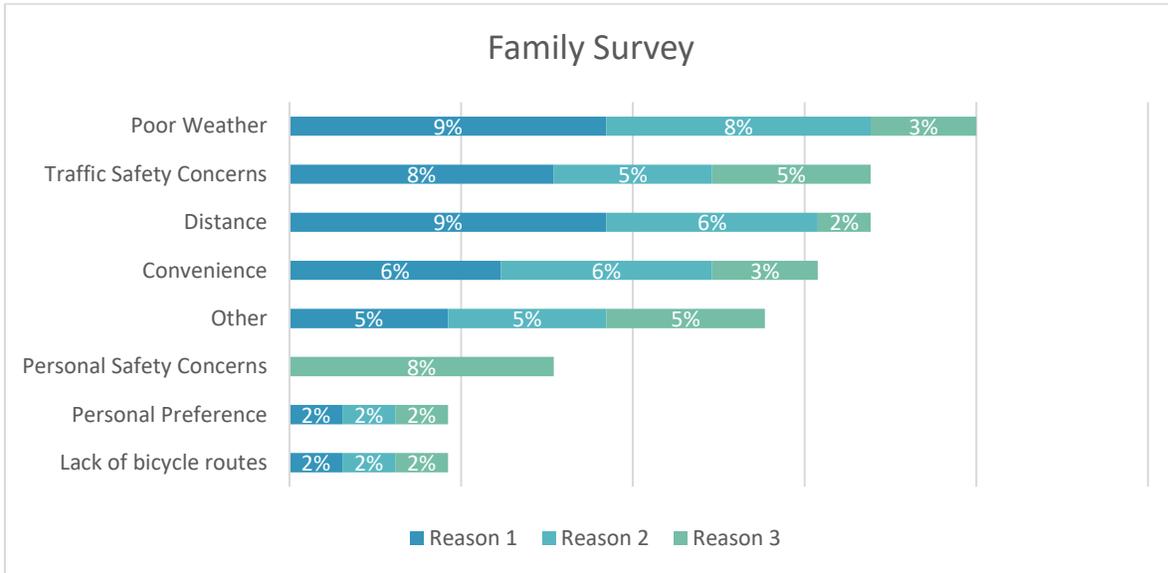


Figure 8: Please rank the top three reasons why your child(ren) are driven/drive to school.

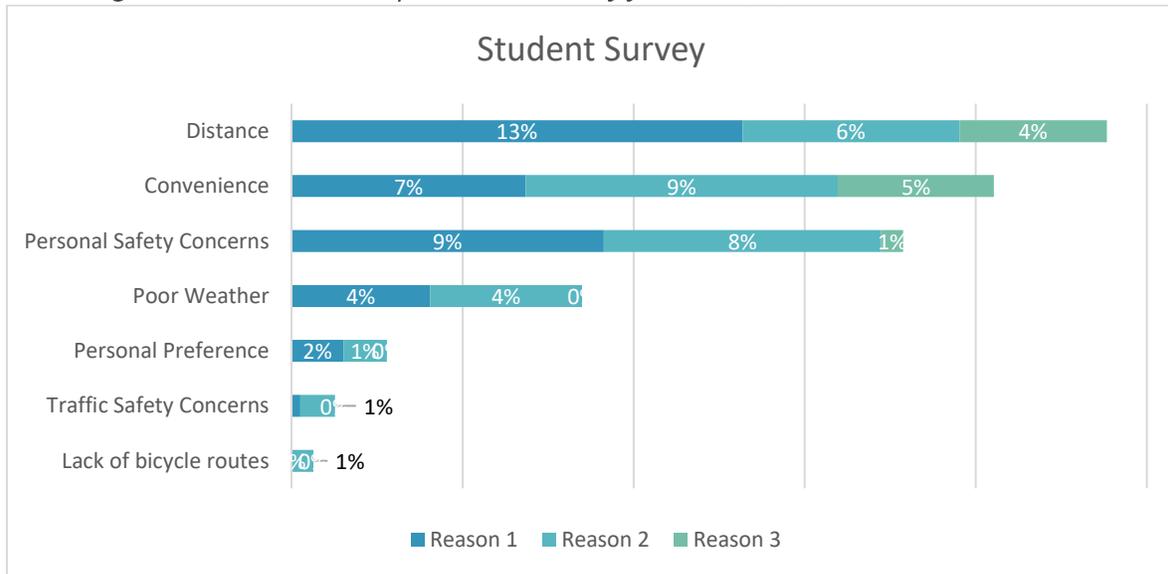
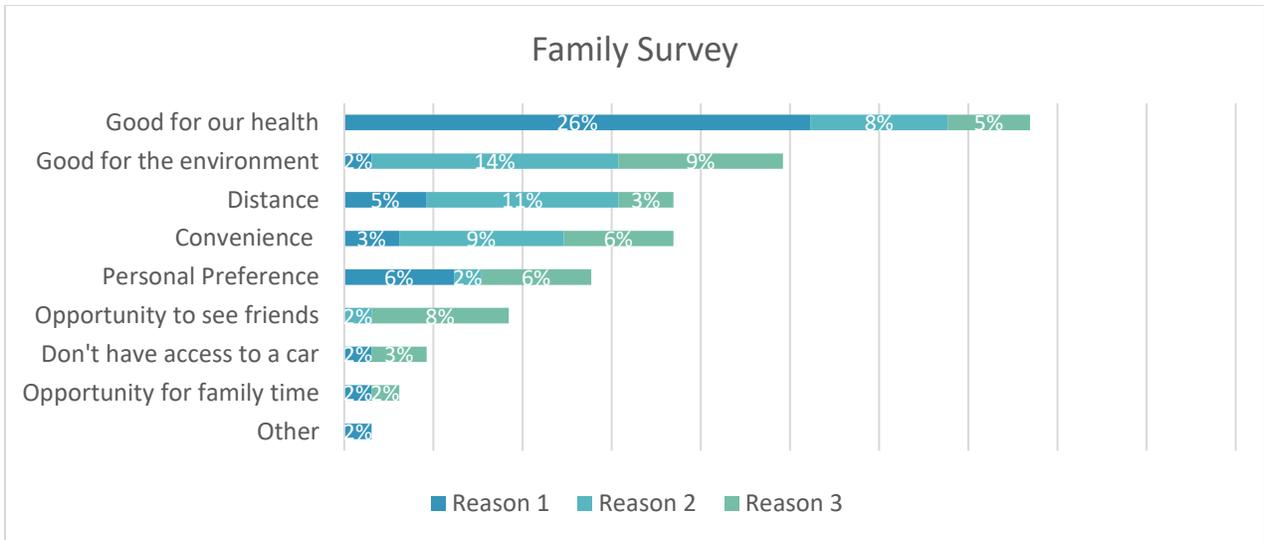


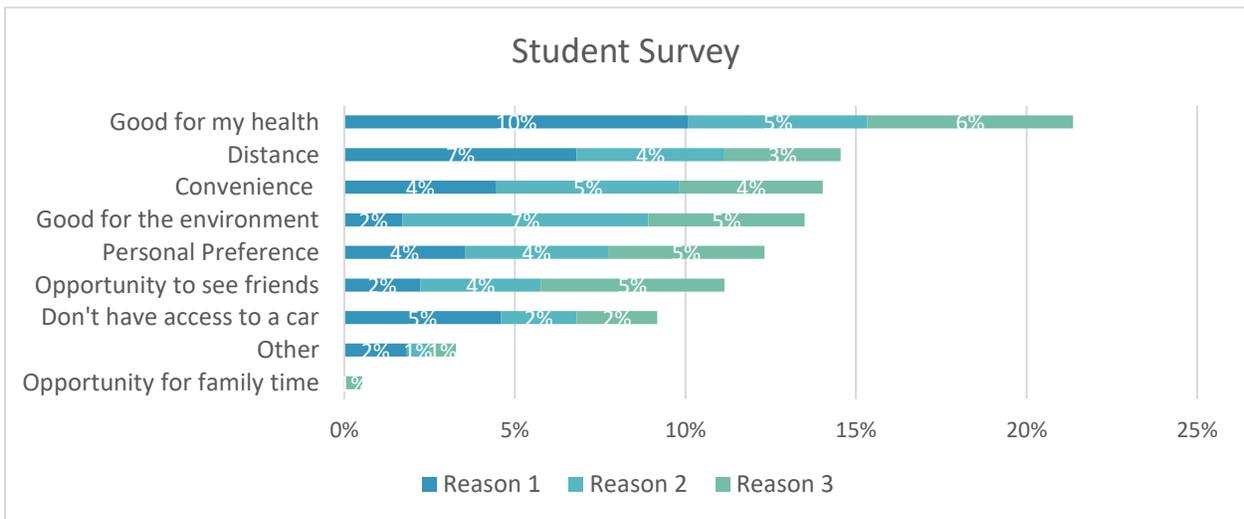
Figure 9: Please rank the top three reasons why you are driven/drive to school.

Respondents who answered that their child(ren) generally walk or bike were then asked to indicate which issues affect their child(ren’s) decision to walk or bike to school and to check all issues that applied (Figure 10). The top three answers for Sutherland parents were good for their health, good for the environment and distance, suggesting that students that walk or ride their bikes to school can do so largely because of health and their proximity to the school.



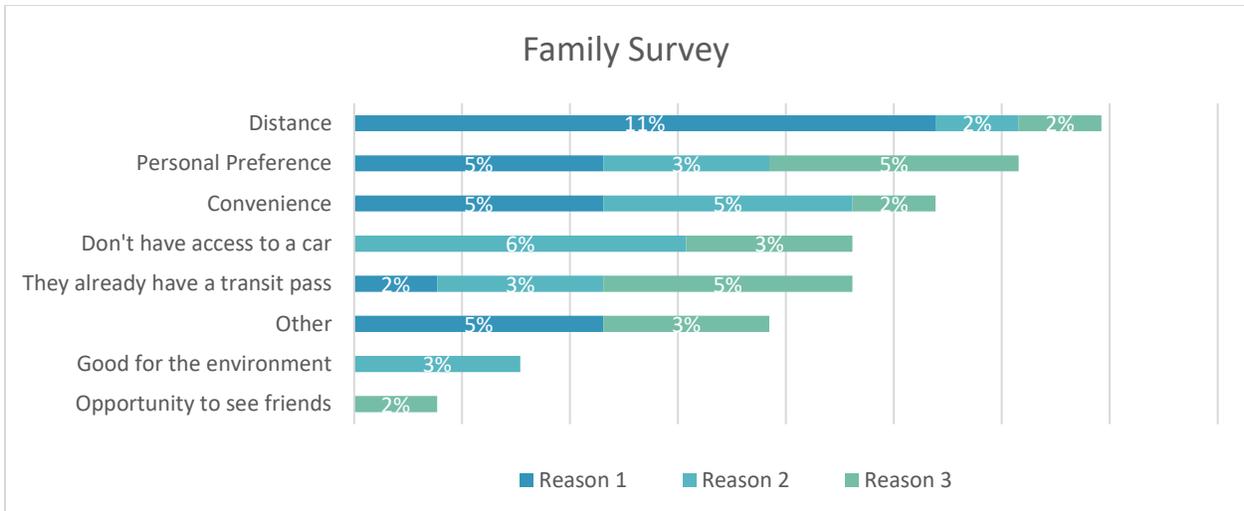
**Figure 10: Please rank the top three reasons why your child(ren) walk or bike to school.**

Students were asked the same question about which issues affect their decision to walk or bike to school (Figure 11). The top three answers for Sutherland students were good for their health, distance and convenience.



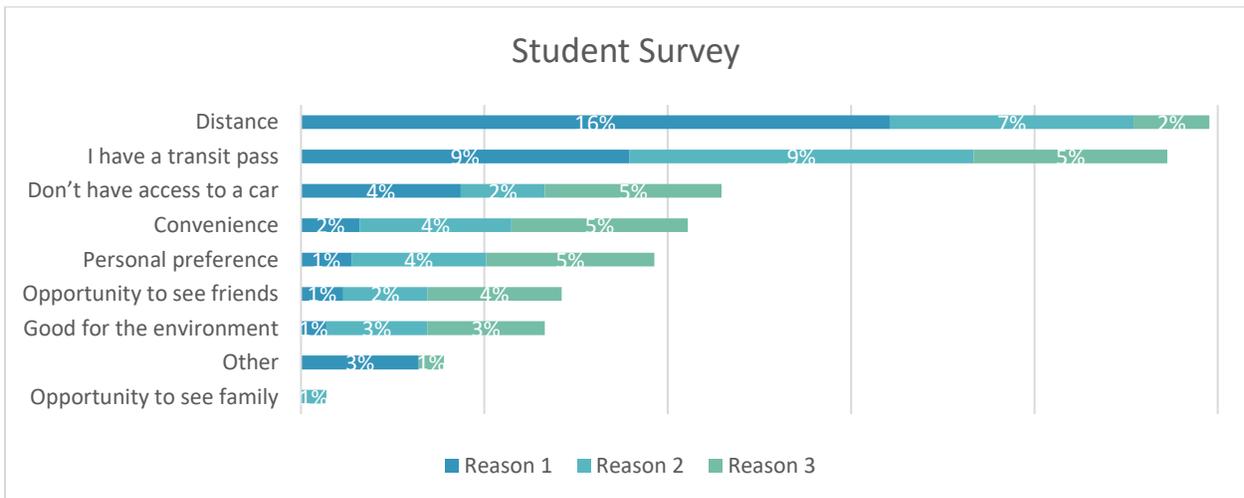
**Figure 11: Please rank the top three reasons why you walk or bike to school.**

Respondents who answered that their child(ren) usually take transit were then asked to indicate which issues affect their child(ren's) decision to take transit to school and to check all issues that applied (Figure 12). The top three answers for Sutherland parents were distance, personal preference and convenience.



**Figure 12: Please rank the top three reasons why your child(ren) take transit to school.**

Students were asked the same question about which issues affect their decision to take transit to school (Figure 12). The top three answers for Sutherland students were distance, access to a transit pass and lack of access to a car. Indicating that proximity and access to a transit pass play a large role in whether students will take the bus.



**Figure 13: Please rank the top three reasons why you take transit to school.**

### Additional Comments Regarding Travelling To and From School

Respondents were asked to provide any additional comments about their own or child(ren)'s journey to and from school. This question allowed respondents to provide open ended answers. The answers typically revolved around various safety concerns. We categorized these responses to pull out information about locations that people felt were unsafe near their schools as well as reasons why they felt that those locations were unsafe.

### Detailed Safety Issues

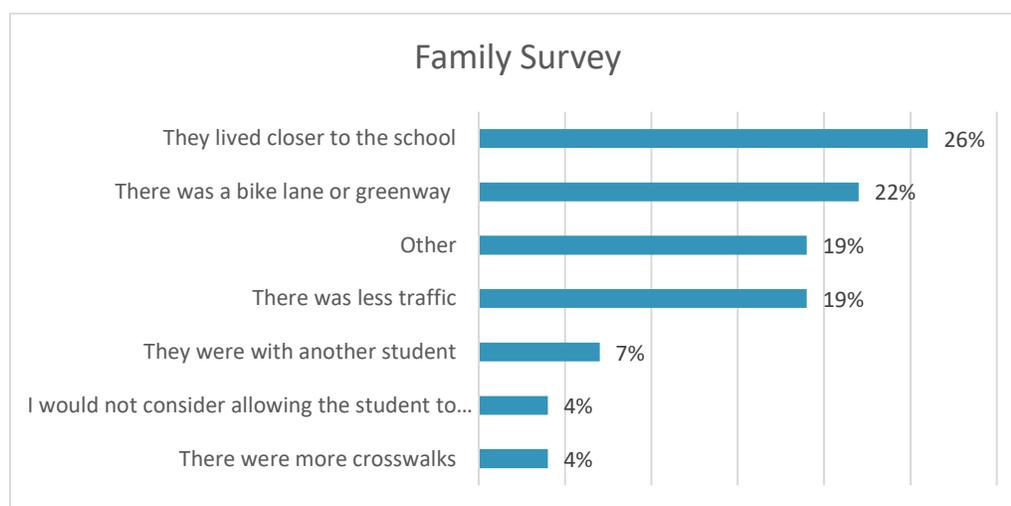
Respondents were asked to identify the top concerns related to traffic safety. The following section outlines these results.

**Table 2** shows a list of concerns that parents and students had with traffic around Sutherland. Concerns were largely surrounding the following problematic intersections.

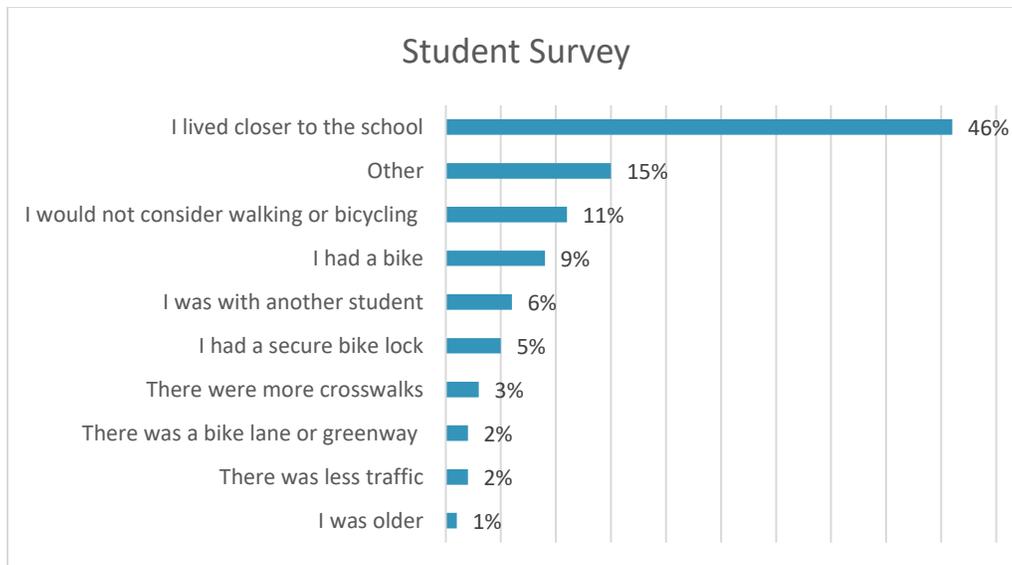
**Table 2: Traffic Concerns**

Concerns	# of Mentions
Grand Boulevard E between 13 <sup>th</sup> and 19 <sup>th</sup> Street E	34
Lynn Valley Road/Boulevard Crescent and Highway 1	19
Ridgeway Avenue and Keith Road E	7
William Avenue at 18 <sup>th</sup> and 21 <sup>st</sup> Street E	6

Families were asked about what circumstances they would allow for their children to walk or bike to school and students were asked what circumstance they would walk or bike to school (**Figure 14 and 15**). The top reason was “if they lived closer”, 26% of Sutherland families and 46% of Sutherland students noted that proximity was their top concern when deciding how to travel to school.



**Figure 14: Under which circumstances would parents allow their children to walk or bike to school**



**Figure 15: Under which circumstances would you walk or bike to school**

**Ways to Encourage Walking and Cycling to School**

A question on the survey asked respondents if they had any suggestions for encouraging walking and cycling to school. This question allowed respondents to provide open ended answers. The answers typically revolved around transit improvements, traffic calming and incentive/education programs around walking/cycling.

**Table 6** below lists the responses for suggestions to encouraging walking or biking to school. Lack of reliable transit was identified as one of the biggest barriers to active travel, suggesting there are gaps in schedules and routes that need to be addressed. That being said, infrastructure also plays a roll in Sutherland transportation choice and how safe students feel taking active transport.

**Table 3: Comments for encouraging students to walk or cycle to school**

Suggestions for Encouraging Walking or Cycling to school	Suggestion or Barrier
Transit improvements – additional bus service and higher bus frequency to Sutherland, free transit to those living in distant neighborhoods	Suggestion
Traffic control improvements – Marked crosswalks, advance turn signals, pedestrian-activated traffic signals	Suggestion
Bicycle facilities and services – Bike racks, rentable locks, covered and secure storage	Suggestion
Road safety improvements – speed enforcement, sightline obstruction clearance, sidewalks and lighting	Suggestion
Implement incentive-based programs for walking/cycling/transit to school - Subsidize transit passes, contests and competitions	Suggestion

**Long Answer Summary Memo – May 2019**

On a typical day, how do you travel to and from school?

To School:

Other:

- *Walk*
- *Bicycle*
- *Transit*
- *Drive*
- *Drive with family*
- *Drive with friends*
- *Carpool*
- *Multi-modal trips or combinations of the above*

From School:

Other:

- *Walk*
- *Bicycle*
- *Transit*
- *Drive*
- *Drive with family*
- *Drive with friends*

Generally, who do you travel to school with?

- *Family members*
  - *Parents*
  - *Siblings*
- *Significant other*
- *Alone*
- *Friends*

Please rank the top three reasons why you drive or are driven to school.

Please specify if you choose 'other' as one of the top three reasons.

- *Time constraints*
  - *Distance constraints*
  - *Weather*
  - *Case-by-case basis*
  - *Before or after-school activities*
  - *To carry equipment*
-

- *Sleep*
- *Poor cycling alternatives*
- *Convenience*

I would consider walking or bicycling to school if...

- *I had more time*
- *It was closer*
- *Biking was cooler*
- *If there wasn't as much uphill*
- *There were no extracurricular activities*
- *The weather was better*
- *I wasn't as lazy*
- *I woke up earlier*
- *There were more bike locks*
- *There was less traffic*
- *I cycled/walked with someone*
- *Less theft concerns with cycling*

If you participate in before- or after-school activities or travel to an after-school job, would you consider walking or bicycling to those activities?

Please explain your response.

- *Activities are located too far away from school.*
- *Safety with travelling by bike or walking.*
- *Weather*
- *Convenience*
- *It takes too much energy before sport activities.*
- *Will*

For students that typically walk or bicycle to school

Please rank the top three reasons you walk or bicycle to school.

Please specify if you chose 'other' as one of the top three reasons.

- *Parent's health*
  - *Convenience*
  - *Opportunity to socialize with friends*
  - *Health*
  - *Parents won't drive. Forced to.*
  - *Environment*
  - *Personal preference*
  - *Fun*
-

- *Independence*
- *When the weather is nice*

For students that typically take transit to school

Please rank the top three reasons you take transit to school.

Please specify if you chose 'other' as one of the top three reasons.

- *Parents won't drive*
- *Convenience*
- *Time constraints*
- *Distance constraints*
- *Weather*
- *Environmental reasons*
- *Social opportunity to be with friends*

Do you have any suggestions for encouraging walking, bicycling, or transit use at Sutherland Secondary?

- *Transit improvements*
    - *Additional bus service and higher bus frequency to Sutherland.*
    - *Bus from Phibbs Exchange to Sutherland via Keith Rd*
    - *Run the 881 bus to 19<sup>th</sup> St*
    - *Coordination with school hours.*
    - *Reliable bus service*
    - *Increased transit options*
  - *Bicycling facilities and services*
    - *Bike racks*
    - *Rentable locks.*
  - *Implement coordinated school-wide carpooling programs*
    - *Program to facilitate carpooling for families that live in close proximity*
  - *Implement incentive-based programs for walking/cycling/transit to school*
    - *Subsidize transit passes*
    - *Contests and competitions*
  - *Implement outreach and education programs.*
    - *Educate students on benefits of walking/cycling/transit to school.*
    - *Posters at school*
  - *Road improvements*
    - *Overpass on highway closer to school*
    - *Sidewalks*
    - *Lighting*
    - *Intersection safety improvements*
    - *Sightline obstruction clearance*
  - *Road maintenance improvements*
-

- *Regular salting of roads during winter*
- *Road safety improvements*
  - *Driving enforcement*
- *Traffic control improvements*
  - *Crosswalks*
  - *Pedestrian-activated traffic signals*
- *Safety improvements*
  - *Improve overall safety in the area*
  - *Animal control enforcement: dogs*

### Problematic Intersections

Boulevard Crescent and 21 <sup>st</sup> St E	
Brooksbank Ave and Cloverley St	
Grand Blvd E and 9 <sup>th</sup> St E	
Grand Blvd E and 13 <sup>th</sup> St E	
Grand Blvd E and 15 <sup>th</sup> St E	
Grand Blvd E and 17 <sup>th</sup> St E	
Grand Blvd E and 18 <sup>th</sup> St E	
Grand Blvd E and 19 <sup>th</sup> St E	
Hendry Ave and 13 <sup>th</sup> St E	
Hendry Ave and Keith Rd E	
Jones Ave and W Keith Rd	
Lonsdale Ave and 19 <sup>th</sup> St E	
Lonsdale Ave and 26 <sup>th</sup> St E	
Lynn Valley Rd and Hwy 1 WB	
Lynn Valley Rd/Boulevard Crescent and Hwy 1	
Moody Ave and 16 <sup>th</sup> St E	
Moody Ave and 19 <sup>th</sup> St E	
Mountain Hwy and Arborlynn Dr	
Ridgeway Ave and 3 <sup>rd</sup> St E	
Ridgeway Ave and 17 <sup>th</sup> St E	
Ridgeway Ave and 19 <sup>th</sup> St E	
St. Andrews Ave and 3 <sup>rd</sup> St E	
St. Andrews Ave and 16 <sup>th</sup> St E	
St. Georges Ave and 3 <sup>rd</sup> St E	
St. Georges Ave and 19 <sup>th</sup> St E	
St. Kilda Ave and 29 <sup>th</sup> St E	
Sutherland Ave and 13 <sup>th</sup> St E	
Sutherland Ave and 19 <sup>th</sup> St E	
Sutherland Ave and Boulevard Crescent	
Sutherland Ave and Keith Rd E	
William Ave and 16 <sup>th</sup> St E	
William Ave and 17 <sup>th</sup> St E	

William Ave and 18 <sup>th</sup> St E	
William Ave and 21 <sup>st</sup> St E	
William Ave and Lynn Valley Rd	

### Problematic Streets

1 <sup>st</sup> St E	
3 <sup>rd</sup> St E	
15 <sup>th</sup> St E	
17 <sup>th</sup> St E	
19 <sup>th</sup> St E	
21 <sup>st</sup> St E	
22 <sup>nd</sup> St E	
29 <sup>th</sup> St E	
Apex Ave	
Brooksbank Ave	
Grand Blvd E	
Hwy 1	
Hwy 99	
Keith Rd E	
Kirkstone Rd	
Lonsdale Ave	
Lynn Valley Rd	
Riverside Dr	
Rufus Dr	
Sutherland Ave	
William Ave	
Alley near Sutherland	
Path between 13 <sup>th</sup> and 14 <sup>th</sup>	

## Appendix E: Kahoot Quiz Questions and Results Summary

### Kahoot Questions

What % of GHG emissions in British Columbia are from the transportation sector?<sup>2</sup>

- e) 28%
- f) **41%**
- g) 58%
- h) 70%

What % of population does not meet physical activity guidelines?<sup>3</sup>

- a) 35%
- b) 50%
- c) 65%
- d) **80%**

How many trips to the moon and back do British Columbians drive each day?<sup>4</sup>

- a) 7 trips
- b) 86 trips
- c) **117 trips**
- d) 145 trips

How many pedestrians and cyclists are injured or killed in an average year on BC roads?<sup>5</sup>

- a) 565
- b) 1,550
- c) 3,050
- d) **4,245**

---

<sup>2</sup> From the 2017 Provincial Inventory dataset, 40.6% in 2017.

<https://www2.gov.bc.ca/gov/content/environment/climate-change/data/provincial-inventory>

<sup>3</sup> In 2013, just over 2 in 10 adults and 1 in 10 children and youth met the Canadian Physical Activity Guidelines. <https://www.canada.ca/en/public-health/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/2016-health-status-canadians/page-13-what-influencing-health-physical-activity.html>

<sup>4</sup> Distance travelled by province in **2005**: 32,914 million of km vehicle-km driven. This is 90,175,342 km each day. Distance to moon and back 768,800 km. This equals 117 trips.

<http://oee.nrcan.gc.ca/Publications/statistics/cvs05/pdf/cvs05.pdf>

<sup>5</sup> 21,224 pedestrians and cyclists were injured or killed in BC between 2013 and 2017, an average of 4,245 per year. Source: <https://www.icbc.com/about-icbc/newsroom/Documents/fatal-victims.pdf> AND <https://www.icbc.com/about-icbc/newsroom/Documents/crashes-involving.pdf>

Which modes of transportation are considered “Active Transportation”?

- a. Transit (e.g. bus, SeaBus, Skytrain)
- b. Driving (e.g. cars and motorcycles)
- c. **Human-powered transportation (e.g. walk, bike, wheelchair, skateboard)**
- d. All of the above

What percentage of trips made in the City of North Vancouver are made by walking and cycling?<sup>6</sup>

- a. 24%
- b. **11%**
- c. 3%
- d. 47%

What percentage of student trips to and from Sutherland Secondary are made by public transit?

- a. 10%
- b. **25%**
- c. 50%
- d. 75%

What percentage of student trips to and from Sutherland Secondary are made by walking and cycling?

- a. 10%
- b. 25%
- c. **50%**
- d. 75%

What is the name of the multi-use pathway a block from Sutherland that runs along Grand Boulevard and loops through the City?

- a. **Green Necklace Trail**
- b. Spirit Trail
- c. Sea-to-Sky Trail
- d. Grand Boulevard Trail

What is the total length of the Green Necklace Trail loop?

- a. **7.5 km**
- b. 10 km
- c. 16.25 km
- d. 25 km

---

<sup>6</sup> <https://www.cnv.org/city-services/streets-and-transportation/sustainable-transportation/sustainable-travel-options/walking>

What modes of transportation can you use on a multi-use path?

- a. Bike, walk, moped
- b. Walk, e-scooter, bike
- c. Bike, motorcycle, scooter
- d. **Skateboard, walk, bike**

When you're biking, who should you always yield to?

- a) Bikes turning left
- b) Electric bikes
- c) People younger than you
- d) **Pedestrians**

Where would you find Elephant's Feet markings?

- a) In the park
- b) **As part of some crosswalks**
- c) Between lanes of traffic
- d) At school

What does green pavement mean?

- a) Environmentally friendly area
- b) No cyclists allowed
- c) **Highlights areas where bikes and cars cross paths**
- d) No cars allowed

Which of the following is not considered a traffic calming device?

- a. Speed humps
- b. Traffic circles
- c. Curb-extensions
- d. **Sidewalks**

On average, how many pedestrians are injured in car crashes every year in BC?

- a. 2,700
  - b. 5,100
  - c. 400
  - d. 10,000
-

During which months do crashes involving pedestrians happen most often? <sup>7</sup>

- a. February to May
- b. June to September
- c. **October to January**
- d. There is no difference based on time of year.

During what time of day do crashes involving pedestrians happen most often?<sup>8</sup>

- a. 7-9 am
- b. 11am-2pm
- c. **3-6 pm**
- d. 9-11pm

Pedestrians have an 80% risk of dying when hit by a vehicle going 50km/h, but only a \_\_\_% risk when hit at 30km/hr.<sup>9</sup>

- a. 5%
- b. **10%**
- c. 15%
- d. 20%

What is the fine for texting while driving?

- a) \$86
- b) \$237
- c) **\$386**
- d) \$799

## Kahoot Results – See Next Page

---

<sup>7</sup> Nearly 44% of all crashes involving pedestrians happen between October and January.

<https://www.icbc.com/road-safety/sharing/pedestrian-safety/Pages/pedestrian-infographic.aspx>

<sup>8</sup> <https://www.icbc.com/road-safety/sharing/pedestrian-safety/Pages/pedestrian-infographic.aspx>

<sup>9</sup> <https://www.best.bc.ca/walking-resources/did-you-know>

---

Overview

Transportation Quiz	
Played on	2 Dec 2019
Hosted by	Scott5655
Played with	56 players
Played	20 of 20
Overall Performance	
Total correct answers (%)	31.25%
Total incorrect answers (%)	68.75%
Average score (points)	5934.34 points

final scores

Transportation Quiz				
Final Scores				
Rank	Players	Total Score (points)	Correct Answers	Incorrect Answers
1	su	15275	14	6
2	Uh oH fl_!	15221	13	7
3	??	13093	13	7
4	David❤❤❤❤	12843	11	9
5	no pomegranates	12406	13	7
6	Santa baby	12322	13	7
7	Emma	12277	13	7
8	Sandwich	10986	11	9
9	Do	10805	11	9
10	Justin's my dad	10695	12	8
11	The pear shreks	9871	10	10
12	????????	9857	11	9
13	JOESTAR	9245	10	10
14	Queen Elizabeth	8987	10	10
15	Kaya	8913	9	11
16	Sltea	8843	9	11
17	Matthew the??	8655	9	11
18	Cool beans	8417	10	10
19	??	8077	9	11
20	⚡	7972	9	11
21	April	7904	9	11
22	Sadie	7742	8	12
23	Mr. Flip Phone	7552	8	12
24	Shurjee thee ??	7501	8	12
25	ʘ̂̂̂̂	7464	8	12
26	samwich	7137	8	12
27	SpankyGspaccio	6370	7	13
28	Mean	6297	7	13
29	David C	6277	7	13
30	Hannah	5944	7	13
31	SuPERM	5712	6	14
32	JustinIsCute	5616	6	14
33	Justin ??	5472	6	14
34	??	4497	5	15
35	Wow	4491	5	15
36	Justin's my mom	4375	5	15
37	??	3791	5	15
38	Dry KFC	3591	4	16
39	Neck SUV	2621	3	17
40	Lea	1788	2	18
41	Shinn	973	1	19
42	??	965	1	19
43	Dap	938	1	19
44	Matthew = ??	895	1	19
45	Ah	860	1	19
46	Sophia	790	1	19
47	ТнєRєяL??ex	0	0	20
48	I am the ??	0	0	20
49	no pomegranate!	0	0	20
50	uH Oh!	0	0	20
51	Ok Boomer ??	0	0	20
52	NathanPoo	0	0	20
53	??	0	0	20
54	SleepIsLife	0	0	20
55	Oh kk	0	0	20
56	Mike Oxlong	0	0	20

# 1 Quiz

Transportation Quiz				
1 Quiz	What % of GHG emissions in British Columbia are from the transportation sector?			
Correct answers	41%			
Players correct (%)	37.50%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 28%	◆ 41%	● 58%	■ 70%
Is answer correct?	x	✓	x	x
Number of answers received	10	21	9	8
Average time taken to answer (seconds)	3.17	3.63	4.81	3.30

# 2 Quiz

Transportation Quiz				
2 Quiz	What % of population does not meet physical activity guidelines?			
Correct answers	80%			
Players correct (%)	7.14%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 35%	◆ 50%	● 65%	■ 80%
Is answer correct?	x	x	x	✓
Number of answers received	5	5	33	4
Average time taken to answer (seconds)	5.96	4.98	4.17	2.15

# 3 Quiz

Transportation Quiz				
3 Quiz	How many trips to the moon and back do British Columbians drive each day?			
Correct answers	117 trips			
Players correct (%)	32.14%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 7 trips	◆ 86 trips	● 117 trips	■ 145 trips
Is answer correct?	x	x	✓	x
Number of answers received	11	12	18	5
Average time taken to answer (seconds)	7.18	6.55	5.72	10.90

# 4 Quiz

Transportation Quiz				
4 Quiz	How many pedestrians and cyclists are injured or killed in an average year on BC roads?			
Correct answers	4245			
Players correct (%)	16.07%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 565	◆ 1550	● 3050	■ 4245
Is answer correct?	x	x	x	✓
Number of answers received	4	22	8	9
Average time taken to answer (seconds)	2.50	4.03	6.24	3.81

# 5 Quiz

Transportation Quiz				
5 Quiz	Which modes of transportation are considered "Active Transportation"?			
Correct answers	Human-powered transportation (e.g. walk, bike, wheelchair, skateboard)			
Players correct (%)	44.64%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ Transit (e.g. bus, Seabus, Skytrain)	◆ Driving (e.g. cars and motorcycles)	● Human-powered transportation (e.g. walk, bike, wheelchair, skateboard)	■ All of the above
Is answer correct?	x	x	✓	x
Number of answers received	6	1	25	10
Average time taken to answer (seconds)	3.80	1.60	5.87	4.92

# 6 Quiz

Transportation Quiz				
6 Quiz	What percentage of trips made in the City of North Vancouver are made by walking and cycling?			
Correct answers	11%			
Players correct (%)	21.43%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 24%	◆ 11%	● 3%	■ 47%
Is answer correct?	x	✓	x	x
Number of answers received	20	12	4	6
Average time taken to answer (seconds)	4.56	6.08	3.65	3.27

## 7 Quiz

Transportation Quiz				
7 Quiz What percentage of student trips to and from Sutherland Secondary are made by public transit?				
Correct answers	25%			
Players correct (%)	12.50%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 10%	◆ 25%	● 50%	■ 75%
Is answer correct?	x	✓	x	x
Number of answers received		4	7	11
Average time taken to answer (seconds)		4.75	3.77	3.09
				5.30

## 8 Quiz

Transportation Quiz				
8 Quiz What percentage of student trips to and from Sutherland Secondary are made by walking and cycling?				
Correct answers	50%			
Players correct (%)	23.21%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 10%	◆ 25%	● 50%	■ 75%
Is answer correct?	x	x	✓	x
Number of answers received		15	12	13
Average time taken to answer (seconds)		3.21	5.09	3.77
				0.00

## 9 Quiz

Transportation Quiz				
9 Quiz What is the name of the pathway a block from Sutherland that runs along Grand Boulevard and loops through the city?				
Correct answers	Green Necklace Trail			
Players correct (%)	53.57%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ Green Necklace Trail	◆ Spirit Trail	● Sea-to-Sky trail	■ Grand Boulevard Trail
Is answer correct?	✓	x	x	x
Number of answers received		30	4	1
Average time taken to answer (seconds)		3.88	5.08	4.30
				4.98

## 10 Quiz

Transportation Quiz				
10 Quiz What is the total length of the Green Necklace Trail loop?				
Correct answers	7.5 km			
Players correct (%)	21.43%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 7.5 km	◆ 10 km	● 16.25 km	■ 25 km
Is answer correct?	✓	x	x	x
Number of answers received		12	9	14
Average time taken to answer (seconds)		5.63	4.96	4.86
				5.45

## 11 Quiz

Transportation Quiz				
11 Quiz What modes of transportation can you use on a multi-use path?				
Correct answers	Skateboard, walk, bike			
Players correct (%)	53.57%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ Bike, walk, moped	◆ Walk, e-scooter, bike	● Bike, motorcycle, scooter	■ Skateboard, walk, bike
Is answer correct?	x	x	x	✓
Number of answers received		3	5	1
Average time taken to answer (seconds)		8.17	7.16	5.40
				8.02

## 12 Quiz

Transportation Quiz				
12 Quiz When you're biking, who should you always yield to?				
Correct answers	Pedestrians			
Players correct (%)	62.50%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ Bikes turning left	◆ Electric bikes	● People younger than you	■ Pedestrians
Is answer correct?	x	x	x	✓
Number of answers received		1	1	2
Average time taken to answer (seconds)		0.70	9.80	4.60
				3.74

## 13 Quiz

Transportation Quiz				
13 Quiz Where would you find Elephant's Feet markings?&nbsp;				
Correct answers	As part of some crosswalks			
Players correct (%)	30.36%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ In the park	◆ As part of some crosswalks	● Between lanes of traffic	■ At school
Is answer correct?	x	✓	x	x
Number of answers received		14	17	7
Average time taken to answer (seconds)		7.89	8.25	6.94
				1
				8.80

## 14 Quiz

Transportation Quiz				
14 Quiz What does green pavement mean?				
Correct answers	Highlights areas where bikes and cars cross paths			
Players correct (%)	35.71%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ Environmentally friendly area	◆ No cyclists allowed	● Highlights areas where bikes and cars cross paths	■ No cars allowed
Is answer correct?	x	x	✓	x
Number of answers received	6	1	20	12
Average time taken to answer (seconds)	4.67	3.30	7.59	6.44

## 15 Quiz

Transportation Quiz				
15 Quiz Which of the following is not considered a traffic calming device?				
Correct answers	Sidewalks			
Players correct (%)	42.86%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ Speed humps	◆ Traffic circles	● Curb-extensions	■ Sidewalks
Is answer correct?	x	x	x	✓
Number of answers received	4	3	6	24
Average time taken to answer (seconds)	5.43	8.80	9.48	7.01

## 16 Quiz

Transportation Quiz				
16 Quiz On average, how many pedestrians are injured in car crashes every year in BC?&nbsp;				
Correct answers	2700			
Players correct (%)	17.86%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 2700	◆ 5,100	● 400	■ 10,000
Is answer correct?	✓	x	x	x
Number of answers received	10	17	0	12
Average time taken to answer (seconds)	4.07	5.16	0.00	3.56

## 17 Quiz

Transportation Quiz				
17 Quiz During which months do crashes involving pedestrians happen most often?&nbsp;				
Correct answers	October to January			
Players correct (%)	46.43%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ February to May	◆ June to September	● October to January	■ There is no difference based on time of year.
Is answer correct?	x	x	✓	x
Number of answers received	0	4	26	7
Average time taken to answer (seconds)	0.00	3.55	5.62	4.99

## 18 Quiz

Transportation Quiz				
18 Quiz During what time of day do crashes involving pedestrians happen most often?				
Correct answers	3-6 pm			
Players correct (%)	19.64%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 7-9 am	◆ 11am-2pm	● 3-6 pm	■ 9-11pm
Is answer correct?	x	x	✓	x
Number of answers received	5	2	11	18
Average time taken to answer (seconds)	6.64	3.40	5.95	6.28

# 19 Quiz

Transportation Quiz				
19 Quiz	Pedestrians have an 80% risk of dying when hit by a vehicle going 50km/h, but only a ___% risk when hit at 30km/hr.			
Correct answers	10%			
Players correct (%)	14.29%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ 5%	◆ 10%	● 15%	■ 20%
Is answer correct?	x	✓	x	x
Number of answers received	4	8	13	10
Average time taken to answer (seconds)	2.48	6.61	6.15	7.64

# 20 Quiz

Transportation Quiz				
20 Quiz	What is the fine for texting while driving?&nbsp;			
Correct answers	\$386			
Players correct (%)	32.14%			
Question duration	20 seconds			
Answer Summary				
Answer options	▲ \$86	◆ \$237	● \$386	■ \$799
Is answer correct?	x	x	✓	x
Number of answers received	1	11	18	5
Average time taken to answer (seconds)	1.50	4.60	4.72	3.10

## Appendix F: Sutherland Art Map



