

Figure 4.8 – Main Issues or Challenges for Cycling On Campus

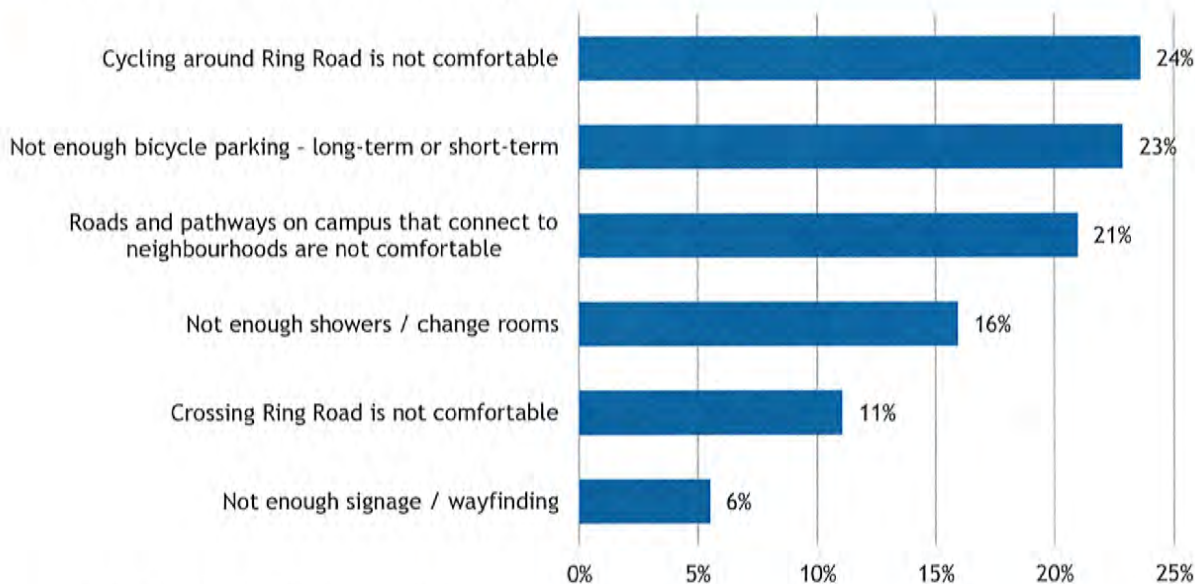


Figure 4.9 - Biking Issues on Campus

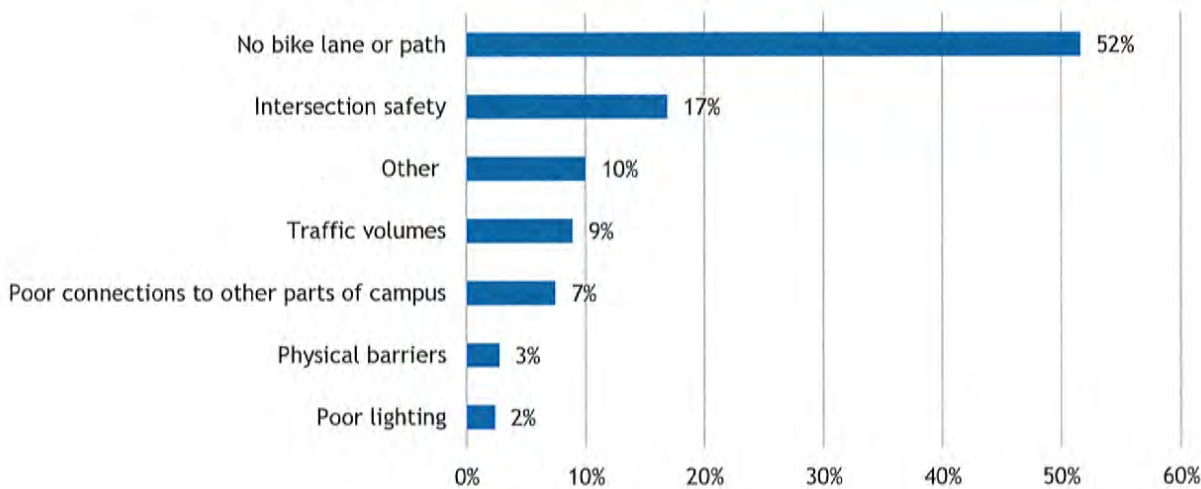
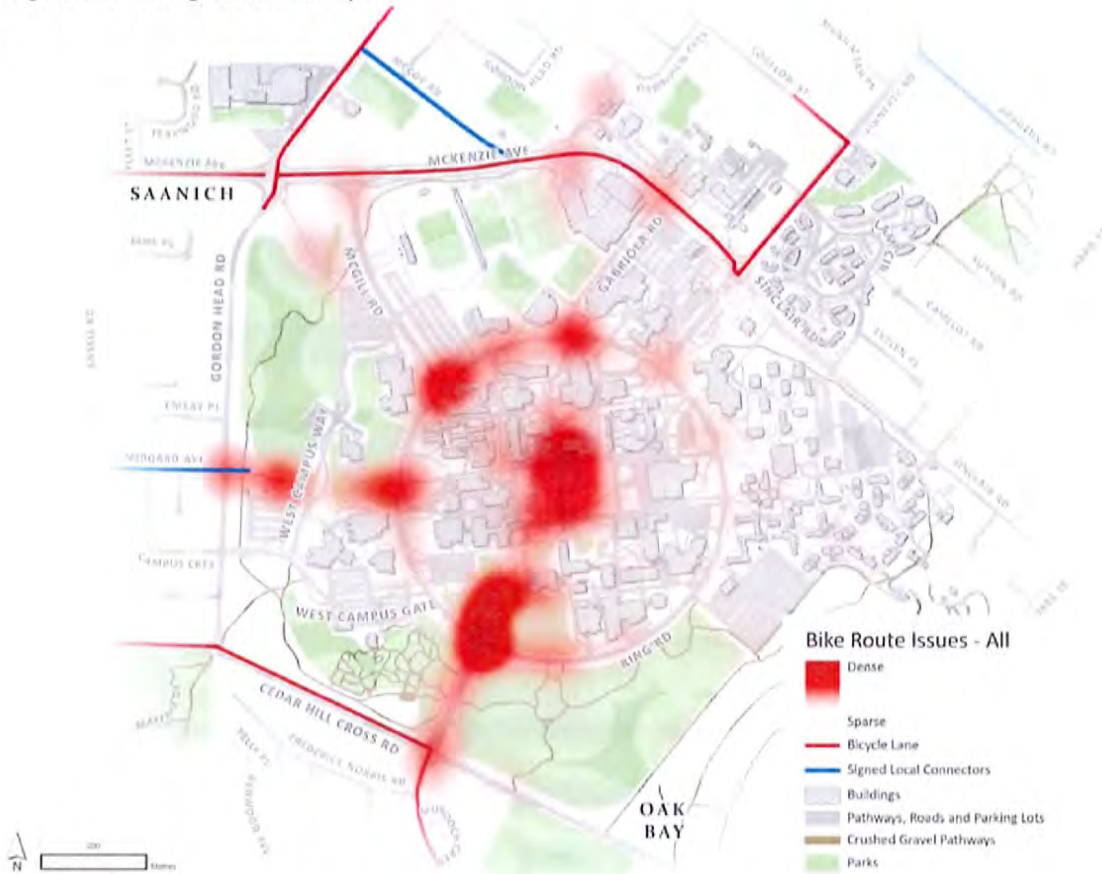


Figure 4.10 - Biking Issues on Campus

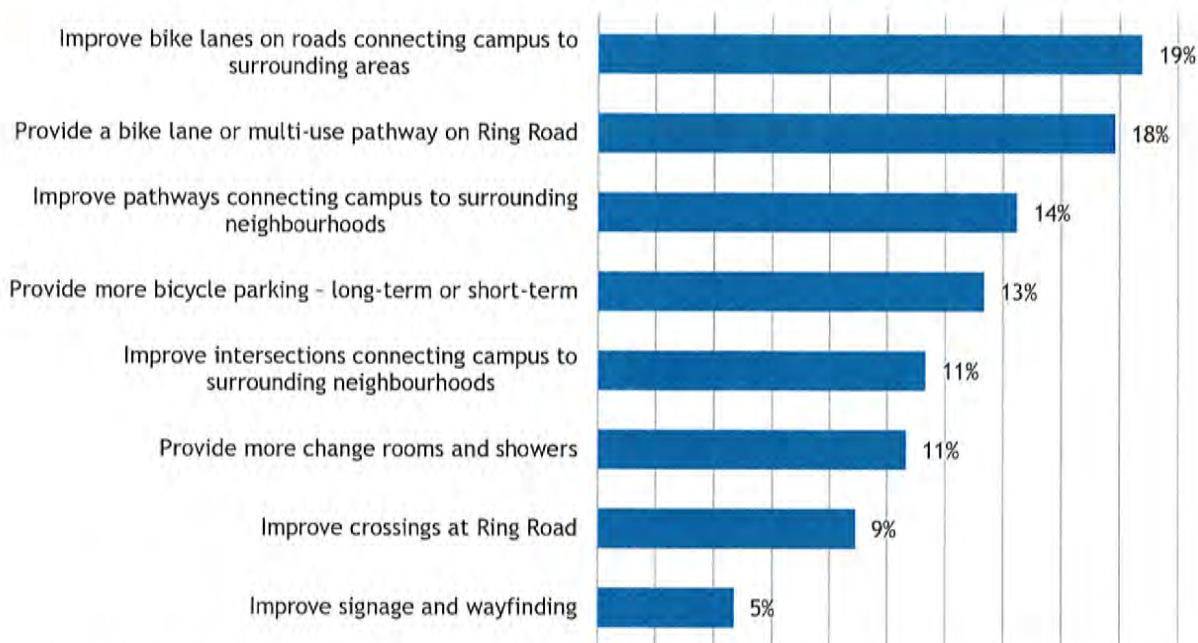


A full breakdown of bike route issues on campus by issue can be found in **Appendix B-2**.

4.3.3 Cycling To and From Campus

Respondents to the interactive survey were asked what they felt would encourage them to bicycle more to or from campus (see Figure 4.11). The top responses included improving bike lanes on roads connecting campus to surrounding areas, providing a bike lane or multi-use pathway on Ring Road, and improving pathways connecting campus to surrounding neighbourhoods.

Figure 4.11 – What Would Encourage People to Bike to and From Campus

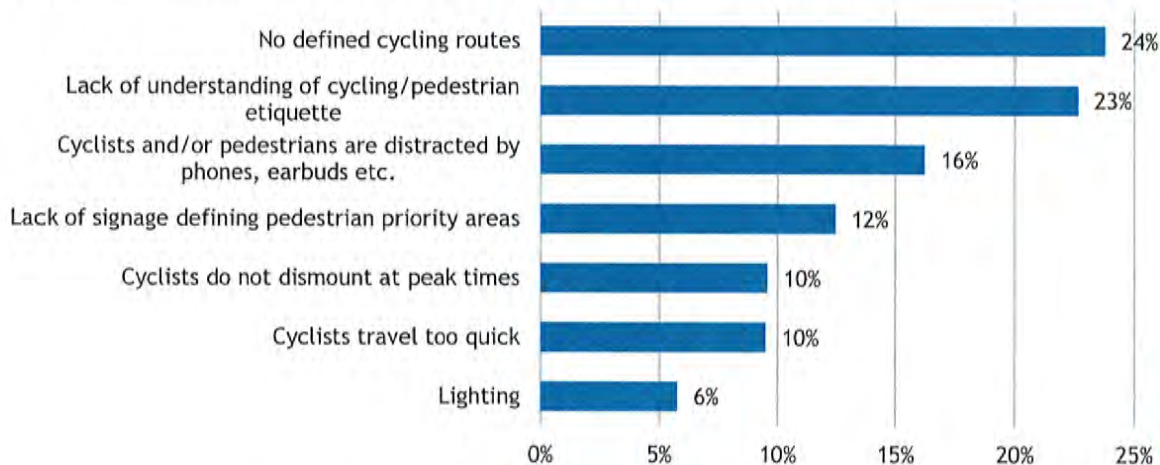


4.3.4 Cycling Within Ring Road

Respondents to the interactive survey were asked what they felt were the main issues or challenges for pedestrian and cyclist safety within Ring Road. The top responses are shown in Figure 4.12. The top responses included no defined cycling routes, lack of understanding of cycling / pedestrian etiquette, and cyclists and/or pedestrians being distracted by phones, earbuds, etc.

Respondents to the interactive survey were asked what they felt would improve pedestrian and cyclist safety within Ring Road. The top responses included clearly defined pedestrian and cycling paths, clear signage to designate pedestrian priority areas, and educational programs and awareness of cycling and pedestrian etiquette.

Figure 4.12 – Issues or Challenges for Pedestrian and Cyclist Safety within Ring Road



4.3.5 End-of-Trip Facilities and Bike Parking

Survey respondents were asked to identify the locations where there were currently issues with end-of-trip facilities and bike parking as well as specify some of the issues and challenges associated with end-of-trip facilities and bike parking in these areas.

For end-of-trip facilities, the top issue was no showers (61%), followed by no storage (23%) (See Figure 4.13). These issues were distributed across campus and Figure 4.14 shows some of the key locations where end-of-trip facility issues were occurring, notably at the Engineering Building, David Turpin Building, in front of the Library and at the University Centre.

Figure 4.13 – Issues or Challenges with End-Of-Trip Facilities

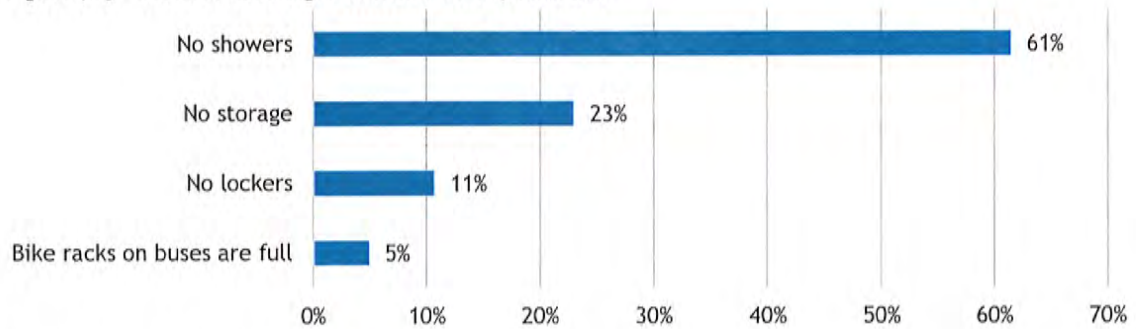
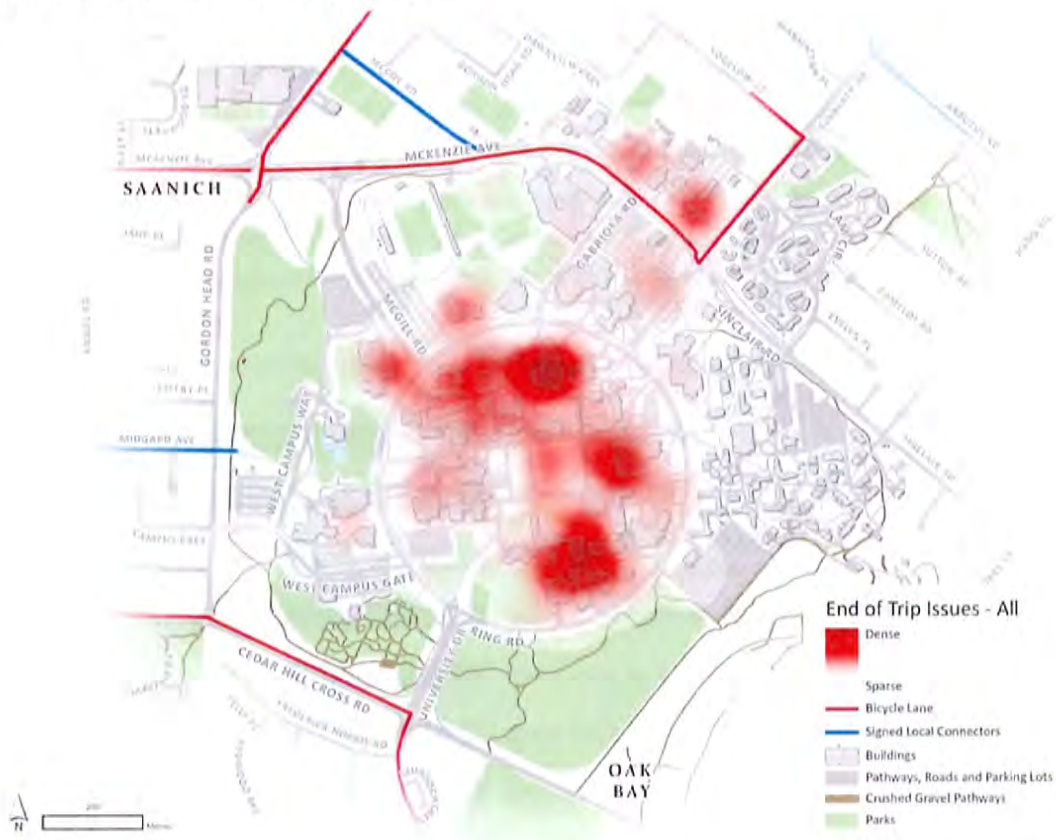


Figure 4.14 – Areas with End-of-Trip Facility Issues



A full breakdown of end-of-trip facility issues on campus by issue can be found in Appendix B-3.

The survey respondents also identified a number of issues related to bike parking, with nearly half of all comments (49%) stating that bike racks were full and 11% of comments stating that no bike parking space were available at preferred destinations (See Figure 4.15). These issues were distributed across campus and Figure 4.16 shows some of the key locations where bike parking issues were occurring, notably at the Engineering Building, in front of the Library and at CASRA.

Figure 4.15 – Issues or Challenges for Bike Parking

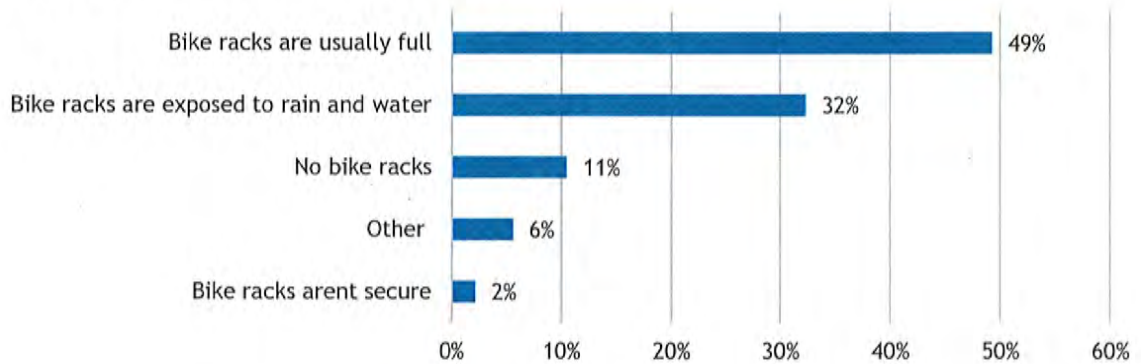
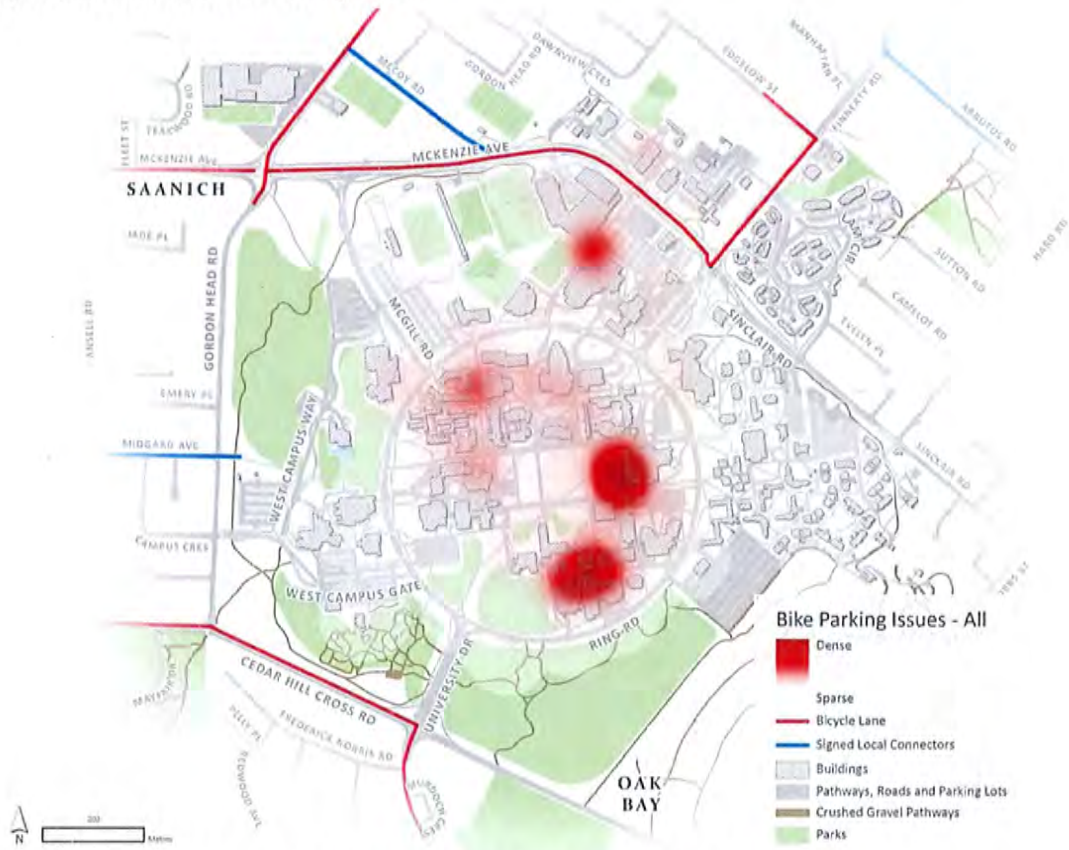


Figure 4.16 - Areas with Bike Parking Issues



A full breakdown of bike parking issues on campus by issue can be found in Appendix B-4.

4.3.6 Safety

Safety was identified as one of the key items to be addressed through the campus cycling plan. Therefore, survey respondents were asked to identify key safety issues on campus, as well as where safety issues were occurring.

The results of the survey showed that the top safety issue was bike and pedestrian congestion (29%), followed near misses with a vehicle (28%). A complete breakdown of safety issues can be seen in Figure 4.17 (below). The location of these safety issues has been mapped in Figures 4.18 - 4.20, shows some of the key locations where safety issues were occurring. As shown by Figure 4.18, these key safety issues were occurring within the quad, on ring road and at major intersections around campus. Figures 4.19 and 4.20 show key congestion areas between pedestrian and cyclist and cyclist and vehicles.

Figure 4.17 - Identified Safety Issues by Category

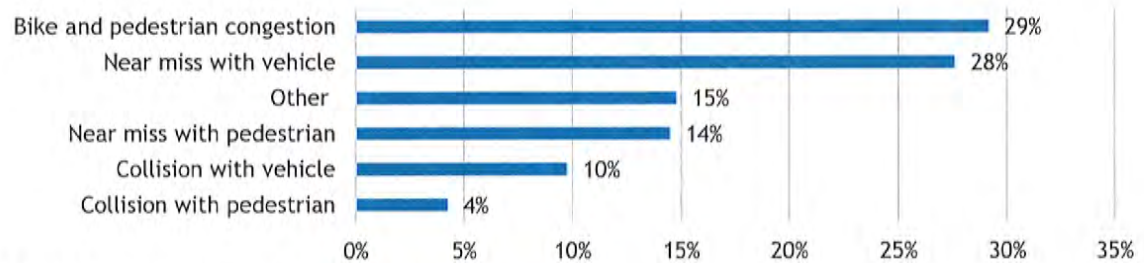
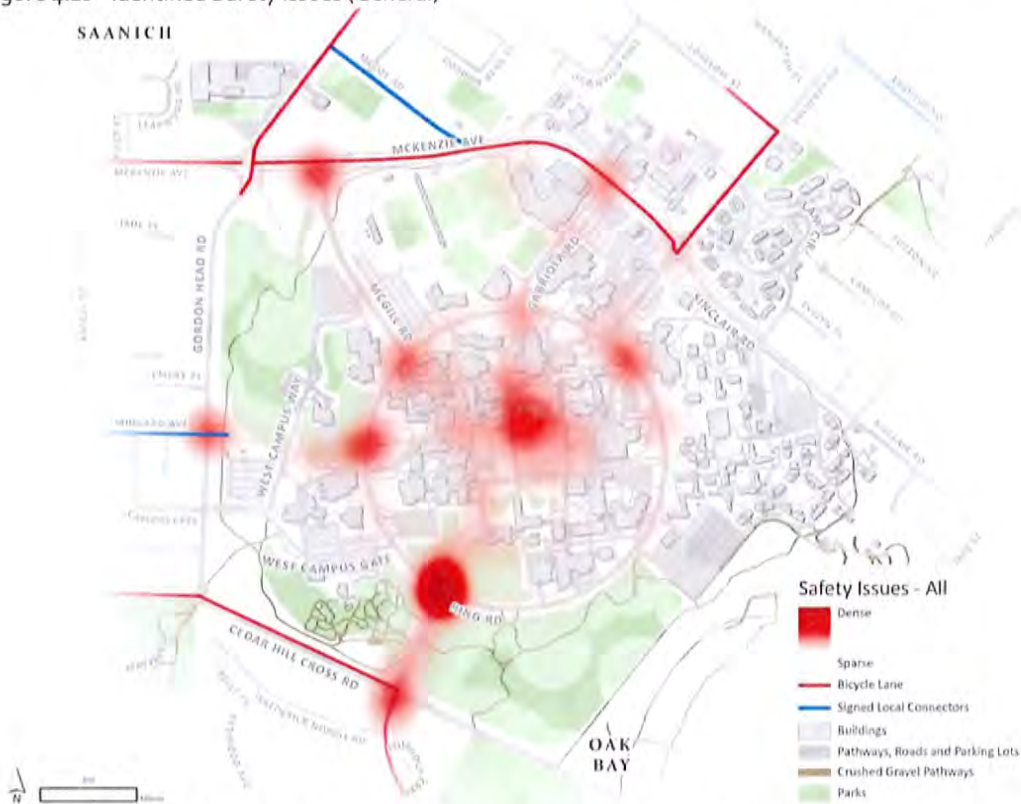


Figure 4.18 - Identified Safety Issues (General)



A full breakdown of safety issues on campus by issue can be found in Appendix B-5.

Figure 4.19 - Identified Safety Issues (Pedestrian - Cyclist Congestion)

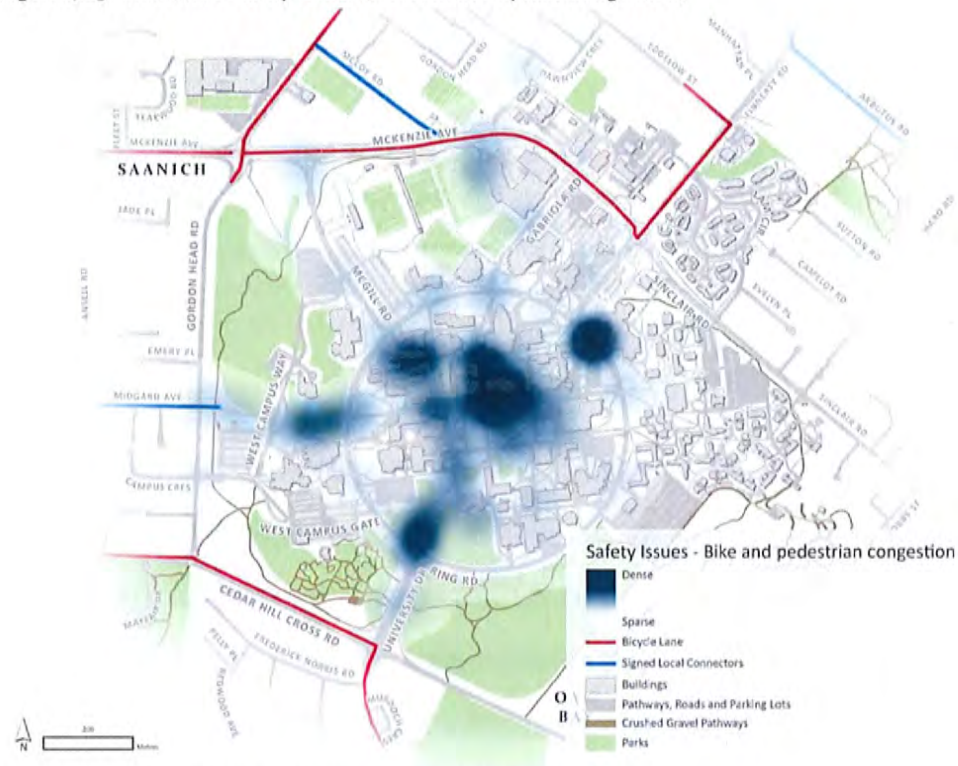
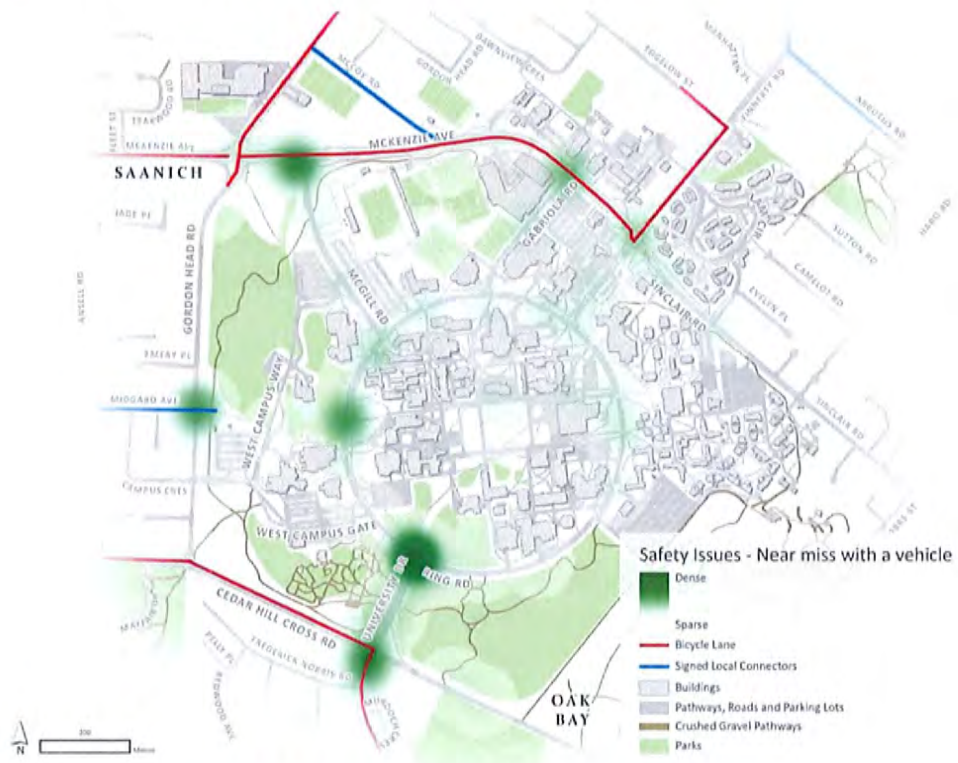


Figure 4.20 - Identified Safety Issues (Cyclist - Vehicle Near Miss)

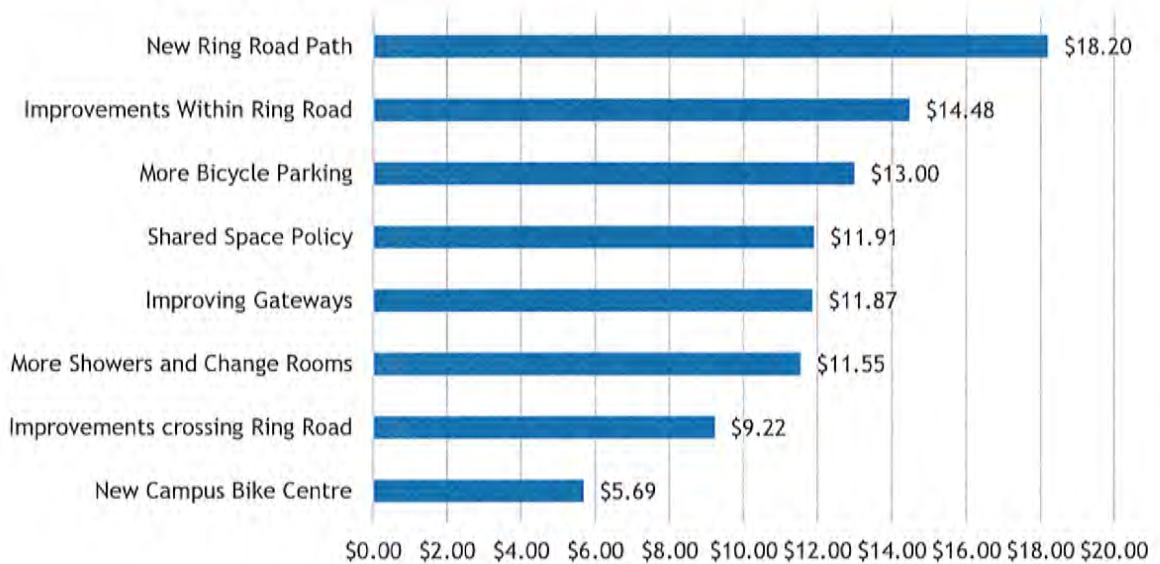


4.3.7 Priorities

Respondents to the interactive survey also asked what they felt were their greatest priorities for investment. Respondents to the survey were each provided \$100 and asked how they would spend the money based on eight pre-determined improvements to cycling and end-of-trip facilities. The top responses included a new multi-use pathway on Ring Road (average of \$18.20), improvements within Ring Road (\$14.48), and more bicycle parking (\$13.00). The top responses are shown in Figure 4.21 (below).

The results were fairly evenly distributed among the eight categories, with only 13 dollars separating the top and bottom categories. Based on the results shown below, a new Ring Road path was identified as the top priority. For this improvement, respondents allocated on average \$18.20 of the \$100 available.

Figure 4.21- Top Priorities for Investment in Cycling Facilities

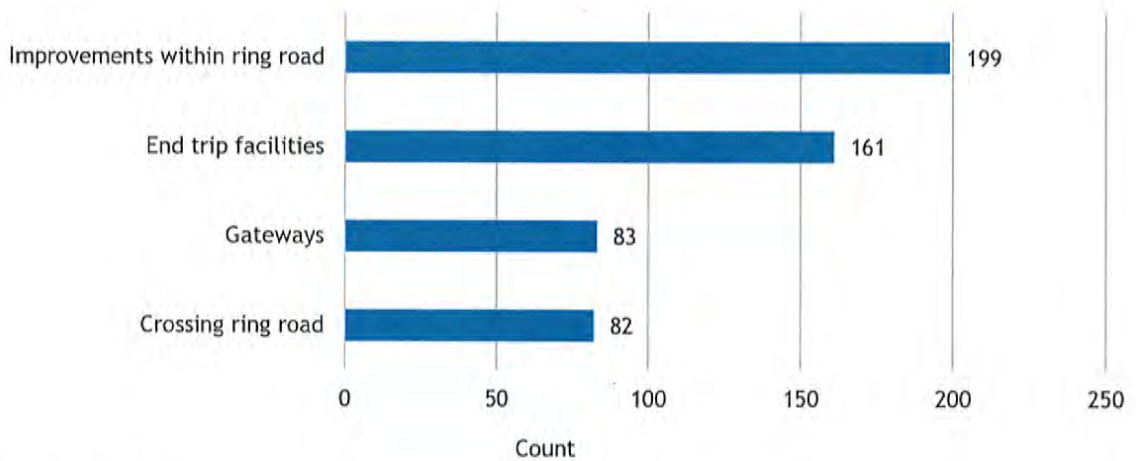


Members of the campus community who attended engagement events and the pop-up sessions were asked to provide similar feedback using a priority voting system. This activity asked members of the campus community for their priorities regarding specific focus areas. Visitors to the launch event and pop-ups were able to indicate their priorities by dropping up to two marbles into one of four jars. The jars represented the following priority areas:

1. Improvements within ring road;
2. End-of-trip facilities;
3. Gateways; and
4. Crossing Ring Road.

As shown by Figure 4.22 (below), improvements within Ring Road (199 votes) were seen as the highest priority followed by end-of-trip facilities (161 votes).

Figure 4.22 – Top Result Priority Voting Exercise



4.3.8 Demographics

As discussed previously, over the six-week period the survey was open, 1,306 survey responses were received. Based on the information provided, the survey appears to have captured the diverse spectrum of people working and studying at the University of Victoria (see Figures 4.23 -4.25). The breakdown of students versus staff showed that more than half those surveyed identified themselves as a student (52%), followed by 45% of participants who identified themselves as either a UVic staff or faculty member.

Figure 4.23 – Respondent Category

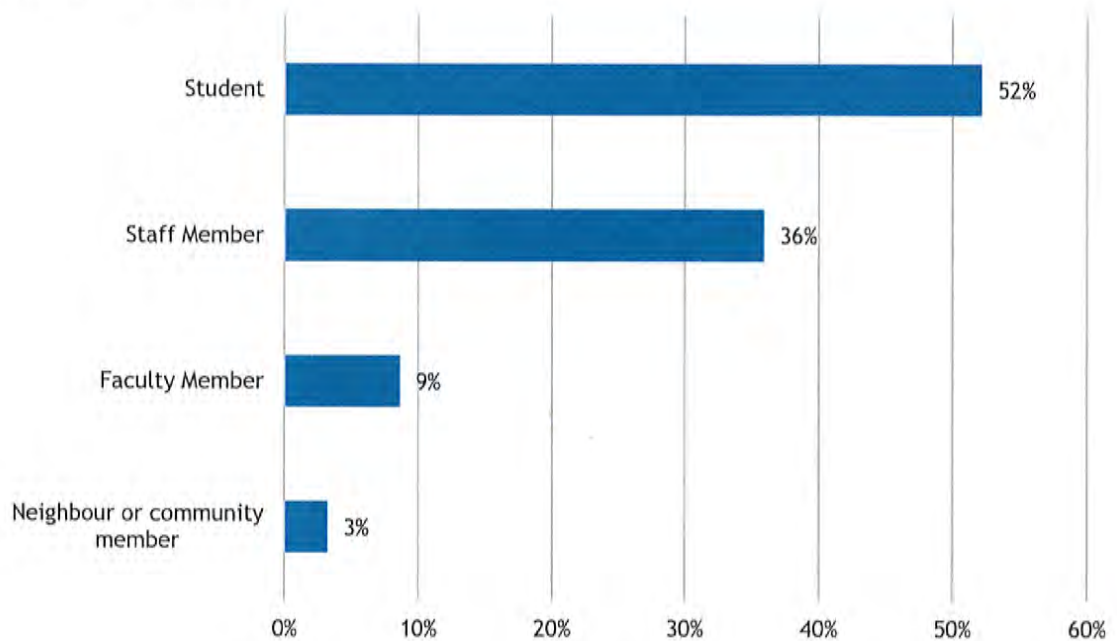


Figure 4.24— Respondent Age

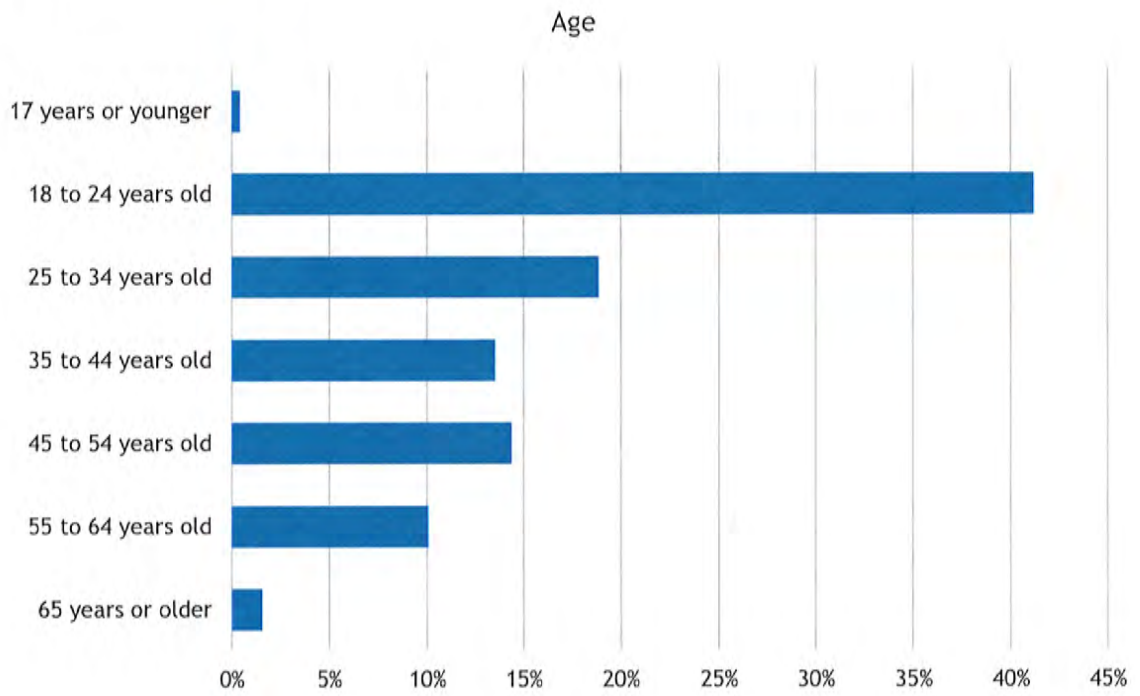
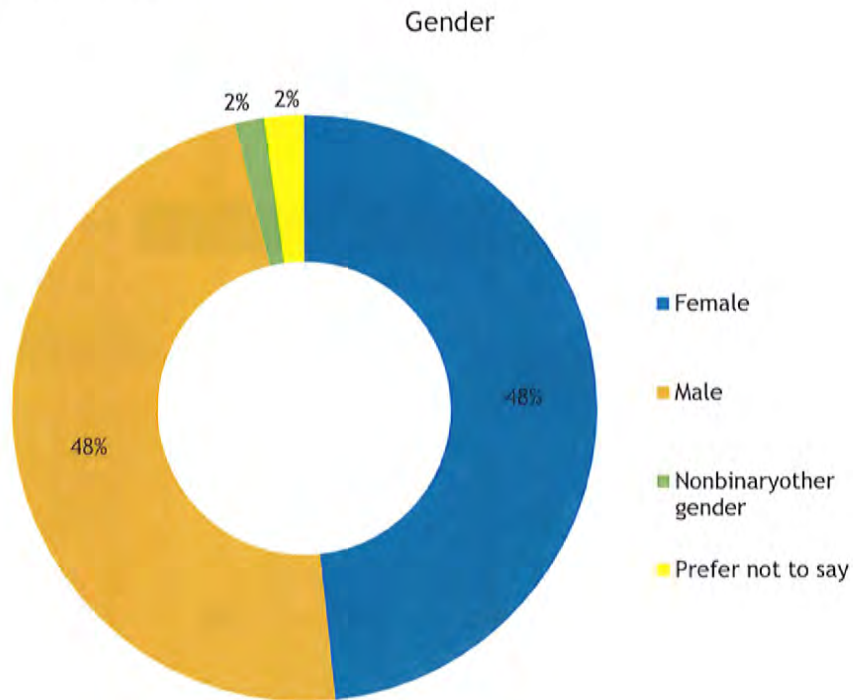


Figure 4.25— Respondent Gender



5 INTEGRATING BICYCLES AND CONGESTION MANAGEMENT

As part of Phase 1.0 of the UVic Campus cycling Plan Mobycon Consultants were recruited to complete a policy review and outline potential strategic policy interventions. The attached memorandum *University of Victoria - Bicycle Strategy: Integrating Bicycles and Conflict Management* provided by Mobycon Consultants articulates next steps for policy development such as establishing a base line of pedestrian volume, share space behaviour, best practices, and key policy considerations to be reviewed in Phase 2.0 of the planning process.

Over the past several decades, the North American landscape has shifted the priority and thus the urban space towards dedicating more of the public realm to the private automobile. This is very visible on the UVic campus, where in the development of the campus, significant priority was given to roads and car access. Therefore, in order to develop a policy framework around transportation priorities and how to manage cycling on campus, this study has reviewed the University of Victoria context and provided a policy strategy for integrating bicycles and managing congestion / negative interactions between cyclists and pedestrians. The following section provides a high-level overview of the detailed policy strategy provided by Mobycon Consulting, which can be found in **Appendix C**.

In general, Mobycon's memorandum states focussing on cycling alone is not possible without affecting the other transport modes and providing infrastructure is always a balance between modes in a constrained space. Therefore, an efficient and inclusive traffic system embraces the positive aspects of each mode, while mitigating the negative effects of that mode. This represents the foundation on which cycling policies on campus should be built.

In particular, the Decision Tools outlined in section 5.0 of the memorandum provide a solid starting point to begin unpacking a cycling policy framework for UVic campus. Determining which tools and strategies are most context appropriate is often the most challenging component of integrating modes successfully. In this section Mobycon asks several poignant questions in their report that need to be addressed through this process:

- ☞ Are bicycles a practical means of transport within campus or only as access to campus?
- ☞ Do pedestrian volumes at peak periods prevent the use of bicycles?
- ☞ Are there alternative routes for cycling during peak periods that maintain sufficient access?

In terms of managing cyclist and pedestrian interactions the core of the findings presented in the memorandum suggests that as pedestrian volumes increase (measured in pedestrians/hour/metre of width) cyclists are increasingly unable to operate safely and courteously.³ Table 5.1 (below) outlines the values and corresponding facility type determined for the level of separation required for cyclists.

³ Volume measurements should be for a frequent peak hour (multiple times per week) rather than average volumes.

Table 5.1 - Decision Table for Cycle Facilities in Pedestrian Environments²

Pedestrian Volume	Appropriate Cycle Facilities
<100 ped / hr / m	Completely shared space
100 → 160 ped / hr / m	Visually delineated cycle space
160 → 200 ped / hr / m	Physically delineated cycle space
>200 ped / hr / m	Separate bicycle ROW (alternate route)

This implies that pedestrian counts for certain parts of campus may assist with the implementation of a shared space policy and help to delineate what spaces are best shared (pedestrians and cyclists) and what areas of campus may be too congested with pedestrians to safely cycle through.

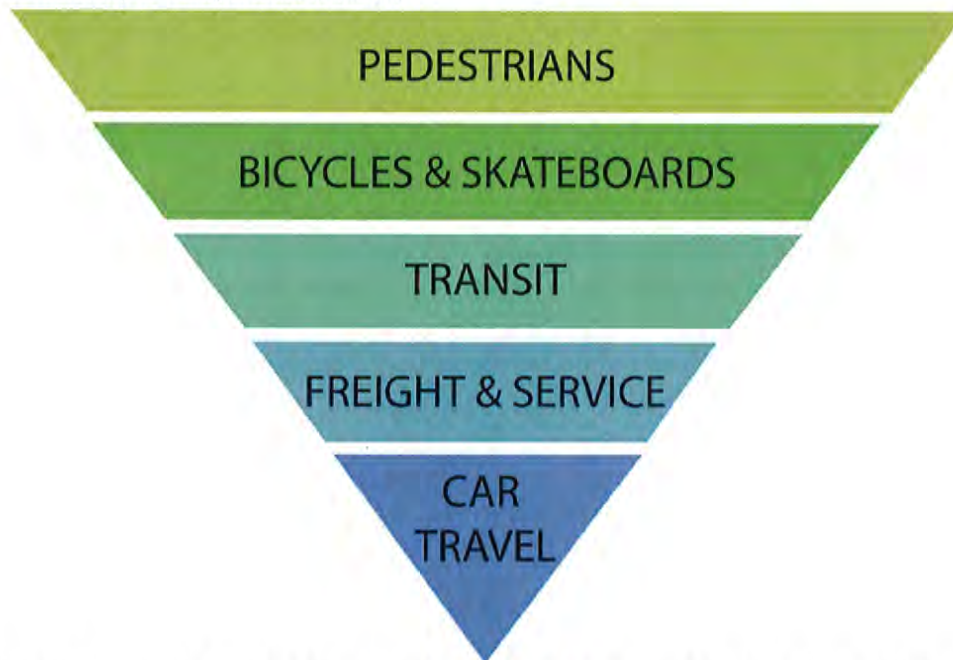
The memorandum also provides a set of principles that can be applied throughout the different sectors of campus to assist the University in enhancing the safety and effectiveness of its cycling network, by providing students and staff with more options. Importantly, a key transportation policy strategy is the application of a transportation hierarchy (reversed priority pyramid) that puts pedestrians and active modes of transportation at the top (see Figure 5.1).



² Fiets Beraad, 2005; Godefrooij & van Hal Waneer, 2005; Michels, 2017

This reversed priority pyramid should be used as a decision tool to guide policy decisions on campus. The key focus of the reversed priority pyramid is safety, whereby, policy and design changes focus on safety and not making conditions worse for the most vulnerable road users, such as people travelling by foot and bicycle. Moving forward, when transportation decisions are being made, the safety of each group of road users should be considered in this priority order while embracing the positive aspects of each mode, and mitigating the negative effects of that mode.

Figure 5.1 - Hierarchy of Transportation Priorities



By reprioritising active modes and public transit in this policy mind-set, UVic can work to address congestion, parking pressures, and accessibility issues. The challenge of effectively integrating bicycles into the UVic campus is one that requires a multitude of approaches. One of the key elements of this challenge is how to manage congestion / negative interactions between cyclists as well as with other modes.

Moving forward, to deliver a comprehensive policy strategy that effectively balances and prioritizes mode appropriately, the following statements should be adopted as guiding principles of a comprehensive systems approach to tackling traffic safety, for mobility planning issues that arises on campus.

1. **Functionality:** Every street has an identified primary function (ex: local access road, main shopping street, regional highway, etc.).
2. **Homogeneity:** Differences in speed and mass should be minimized between users that share space.
3. **Recognizable:** Users should be able to easily recognize and understand the function of a road and the behaviour expected of them and others.
4. **Forgiving:** Everyone makes mistakes. The system should accommodate mistakes in a way that does not result in severe outcomes.
5. **Awareness:** The ability to assess one's own capacity to operate in the environment.

6 SUMMARY

Through the feedback received during the first round of engagement, campus users have been very keen on providing their feedback and input into what they want to see implemented as part of the UVic Campus Cycling Plan. These ideas were communicated through the priority voting exercise, issue identification maps, and online surveys. The main topics of concern based on the priority voting exercise and the issue identification maps are improvements within Ring Road (traffic and congestion while traveling to/from and within campus), improvements to key access points (McGill Road, Finnerty Road and University Drive,), end-of-trip facilities (bike parking, showers and change rooms), and user congestion (occasionally conflicts) on campus paths and roads.

The following itemizes and elaborates key issues for consideration and further exploration for each of the main topics identified in public surveys and engagement.

1. Enhancing cycling connections leading to/from the campus core – Connections to campus remain a key safety concern and the addition or improvement of cycling facilities for key access point remains a priority for many. A number of roads (McGill, Finnerty, and University Drive) and intersections (Midgard and Gordon Head, McKenzie and Gordon Head, McGill and McKenzie, McGill and Ring Road, University Drive and Cedar Hill Crossing, University Drive and Ring Road, and Finnerty and Sinclair/McKenzie) have been highlighted as having safety concerns. Each were identified by respondents as locations for potential improvements to cycling facilities. These roads and intersections will be reviewed for improvements to the cycling infrastructure. As well, several multi-use or paved pathways have been cited as needing greater separation between pedestrians and cyclists, notably the access off University Drive.
2. Ring Road – Improvements around or within Ring Road was a common discussion point and identified as a top priority in both the survey and public engagement process (see Figures 4.19 and 4.20). Feedback on safety showed that this is also a key problem area for cyclist/pedestrian/ vehicle interactions, notably at the intersection of McGill Road, Finnerty Road and University Drive. In general, there was appetite to see added or enhanced cycling facilities on Ring Road. Moving forward, it is recommended that the addition of cycling facilities on Ring Road (either within or around) be reviewed for transportation functionality and feasibility.
3. End-of-Trip Facilities – End-of-trip facilities were also identified as being a key area for intervention. In general, it was suggested that there is currently a shortage of facilities on UVic campus with the lack showers, change rooms and bike parking being key issues in multiple areas of Campus (see Figure 4.7, 4.11 - 4.14 and 4.19). The Engineering Building, David Turpin Building and University Centre have been identified as areas with a shortage of end-of-trip facilities (showers and change rooms). The Engineering Building, Library and CARSA have been identified as areas that require more bike parking, especially in more convenient and accessible areas. It is recommended that bike parking be provided in these locations and options for providing new shower and change room facilities in a location inside Ring Road be reviewed. Options to build a 2nd Campus Bike Centre on south side of campus (near the Engineering buildings) could be explored. Class 1 facilities for bike parking are attractive and well used, but convenience and location are important to provide for people riding bikes across campus.
4. Cycling, Pedestrian and Vehicle Congestion – As shown by Figure 4.17 (below) the vast majority of cycling and pedestrian congestion is occurring near or inside Ring Road. Moving forward, it is recommended that the University explore the merits of a shared space policy and review potential options for cycling facilities

and infrastructure treatments that support more separation of pedestrian and cyclists in some areas; primary attention should be on multi-use pathways that act as key access points to campus that cross into Ring Road. Motor vehicle travel on Ring Road can also conflict with pedestrian and cyclist movements, especially at crossings and entry points. Looking ahead, the identified key topics above and ongoing discussions with the UVic staff and consultation team suggest several other potential areas for consideration and evaluation. These issues reflect, in part, 'bigger picture' goals of the 2016 Campus Plan, addressed in the highlighted '9 Big Moves' in that document.

Other themes and questions for consideration, included:

1. Provision / need for bike parking evident in some areas more than others (i.e. Engineering);
2. Potential for a 2nd Bike Centre (Class 1 facility) on south side of campus;
3. Policy development/guidelines for bike parking/amenities on all new buildings/upgrades;
4. Feasibility and function of mode separation on internal campus routes; and
5. Transport function of Ring Road (direct/indirect route to most campus destinations).

This is the first Discussion Paper prepared as part of the Campus Cycling Plan process for the purpose of providing a summary existing conditions for cycling on UVic campus today - based on technical analysis and public input received to date. The next phase of work will focus on charting a course for the future of cycling on UVic campus, developing the draft plan and presenting draft options for cycling networks and new facilities to the campus community.

