1. Build a culture for active transportation
2. More people walking and cycling
3. Safe walking and cycling
4. Create more connections and places for walking and cycling

The Moving Saanich Forward Plan also identifies two key targets for increasing active transportation and road safety in the District.

- Target 1: Double the Proportion of Trips Made by Active Transportation
- Target 2: Work Towards Zero Traffic-Related Fatalities or Serious Injuries

2.2.3 Oak Bay Active Transportation Plan

The Oak Bay Active Transportation Strategy by working to enhance the existing active transportation routes on Henderson Road, Foul Bay Road and Cadboro Bay Road will also support future improvements to bike routes accessing UVic campus.

The Oak Bay Active Transportation Strategy seeks to build on active transportation routes in Oak Bay by identifying routes, facilities, programs, and regulations that facilitate an increase in active transportation and creating a safer, healthier, more sustainable community. This strategy sets forth recommended actions for the District to expand its active transportation network. The primary recommendation is to work toward an envisioned long-term active transportation network comprised of routes and facilities that facilitate active transportation, as follows:

- Pedestrian network improvements including pathways through Oak Bay High School, along Elgin Avenue, adjacent Henderson Recreation Centre, and new signage at existing trailheads.
- Extension of existing Bowker Creek Walkway and new multi-use trail adjacent Cedar Hill Cross Road.
- Commuter bike routes along Cadboro Bay Road, Henderson Road / Foul Bay Road, Oak Bay Avenue, Lansdowne Road, McNeill Avenue, Bowker Avenue, and Beach Drive.
- Three new neighbourhood bikeways on Musgrave Street, Hampshire Road and Monterey Avenue, Henderson Road from UVic to Oak Bay High School, and east-west along Haultain Road and Estevan Avenue. Bikeway connections are identified for the east end of McNeill Avenue and Oak Bay Avenue.
- Identifying five existing east-west laneway connections with new pedestrian wayfinding signage.

2.2.4 BC Transit Transit Future Plan (Victoria Region)

The BC Transit Transit Future Plan for the Victoria Region recognizes that transit has tremendous potential to contribute to stronger, more sustainable communities in the region. The Transit Future Plan envisions the Victoria region's transit network 25 years from now and describes what services, infrastructure and investments are needed to get there. The plan was designed to create a stronger link between land use and transit planning, support the key initiatives of BC Transit's Strategic Plan and support the Provincial Transit Plan. In regards to UVIC Campus key priorities from this plan, include:

- Establish critical transit facilities (prior to network expansion), including University of Victoria (UVic) Exchange.
- Developing a Bus rapid Transit Corridor along McKenzie Avenue between the Highway 17 and UVic campus.
- Enhancing the frequency of existing bus routes on Shelbourne, Henderson Road and other important transit networks around the university.

Ideally, these planned future transit service enhancement will continue to encourage a movement toward sustainable modes of transportation on UVic campus; and create a more pedestrian and bike friendly campus with fewer cars.

3 SUMMARY OF EXISTING INFRASTRUCTURE AND TRANSPORTATION CONDITIONS

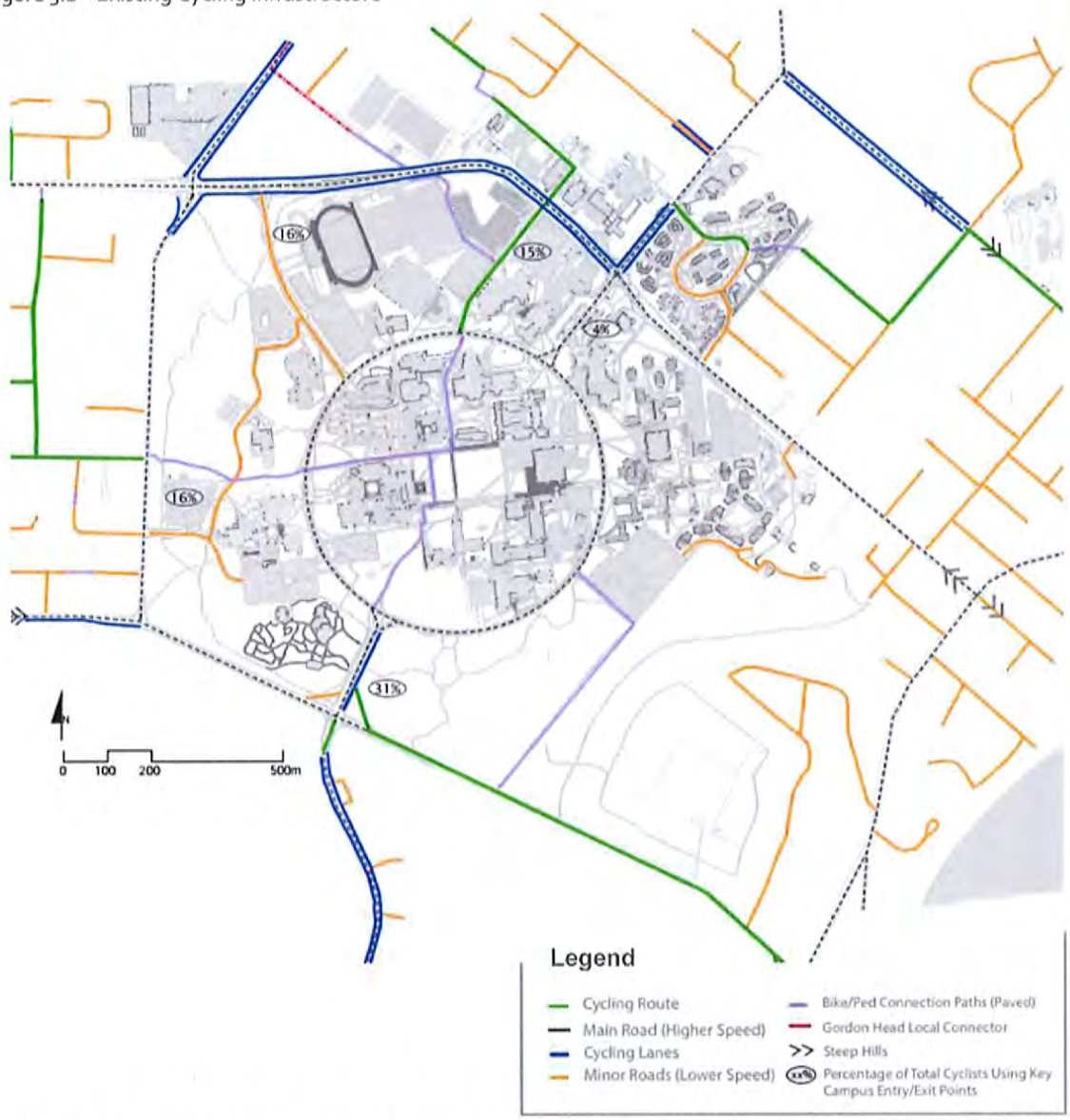
The transportation network currently servicing UVic campus is supported by a wide range of infrastructure that facilitates multi-model movement to / from campus and on campus. UVic's transportation infrastructure supports all modes and includes, cycling lanes, multi-use pathways, roads, parking lots, sidewalks, bike parking and storage, the UVic Transit Exchange a many other hard and soft infrastructure elements.

The following section provides a brief overview of the existing cycling infrastructure servicing UVic campus (both on and off campus). This section also provides an overview of the existing transportation conditions including traffic volumes and current mode share.

3.1 Existing Cycling Network and Facilities

There are a number of cycling lanes connecting surrounding areas of Oak Bay and Saanich to campus, however, cycling lanes on campus are relatively limited, with cyclists forced to use traffic lanes on Ring Road. Figure 3.1 (below) highlights cycling infrastructure in this figure "Cycling Routes" are streets designated for cycling but with no pavement markings or separated facilities and "Cycling Lanes" are marked lanes on streets in which cyclists have dedicated space.

Figure 3.1 – Existing Cycling Infrastructure



Cycling end-of-trip facilities are provided throughout campus. These end-of-trip facilities include almost 3000 bicycle racks, 150 locker rentals, showers in nine buildings, a 24/7 self-service bike kiosk, and the Campus Bike Centre with the SPOKES bicycle loan program.

In 2017 a Bike Parking Inventory was completed on UVic Campus. This inventory showed 2768 bike parking spaces and 1242 bike storage spaces. A breakdown of existing bike parking is shown in Figure 3.2 and the location of existing bike parking is mapped in Figure 3.3 (below).

Figure 3.2 – Breakdown of Bike Parking

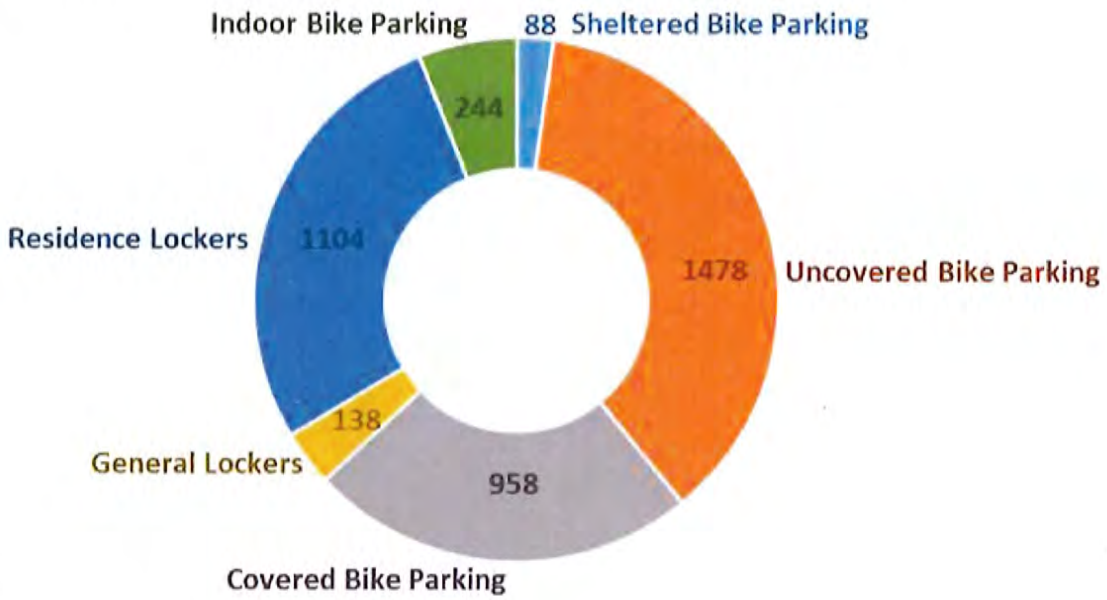
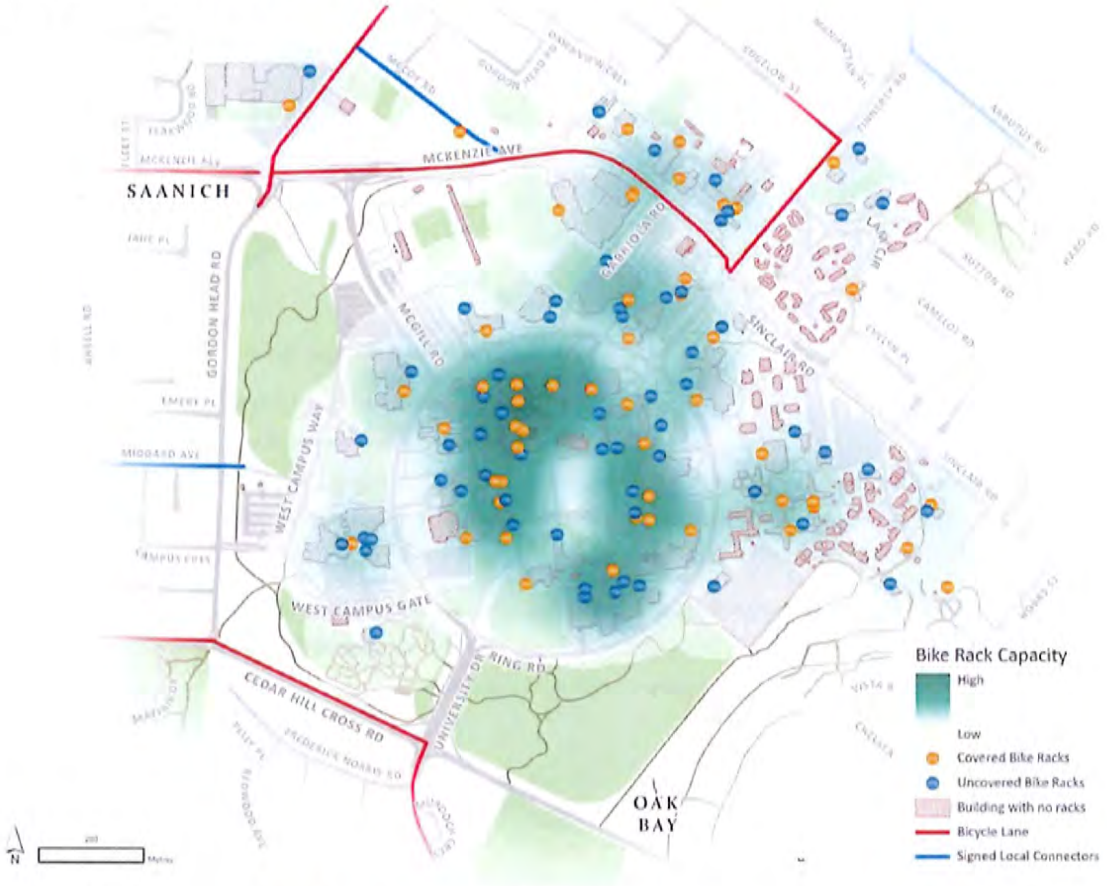


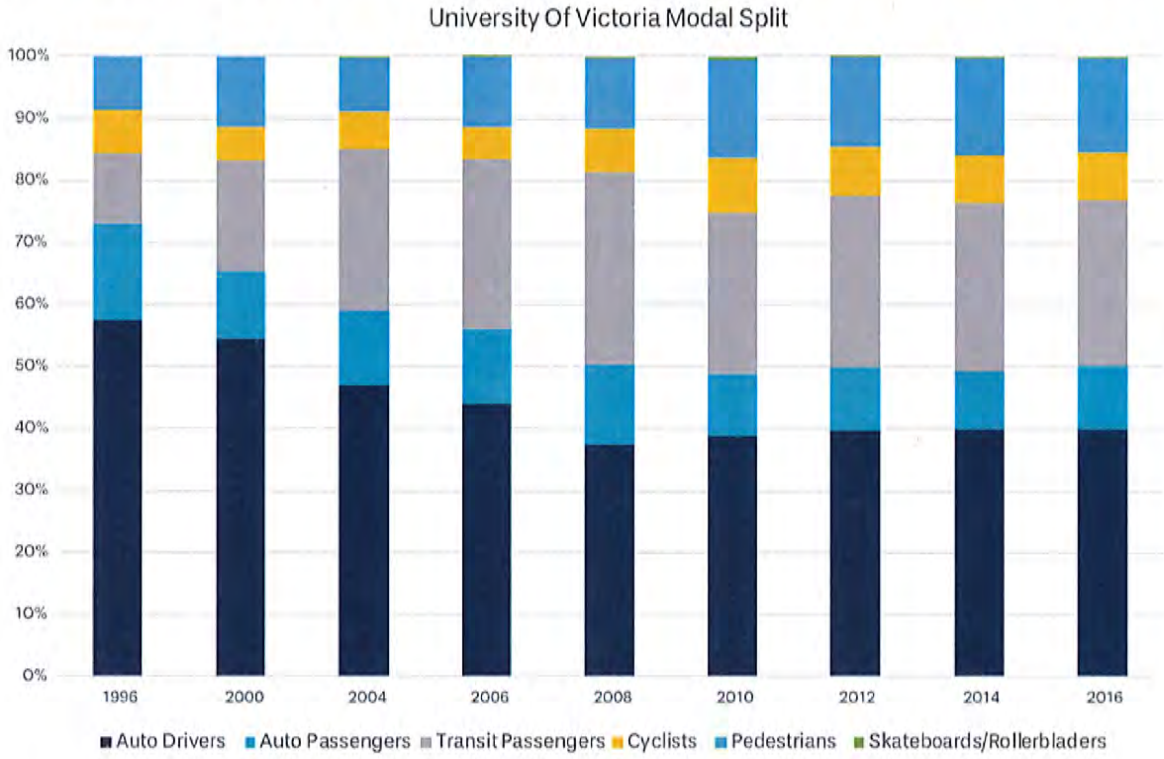
Figure 3.3 – Location of Existing Bike Parking



3.2 Previous Campus Transportation Studies

Recent transportation surveys in 2014 and 2016 indicate that around 60% of campus movements come from these modes, confirming that efforts are moving in the right direction. Vehicle volumes have dropped since 2006, while the number of full-time equivalent students has increased. Transit currently represents over one-quarter of trips, while walking and cycling combined also represent a healthy one-quarter of trips (see Figure 3.4).

Figure 3.4 – University of Victoria Modal Split 1996 -2016



The 2016 University of Victoria Campus Traffic Survey, showed that approximately 5,000 cyclists travel to or from campus each day, most cyclists arrive via from one of five primary or secondary gateways (see Figure 3.5).

Figure 3.5– Key Cyclist Gateways

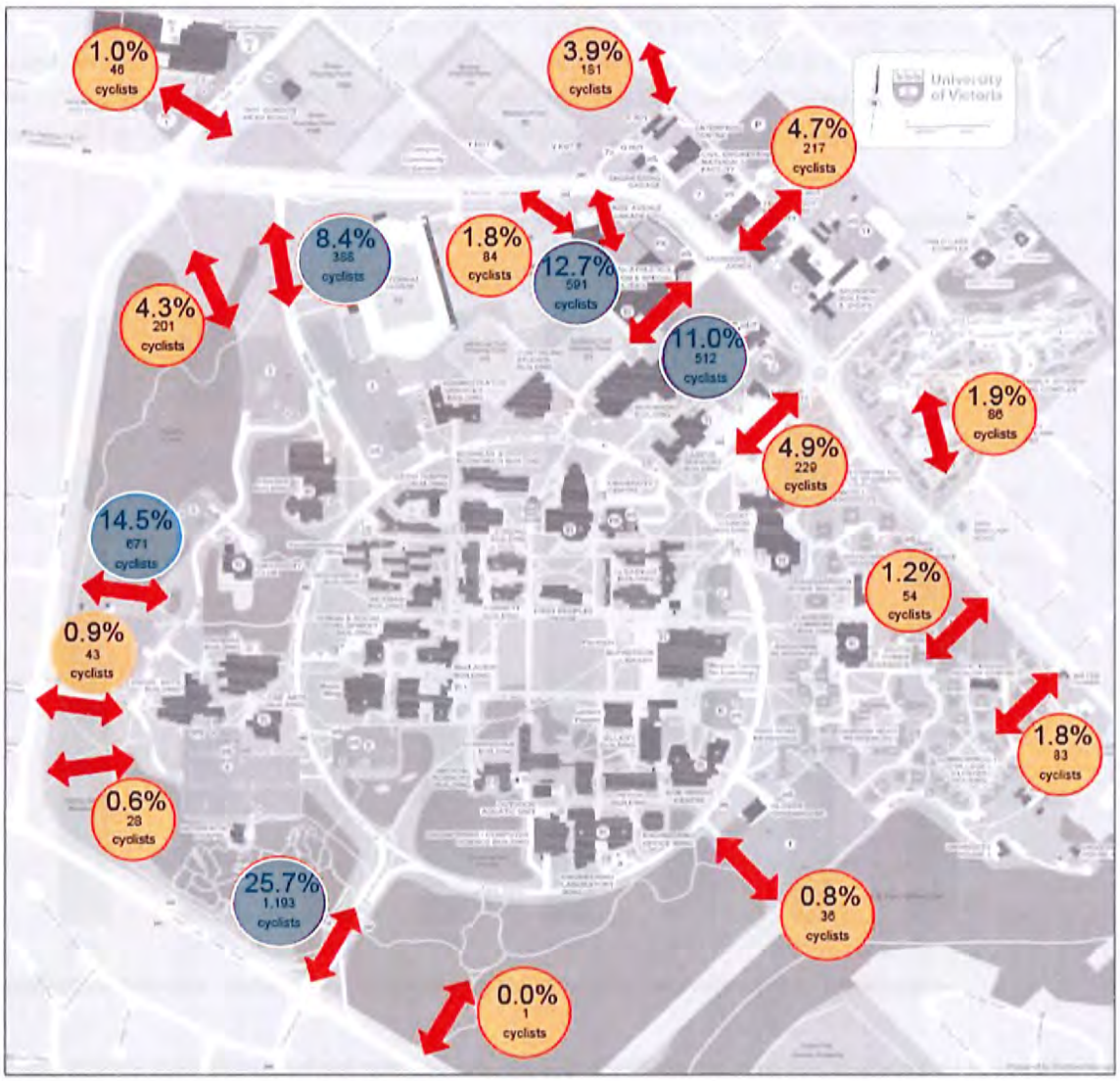


Figure 3.5 shows that the majority of cyclists access the campus via Henderson Road (south), Midgard Avenue (west), McCoy Road via Gabriola Avenue (northwest), and to a lesser extent McKenzie Avenue via McGill Road and Finnerty Road.

3.3 Current Traffic Conditions Analysis

The following section provides a summary of the current traffic analysis. This Current Traffic Conditions Analysis was completed to inform the project team of the current traffic volumes on UVic campus. This information will be used to establish a baseline to evaluate the impacts of potential future network changes in regards to adding cycling facilities. The data collection for this analysis was done over four weekdays (October 17th, 24th, 25th, and 26th 2017) for peak period during both the morning and afternoon.

3.3.1 Peak Hour Traffic Volumes

Peak hour traffic counts were obtained at 9 study intersections in the morning (7:00 AM-10:00 AM) and afternoon (3:00 PM-6:00 PM) (peak hours). Since the traffic volumes are highly sensitive to school activities and curriculums' schedule, it was observed that the traffic volumes varied notably during peak periods over different days. In order to be conservative, higher volumes were used at locations where multiple days of data were available. Traffic volumes were then reviewed and adjustments were made where appropriate to ensure that the volumes are well balanced along study corridors.

On Ring Road, peak hour volumes range from 300-600 veh/hr in both AM and PM peak hours. On McKenzie Avenue, the directional traffic ranges between 300 veh/hr to 450 veh/hr in the morning peak hour and 350 veh/hr to 800 veh/hr in the afternoon peak hour.

3.3.2 Traffic Analysis

Intersection analysis for both signalized and unsignalized intersections under consideration was conducted using Synchro/SimTraffic v10.1. Since most of the study intersections are unsignalized, the SimTraffic simulation program was used to analyze intersection performance, SimTraffic is typically a better tool than Synchro for assessing unsignalized intersections as gaps in traffic flows are accounted. This would provide more accurate results for delays and queues, therefore, providing representation of actual conditions. Traffic analysis for the roundabout at McKenzie Avenue and Finnerty Road was conducted using Sidra. Traffic performance measures including level of services (LOS), average delays and 95th percentile queues were reviewed.

3.3.3 Level of Service and Delays

Level of Service (LOS) is a measure of the average delay experienced by vehicles at an intersection or for a particular movement. The LOS assigned to an intersection can range between LOS "A" and "F". LOS "A" through "C" generally indicate that the intersection experiences very few delays during the peak hour, whereas LOS "F" suggests either the delays are significant (greater than 50 seconds/vehicle for unsignalized and 80 seconds/vehicle for signalized intersections) and/or the traffic demand is greater than the available capacity. The analysis indicates that all intersections are currently operating under acceptable level of service. The overall intersection, including individual movements are performing at LOS "C or better in both morning and afternoon peak hours with a few movements performing at LOS "D" in the afternoon peak hour. In general, each intersection as well as individual movement is currently experiencing up to half a minute of delays during morning and afternoon peak hours.

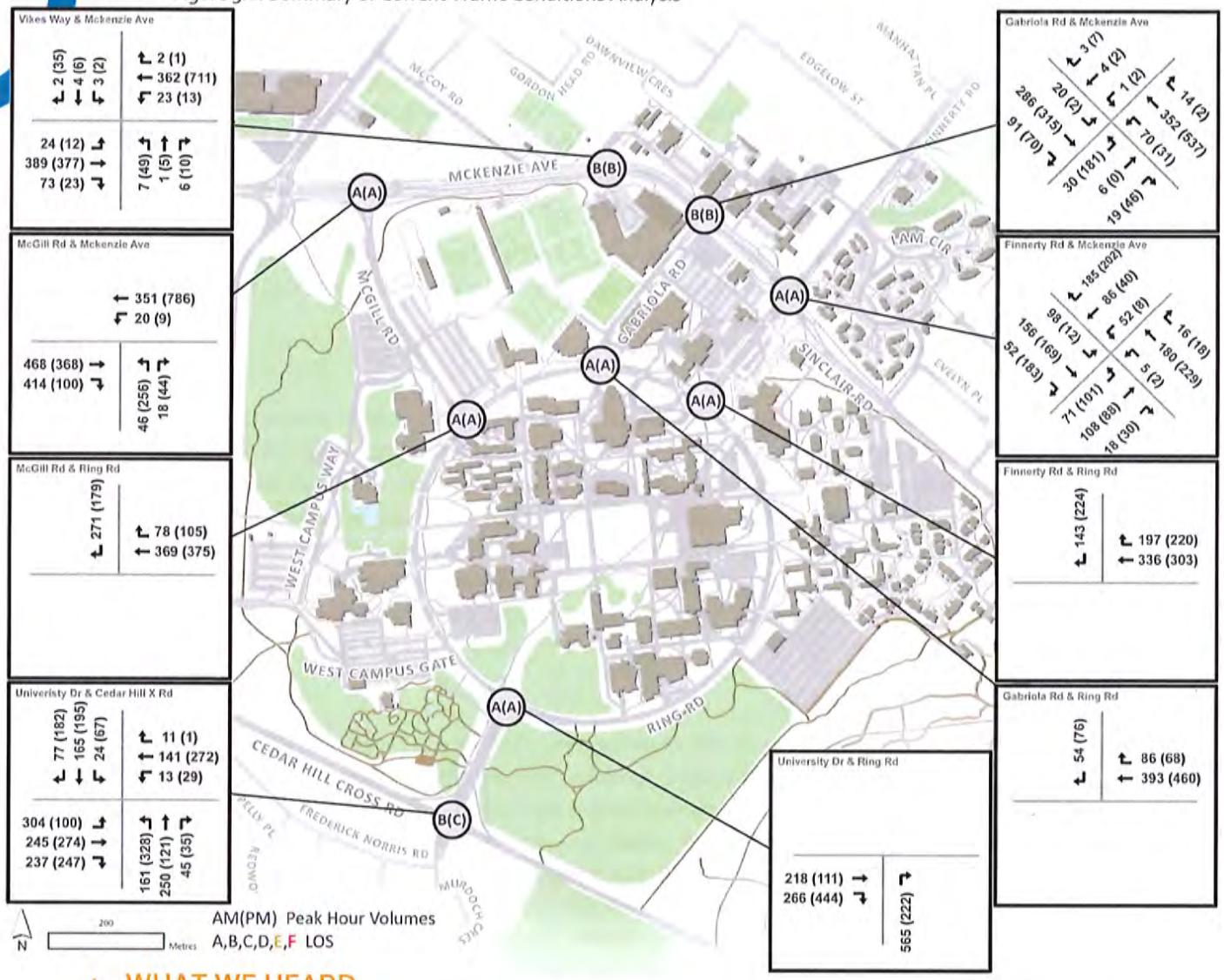
3.3.4 Queue Length

The 95th percentile queue is defined to be the queue length (in meters) that has only a 5-percent probability of being exceeded during the analysis time period. The traffic analysis indicates that the 95th percentile queue length at intersections under consideration are generally minimal to moderate. No left turn queues exceed the storage lengths.

Overall the traffic analysis indicates that all intersections under consideration are currently operating under acceptable level of service. The overall intersection, including individual movements are performing at LOS "D" or better with minimal to moderate delays and queues.

The findings from the analysis of current traffic conditions are summarized in Figure 3.6 (below).

Figure 3.6: Summary of Current Traffic Conditions Analysis



4 WHAT WE HEARD

The following section provides a summary of key findings from Phase 1, including results from the on-line survey and other stakeholder input from engagement activities. This feedback covers a wide range of transportation related themes, which have been categorized under the following headings:

- Travel Patterns;
- Transportation Connections;
- Issues and Opportunities;
- Priorities; and
- Demographics and Other Comments.

4.1 Travel Patterns

Understanding the overall travel patterns of the UVic community provides important information regarding key destinations, current mode share and how often people are using cycling as a primary mode of transportation on campus. Information on travel patterns was largely provided through the on-line survey. However, contextual information from the pop-up engagements and other stakeholder participation were also reviewed.

4.1.1 Online Survey:

The survey first posed a series of questions design to gain a better understanding of respondents' travel patterns. Overall, the following themes emerged from these questions (see Figures 4.1-4.5):

- More than half of participants (56%) bike as a commuter;
- Most commuters were travelling from relatively close by;
- Weather plays a role in respondents' decision to cycle to campus – Nearly one fifth (19%) more people bike to campus on days when it is sunny/mild compared to days when it is rainy/cold;
- Key destinations (as shown by Figure 4.5) include: University Centre, Engineering Building, Student Union Building, CARSA.

Key questions regarding travel patterns have been graphed and mapped for display below:

Figure 4.1 – Mode of Transportation to Campus by Weather Conditions

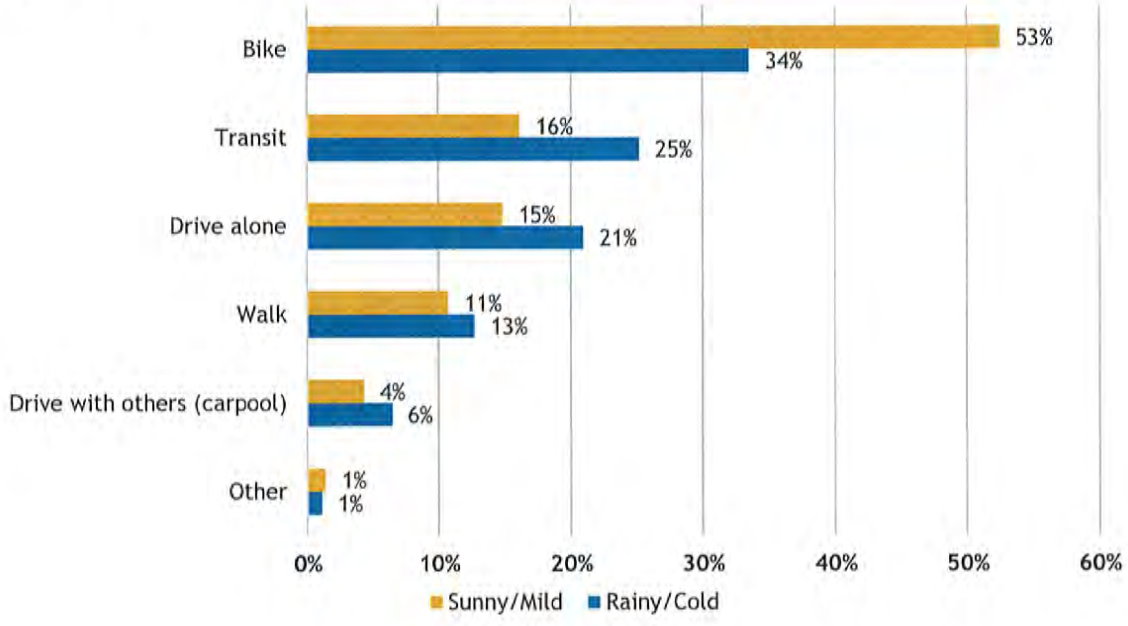


Figure 4.2 – Travel Origin (i.e. where people are commuting from)

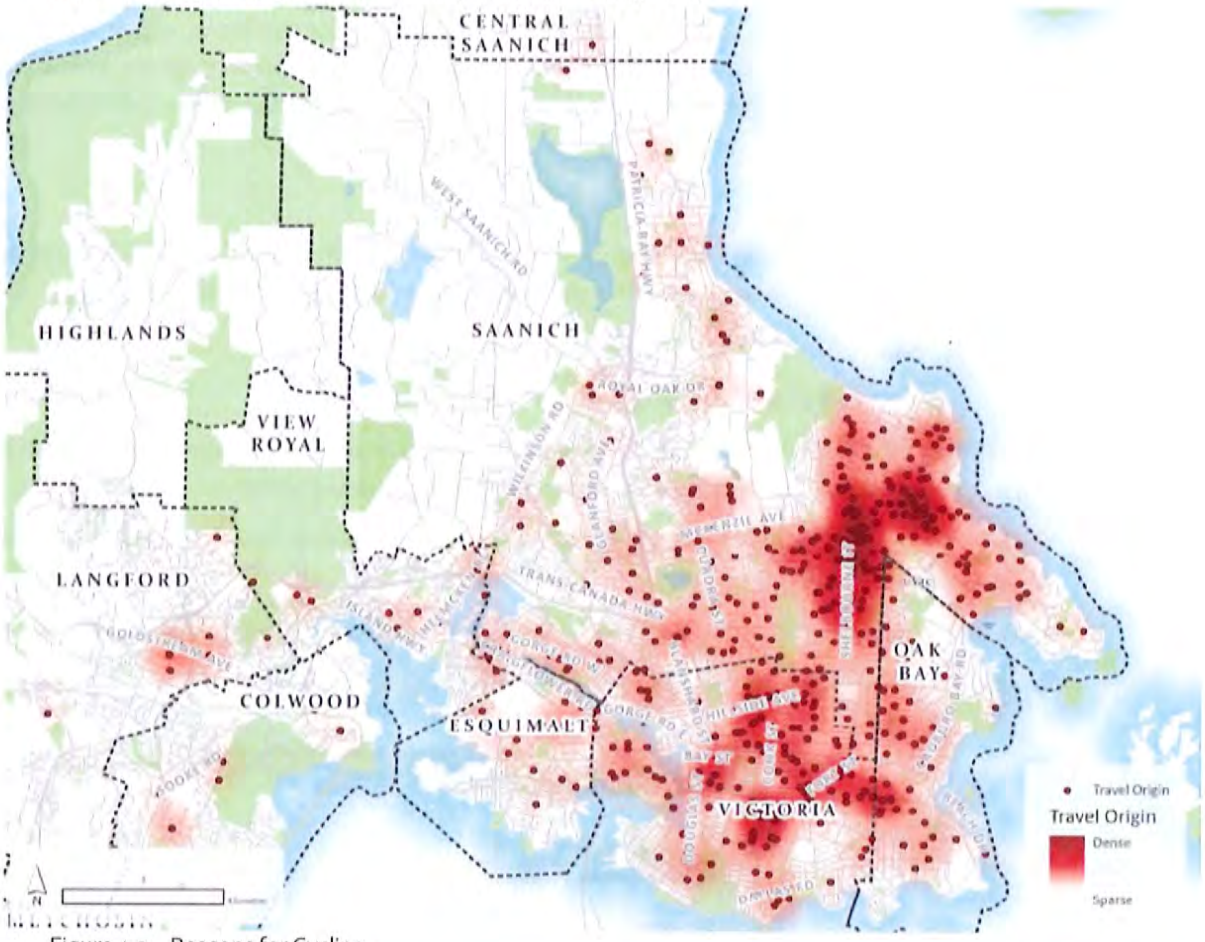


Figure 4.3 – Reasons for Cycling

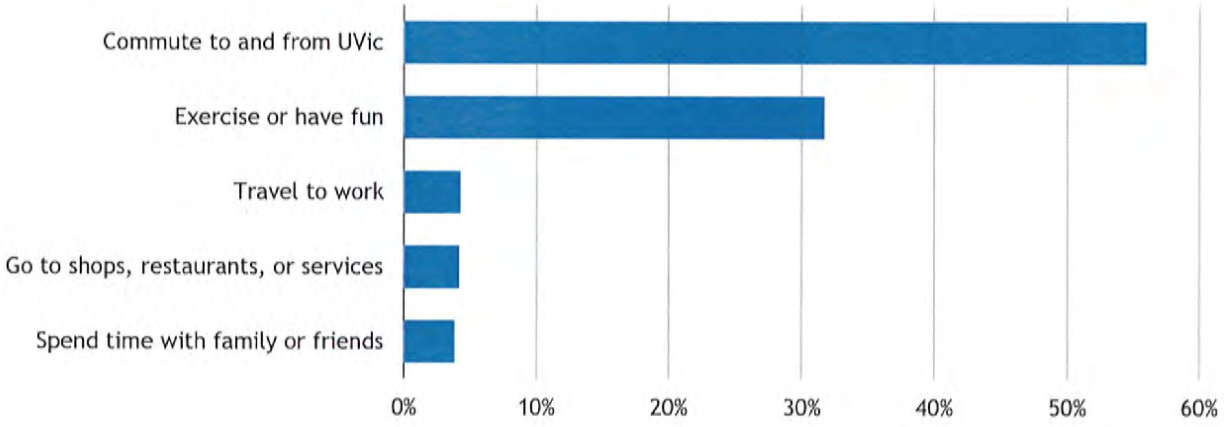
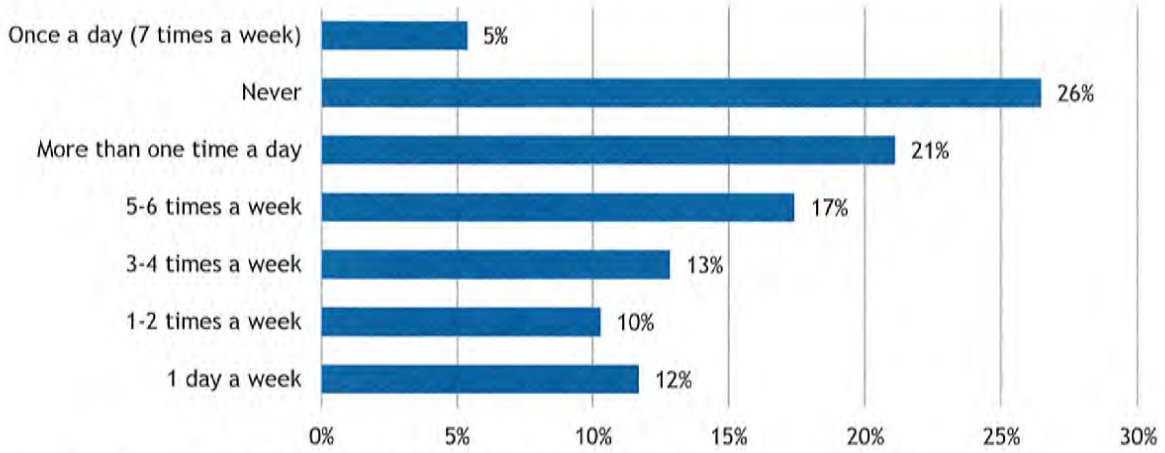


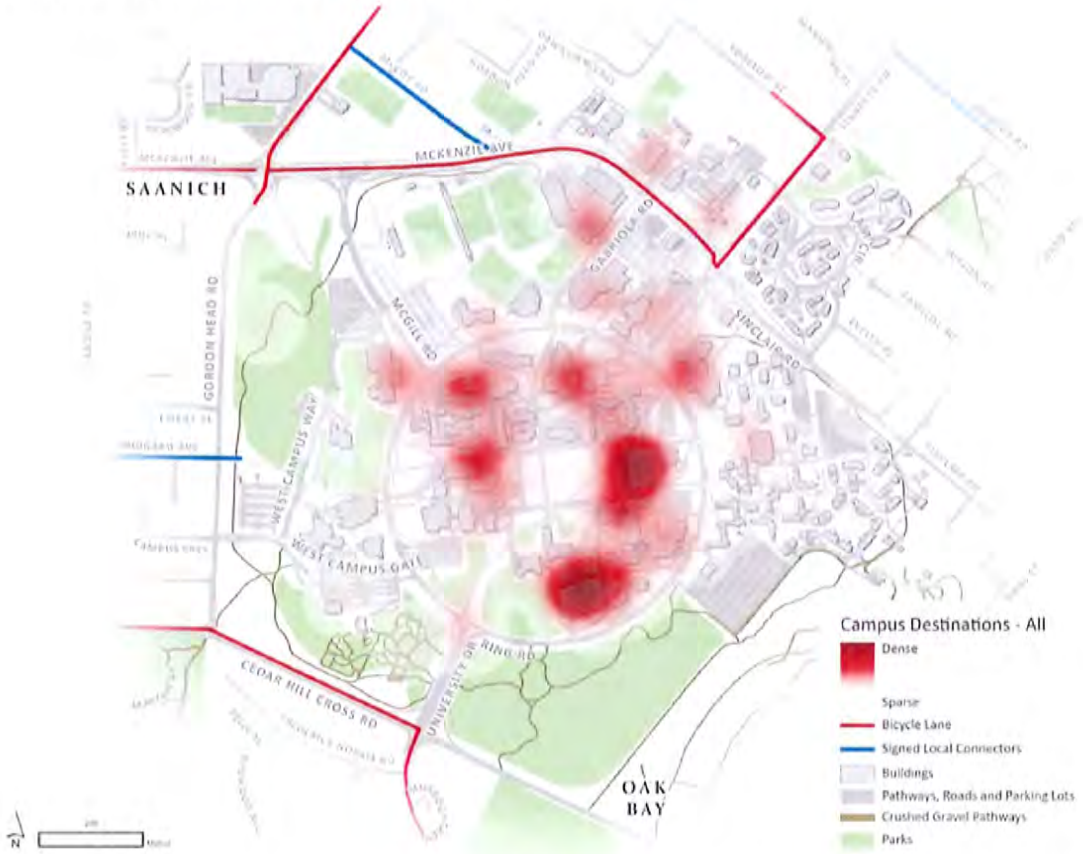
Figure 4.4 – Number of Trips by Bike in a Typical Week



Respondents to the interactive survey were asked to identify locations they frequently travel to and from campus. Mapping the results of this exercise was particularly helpful to understand cycling travel patterns on campus. Figure 4.5 shows the key destinations on campus. Key destinations include:

- Engineering / Computer Science Building;
- Library;
- Student Union Building;
- Cornett Building;
- Strong Building; and
- University Centre.

Figure 4.5 – Key Destinations on Campus All Modes



The main reason people were travelling to these destinations included work or research or to attend class. A full breakdown of key destination on campus can be found in Appendix B-1.

4.2 Transportation Connections

Understanding how people travel to and from UVic and the mode they choose helps to better illustrate the complex decisions people make in regards to daily travel. Importantly, where and how people are using multiple modes of transportation to meet their travel needs.

4.2.1 On-line Survey:

The survey posed a series of questions on transportation connections to gain a better understanding of whether or not respondents used multiple modes of transportation to access the UVic campus. Overall, the following themes emerged from these questions (see **Figure 4.6 and 4.7**):

- Most people have used more than one mode of transportation when travelling to campus (70%) with transit combined with walking or cycling the most popular combination.
- Approximately 14% of respondents used more than one mode when travelling to campus daily, and over a third (36%) did this on a weekly basis.

Key questions regarding travel patterns have been graphed and displayed below:

Figure 4.6 – Use of Two or More Modes of Transportation When Traveling To and From Campus

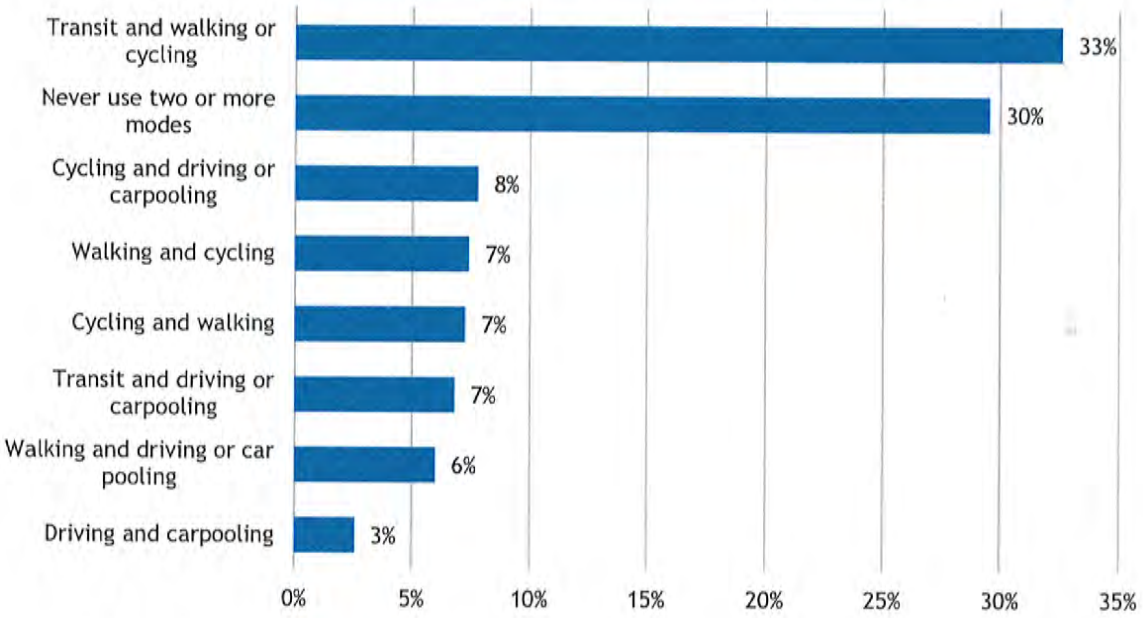
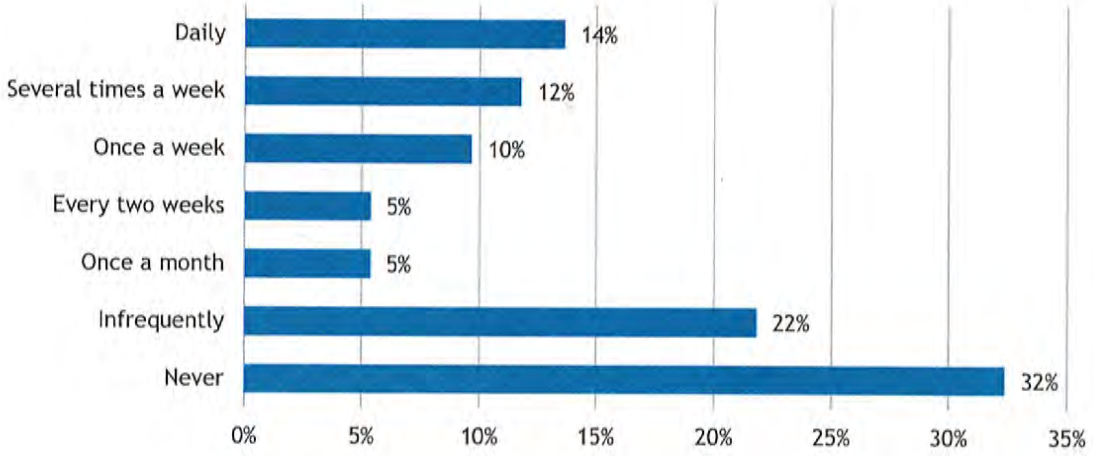


Figure 4.7 – Use of Two or More Modes of Transportation (Frequency)



4.3 Issues and Opportunities

The following section reflects input from the UVic community on key issues and opportunities for improving cycling and transportation on campus. This wide ranging feedback was collected through the on-line survey and during engagement activities through the fall of 2017. As discussed, the information collected through this process reflects the opinions and contributions of a diverse group of stakeholders including students, staff, faculty, and other stakeholders. These topics have been broken down into the following categories:

- Cycling To and From Campus;
- Cycling On Campus;
- Cycling Within Ring Road;
- Bike Parking and End-of-Trip Facilities; and
- Safety.

4.3.1 On-line Survey:

The on-line survey posed a number of questions related to issues and opportunities for improving the ease and safety of cycling on campus, and covered a range of topics including infrastructure, end-of-trip facilities and desired network. Overall, the following themes emerged from these questions:

- The top issues for cycling on campus and end-of-facilities were: Ring Road (24%), lack of bicycle parking (23%) and uncomfortable roads and pathways on campus that connect to neighbourhoods (21%).
- The top issues for safety within Ring Road were: a lack of defined cycling routes (24%) and understanding of etiquette (23%).
- Respondents would be encouraged to bike to campus more if bike lanes on roads connecting campus to surrounding areas were improved (19%) and if a bike lane or multi-use pathway was built along on Ring Road (18%).

Key questions have been broken down in detail below:

4.3.2 Cycling On Campus

Respondents to the interactive survey were asked what they felt were the main issues or challenges for cycling on campus and for end-of-trip facilities (see Figure 4.8). The top responses included cycling around Ring Road not being comfortable, not enough bicycle parking, and roads and pathways on campus that connect to neighbourhoods not being comfortable.

Respondents were also asked to identify specific issues with campus bike routes on campus. The top issue was overwhelmingly the lack of bike routes (52%), followed by intersection safety (17%), traffic volumes (9%), and poor connections (7%) (See Figures 4.9 and 4.10).