University of Victoria 2021 Transportation Survey – Final Report

April 8, 2022

Submitted to University of Victoria, Office of Campus Planning and Sustainability
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Our file: 2431-70049-00

Your Challenge.
Our Passion.

Our File: 2431-70049-00

April 8, 2022

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Attention: Juliet Van Vliet, RPP, MCIP

University of Victoria 2021 Transportation Survey – Final Report

McElhanney Ltd. has been hired by the University of Victoria to collect traffic, transit, and active transportation data as part of their Sustainability Action Plan. Data collection took place in October 2021 at all the major access points to and from the campus. This report presents a summary of data collected and a comprehensive assessment of the current trip patterns by travel mode.

The University of Victoria aims to use this report to monitor its progress towards a 70% sustainable mode share including walking, cycling, transit and carpooling. The 2021 survey took place during the Covid-19 global pandemic which impacted the total trips made to and from campus as well as the preferred mode of travel. Furthermore, the 2021 survey days were exceptionally wet which impacted total cyclist and pedestrian trips. 2021 saw an 8% decrease in daily trips, and a 23% decrease in overall transit ridership. The total amount of auto driver trips remained steady, however the daily mode share increased from 38% in 2018, to 44% in 2021 resulting in a daily sustainable mode share of 56%, down from 63% in 2018.

The results from the 2021 survey reflect travel patterns of other municipalities in BC during Covid-19; decreased travel including a drop in transit ridership. It will be important to track the results in future surveys, specifically looking at transit ridership recovery or a continued increase in pedestrian travel.

Sincerely,
McElhanney Ltd.

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Executive Summary

McElhanney Ltd. (McElhanney) has been hired by the University of Victoria (UVic) to collect traffic and active transportation data throughout their campus. The locations of data collection reflect the campus' key entrance and exit points for automobiles, transit busses, and active mode users. The focus of this study is to analyze UVic's progress towards its primary goal as stated in UVic's Sustainability Action Plan 2020-2021: *"To continue to increase the use of transit, cycling, walking and carpooling to 70% of the transportation modal split."*

The 2021 campus traffic survey collected traffic count data for the following modes and methods:

- **Vehicle Data**: Miovision Scout VCU 2-day collection for the AM peak (7AM – 10AM) and PM Peak (2PM – 6PM), Automated Traffic Recorder (ATR) 24-hour weeklong counts from Oct. 25 – Nov. 5
- **Vehicle Occupancy (Auto Passengers):** High-definition video (using GoPro cameras) footage recording inbound AM peak and outbound PM peak passengers
- **Transit**: Provided by BC Transit for the period of data collection, Oct. 18 to Nov. 5.
- **Pedestrians/Rollerbladers/Skateboarders/Cyclists:** Miovision Scout VCU 2-day collection for the AM peak and PM peak

There were several underlying factors that influenced the outcomes of the 2021 survey noted below. These all contributed to changes in travel patterns to varying degrees and it is difficult to draw conclusions on which ones had the greatest effect.

Covid 19: Due to physical distancing measures, there was a preference for "private" modes: single occupancy vehicles, walking, cycling. Furthermore, remote working capabilities and online learning decreased the total trips to/from campus.

Enrollment: Total University enrollment increased by 2.7% since 2018

Weather: The days of data collection were wet and windy which influences mode choice, especially cycling and pedestrian volumes

Later in October: Limited daylight in the early mornings influenced collect accurate data for vehicle occupancy

Construction: Construction at the West Campus Gate Trail and Parking Lot 5 impacted the total pedestrian and cyclist volumes recorded at these locations

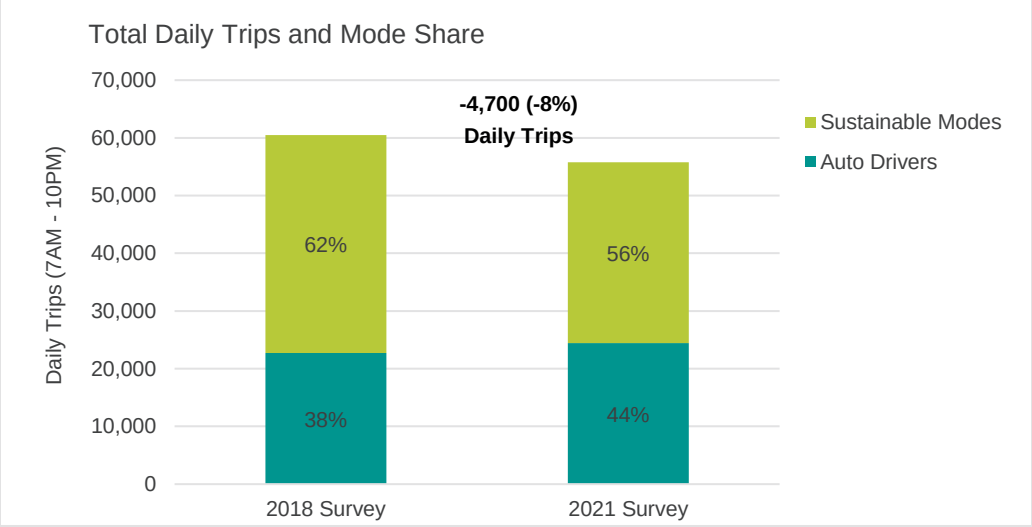
Methodology: The shift to more automated collection methods is not expected to have influenced the 2021 survey, but is worth noting as a key difference from previous studies

Vehicle access to and from campus remains like previous studies, with University Drive (Location M1) carrying the highest proportion of vehicle trips. Notable changes to the pedestrian and cyclist distribution are the increase in trips at the Centre for Athletics, Recreation and Special Abilities (CARSA) Corridor and decrease in trips at the West Campus Gate trail due to construction.

The 2021 Survey reported a decrease in daily trips to and from Campus. As explored in this report, Covid-19 has changed the travel patterns of students, faculty and staff commuting to campus. Many faculty and staff had remote working capabilities resulting in less commuter trips to campus. Prior to Covid-19, telecommuting had a minor impact on the transportation mode split (2018 surveys and prior).

Total daily auto driver trips increased by 7.5% since 2018, transit passenger trips decreased by 23%, and auto passenger trips decreased by 38%. Daily pedestrian trips increased by 12% suggesting it was a preferred mode of travel. This is consistent with other regions where people are working and taking classes online at home and prefer to travel using modes that provide physical separation from other people. Cyclist trips decreased significantly due to very wet and windy weather during the days of data collection. A sensitivity test using the Capital Regional District's (CRD) permanent active modes counter program (University Drive counter)[1] showed that sunny days can have double the daily cycling trips compared to rainy days.

Comparing the 2018 and 2021 survey, the daily sustainable mode (all modes except auto driver) decreased from 62% to 56% and conversely the daily auto driver mode share increased from 38% to 44% as shown in the figure below. The observed decrease in sustainable mode share can initially be perceived as negative since it is not aligned with UVic's sustainability goals. That being said, many regions around BC are also experiencing similar trends due to Covid-19 and it is difficult to predict long-term effects of Covid-19.



[1] https://data.eco-counter.com/ParcPublic/?id=4828

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1. Background

1.1. BIENNIAL TRAFFIC SURVEY

The University of Victoria has engaged McElhanney to conduct a comprehensive survey of the current traffic access patterns to and from the UVic Campus (the Campus). This study focuses on the mode share for trips made by auto drivers, auto passengers, transit passengers, pedestrians, cyclists, and skateboarders to and from the Campus on a typical weekday.

The survey was first completed in 1996 and occurs biennially with the exception of 2020 due to the Covid-19 pandemic. In 2020, like many businesses, UVic shifted to remote learning and working. Since 1996, there has been a notable decrease in single occupancy vehicles and an increase in other sustainable modes. UVic has implemented several Transportation Demand Management programs over the years to encourage travel by sustainable modes including the student UPass program, an employee subsidized bus program, improved cycling infrastructure, and partnerships with car share companies.

UVic's transportation sustainability mission is *"To offer sustainable travel options and act as a hub in a regional sustainable transportation network*"[2]. This mission is stated in UVic's Sustainability Action Plan: Campus Operations 2009-2014; the 2014 – 2019 update, and the 2020-2021 update.

Under the mission statement, UVic's main sustainability goal is to:

- Continue to increase the use of transit, cycling, walking, and carpooling to 70% of the transportation mode split.

The biennial traffic survey aims to monitor progress towards achieving a 70% sustainable mode share. Presented in this report is the traffic collection methodology and analysis for determining the total trips entering and exiting the campus by mode, and consequently the Campus wide mode share.

In addition, the transportation survey provides up to date information for parking management purposes and for future development planning. The survey data also assists in the university's liaison with the Districts of Oak Bay and Saanich on new capital project approvals and the discussion on roadway, traffic, cycling and parking issues.

1.2. TRAFFIC IMPACT OF COVID-19

The Covid-19 pandemic was declared a provincial state of emergency on March 17, 2020 in BC and has since drastically changed the way people travel and how often people travel. With the rise of remote working and online schooling, less commuter trips have been observed during the typical AM and PM peak hours. Furthermore, with physical distancing precautions in place, people prefer to use "private"

[2] Sustainability Action Plan Campus Operations 2020-2021 (uvic.ca)

modes of travel including driving alone, walking, or cycling. This preference towards travelling alone has affected transit and auto passenger ridership.

In the fall semester of 2021, UVic had predominantly in-person classes and offered an additional 100 online courses to accommodate international students. While most classes were in person, lower attendance was anticipated due to staying home when sick (Covid-19 or other general sicknesses) and the ability to watch recorded lectures at home. Lower class attendance and remote working capabilities for staff and faculty impacted the total trips to and from campus for the 2021 survey despite a 2.7% increase in enrollment since the 2018 survey was conducted.

2. Methodology

2.1. TRAFFIC DATA COLLECTION PLAN

Figure 1 provides the location of each site along with the type of count(s) collected for that site. A detailed list of these locations can be found in ***Appendix A*** along with the full data collection plan. A key factor in developing the survey methodology is to ensure consistency with the previous surveys so that trends can be analyzed. In addition, the data collection methods aimed to leverage the capabilities of new traffic count technologies to increase the reliability of previous manual counting methods.

The dates of data collection for the 2021 survey were Tuesday Oct. 26, 2021 and Thursday Oct. 28, 2021 for the following time periods:

- AM Peak: 7:00 AM – 10:00 AM; and
- PM Peak: 2:00 PM – 6:00 PM

24-hour weeklong counts were collected at certain sites as further discussed below.

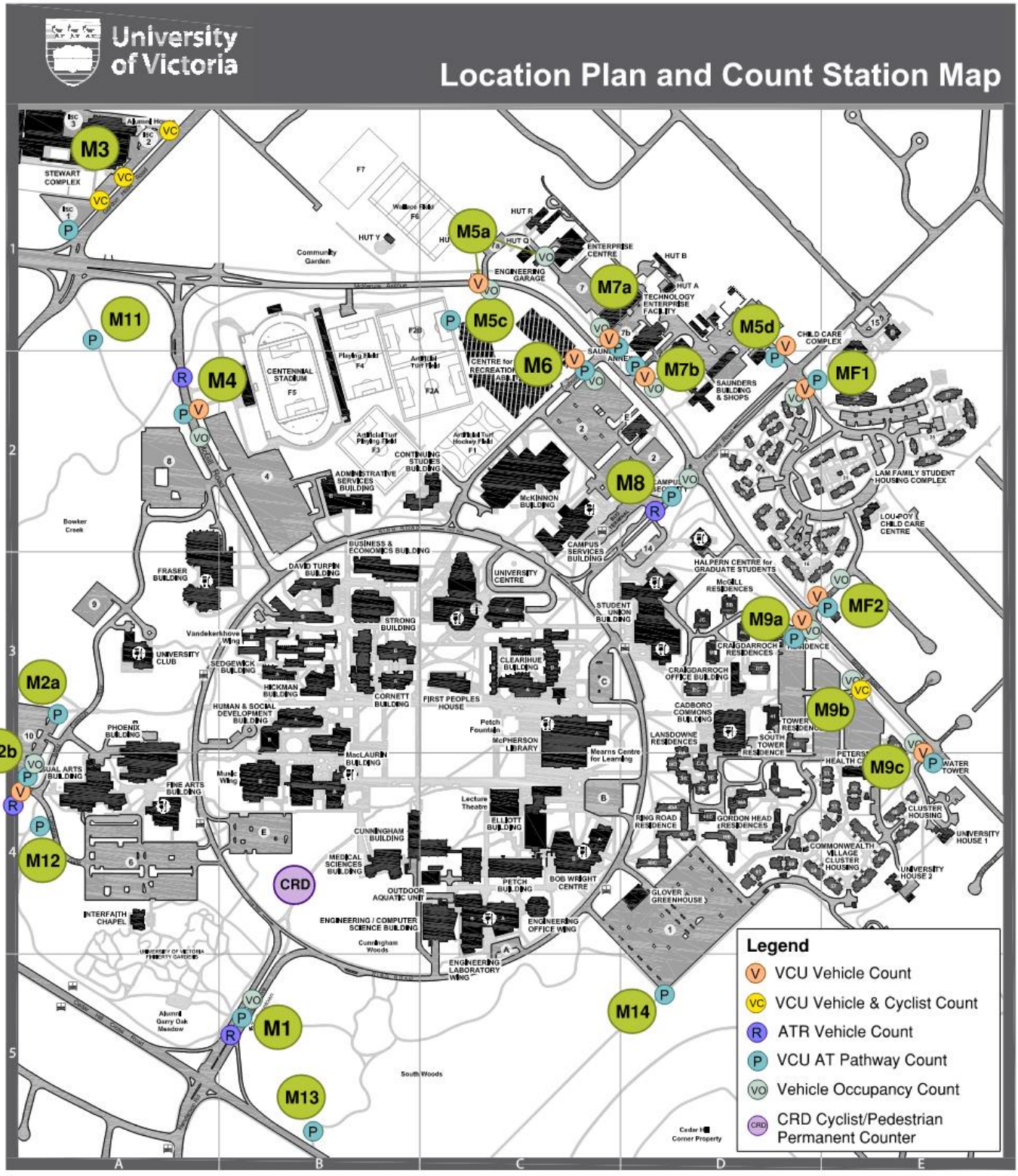

Figure 1 - Location Plan and Count Station Map

2.1.1. Vehicle Data

The 2021 UVic Campus Traffic survey included two types of vehicle counts as described below. Site photos of the equipment installation are provided in ***Figure 2.***

- **Miovision Scout Video Collection Unit (VCU) Vehicle Count:** The Scout VCU is an industry-leading traffic counting device that is portable, reliable, and can collect data unattended for days at a time. The device is also capable of counting pedestrians and cyclists. Video collected from the Scout was uploaded to Miovision servers, where video analytics software analyzed and identified the classification and movements of each vehicle captured. The Scouts were used to perform lane counts and intersection counts. Further installation and equipment specifications are provided in the Data Collection Plan in ***Appendix A***.

- **Automated Traffic Recorder (ATR):** 7-day 24-hour vehicle volume counts at the main roadways were tracked using Armadillo Radar Trackers. These side-mounted radar trackers perform automatic traffic counts similar to those collected using pneumatic tubes. They require minimal installation, consisting of a small box mounted on a street sign, lamppost, or utility pole and are not subject tire damage such as for tube counts.

For sites M1, M2b, M4, and M8, ATR data was collected from Oct. 25 – Nov. 5, 2021. For M6, 24hr data was collected using the Miovision VCU from Oct. 26 – Nov. 1, 2021.

For non-ATR sites, data was collected on Tuesday Oct. 26, 2021 and Thursday Oct. 28, 2021 for the following time periods for the AM and PM peak periods.

- AM Peak: 7:00 AM – 10:00 AM; and

- PM Peak: 2:00 PM – 6:00 PM

Due to equipment scheduling malfunctions, there was no data collected for M5ac on Oct. 28. Vehicle classifications were lights (passenger vehicles), buses and trucks. Since buses are not counted as auto drivers, only the lights and trucks data were used in the analysis.

GoPro Unit

ATR Unit

Miovision Scout VCU Set Up

Miovision Scout VCU Unit

Figure 2 - Data Collection Units

2.1.2.Active Transportation Data

The Miovision Scout VCUs were used for pedestrian, cyclist, and skateboarder data collection. Using the pedestrian pathway processing function, we were able to deploy a single unit and capture information in up to four directions. For each location, data was collected on Tuesday Oct. 26, 2021 and Thursday Oct. 28, 2021 for the same AM peak and PM peak hours as the vehicle counts. Due to equipment scheduling malfunctions, there was no data collected for M3 South Exit on Oct. 26.

Sample images of the video collected are provided below. Note that the Miovision Scout VCU's video is captured in a low definition, removing the ability to collect personal information such as facial features.

M11 on Oct 28th

M5c Pathway on Oct 28th

Figure 3 - ATC Count Sample Video

2.1.2.1. Cyclist Data

The CRD, in partnership with UVic, has recently installed a permanent cyclist and pedestrian counter at the South Campus Entrance Multi-Use Pathway North of Ring Rd (***Figure** Error! Reference source not found.**4***) as a part of the Regional Cyclist and Pedestrian Count Program. Daily and hourly cyclist count data was extracted from the CRD for the month of October to supplement cyclist data collected using the Miovision VCU. The location of the counter is also provided in the Location Plan (***Figure 1***).

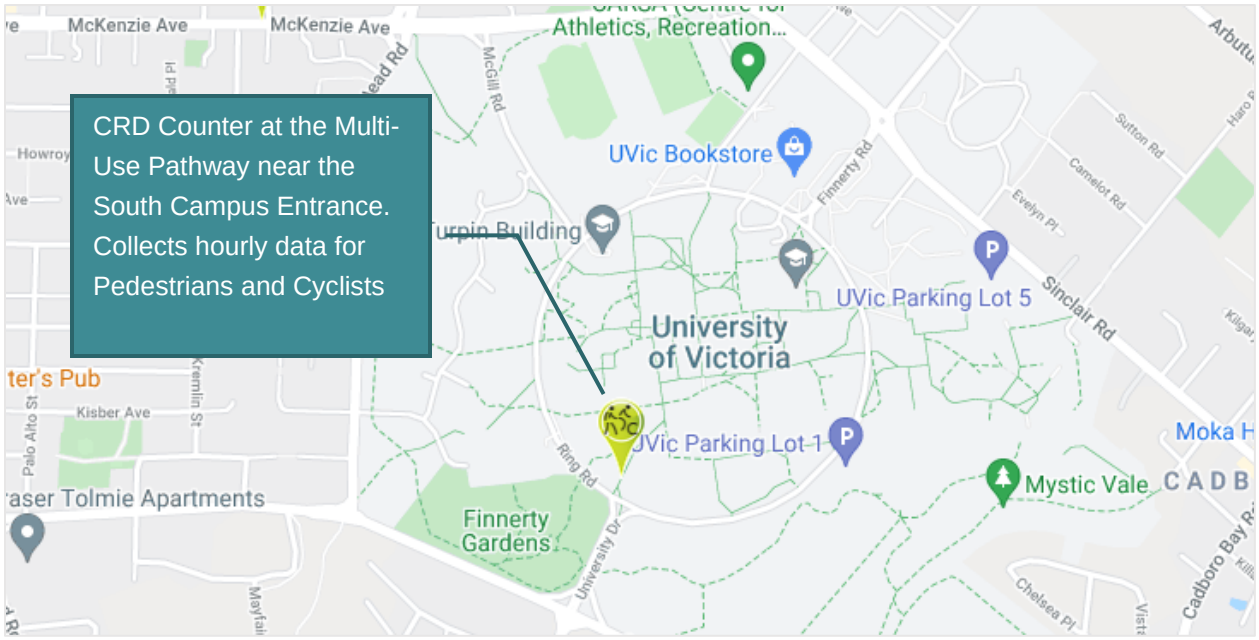

Figure 4 - CRD Permanent Counter Location

2.1.3. Vehicle Occupancy Data

High-definition video cameras (GoPro's) with an extended battery pack and storage for up to eight hours of recording were used to record footage at the vehicle occupancy locations. For any location where GoPro's were deployed, signage indicating video data collection methods were being used were posted. The Go Pro's were positioned in such a way as to collect as little personal information as possible such as being directed away from sidewalks. For detailed information on the GoPro installation and data management refer to ***Appendix A***. Site photos of the installation are provided in ***Figure 2.***

Video was recorded for inbound vehicles from 7 – 10AM (AM Peak) and outbound vehicles from 2 – 6PM (PM Peak). The original intention of the vehicle occupancy count data collection process was to have two GoPro's at each location, one head on camera and a second perpendicular to the road. Due to privacy concerns, the head on camera was removed. The video for each location was observed by McElhanney staff to count the number of occupants in each vehicle. Due to challenges with equipment malfunction and installation, there was no recorded footage for the following locations and time periods:

- M3 North: No footage from 7:30AM – 10AM
- M6: No footage for 7AM – 10AM
- M5a: No footage from 9:05AM – 10AM, 2:30PM – 4:20PM
- M5c: No footage from 8:30AM – 9AM, 4PM– 5PM, 5:20PM – 6PM
- M5d: No footage for both peak periods

- M7a: No footage for both peak periods
- M9c: No footage for both peak periods
- MF1: No footage for 7AM – 10AM

In addition to missing footage, it was difficult to analyze passenger data during the early morning hours when there was no light, and during periods of heavy rain. Sample photos of the GoPro footage are provided in ***Figure 5***. Further discussion on the analysis and factoring for locations with missing footage and uncertainties is presented in **Section 3.2.1.**

M4 at 4pm on October 28

M2b at 7:30am on October 28

Figure 5 - Vehicle Occupancy Sample Figures

The use of video data collected by GoPro's differs from past studies where manual counters observed vehicle occupancy. The following lists provide the positives and negatives of each method. Future counts will have fewer scheduling malfunctions as the project schedule will be considered earlier in October for increased daylight.

Manual (Human) Method	Automated (Camera) Method
✓ More adaptable to changes in environmental conditions (lighting, weather)	✓ Can set up multiple camera angles
✗ Intrusive with someone observing drivers	✓ More discrete with cameras mounted on posts
✗ Relies on real-time human judgement, no ability to rewind	✓ Safer with fewer people hours in field
✗ Weather can affect reliability of results	✓ Have record of data collection
✗ Requires training and understanding of survey	✗ Privacy requirements can add additional complexity
	✗ Batteries and electronics can be unreliable
	✗ Someone has to review video footage

2.2. TRANSIT DATA

BC Transit provided Automated Passenger Count (APC) data for the inbound and outbound trips to the University Campus for the period of data collection, Oct. 18 to Nov. 5. Ridership data from September – December 2021 (similar period to previous surveys) has been reviewed and confirms consistency between the Oct-Nov and Sept-Dec periods. For future surveys, the Oct-Nov period will be requested and utilized from BC Transit. The transit lines included in the analysis are listed below:

- **Regional Route**: Route 15 Esquimalt/ UVic
- **Frequent Routes**: Route 4 UVic /Downtown; Route 14 Vic General/ UVic; Route 26 Dockyard/UVic
- **Local Routes**: Route 7 UVic /Downtown (Night Bus); Route 9 Royal Oak/UVic; Route 11 Tillicum Centre/ UVic; Route 12 University Heights/ UVic; Route 13 Ten Mile Point/ UVic; Route 39 Westhills Exch/Interurban/Royal Oak Exch/ UVic; Route 51 Langford/ UVic; Route 17 Cedar Hill (AM Routing Only)

A map showing these routes in relation to the rest of the Greater Victoria area is provided in ***Figure 6***.

Regional Map of Greater Victoria

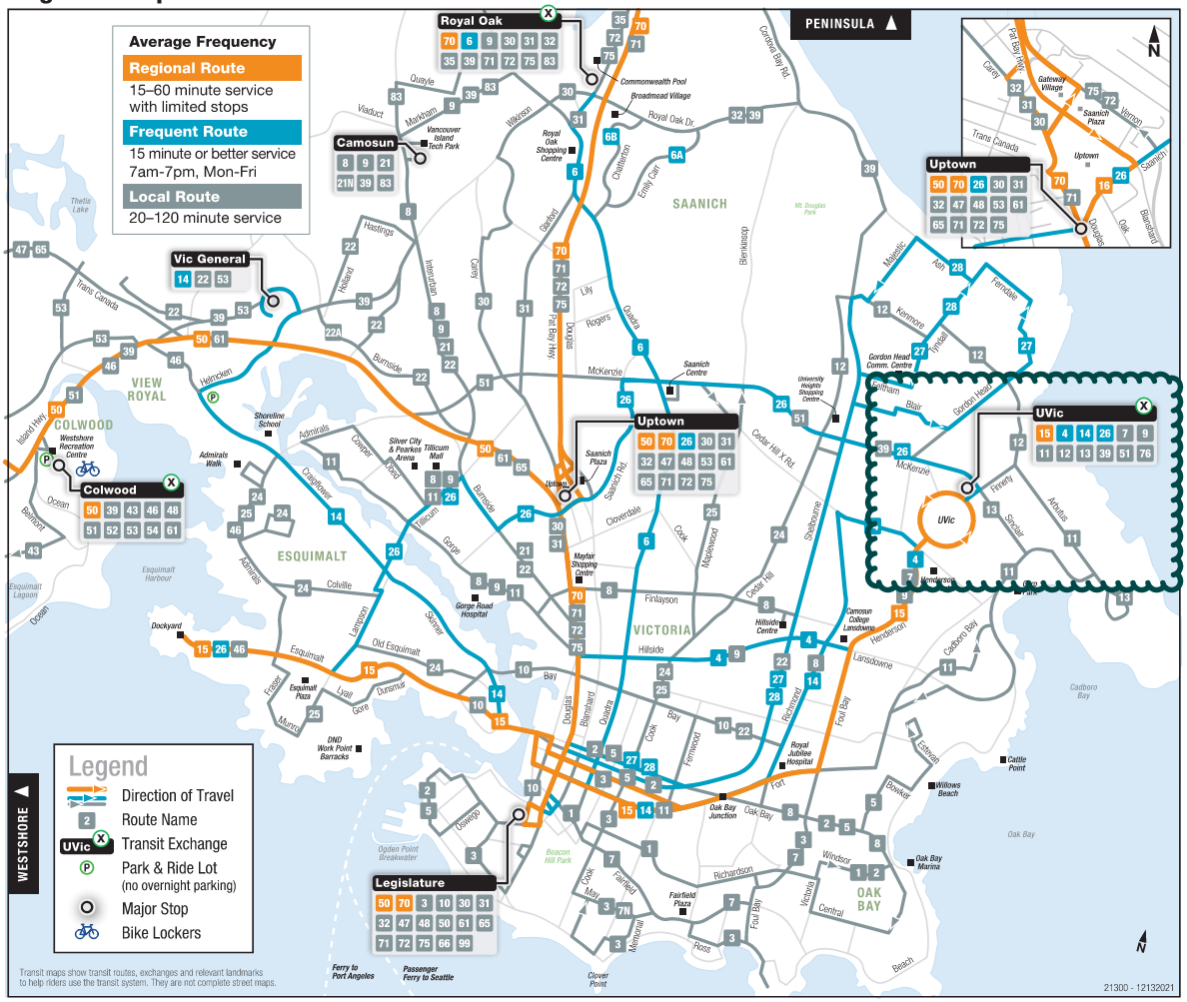

Figure 6 - Greater Victoria Transit Routes (Source: BC Transit)

3. Survey Results

3.1. AUTOMOBILE DRIVERS

3.1.1.Peak Hour Vehicle Traffic

A summary of the total peak hour inbound and outbound vehicle trips for the Campus is provided in ***Appendix B*****.** A historical comparison of the total observed vehicle volumes is provided in ***Table 1*** and graphically in ***Figure 7***. Total auto driver trips decreased by 250 vehicles from 2018 which aligns with the Campus' sustainability targets of decreasing total greenhouse gas emissions.

Table 1 - Historical Peak Hour Vehicle Volumes

Auto Drivers	2000 Survey	2004 Survey	2006 Survey	2008 Survey	2010 Survey	2012 Survey	2014 Survey	2016 Survey	2018 Survey	2021 Survey
Inbound	8,010	6,598	6,197	6,683	7,187	7,197	6,835	7,145	6,696	**6,543**
Outbound	7,006	6,732	6,534	6,087	6,702	6,492	6,126	6,719	6,146	**6,353**
Total	15,016	13,330	12,731	12,770	13,889	13,689	12,961	13,864	13,142*	**12,896**

*Note: Total 2018 Survey metrics corrected for summation error

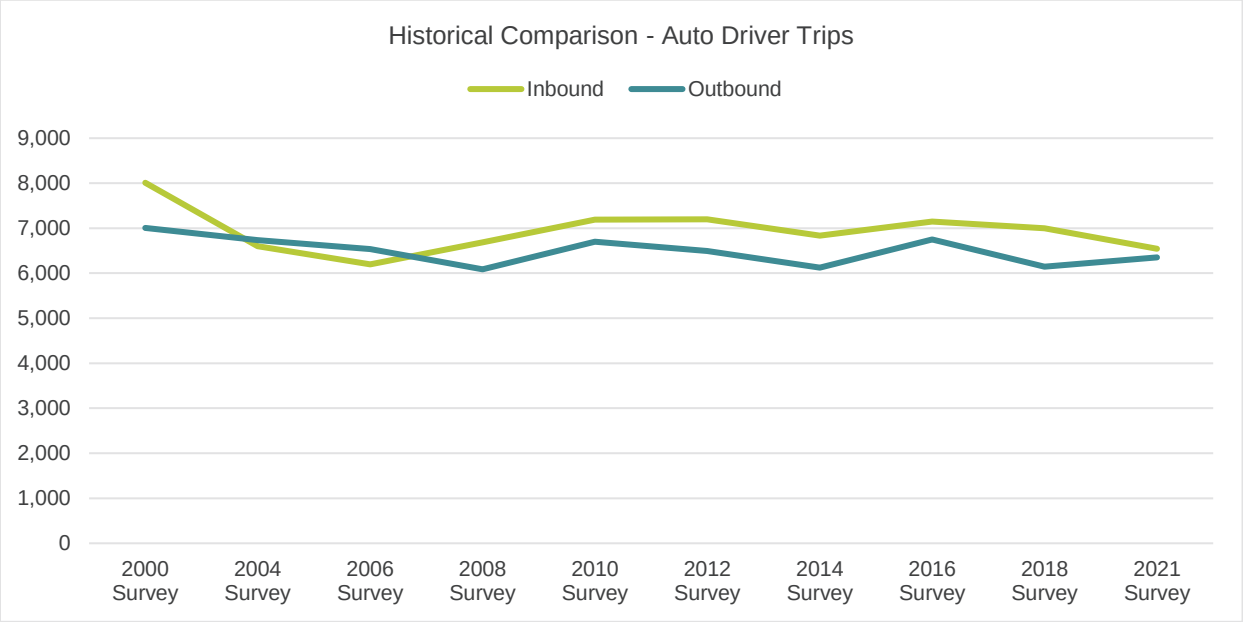

Figure 7 - Historical Comparison of Peak Seven Hour Auto Driver Trips

An illustration of the inbound and outbound vehicle traffic for the AM and PM peak hours for the study's access points is provided in ***Figure 9.*** The figure shows the location specific peak hour volumes which varies from location to location. Across all locations, the AM peak hour was 9 – 10 AM and PM peak hour was from 5 - 6 PM. This is one hour later than previous years which recorded the peak hours from 8 – 9 AM and 4 – 5 PM.

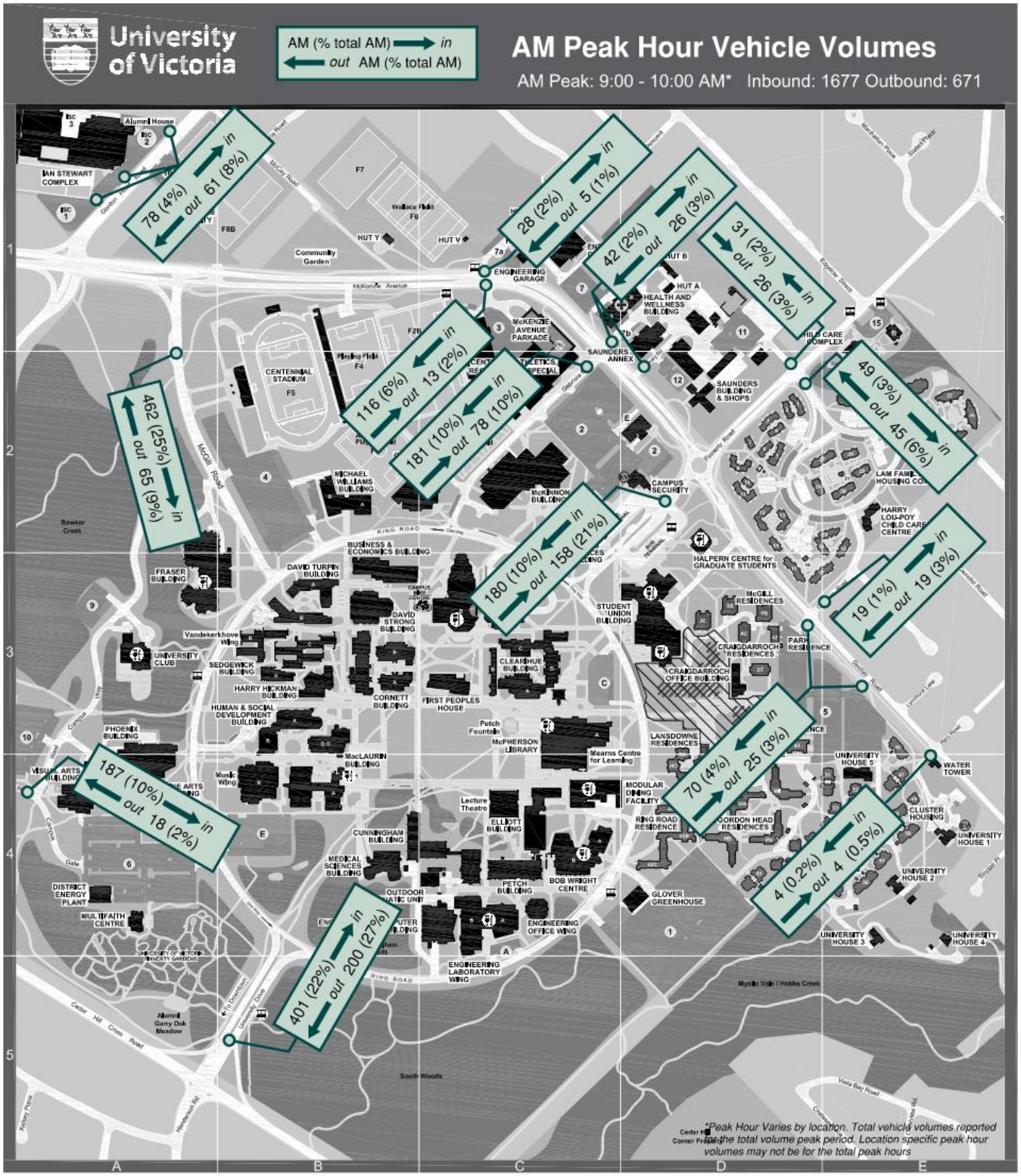

Figure 8 - AM Peak Hour Vehicle Volume Distribution

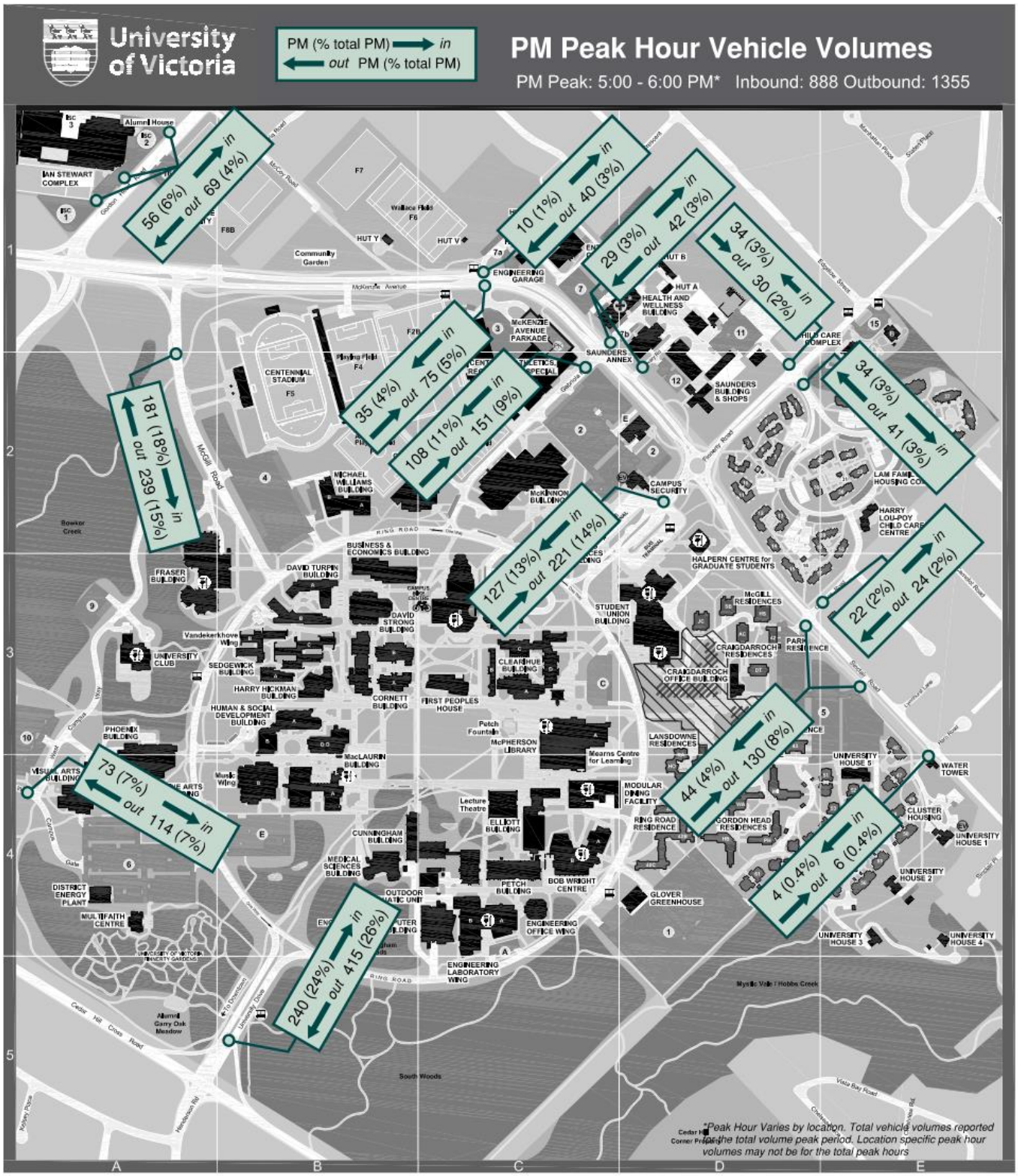

Figure 9 – PM Peak Hour Vehicle Volume Distribution

During the AM peak hour, the highest two-way vehicle volumes were:

- University Dr (M1): 21%
- McGill Rd (M4): 16%
- Gabriola Rd (M6): 13%
- Finnerty Rd (M8): 12%

During the PM peak hour, the highest two-way vehicle volumes were:

- University Dr (M1): 25%
- McGill Rd (M4): 17%
- Gabriola Rd (M6): 11%
- Finnerty Rd (M8): 15%

The vehicle distribution is consistent with previous years with University Dr and McGill Rd having the highest vehicle volumes.

3.1.2. Daily Vehicle Traffic

24-hour counts were taken for the roadways on University Dr (M1), West Campus Gate (M2b), McGill Rd (M4), Gabriola Rd (M6) and Finnerty Rd (M8). A profile of the hourly vehicle traffic at these locations is shown in ***Figure 10*** for inbound traffic, and ***Figure 11*** for outbound traffic. Tables with the summarized data are provided in ***Appendix B.***

The daily profile illustrates the distribution of traffic volume during the peak time periods. During the AM, the peak volumes occur between 9 – 11 AM and is very concentrated with over 1,300 vehicles arriving between 9 – 10 AM. This suggests that future data collection should include 10 – 11 AM to account for a later morning peak period. During the PM peak period, there is more of a spread of vehicle traffic between 2– 6 PM. The PM peak shows approximately 1,100 vehicles leaving the campus between 5 – 6 PM.

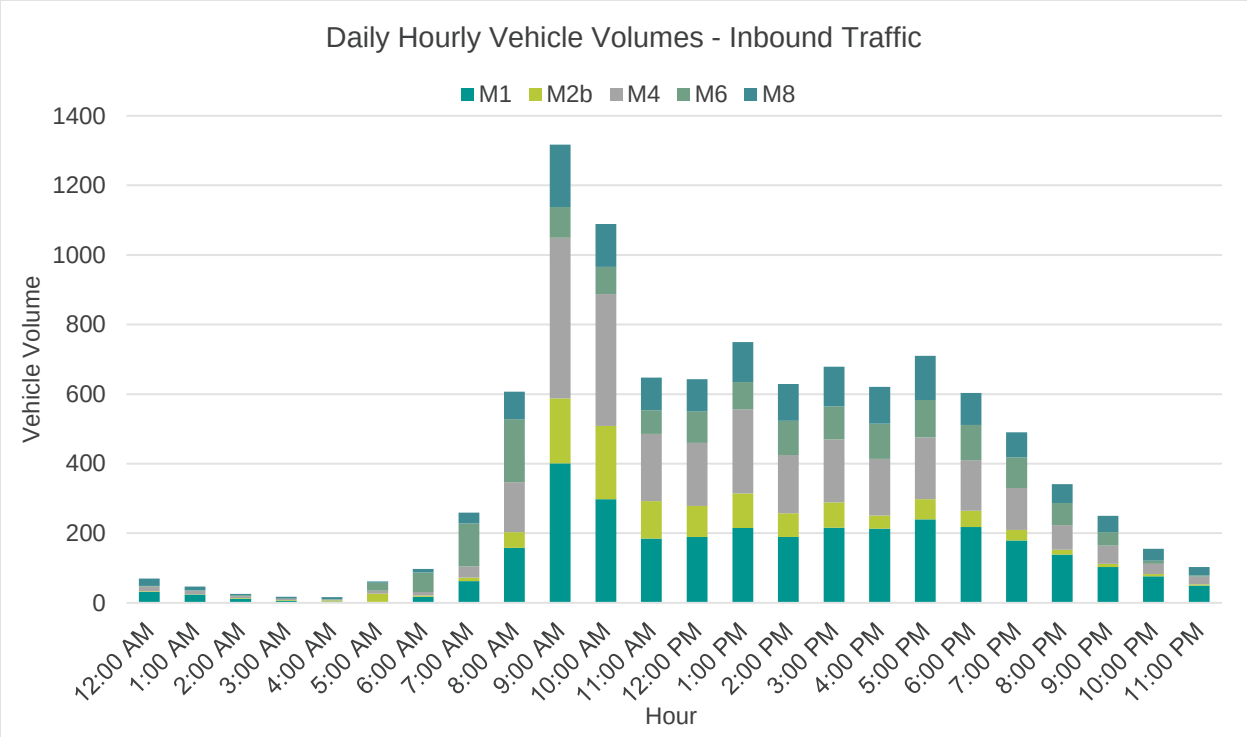

Figure 10 – Daily Hourly Vehicle Volume – Inbound Traffic

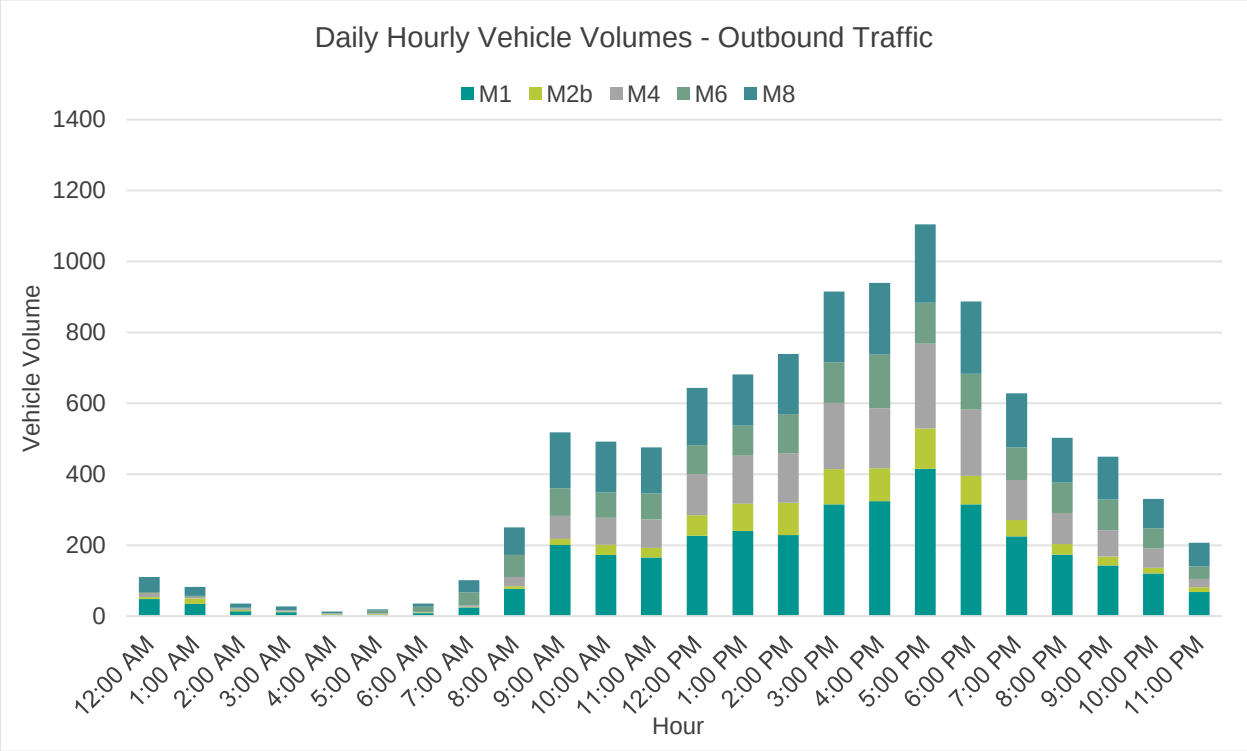

Figure 11 – Daily Hourly Vehicle Volume – Outbound Traffic

3.2. AUTO PASSENGERS

3.2.1. Data Analysis Methodology

The total number of auto passengers for each location was determined using recorded GoPro footage at each location. Each vehicle observed in the footage was identified as one of the following:

a. Vehicle is single occupancy; or

b. Vehicle has a passenger and the number of passengers was recorded; or

c. Cannot see in backseat of vehicle but front seat is unoccupied (likely due to tinted windows); or

d. Cannot see in vehicle entirely.

A vehicle occupancy (VO) rate was determined for each time period and location using the known number of recorded passengers (b), and the known number of vehicles that were single occupancy (a). It was assumed that vehicles that you could not see in the backseat (c) were single occupancy. To determine the occupancy rate of vehicles that could not be seen in entirely (d), a campus wide occupancy factor was developed using a weighted average of the known occupancy rates. In mathematical terms, the weighted campus wide VO factor was determined as follows, where *n* is the location number:

$$Campus\ VO = \frac{(Peak\ Vehicles_{M1} * VO_{M1}) + (Peak\ Vehicles_{M2} * VO_{M2}) + \cdots + (Peak\ Vehicles_{Mn} * VO_{Mn})}{\sum_{n}^{All}(Peak\ Vehicles_{Mn})}$$

Using the weighted average method, the campus VO factor was determined to be 1.16. This VO factor was applied to estimate the number of passengers in the unknown vehicles (d).

There were a few minor roadway locations where no footage was recorded and/or there was missing footage for certain time periods. At locations MF1, M9c, M5a, and M5c, the Campus Wide VO factor was applied to account for the missing data. No footage was recorded at M3 North (AM). Since this location has a higher vehicle occupancy due to Mt. Douglas Secondary School, a VO factor of 1.5 was applied as determined by the average of the other M3 locations. There was also no footage recorded at M6 in the AM peak period due to equipment malfunction. A VO factor of 1.3 was applied at this location based on the PM peak VO rate and historical observations of the AM VO rate being slightly higher than the PM.

3.2.2. Auto Passenger Summary

A summary of the VO rate and the total passengers for the morning and afternoon peak periods at each location is presented in ***Table 2***. Detailed results, unfactored and factored, for each location are provided in ***Appendix B*****.**

Table 2 – Peak Period Auto Passenger Summary

Location	Vehicle Occupancy		Notes
	AM - Inbound	PM - Outbound	
M1	1.1 (83)	1.1 (125)	
M2b	1.1 (39)	1.1 (60)	
M3	1.5 (69)	1.4 (76)	VO factor of 1.5 applied to M3 North which was derived from an average of the other M3 locations
M4	1.2 (115)	1.2 (148)	
M5a	1.1 (8)	1.1 (10)	Campus Wide VO factor applied to time periods of missing footage
M5c	1.1 (24)	1.1 (34)	Campus Wide VO factor applied to time periods of missing footage
M5d	1.2 (14)	1.2 (13)	
M6	1.3 (133)	1.2 (127)	AM VO factor of 1.3 applied based on historical data and PM data
M7	1.1 (7)	1.1 (8)	VO factor of 1.05 applied to M7a based on historical low passenger counts
M8	1.3 (84)	1.2 (158)	
M9a/b	1.1 (13)	1.1 (47)	
M9c	1.1 (1)	1.1 (2)	Campus Wide VO factor applied due to no footage. Note differences due to rounding.
MF1	1.2 (15)	1.1 (21)	Campus Wide VO factor applied to time periods of missing footage
MF2	1.1 (3)	1.0 (2)	
Total	**1.2 (608)**	**1.2 (831)**	

The VO for the Campus is 1.2 for both the AM and PM peaks, which is lower than the 2018's Campus VO of 1.23 in the AM peak and 1.3 in the PM peak. These differences can be attributed towards 1) preference towards driving alone during Covid 19; and 2) differences in collection methodology (automated versus manual). Location M3 has the highest VO rate of 1.5 in the AM peak and 1.4 in the PM peak. This location has historically the highest VO rate; however, this is likely due to passengers getting dropped off and attending Mt. Douglas Secondary school. Since the UVic Traffic Survey is focused on trips to and from the Campus, it is recommended that in future surveys there is a change in how M3 passengers are recorded.

3.2.3. Data Accuracy

There are several factors to consider when assessing the accuracy of the recorded number of passengers using the GoPro footage. Some factors are out of the collection team's control such as:

- **Weather:** Rainy weather and low sunlight makes it difficult to see inside vehicles.
- **Cars with tinted windows:** Most new cars have tinted rear windows making it almost impossible to record passengers in the backseat.

- **Equipment:** All electronics have the potential to malfunction and have margins of error.

- **Privacy:** Removal of the head on camera removed a second opportunity to observe passengers in vehicles.

While there are challenges using recorded footage, there are also some key advantages:

- **Ability to rewatch/stop footage:** In the field there is no way to correct missed vehicles. With recorded footage you can replay the video if an error was made or stop the video to verify if there was a passenger in the car.

- **Ability to record unknowns:** A key advantage of this method is the ability to record if you could not see in a car, rather than assuming you saw or didn't see a passenger. Using the unknown data, we are able to extrapolate/factor for uncertainties.

- **Ease of counting during platoons/across lanes:** A person in the field counting passengers during a platoon of cars is extremely difficult. The updated method allows the observer to capture vehicle occupants in every car when there is a platoon of vehicles moving through. A person standing in the field is far less likely to be able to see the backseat of every car during a platoon, however; the recorded footage allows the observer to play the video in slow motion or pause to see in every vehicle. While we may have recorded more uncertainties, we have a higher accuracy since we are able to account for every vehicle.

3.3. TRANSIT RIDERSHIP

Total trips for passengers arriving to (inbound) and leaving (outbound) the campus were summarized for the transit lines described in **Section 2.2.** A summary of the total passenger and bus trips for all routes is provided in ***Appendix C.*** A historical comparison of transit passenger trips is provided in ***Table 3*** and illustrated graphically in ***Figure 12***.

Table 3 - Historical Daily Transit Passengers

Transit Passengers	2000 Survey	2004 Survey	2006 Survey	2008 Survey	2010 Survey	2012 Survey	2014 Survey	2016 Survey	2018 Survey	2021 Survey
Inbound	4,860	8,194	7,885	9,426	8,805	9,569	7,892	8,381	8,203	**6,309**
Outbound	5,054	6,694	7,550	8,546	8,314	7,628	8,134	8,634	8,067	**6,229**
Total	9,914	14,888	15,435	17,972	17,119	17,197	16,026	17,015	16,270	**12,538**

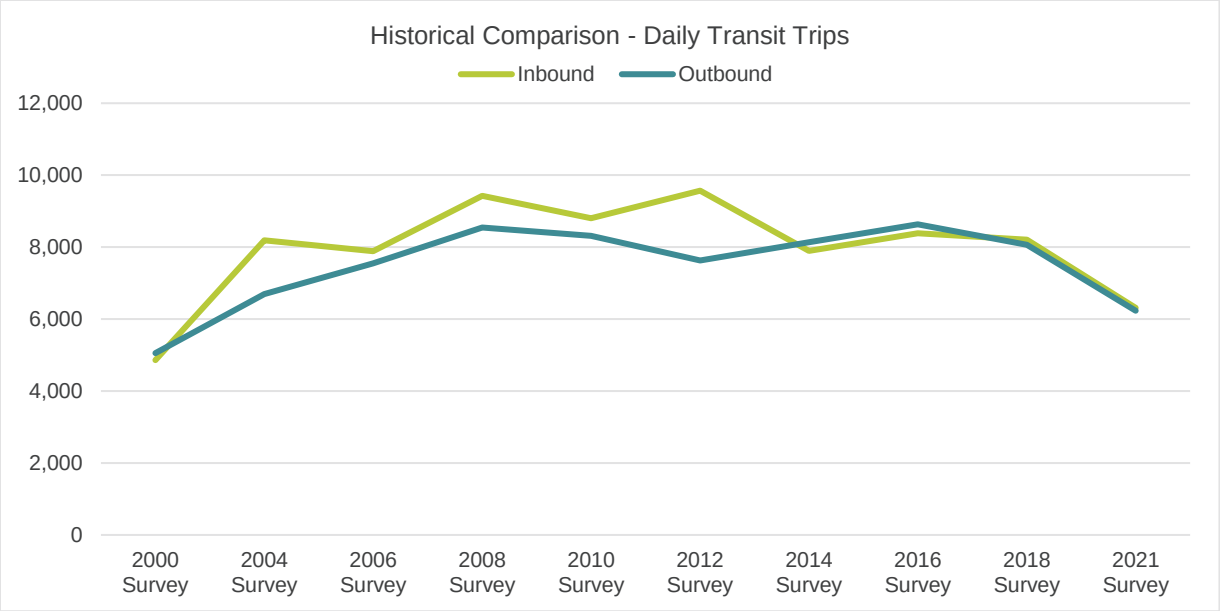

Figure 12 - Historical Daily Transit Ridership

As shown in ***Table 3*** , there was 23% decrease in daily transit ridership from 2018 to 2021. This decrease can largely be attributed to the impacts of Covid-19. BC Transit reported decreases of 50% starting March 16, 2020 due to Covid-19 across the entire Greater Victoria service area. Transit ridership has seen an increase since the beginning of the global pandemic but has not fully recovered to 2019 ridership levels. Overall transit ridership recovery for trips to and from UVic is much higher than other regions. The traffic survey showed that fall transit ridership is around 75% of 2018 values, which is much higher than Metro Vancouver where TransLink reported bus ridership of 55-60% pre-pandemic values.

A total of 1,109 bus trips to and from UVic are made for a typical weekday. Routes 26, 14, 15 and 4 operate at the highest frequency of 7- 15 minutes during the peak hours. These routes also have the highest ridership as described below:

- Route 4 (UVic /Downtown): 17% of transit passenger trips, 16% of bus trips to and from UVic
- Route 14 (Vic General/ UVic): 17% of transit passenger trips, 15% of bus trips to and from UVic
- Route 15 (Esquimalt/UVic) 12% of transit passenger trips, 14% of bus trips to and from UVic
- Route 26 (Dockyard/UVic): 23% of transit passenger trips, 18% of bus trips to and from UVic

In 2021, these four routes carried almost 70% of the total weekday passengers to and from campus. Route 26 also had a significant increase in ridership, from 2,500 in 2018 to almost 3,000 daily passengers in 2021. ***Figure 13*** illustrates the transit passenger distribution with respect to the roadways to the Campus. As shown in the figure, University Dr carries the majority of the daily transit passengers.

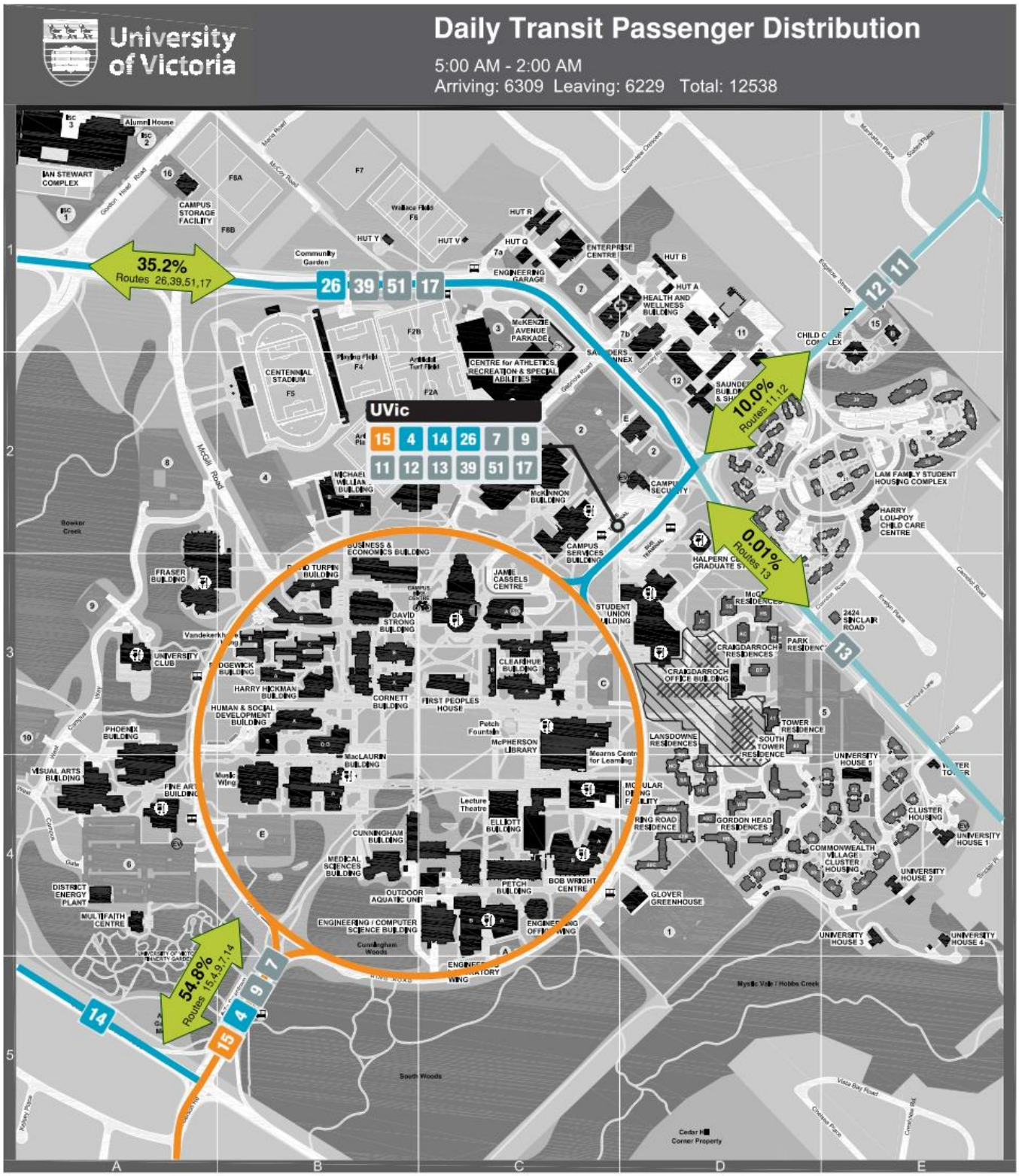

Figure 13 - Transit Passenger Distribution

3.4. CYCLISTS

A summary of the total peak hour inbound and outbound cycling trips for the UVic campus is provided in ***Appendix B*****.** For the 2021 survey, an average of 1,010 inbound and 935 outbound trips were made during the weekday AM and PM peak hours. This represents about a 33% decrease in cyclist trips from 2018. It should be noted that there were severe weather warnings and it was raining heavily with high wind gusts during the week which likely affected active transportation modes.

Figure 14 illustrates the distribution of cyclists for each of the count locations. The most heavily used roadways to access the campus were:

- University Drive (M1): 25% of total peak cyclist trips
- Dawnview/CARSA Corridor (M5a): 14% of total peak cyclist trips
- McGill Road (M4): 12% of total peak cyclist trips
- West Campus Gate Trail (M2a, M2b): 9% of total peak cyclist trips

Together these four locations represent 60% of the total peak hour cycling trips to and from the campus. The cyclist access distribution is similar to the 2018 distribution. The West Campus Gate Trail (M2a) decreased from 14% to 4% due to construction. For this reason, we have combined M2a and M2b as cyclists were diverted around the construction and the combined value provides a better representation of the West Campus Gate cyclist usage. Location M5a, access on Dawnview Crescent, also had an increase in distribution from 7% in 2018 to 14% in 2021.

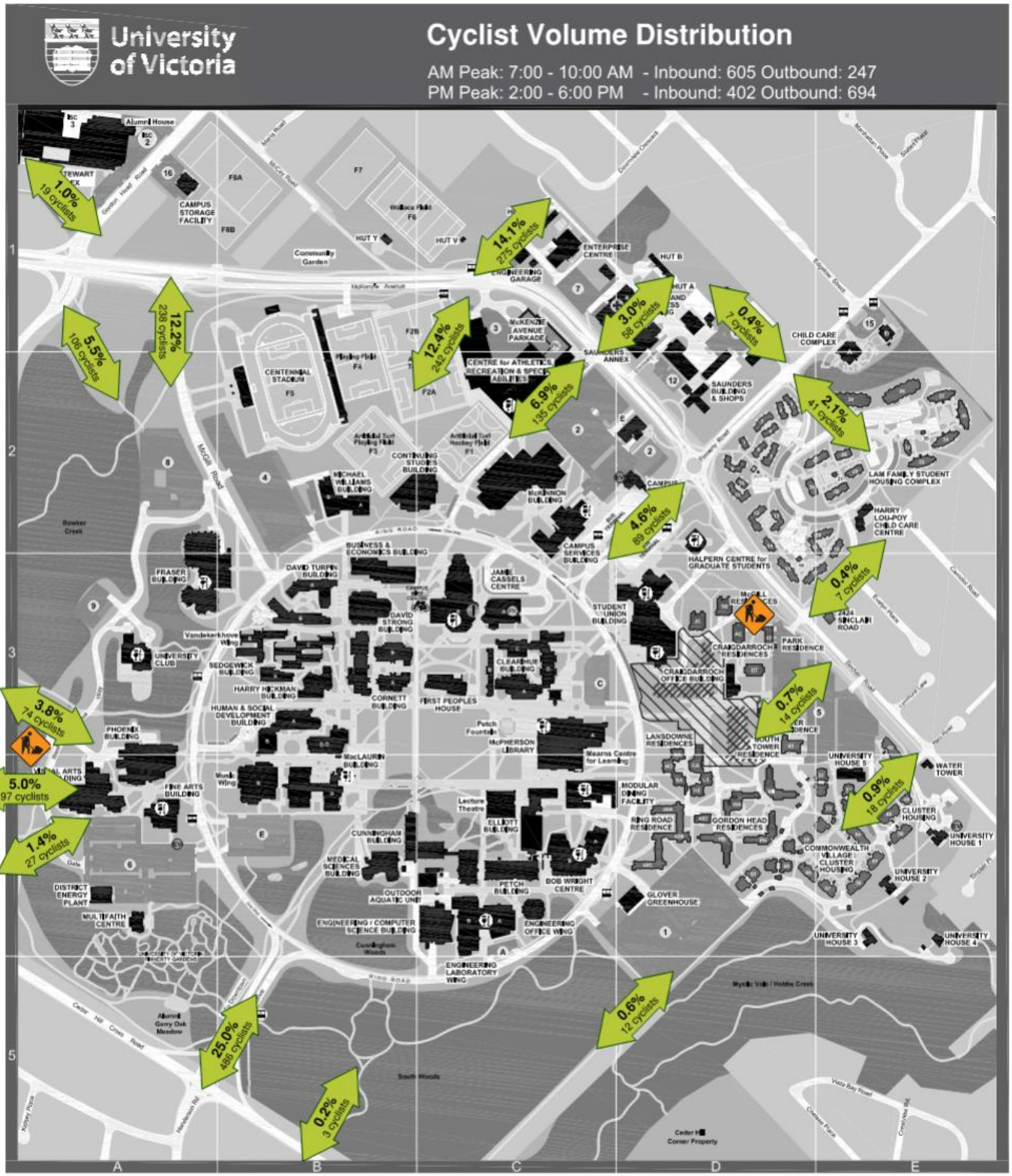

Figure 14 - Cyclist Volume Distribution

3.4.1. CRD Cyclist Data Analysis

The CRD has a permanent cyclist count location on the Campus' multi-use pathway north of Ring Rd. ***Figure 15*** presents an hourly profile for the average cyclist volumes for the month of October. The AM peak is more defined with a peak in cyclist volumes between 7AM and 9AM, similar to the auto and transit modes. The PM peak is more spread out as students end class between 2PM and 6PM. There is also a small midday peak around at 12PM where students may be using the pathway to go home after morning classes.

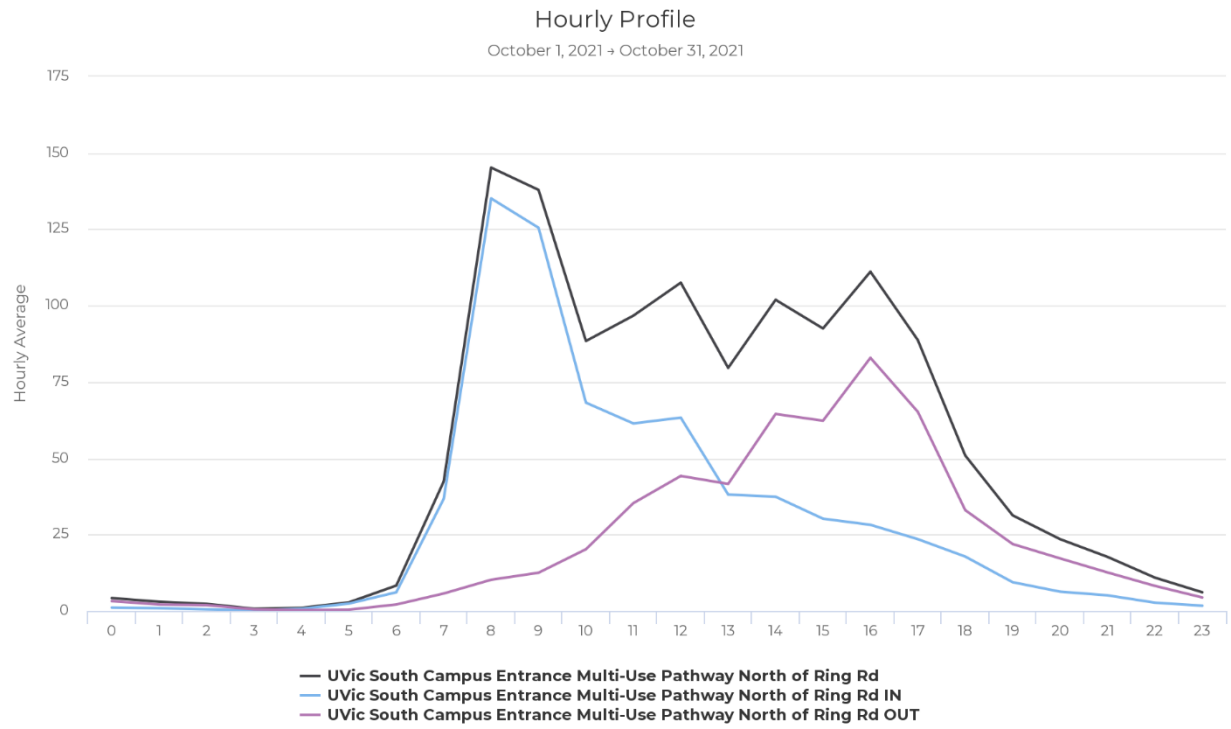

Figure 15 - Permanent Counter Cyclist Hourly Profile

An analysis using the daily permanent counter data for the month of October was completed to illustrate the effect of weather on cyclist volumes. ***Figure 16*** presents the daily cyclist volume at the CRD permanent counter with the historical daily weather pattern. As shown in the figure, higher cyclist volumes correspond with sunny weather, and low cyclist volumes correspond with rainy weather. The counter recorded 460 cyclists on Thursday, Oct 28 when there was heavy rain. On the previous Thursday, Oct 21 when it was partly cloudy/sunny there were 960 recorded cyclists. This sensitivity indicates that nice weather can have over double the number of cyclists as compared to poor weather.

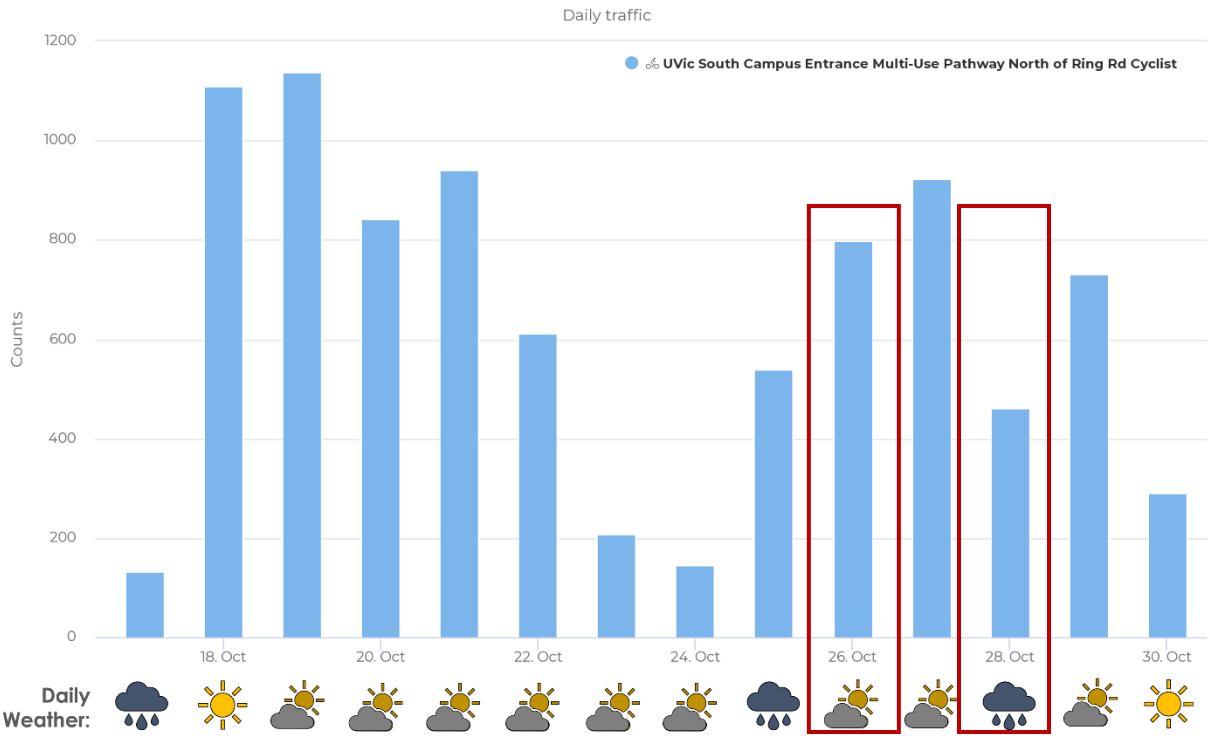

Figure 16 - Daily Cyclist Traffic vs Weather

3.5. PEDESTRIANS

A summary of the total peak hour inbound and outbound pedestrian trips for the Campus is provided in ***Appendix B*****.** For the 2021 survey, an average of 2,490 inbound and 2,390 outbound trips were made during the weekday AM and PM peak hours. While the mode share of pedestrian's trips increased by percent total trips, the actual number of pedestrians physically counted decreased by about 16%.

Figure 17 illustrates the distribution of pedestrians for each of the count locations. The most heavily used roadways to access the campus were:

- CARSA Corridor (M5c): 19% of total peak pedestrian trips
- West Campus Gate Trail (M2B): 10% of total peak pedestrian trips
- McKenzie Avenue Multi-Use Pathway (M11): 10% of total peak pedestrian trips
- Dawnview Crescent (M5a): 8% of total peak pedestrian trips
- Gabriola Road (M6): 9% of total peak pedestrian trips

Together these five locations represent 56% of the total peak hour pedestrian trips to and from the campus. The pedestrian access distribution is similar to the 2018 distribution with the exception of a 5% increase at the CARSA Corridor (M5c Pathway). This active transportation pathway is increasingly popular as it connects the bus stop on McKenzie Ave to the fields and CARSA.

A few things to note about the data collection that may have affected the pedestrian distribution are:

- Construction at M2a, located on West Campus Way near the Visual Arts building, prevented access to this pathway. The data collection location was moved to the northwest corner of Parking Lot 10 as the users of the trail were diverted in this direction.

- Construction at M9a, located on Sinclair near the student housing, may have caused pedestrians to divert to other roadway access points

- During data collection poor weather occurred which likely affected the pedestrian distribution.

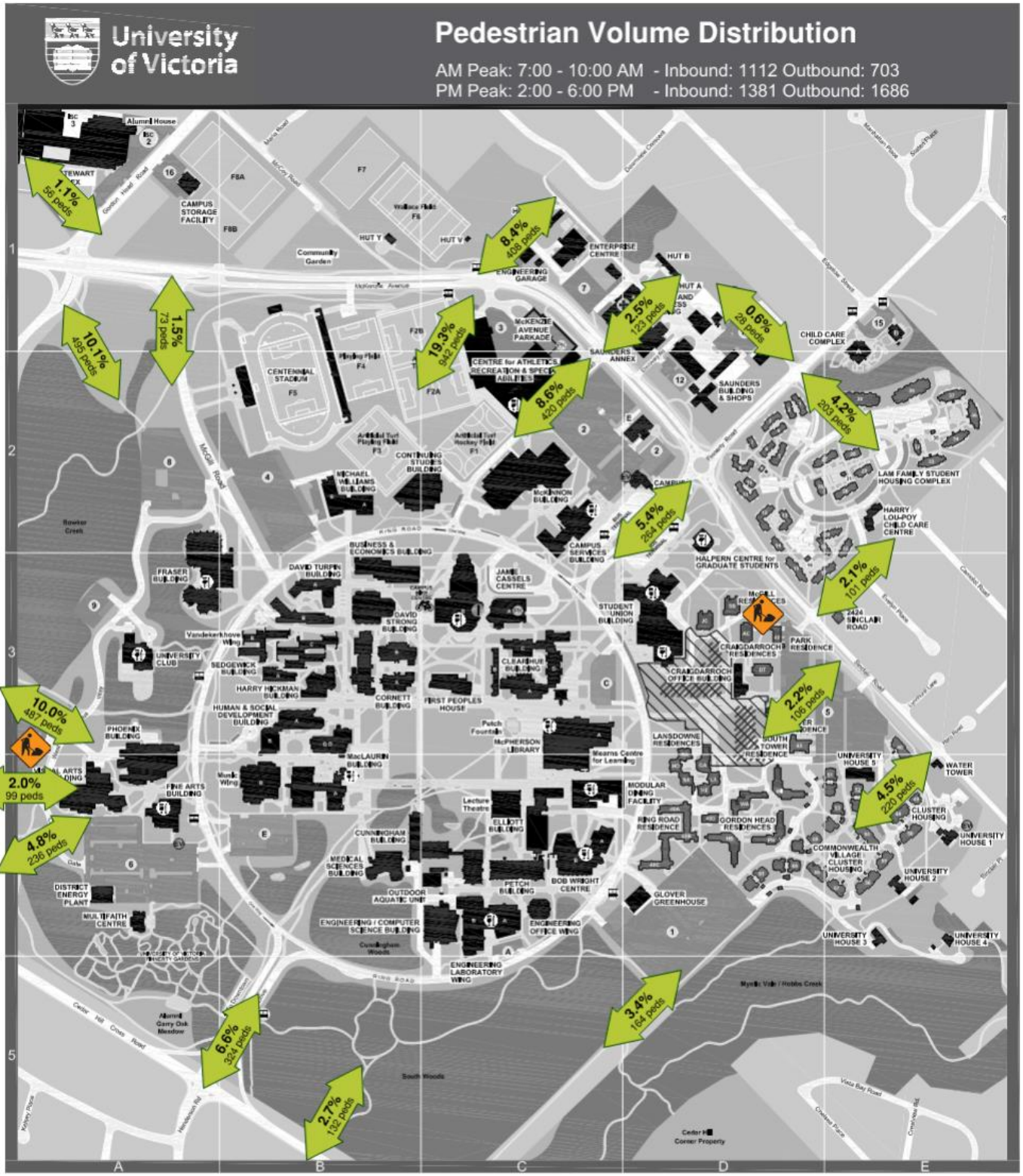

Figure 17 - Pedestrian Volume Distribution

4. Travel by Mode Summary

4.1. 2021 DAILY MODE SHARE

The total daily trips (7AM – 10PM) to and from campus were calculated using the peak seven hour traffic volumes for each mode (except transit) and applying a time of day factor which was derived from the 24-hour ATR counts. BC Transit provided transit ridership for trips between 7AM – 10PM therefore no factoring was needed. It should be noted that this is not the most accurate methodology for developing daily volumes for pedestrians and cyclists as these modes likely have a different peak spread and time of day profile than for auto vehicles. For example, pedestrians could potentially go home for lunch and return for afternoon classes which would create a midday peak. Furthermore, pedestrians and cyclists are less likely to travel after 8 PM since there is little daylight and safety concerns travelling late at night. In order to accurately develop daily expansion factors a complete 24-hour profile for pedestrians and cyclists would need to be collected.

A summary of the total trips and mode share for the 2021 survey is provided in ***Table 4***. Included are the collected peak hour trips, and the factored daily trips. Based on the collected traffic data, an estimated 55,770 trips occur daily to and from the Campus. The Auto Driver mode share is about 44%, which is significantly higher than previous years. The remaining modes have a mode share of 56%, with transit and pedestrians having the highest shares.

Table 4 – 2021 Mode Share and Trip Summary

Mode	Total Trips		Mode Share	
	Peak 7 Hours	Daily	Peak 7 Hours	Daily
Auto Drivers	12,895	24,450	45%	44%
Auto Passengers	2,140	3,965	7%	7%
Transit Passengers	6,965	12,120	24%	22%
Cyclists	1,950	3,670	7%	7%
Pedestrians/ Rollerbladers	4,880	11,500	17%	21%
Skateboarders	35	65	0.1%	0.1%
Total	28,865	55,770	-	-

It is challenging to analyze the 2021 survey results as part of a longer-term trend due to the impacts of Covid-19 and the weather during the days of data collection as discussed below:

- **Trip Frequency:** As mentioned in **Section 1.2**, UVic offered 100 online classes and offered remote working capabilities to staff and faculty. These opportunities for students and faculty to work or study at home likely have decreased the overall trips to and from campus.
- **Transit Ridership:** The 2021 survey showed a 23% decrease in total daily passenger trips. BC Transit experienced an agency wide decrease in ridership of 50% since the beginning of the

Covid-19 pandemic. While there has been a significant recovery since March 2020, transit ridership is still well below pre-pandemic levels.

- **Preference for "private" modes of travel:** Physical distancing has been the primary method for combatting the spread of Covid-19. It is assumed that people travelling to and from the campus are more likely to use modes of travel that allow for physical distancing, such as driving alone, walking and cycling.

- **Weather:** While Victoria is known for having a wet climate during the fall, October 28, 2021 was an exceptionally wet day, featuring a "weather bomb" which deterred people from choosing cycling as their mode of travel. As discussed in **Section 3.4.1**, cycling is highly dependent on the weather. Using the CRD data, sensitivity tests showed that adding an additional 500 trips which would have occurred if it were sunny day would increase the cyclist mode share by 2%.

4.2. HISTORICAL COMPARISON

The total average weekly daily (7AM – 10PM) two-way mode share since 1996 is summarized in ***Table 5*** and illustrated in ***Figure 18.*** It should be noted that rollerbladers were included as pedestrians in the 2021 survey.

Table 5 - Historical Mode Share

Mode Share	1996 Survey	2000 Survey	2004 Survey	2006 Survey	2008 Survey	2010 Survey	2012 Survey	2014 Survey	2016 Survey	2018 Survey	2021 Survey
Auto Drivers	58%	54%	47%	44%	38%	39%	40%	40%	40%	38%	**44%**
Auto Passengers	16%	11%	12%	12%	13%	10%	10%	9%	10%	11%	**7%**
Transit Passengers	11%	18%	26%	27%	31%	26%	28%	27%	27%	26%	**22%**
Cyclists	7%	6%	6%	5%	7%	9%	8%	8%	8%	9%	**7%**
Pedestrians*	9%	11%	9%	11%	11%	16%	15%	16%	15%	17%	**21%**
Skateboards/ Rollerbladers*	0.0%	0.0%	0.2%	0.1%	0.3%	0.4%	0.1%	0.2%	0.2%	0.3%	**0.1%**

** Skateboarders and rollerbladers combined for surveys from 1996 – 2018. 2021 survey had rollerbladers combined with pedestrians.*

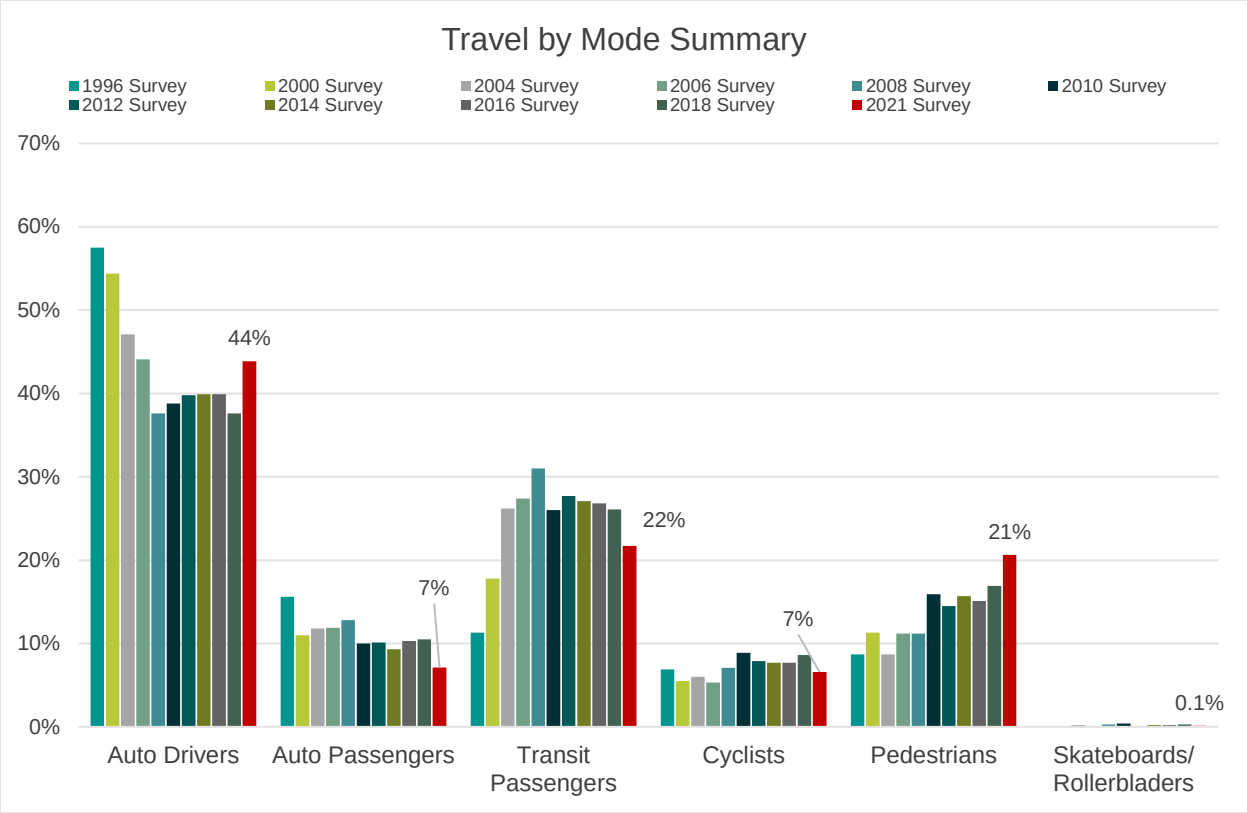

Figure 18 - Historical Mode Share

Since 1996 there has been a decrease in auto driver mode share. As previously mentioned in **Section 3.1**, the total peak hour auto driver trips decreased slightly from 2018 which suggests a positive trend towards decreasing greenhouse gas emissions. While the auto driver daily trips decreased, the auto mode share increased to 44%, a 6% from the 2018 survey. The auto driver mode share increase can be attributed to a decrease in transit ridership, pedestrian trips, and auto passenger trips.

Other highlights from the 2021 dataset are as follows:

- **Decrease in Auto Passenger Mode Share:** It is difficult to compare the auto passenger mode share due the effects of Covid-19. The decrease in passenger trips may be due to apprehension to carpooling.

- **Decrease in Transit Passenger Trips:** While the daily transit ridership mode share decreased, as presented in **Section 4.1**, the peak hour mode share remained consistent with 2018. Total trips decreased by 23% from 2018.

- **Increase in Pedestrian Mode Share:** The pedestrian mode share increased from 17% to 21%. These trips may have transferred from cycling due to the weather or transit.

- **Decrease in Cyclist Trips**: As previously discussed, weather has a large impact on cycling trips. The 2021 data collection reinforces the fluidity of the cycling mode share. During wet weather, many cyclists may choose to drive or take transit if they do not have access to a personal vehicle.

5. Conclusions and Recommendations

One of the primary conclusions from the 2021 survey is that there was a total decrease in daily trips to and from the UVic Campus. Covid-19 has changed the typical commuter traffic, which is a trend that has also been observed at other jurisdictions around BC. The City of Vancouver reported a 50% drop in motor vehicle traffic at the beginning of the pandemic, which has slowly recovered to about 85-90%. Similarly, in Vancouver, pedestrian volumes saw a 60% decline and remain significantly lower to pre-pandemic levels.

2021 Sustainable Mode Share

The 2021 survey daily sustainable mode share (all modes except auto driver) is **56%,** a 6% decrease from the 2018 survey.

The total number of daily auto driver trips to and from the Campus was similar to 2018, but the daily the transit passenger trips decreased by 23%, the auto passenger trips by 38%, and the pedestrian trips by 12%.

The sustainable mode share for 2021 is 56%, which is a 6% decrease from the 2018 survey. The daily auto driver mode share increased to from 37% to 44% and the pedestrian mode share increased to 17% to 21% in 2021. Transit passengers and auto passengers both decreased by 4% with daily mode shares of 22% and 7% respectively.

The 2021 survey also had a notable decrease in cyclist trips and cyclist mode share. In contrast to the 2018 survey, the weather for the 2021 days of data collection was wet and windy. On Oct. 28 2021, there was 36.4mm of precipitation which is one third of the total precipitation Victoria received in the month of October 2021. A sensitivity test was conducted for the impact of weather on the cyclist mode share using the CRD permanent counter on the Multi-Use Pathway North of Ring Road and University Drive. On a sunny clear day, the CRD counter shows an additional 500 trips than those reported for Oct. 28, 2021. Adding those 500 daily trips to the survey data would increase the cycling mode share from 7% to 9%. This shows that many cyclists have an alternative mode of travel, either transit or auto driver, on rainy days.

While it appears that UVic has regressed on its goal for a 70% sustainable mode share, we emphasize the impacts Covid-19 has had on how people travel. With an increase in working and schooling from home, the sustainability index should have increased as no emissions were produced. If work and school from home were redefined as a sustainable trip, then it is possible that the percentage of sustainable modes has increased. Future surveys should also focus on analyzing the transit ridership recovery trend and the decreasing trend in total auto driver trips.

5.1. CONSIDERATIONS FOR FUTURE SURVEYS

To enhance the accuracy and findings for future transportation surveys, we suggest exploring the following recommendations:

- Develop mode specific time of day factors for walk and bike trips to convert peak hour trips to daily trips as the CRD counter observed a different time of day profile for cyclists than the 24-hour vehicle counts.
- Confirm data collection methods are focused on capturing trips to and from the UVic Campus, and exclude drop off trips to Mt. Douglas Secondary School, the day care, and internal maintenance trips.
- Review the peak periods as Covid-19 has shifted the AM peak from 7AM – 10AM to 8AM – 11AM.
- Explore opportunities to get more reliable data on vehicle occupancies including setting up cameras at parking lots to observe the number of people getting into and out of vehicles. Also explore an online campus survey to gauge the level of carpooling activity.
- Continue utilizing the capabilities of new traffic count technologies to increase the efficiency and reliability of data collected.
- Confirm the total auto trips to and from campus in future surveys

APPENDIX A: DATA COLLECTION PLAN

APPENDIX B: HOURLY TRAFFIC DATA

Table B1: Vehicle Summary Daily Hourly Traffic

Vehicles Summary (excluding Buses) - Daily Hourly Counts					
Hour	M1	M2b	M4	M6	M8
Inbound					
12:00 AM - 1:00 AM	31	2	14	2	21
1:00 AM - 2:00 AM	23	1	10	1	12
2:00 AM - 3:00 AM	12	1	6	2	5
3:00 AM - 4:00 AM	7	2	4	0	4
4:00 AM - 5:00 AM	3	4	2	1	6
5:00 AM - 6:00 AM	3	24	8	23	4
6:00 AM - 7:00 AM	18	3	10	56	10
7:00 AM - 8:00 AM	62	11	32	124	31
8:00 AM - 9:00 AM	158	46	144	181	79
9:00 AM - 10:00 AM	401	187	462	88	180
10:00 AM - 11:00 AM	298	211	379	78	124
11:00 AM - 12:00 AM	185	108	193	69	94
12:00 PM - 1:00 PM	189	90	181	91	93
1:00 PM - 2:00 PM	216	99	242	78	116
2:00 PM - 3:00 PM	190	68	167	98	106
3:00 PM - 4:00 PM	216	73	181	95	114
4:00 PM - 5:00 PM	213	38	163	101	106
5:00 PM - 6:00 PM	240	58	178	108	127
6:00 PM - 7:00 PM	218	47	146	101	92
7:00 PM - 8:00 PM	180	30	121	88	72
8:00 PM - 9:00 PM	139	14	71	63	54
9:00 PM - 10:00 PM	103	9	52	39	47
10:00 PM - 11:00 PM	77	6	30	9	34
11:00 PM - 12:00 AM	50	4	22	4	23

Hour	M1	M2b	M4	M6	M8
Outbound					
12:00 AM - 1:00 AM	48	5	12	3	42
1:00 AM - 2:00 AM	35	15	5	2	26
2:00 AM - 3:00 AM	14	3	4	2	12
3:00 AM - 4:00 AM	11	2	3	1	10
4:00 AM - 5:00 AM	4	1	2	1	4
5:00 AM - 6:00 AM	4	2	2	9	3
6:00 AM - 7:00 AM	8	2	2	14	9
7:00 AM - 8:00 AM	25	2	5	37	34
8:00 AM - 9:00 AM	77	7	26	62	78
9:00 AM - 10:00 AM	200	18	65	78	158
10:00 AM - 11:00 AM	173	29	76	71	144
11:00 AM - 12:00 AM	166	27	80	74	130
12:00 PM - 1:00 PM	226	58	117	81	162
1:00 PM - 2:00 PM	240	76	136	85	145
2:00 PM - 3:00 PM	228	91	140	110	170
3:00 PM - 4:00 PM	315	100	187	115	200
4:00 PM - 5:00 PM	325	93	169	151	203
5:00 PM - 6:00 PM	415	114	239	116	221
6:00 PM - 7:00 PM	315	80	187	101	204
7:00 PM - 8:00 PM	225	46	113	91	153
8:00 PM - 9:00 PM	174	30	87	86	127
9:00 PM - 10:00 PM	143	25	74	87	121
10:00 PM - 11:00 PM	120	17	54	56	83
11:00 PM - 12:00 AM	68	14	23	35	67
11:00 PM - 12:00 AM	50	4	22	4	23

Table B2: Vehicle Summary Peak Hourly Traffic

Vehicles Summary (excluding Buses)																				
Hour	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
7:00 - 8:00 AM	62	-	11	13	32	9	23	17	124	40	31	70	1	-	-	-	-	16	9	458
8:00 - 9:00 AM	158	-	46	78	144	28	109	31	181	40	79	45	4	-	-	-	-	49	19	1011
9:00 - 10:00 AM	401	-	187	47	462	28	116	23	88	42	180	65	2	-	-	-	-	23	13	1677
AM Sub-Total:	***621***	***-***	***244***	***138***	***638***	***65***	***248***	***71***	***393***	***122***	***290***	***180***	***7***	***-***	***-***	***-***	***-***	***88***	***41***	***3146***
2:00 - 3:00 PM	190	-	68	33	167	10	28	34	98	29	106	34	3	-	-	-	-	34	19	853
3:00 - 4:00 PM	216	-	73	56	181	3	19	19	95	18	114	44	4	-	-	-	-	15	22	879
4:00 - 5:00 PM	213	-	38	40	163	6	23	3	101	7	106	32	4	-	-	-	-	23	18	777
5:00 - 6:00 PM	240	-	58	48	178	3	35	0	108	2	127	44	4	-	-	-	-	30	11	888
PM Sub-Total:	***859***	***-***	***237***	***177***	***689***	***22***	***105***	***56***	***402***	***56***	***453***	***154***	***15***	***-***	***-***	***-***	***-***	***102***	***70***	***3397***
TOTAL:	***1480***	***-***	***481***	***315***	***1327***	***87***	***353***	***127***	***795***	***178***	***743***	***334***	***22***	***-***	***-***	***-***	***-***	***190***	***111***	***6543***
Outbound																				
7:00 - 8:00 AM	25	-	2	11	5	5	6	26	37	22	34	11	0	-	-	-	-	15	6	205
8:00 - 9:00 AM	77	-	7	61	26	1	13	21	62	26	78	19	4	-	-	-	-	45	19	459
9:00 - 10:00 AM	200	-	18	41	65	5	8	17	78	26	158	25	1	-	-	-	-	18	11	671
AM Sub-Total:	***302***	***-***	***27***	***113***	***96***	***11***	***27***	***64***	***177***	***74***	***270***	***55***	***5***	***-***	***-***	***-***	***-***	***78***	***36***	***1335***
2:00 - 3:00 PM	228	-	91	16	140	15	72	30	110	42	170	78	5	-	-	-	-	41	15	1053
3:00 - 4:00 PM	315	-	100	69	187	18	61	13	115	40	200	130	2	-	-	-	-	29	19	1298
4:00 - 5:00 PM	325	-	93	41	169	40	75	17	151	26	203	105	4	-	-	-	-	39	24	1312
5:00 - 6:00 PM	415	-	114	58	239	18	58	3	116	6	221	68	6	-	-	-	-	20	13	1355
PM Sub-Total:	***1283***	***-***	***398***	***184***	***735***	***91***	***266***	***63***	***492***	***114***	***794***	***381***	***17***	***-***	***-***	***-***	***-***	***129***	***71***	***5018***
TOTAL:	***1585***	***-***	***425***	***297***	***831***	***102***	***293***	***127***	***669***	***188***	***1064***	***436***	***22***	***-***	***-***	***-***	***-***	***207***	***107***	***6353***
TOTAL 7 HR PEAK:	***3065***	***-***	***906***	***612***	***2158***	***189***	***646***	***254***	***1464***	***366***	***1807***	***770***	***44***	***-***	***-***	***-***	***-***	***397***	***218***	***12896***
Vehicles (excluding Buses) - Peak Hour Volumes																				
Peak	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
AM Peak	401	-	187	78	462	28	116	31	181	42	180	70	4	-	-	-	-	49	19	***1848***
PM Peak	240	-	73	56	181	10	35	34	108	29	127	44	4	-	-	-	-	34	22	***997***
Outbound																				
AM Peak	200	-	18	61	65	5	13	26	78	26	158	25	4	-	-	-	-	45	19	***743***
PM Peak	415	-	114	69	239	40	75	30	151	42	221	130	6	-	-	-	-	41	24	***1597***

Table B3: Pedestrian Summary Peak Hourly Traffic

Pedestrian Summary																				
Hour	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
7:00 - 8:00 AM	9	3	2	0	2	4	43	2	6	5	9	4	7	14	2	10	2	2	6	132
8:00 - 9:00 AM	45	7	10	6	8	8	123	5	54	12	32	6	23	91	0	21	12	12	11	486
9:00 - 10:00 AM	38	8	12	4	9	24	106	0	67	14	21	4	24	99	5	13	23	10	13	494
AM Sub-Total:	***92***	***18***	***24***	***10***	***19***	***36***	***272***	***7***	***127***	***31***	***62***	***14***	***54***	***204***	***7***	***44***	***37***	***24***	***30***	***1112***
2:00 - 3:00 PM	12	55	6	1	6	38	47	2	32	16	20	9	11	22	22	9	8	34	9	359
3:00 - 4:00 PM	12	46	5	4	3	43	84	1	15	11	37	10	16	15	16	3	9	18	5	353
4:00 - 5:00 PM	24	62	10	7	3	47	60	0	20	4	20	12	14	17	29	9	8	18	8	372
5:00 - 6:00 PM	18	47	6	0	5	42	67	0	12	3	8	5	13	10	23	10	13	13	2	297
PM Sub-Total:	***66***	***210***	***27***	***12***	***17***	***170***	***258***	***3***	***79***	***34***	***85***	***36***	***54***	***64***	***90***	***31***	***38***	***83***	***24***	***1381***
TOTAL:	***158***	***228***	***51***	***22***	***36***	***206***	***530***	***10***	***206***	***65***	***147***	***50***	***108***	***268***	***97***	***75***	***75***	***107***	***54***	***2493***
Outbound																				
7:00 - 8:00 AM	2	15	3	0	1	8	5	2	2	0	7	2	4	3	9	1	3	7	1	75
8:00 - 9:00 AM	7	80	2	9	1	53	28	5	14	8	10	4	4	6	40	2	4	38	4	319
9:00 - 10:00 AM	8	80	6	2	1	47	41	0	13	6	12	7	3	12	48	4	4	12	3	309
AM Sub-Total:	***17***	***175***	***11***	***11***	***3***	***108***	***74***	***7***	***29***	***14***	***29***	***13***	***11***	***21***	***97***	***7***	***11***	***57***	***8***	***703***
2:00 - 3:00 PM	46	35	9	3	9	18	93	1	55	19	17	8	26	48	12	13	18	15	13	458
3:00 - 4:00 PM	29	15	8	2	7	29	79	3	39	13	16	17	23	44	10	14	18	10	9	385
4:00 - 5:00 PM	40	22	8	9	9	17	86	4	49	10	36	10	29	55	12	14	24	9	8	451
5:00 - 6:00 PM	34	12	12	9	9	30	80	3	42	2	19	8	23	59	8	9	19	5	9	392
PM Sub-Total:	***149***	***84***	***37***	***23***	***34***	***94***	***338***	***11***	***185***	***44***	***88***	***43***	***101***	***206***	***42***	***50***	***79***	***39***	***39***	***1686***
TOTAL:	***166***	***259***	***48***	***34***	***37***	***202***	***412***	***18***	***214***	***58***	***117***	***56***	***112***	***227***	***139***	***57***	***90***	***96***	***47***	***2389***
TOTAL 7 HR PEAK:	***324***	***487***	***99***	***56***	***73***	***408***	***942***	***28***	***420***	***123***	***264***	***106***	***220***	***495***	***236***	***132***	***165***	***203***	***101***	***4882***
Pedestrian - Peak Hour Volumes																				
Peak	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
AM Peak	45	8	12	6	9	24	123	5	67	14	32	6	24	99	5	21	23	12	13	***548***
PM Peak	24	62	10	7	6	47	84	2	32	16	37	12	16	22	29	10	13	34	9	***472***
Outbound																				
AM Peak	8	80	6	9	1	53	41	5	14	8	12	7	4	12	48	4	4	38	4	***358***
PM Peak	46	35	12	9	9	30	93	4	55	19	36	17	29	59	12	14	24	15	13	***531***

Table B4: Cyclist Summary Peak Hourly Traffic

Cyclist Summary																				
Hour	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
7:00 - 8:00 AM	28	0	3	0	6	4	6	1	5	3	4	0	1	3	0	0	0	1	0	65
8:00 - 9:00 AM	92	2	19	1	49	28	41	1	21	3	12	2	3	20	0	0	2	1	2	299
9:00 - 10:00 AM	70	3	10	1	52	1	45	1	18	3	10	0	3	20	1	0	1	2	0	241
AM Sub-Total:	***190***	***5***	***32***	***2***	***107***	***33***	***92***	***3***	***44***	***9***	***26***	***2***	***7***	***43***	***1***	***0***	***3***	***4***	***2***	***605***
2:00 - 3:00 PM	12	6	5	0	10	27	16	0	8	4	3	2	1	4	1	0	1	6	1	107
3:00 - 4:00 PM	11	3	2	2	9	5	11	0	3	3	4	0	1	2	3	0	0	1	0	60
4:00 - 5:00 PM	22	10	5	2	7	25	13	0	9	5	4	1	1	6	4	0	2	2	1	119
5:00 - 6:00 PM	16	2	2	1	8	38	18	0	4	7	5	2	1	4	3	1	2	2	0	116
PM Sub-Total:	***61***	***21***	***14***	***5***	***34***	***95***	***58***	***0***	***24***	***19***	***16***	***5***	***4***	***16***	***11***	***1***	***5***	***11***	***2***	***402***
TOTAL:	***251***	***26***	***46***	***7***	***141***	***128***	***150***	***3***	***68***	***28***	***42***	***7***	***11***	***59***	***12***	***1***	***8***	***15***	***4***	***1007***
Outbound																				
7:00 - 8:00 AM	11	4	0	0	2	3	3	0	2	2	3	0	0	1	0	0	0	2	0	33
8:00 - 9:00 AM	8	16	2	3	3	29	6	0	7	6	3	0	1	3	3	0	0	6	0	96
9:00 - 10:00 AM	12	16	3	3	4	47	5	0	4	4	3	0	1	4	8	0	0	4	0	118
AM Sub-Total:	***31***	***36***	***5***	***6***	***9***	***79***	***14***	***0***	***13***	***12***	***9***	***0***	***2***	***8***	***11***	***0***	***0***	***12***	***0***	***247***
2:00 - 3:00 PM	41	1	8	0	15	27	12	1	7	6	7	2	0	14	1	1	2	4	1	150
3:00 - 4:00 PM	34	4	10	1	23	14	12	1	8	2	5	1	2	10	1	0	1	3	1	133
4:00 - 5:00 PM	69	4	14	3	26	21	22	1	22	8	17	2	1	6	1	1	1	4	1	224
5:00 - 6:00 PM	60	3	14	2	24	6	32	1	17	2	9	2	2	9	1	0	0	3	0	187
PM Sub-Total:	***204***	***12***	***46***	***6***	***88***	***68***	***78***	***4***	***54***	***18***	***38***	***7***	***5***	***39***	***4***	***2***	***4***	***14***	***3***	***694***
TOTAL:	***235***	***48***	***51***	***12***	***97***	***147***	***92***	***4***	***67***	***30***	***47***	***7***	***7***	***47***	***15***	***2***	***4***	***26***	***3***	***941***
TOTAL 7 HR PEAK:	***486***	***74***	***97***	***19***	***238***	***275***	***242***	***7***	***135***	***58***	***89***	***14***	***18***	***106***	***27***	***3***	***12***	***41***	***7***	***1948***
Cyclist - Peak Hour Volumes																				
Peak	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
AM Peak	92	3	19	1	52	28	45	1	21	3	12	2	3	20	1	0	2	2	2	***309***
PM Peak	22	10	5	2	10	38	18	0	9	7	5	2	1	6	4	1	2	6	1	***149***
Outbound																				
AM Peak	12	16	3	3	4	47	6	0	7	6	3	0	1	4	8	0	0	6	0	***126***
PM Peak	69	4	14	3	26	27	32	1	22	8	17	2	2	14	1	1	2	4	1	***250***

Table B5: Skateboarders Summary Peak Hourly Traffic

Skateboarders Summary																				
Hour	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
7:00 - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 - 9:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	1	0	5
9:00 - 10:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
AM Sub-Total:	***1***	***0***	***0***	***0***	***0***	***0***	***1***	***0***	***1***	***0***	***1***	***0***	***0***	***2***	***0***	***0***	***0***	***1***	***1***	***8***
2:00 - 3:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:00 - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 5:00 PM	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	4
5:00 - 6:00 PM	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	4
PM Sub-Total:	***1***	***1***	***0***	***0***	***0***	***1***	***1***	***0***	***1***	***1***	***0***	***1***	***1***	***1***	***0***	***0***	***0***	***0***	***1***	***10***
TOTAL:	***2***	***1***	***0***	***0***	***0***	***1***	***2***	***0***	***2***	***1***	***1***	***1***	***1***	***3***	***0***	***0***	***0***	***1***	***2***	***18***
Outbound																				
7:00 - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Sub-Total:	***0***	***0***	***0***	***0***	***0***	***1***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1***
2:00 - 3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 - 4:00 PM	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
4:00 - 5:00 PM	0	0	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	7
5:00 - 6:00 PM	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	6
PM Sub-Total:	***2***	***0***	***0***	***0***	***0***	***1***	***3***	***0***	***3***	***1***	***2***	***1***	***1***	***0***	***0***	***0***	***0***	***1***	***1***	***16***
TOTAL:	***2***	***0***	***0***	***0***	***0***	***2***	***3***	***0***	***3***	***1***	***2***	***1***	***1***	***0***	***0***	***0***	***0***	***1***	***1***	***17***
TOTAL 7 HR PEAK:	***4***	***1***	***0***	***0***	***0***	***3***	***5***	***0***	***5***	***2***	***3***	***2***	***2***	***3***	***0***	***0***	***0***	***2***	***3***	***35***
Skateboarders - Peak Hour Volumes																				
Peak	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
AM Peak	1	0	0	0	0	0	1	0	1	0	1	0	0	2	0	0	0	1	1	***8***
PM Peak	1	1	0	0	0	1	1	0	1	1	0	1	1	1	0	0	0	0	1	***10***
Outbound																				
AM Peak	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	***1***
PM Peak	2	0	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	1	1	***11***

Table B6: Auto Passenger Summary Peak Hourly Traffic – Raw Data

Auto Passenger Summary - Raw Data																				
Hour	M1	M2a	M2b	M3*	M4	M5a*	M5c*	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
7:00 - 8:00 AM	1	-	0	3	11	0	0			0	5	0		-	-	-	-		0	20
8:00 - 9:00 AM	8	-	6	14	54	1	1	NO DATA**	NO DATA**	0	59	0	NO DATA**	-	-	-	-	NO DATA**	0	143
9:00 - 10:00 AM	6	-	24	3	47	0	1			0	16	5		-	-	-	-		0	102
AM Sub-Total:	***15***	**-**	***30***	***20***	***112***	***1***	***2***			***0***	***80***	***5***		**-**	**-**	**-**	**-**		***0***	***265***
Outbound																				
2:00 - 3:00 PM	6	-	0	3	29	0	1		22	1	42	8		-	-	-	-	5	1	118
3:00 - 4:00 PM	8	-	1	47	26	0	0		11	1	24	13		-	-	-	-	5	0	136
4:00 - 5:00 PM	12	-	1	8	40	0	3	NO DATA**	17	1	38	17	NO DATA**	-	-	-	-	3	0	140
5:00 - 6:00 PM	9	-	0	14	41	0	7		18	0	39	5		-	-	-	-	4	0	137
PM Sub-Total:	***35***	**-**	***2***	***72***	***136***	***0***	***11***		***68***	***3***	***143***	***43***		**-**	**-**	**-**	**-**	***17***	***1***	***531***
TOTAL 7 HR PEAK:	***50***	**-**	***32***	***92***	***248***	***1***	***13***		***68***	***3***	***223***	***48***		**-**	**-**	**-**	**-**	***17***	***1***	***796***

Auto Passenger - Peak Hour Volumes																				
Peak	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
AM Peak	8	0	24	14	54	1	1	0	0	0	59	5	0	0	0	0	0	0	0	***166***
PM Peak	12	0	1	47	41	0	7	0	22	1	42	17	0	0	0	0	0	5	1	***196***

*Missing Footage for part of specified time period

**No Data: No data available for entire peak period

Table B7: Auto Passenger Summary Peak Hourly Traffic – Adjusted Data

Auto Passenger Summary - Adjusted Data																				
Hour	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
Inbound																				
7:00 - 8:00 AM	10	-	0	5	11	1	3	4	41	3	5	7	0	-	-	-	-	3	1	94
8:00 - 9:00 AM	25	-	6	57	54	2	18	6	60	2	59	0	1	-	-	-	-	8	1	299
9:00 - 10:00 AM	48	-	33	7	50	5	3	4	32	2	20	6	0	-	-	-	-	4	1	215
AM Sub-Total:	***83***	**-**	***39***	***69***	***115***	***8***	***24***	***14***	***133***	***7***	***84***	***13***	***1***	**-**	**-**	**-**	**-**	***15***	***3***	***608***
Outbound																				
2:00 - 3:00 PM	22	-	15	4	31	0	12	6	34	3	45	9	1	-	-	-	-	6	2	190
3:00 - 4:00 PM	30	-	15	47	28	0	10	3	23	2	28	14	0	-	-	-	-	6	0	206
4:00 - 5:00 PM	33	-	17	8	44	7	4	3	35	2	42	18	1	-	-	-	-	4	0	218
5:00 - 6:00 PM	40	-	13	17	45	3	8	1	35	1	43	6	0	-	-	-	-	5	0	217
PM Sub-Total:	***125***	**-**	***60***	***76***	***148***	***10***	***34***	***13***	***127***	***8***	***158***	***47***	***2***	**-**	**-**	**-**	**-**	***21***	***2***	***831***
TOTAL 7 HR PEAK:	***208***	**-**	***99***	***145***	***263***	***18***	***58***	***27***	***260***	***15***	***242***	***60***	***3***	**-**	**-**	**-**	**-**	***36***	***5***	***1439***

Auto Passenger - Peak Hour Volumes																				
Peak	M1	M2a	M2b	M3	M4	M5a	M5c	M5d	M6	M7	M8	M9a/b	M9c	M11	M12	M13	M14	MF1	MF2	Total
AM Peak	48	0	33	57	54	5	18	6	60	3	59	7	1	0	0	0	0	8	1	***360***
PM Peak	40	0	17	47	45	7	12	6	35	3	45	18	1	0	0	0	0	6	2	***284***

NOTE: Survey wide VO factor 1.16 applied to sites to account for not being able to see in vehicles

**Location specific factor applied based on empierical VO factors and observed location specific VO factors

APPENDIX C: BC TRANSIT DATA SUMMARY

Table C1 – Transit Passenger Trips Arriving to UVic

Transit Passenger Count - Arriving to UVic Average Per Monday to Friday - Oct. 18 to Nov. 5, 2021 Fall Period													
Hour	Rte 4	Rte 7	Rte 9	Rte 11	Rte 12	Rte 13	Rte 14	Rte 15	Rte 17	Rte 26	Rte 39	Rte 51	Total
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	11	4	0	4	2	0	3	14	0	10	0	0	47
7:00 AM	58	29	0	21	27	0	38	44	0	90	40	38	384
8:00 AM	125	120	28	56	68	0	256	101	14	148	108	64	1089
9:00 AM	182	101	46	55	99	3	245	99	0	172	133	0	1135
10:00 AM	98	48	17	31	28	0	102	79	0	129	63	0	595
11:00 AM	101	39	18	32	33	0	83	74	0	137	71	0	587
12:00 PM	79	44	16	29	35	1	85	72	0	111	62	0	534
1:00 PM	57	25	7	16	8	0	59	38	0	77	34	0	320
2:00 PM	62	21	3	24	22	0	50	39	0	72	34	0	325
3:00 PM	50	19	4	22	6	0	35	30	0	74	28	0	267
4:00 PM	49	17	5	20	13	1	38	27	0	50	32	5	256
5:00 PM	44	15	5	15	6	0	28	22	0	41	24	4	203
6:00 PM	38	15	0	12	0	0	33	18	0	45	25	0	184
7:00 PM	14	5	0	6	0	0	24	11	0	45	4	0	109
8:00 PM	16	3	0	8	0	0	15	12	0	23	2	0	79
9:00 PM	13	4	0	4	0	0	10	8	0	22	3	0	64
10:00 PM	7	4	0	1	0	0	4	9	0	15	0	0	40
11:00 PM	3	2	0	3	0	0	4	6	0	10	0	0	27
12:00 AM	8	2	0	2	0	0	4	3	0	6	0	0	25
1:00 AM	15	0	0	0	0	0	2	15	0	0	0	0	32
2:00 AM	0	0	0	0	0	0	0	7	0	0	0	0	7
Total	**1,030**	**515**	**148**	**360**	**347**	**4**	**1,118**	**727**	**14**	**1,276**	**661**	**110**	**6,309**

Table C2 – Transit Passenger Trips Leaving UVic

Transit Passenger Count - Leaving UVic Average Per Monday to Friday - Oct. 18 to Nov. 5, 2021 Fall Period													
Hour	Rte 4	Rte 7	Rte 9	Rte 11	Rte 12	Rte 13	Rte 14	Rte 15	Rte 17	Rte 26	Rte 39	Rte 51	Total
5:00 AM	1	0	0	0	0	0	0	0	-	0	0	0	1
6:00 AM	2	1	0	3	0	0	1	4	-	6	7	0	22
7:00 AM	8	4	3	7	2	0	2	6	-	15	17	7	71
8:00 AM	19	5	3	5	1	0	6	11	-	27	14	0	91
9:00 AM	32	10	4	5	5	0	10	15	-	37	8	0	126
10:00 AM	37	9	6	11	10	0	13	18	-	39	16	0	160
11:00 AM	67	28	18	14	17	0	35	33	-	80	45	0	336
12:00 PM	76	25	15	16	16	1	49	41	-	96	49	0	383
1:00 PM	103	36	11	23	35	0	81	51	-	180	68	0	587
2:00 PM	165	48	22	44	45	0	94	97	-	186	77	0	776
3:00 PM	154	53	6	29	57	0	106	83	-	202	82	72	844
4:00 PM	128	48	14	26	40	1	124	100	-	190	71	0	742
5:00 PM	90	45	3	20	36	0	140	79	-	173	48	22	657
6:00 PM	86	21	0	24	0	0	103	69	-	125	54	0	484
7:00 PM	42	10	0	16	0	0	70	39	-	79	23	0	280
8:00 PM	41	13	0	11	0	0	50	34	-	81	13	0	243
9:00 PM	39	7	0	9	0	0	44	17	-	76	13	0	206
10:00 PM	17	3	0	5	0	0	38	12	-	33	0	0	109
11:00 PM	6	4	0	2	0	0	12	10	-	22	0	0	56
12:00 AM	4	0	0	0	0	0	9	7	-	5	0	0	25
1:00 AM	19	0	0	0	0	0	4	5	-	0	0	0	27
2:00 AM	0	0	0	0	0	0	2	0	-	0	0	0	2
Total	**1,136**	**371**	**103**	**270**	**262**	**2**	**994**	**733**	-	**1,651**	**606**	**101**	**6,229**

Table C3 – Transit Passenger Trips Total Arriving and Leaving UVic

Transit Passenger Count - Total Arriving and Leaving UVic Average Per Monday to Friday - Oct. 18 to Nov. 5, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
6:00 AM	12	5	0	6	2	0	4	17	0	15	7	0	69
7:00 AM	67	34	3	27	28	0	40	50	0	105	57	45	455
8:00 AM	144	125	31	61	69	0	262	112	14	176	121	64	1179
9:00 AM	214	110	50	60	104	3	255	114	0	209	142	0	1261
10:00 AM	136	57	23	42	38	0	115	97	0	168	78	0	754
11:00 AM	168	67	36	45	50	0	118	107	0	217	116	0	923
12:00 PM	155	69	30	45	50	2	133	113	0	207	111	0	917
1:00 PM	160	61	18	39	42	0	140	89	0	257	101	0	907
2:00 PM	226	68	25	68	66	0	143	136	0	257	111	0	1101
3:00 PM	204	72	9	51	63	0	141	113	0	276	110	72	1111
4:00 PM	178	65	18	46	53	2	162	126	0	240	103	5	999
5:00 PM	134	60	8	35	42	0	168	101	0	214	72	26	860
6:00 PM	124	36	0	36	0	0	136	87	0	170	79	0	668
7:00 PM	56	15	0	22	0	0	94	50	0	124	27	0	389
8:00 PM	57	16	0	20	0	0	65	46	0	104	15	0	322
9:00 PM	52	11	0	13	0	0	55	25	0	98	16	0	270
10:00 PM	24	7	0	6	0	0	42	22	0	48	0	0	149
11:00 PM	9	5	0	5	0	0	16	16	0	32	0	0	83
12:00 AM	12	2	0	2	0	0	14	10	0	11	0	0	51
1:00 AM	34	0	0	0	0	0	6	20	0	0	0	0	59
2:00 AM	0	0	0	0	0	0	2	7	0	0	0	0	9
Total	**2,167**	**886**	**251**	**630**	**609**	**6**	**2,112**	**1,460**	**14**	**2,927**	**1,266**	**211**	**12,538**

Table C4 – Transit Bus Trips Arriving to UVic

Transit Trips Count - Arriving to UVic Average Per Monday to Friday - Oct. 18 to Nov. 5, 2021 Fall Period													
Hour	Rte 4	Rte 7	Rte 9	Rte 11	Rte 12	Rte 13	Rte 14	Rte 15	Rte 17	Rte 26	Rte 39	Rte 51	Total
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	2	1	0	2	1	0	1	3	0	2	0	0	12
7:00 AM	6	3	0	4	2	0	4	4	0	6	2	2	33
8:00 AM	6	6	1	5	3	0	10	4	1	8	6	2	52
9:00 AM	7	4	2	5	4	1	8	5	0	7	6	0	49
10:00 AM	5	3	1	4	1	0	4	4	0	6	3	0	31
11:00 AM	5	3	1	4	1	0	4	4	0	6	3	0	31
12:00 PM	5	3	1	4	2	1	4	4	0	6	3	0	33
1:00 PM	5	3	1	3	1	0	4	4	0	7	3	0	31
2:00 PM	5	3	1	4	2	0	4	4	0	6	3	0	32
3:00 PM	6	4	1	4	1	0	4	4	0	7	4	0	35
4:00 PM	6	4	2	5	2	1	5	4	0	8	4	1	42
5:00 PM	6	4	2	5	1	0	5	4	0	7	4	1	39
6:00 PM	5	4	0	5	0	0	5	4	0	4	3	0	30
7:00 PM	4	3	0	3	0	0	5	4	0	4	1	0	24
8:00 PM	4	2	0	4	0	0	4	4	0	3	1	0	22
9:00 PM	4	2	0	3	0	0	4	4	0	3	1	0	21
10:00 PM	3	2	0	2	0	0	3	4	0	3	0	0	17
11:00 PM	2	1	0	2	0	0	2	3	0	3	0	0	13
12:00 AM	2	2	0	1	0	0	2	2	0	2	0	0	11
1:00 AM	2	0	0	0	0	0	2	2	0	0	0	0	6
2:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	**90**	**57**	**13**	**69**	**21**	**3**	**84**	**76**	**1**	**98**	**47**	**6**	**565**

Table C5 – Transit Bus Trips Leaving UVic

Transit Trips Count - Leaving UVic Average Per Monday to Friday - Oct. 18 to Nov. 5, 2021 Fall Period													
Hour	Rte 4	Rte 7	Rte 9	Rte 11	Rte 12	Rte 13	Rte 14	Rte 15	Rte 17	Rte 26	Rte 39	Rte 51	Total
5:00 AM	1	0	0	0	0	0	0	1	-	0	0	0	2
6:00 AM	3	3	0	3	0	0	1	3	-	3	2	0	18
7:00 AM	3	4	2	5	2	0	3	4	-	4	3	1	31
8:00 AM	4	4	1	4	1	0	5	4	-	7	4	0	34
9:00 AM	5	4	1	4	1	1	5	4	-	6	3	0	34
10:00 AM	5	3	1	4	2	0	4	4	-	6	3	0	32
11:00 AM	5	3	1	4	1	0	4	4	-	6	3	0	31
12:00 PM	5	3	1	4	1	1	4	4	-	6	3	0	32
1:00 PM	5	3	1	4	2	0	4	4	-	8	4	0	35
2:00 PM	6	3	2	5	2	0	4	5	-	6	4	0	37
3:00 PM	7	4	1	5	4	0	4	5	-	10	4	2	46
4:00 PM	6	4	1	5	3	1	6	5	-	8	4	0	43
5:00 PM	5	4	1	5	2	0	6	4	-	8	3	1	39
6:00 PM	4	3	0	4	0	0	5	4	-	4	2	0	26
7:00 PM	4	2	0	3	0	0	4	4	-	3	1	0	21
8:00 PM	4	2	0	3	0	0	4	4	-	3	1	0	21
9:00 PM	4	2	0	3	0	0	4	3	-	3	1	0	20
10:00 PM	3	2	0	2	0	0	4	3	-	3	0	0	17
11:00 PM	2	2	0	1	0	0	2	2	-	3	0	0	12
12:00 AM	2	0	0	0	0	0	2	2	-	1	0	0	7
1:00 AM	1	0	0	0	0	0	2	2	-	0	0	0	5
2:00 AM	0	0	0	0	0	0	1	0	-	0	0	0	1
Total	**84**	**55**	**13**	**68**	**21**	**3**	**78**	**75**	-	**98**	**45**	**4**	**544**

Table C6 – Transit Bus Trips Arriving and Leaving UVic

Transit Trips Count - Total Arriving and Leaving UVic Average Per Monday to Friday - Oct. 18 to Nov. 5, 2021 Fall Period													
Hour	Rte 4	Rte 7	Rte 9	Rte 11	Rte 12	Rte 13	Rte 14	Rte 15	Rte 17	Rte 26	Rte 39	Rte 51	Total
5:00 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
6:00 AM	5	4	0	5	1	0	2	6	0	5	2	0	30
7:00 AM	9	7	2	9	4	0	7	8	0	10	5	3	64
8:00 AM	10	10	2	9	4	0	15	8	1	15	10	2	86
9:00 AM	12	8	3	9	5	2	13	9	0	13	9	0	83
10:00 AM	10	6	2	8	3	0	8	8	0	12	6	0	63
11:00 AM	10	6	2	8	2	0	8	8	0	12	6	0	62
12:00 PM	10	6	2	8	3	2	8	8	0	12	6	0	65
1:00 PM	10	6	2	7	3	0	8	8	0	15	7	0	66
2:00 PM	11	6	3	9	4	0	8	9	0	12	7	0	69
3:00 PM	13	8	2	9	5	0	8	9	0	17	8	2	81
4:00 PM	12	8	3	10	5	2	11	9	0	16	8	1	85
5:00 PM	11	8	3	10	3	0	11	8	0	15	7	2	78
6:00 PM	9	7	0	9	0	0	10	8	0	8	5	0	56
7:00 PM	8	5	0	6	0	0	9	8	0	7	2	0	45
8:00 PM	8	4	0	7	0	0	8	8	0	6	2	0	43
9:00 PM	8	4	0	6	0	0	8	7	0	6	2	0	41
10:00 PM	6	4	0	4	0	0	7	7	0	6	0	0	34
11:00 PM	4	3	0	3	0	0	4	5	0	6	0	0	25
12:00 AM	4	2	0	1	0	0	4	4	0	3	0	0	18
1:00 AM	3	0	0	0	0	0	4	4	0	0	0	0	11
2:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	**174**	**112**	**26**	**137**	**42**	**6**	**162**	**151**	**1**	**196**	**92**	**10**	**1,109**

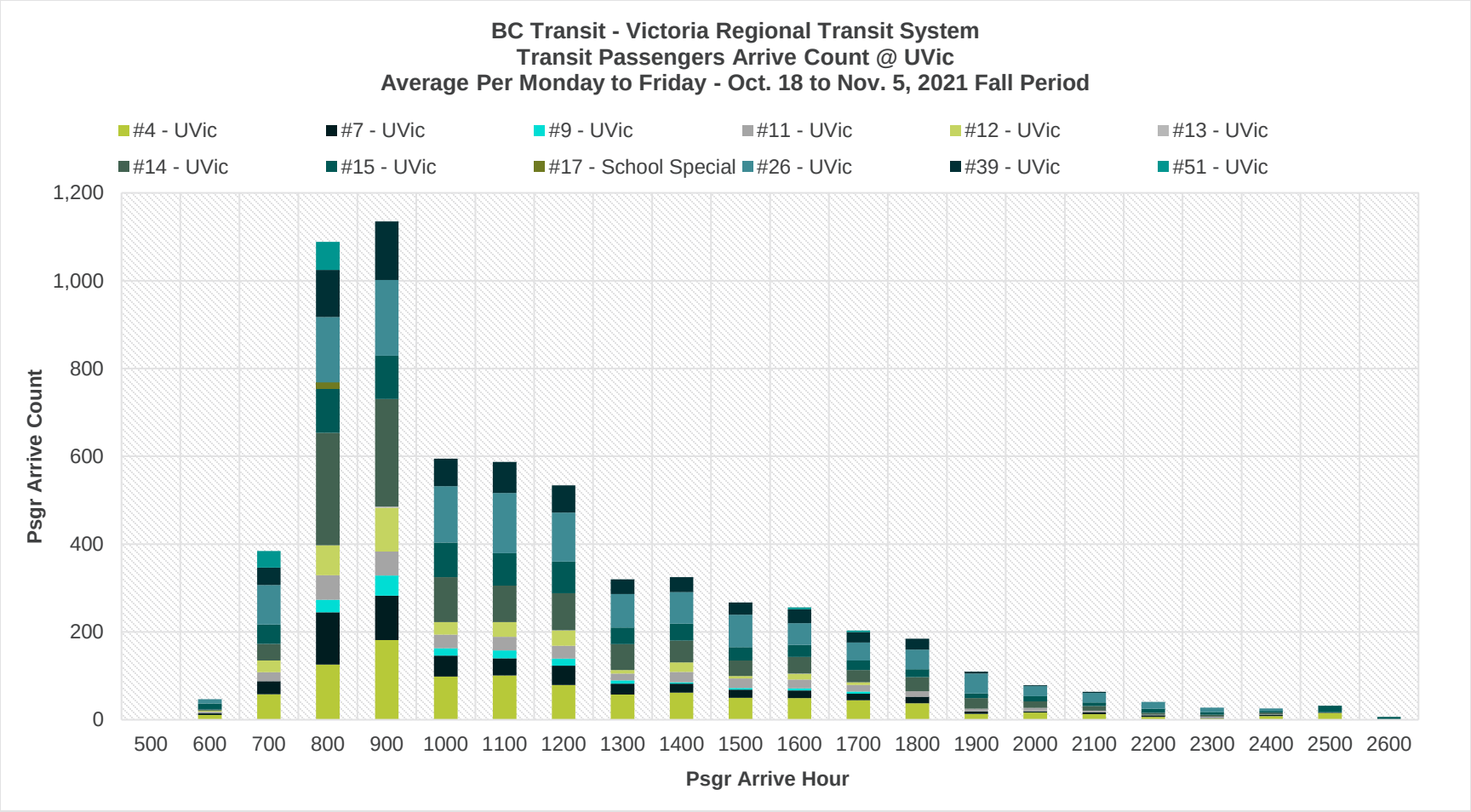

Figure C1 – Distribution Transit Passenger Trips Total Arriving to UVic

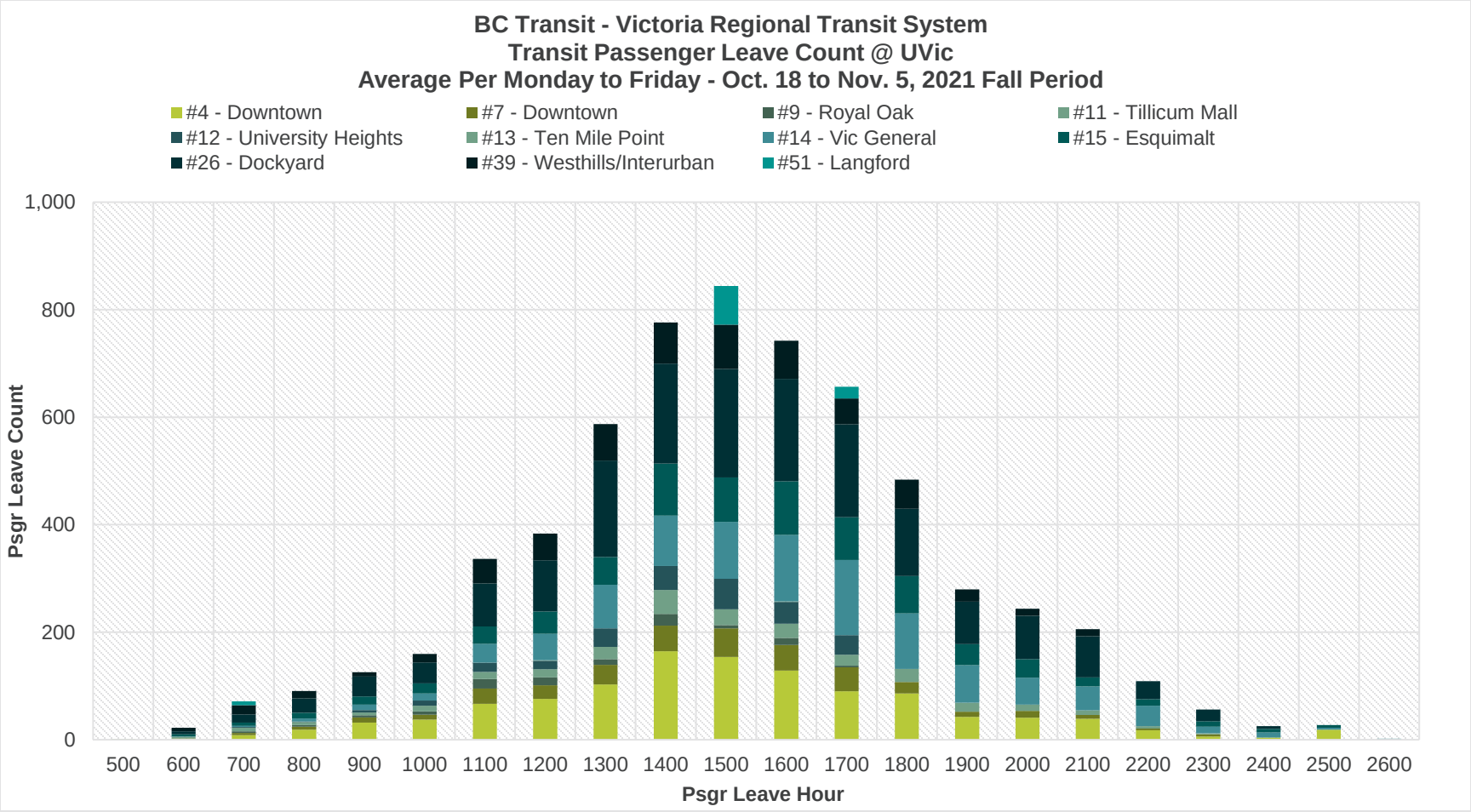

Figure C2 – Distribution Transit Passenger Trips Total Leaving UVic

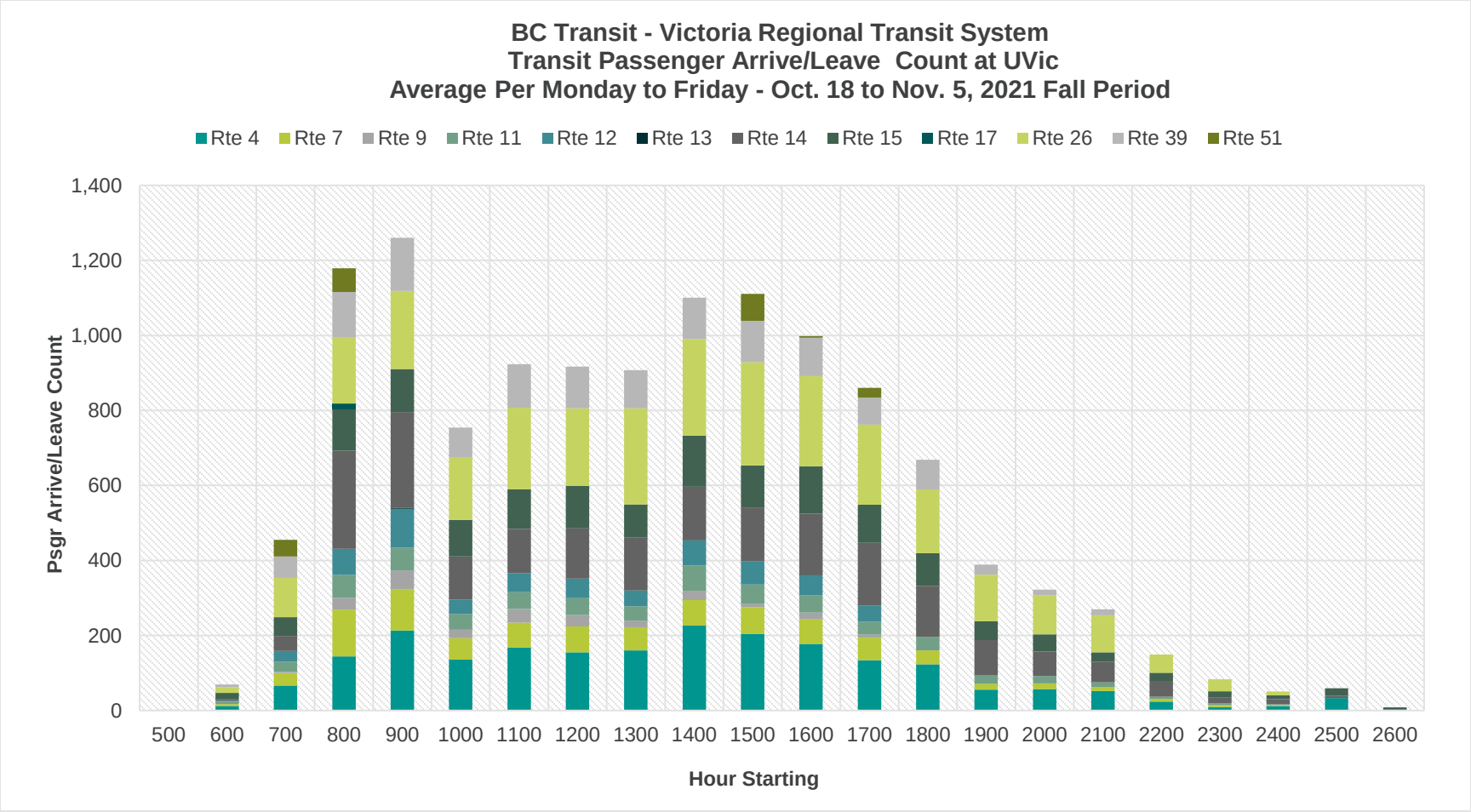

Figure C3 – Distribution Transit Passenger Trips Total Arriving and Leaving UVic

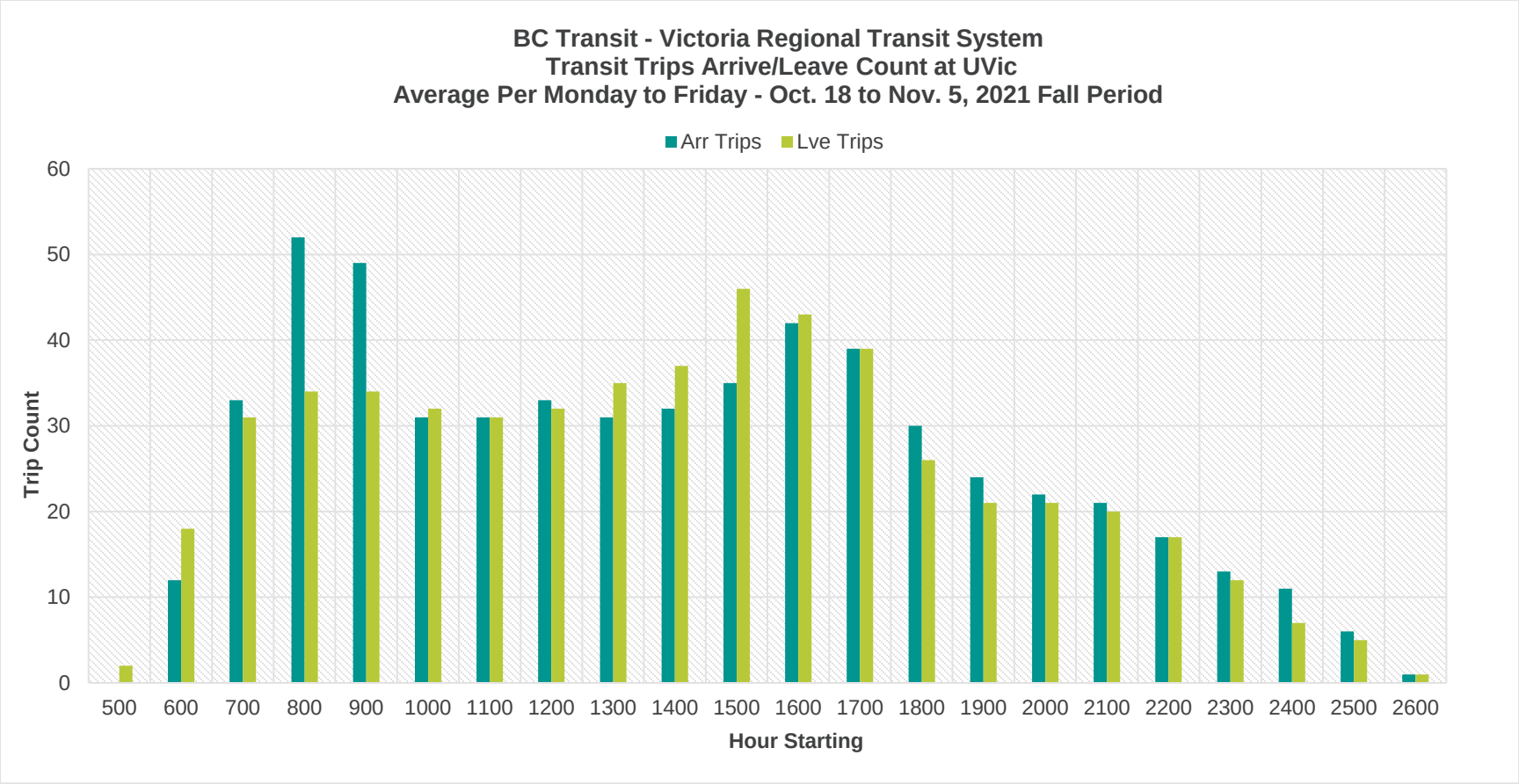

Figure C4 – Distribution Transit Bus Trips Arriving and Leaving UVic

BC Transit Data

September 7, 2021– December 3, 2021

Table C7 – Transit Passenger Trips Arriving to UVic

Transit Passenger Count - Arriving to UVic Average Per Monday to Friday - Sept 7 to Dec 3, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	9	3	0	3	3	0	3	13	0	13	0	0	48
7:00 AM	60	30	0	23	28	0	41	41	0	91	38	38	390
8:00 AM	150	114	26	58	67	0	245	123	13	184	106	57	1144
9:00 AM	182	91	43	59	102	2	270	145	0	194	131	0	1221
10:00 AM	95	44	16	34	24	0	86	79	0	134	68	0	581
11:00 AM	90	40	16	31	28	0	80	69	0	125	66	0	544
12:00 PM	89	38	14	32	36	1	79	62	0	118	59	0	527
1:00 PM	63	23	7	16	9	0	63	39	0	72	36	0	328
2:00 PM	56	20	4	27	21	0	44	34	0	65	35	0	306
3:00 PM	53	20	4	21	5	0	32	30	0	76	31	0	273
4:00 PM	44	16	6	19	11	1	36	27	0	48	27	2	238
5:00 PM	39	14	5	14	6	0	30	20	0	44	22	3	198
6:00 PM	38	11	0	13	0	0	30	17	0	41	22	0	172
7:00 PM	16	6	0	7	0	0	22	11	0	40	3	0	105
8:00 PM	16	4	0	8	0	0	13	11	0	23	4	0	79
9:00 PM	12	3	0	4	0	0	11	8	0	17	3	0	57
10:00 PM	8	3	0	2	0	0	5	7	0	11	0	0	37
11:00 PM	4	2	0	2	0	0	3	6	0	9	0	0	27
12:00 AM	5	2	0	2	0	0	3	4	0	5	0	0	22
1:00 AM	8	0	0	0	0	0	5	12	0	0	0	0	25
2:00 AM	0	0	0	0	0	0	0	7	0	0	0	0	7
Total	**1,037**	**487**	**140**	**377**	**340**	**4**	**1,101**	**766**	**13**	**1,311**	**650**	**101**	**6,328**

Table C8 – Transit Passenger Trips Leaving UVic

Transit Passenger Count - Leaving UVic Average Per Monday to Friday - Sept 7 to Dec 3, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	1	0	0	0	0	0	1	0	-	0	0	0	2
6:00 AM	3	1	0	3	0	0	4	4	-	6	6	0	26
7:00 AM	7	4	4	6	2	0	5	6	-	19	17	8	77
8:00 AM	17	5	3	6	1	0	11	11	-	29	16	0	99
9:00 AM	32	9	5	5	3	0	17	15	-	37	11	0	135
10:00 AM	35	9	7	11	9	0	31	17	-	49	19	0	187
11:00 AM	77	26	16	14	17	0	50	37	-	83	44	0	364
12:00 PM	75	26	12	17	15	1	73	41	-	92	45	0	396
1:00 PM	113	40	12	24	33	0	90	54	-	189	64	0	619
2:00 PM	166	44	20	40	43	0	106	86	-	185	82	0	773
3:00 PM	155	56	5	33	68	0	129	98	-	205	87	71	907
4:00 PM	131	59	9	32	49	1	181	120	-	197	69	18	867
5:00 PM	75	35	4	17	33	0	96	72	-	160	50	19	561
6:00 PM	78	23	0	22	0	0	67	60	-	113	48	0	411
7:00 PM	39	11	0	14	0	0	48	36	-	70	21	0	240
8:00 PM	36	12	0	10	0	0	38	29	-	67	10	0	201
9:00 PM	35	6	0	7	0	0	35	17	-	64	15	0	178
10:00 PM	17	4	0	4	0	0	12	13	-	30	0	0	80
11:00 PM	7	3	0	2	0	0	9	7	-	17	0	0	45
12:00 AM	6	0	0	0	0	0	5	6	-	4	0	0	20
1:00 AM	6	0	0	0	0	0	3	7	-	0	0	0	16
2:00 AM	0	0	0	0	0	0	0	0	-	0	0	0	0
Total	**1,113**	**373**	**97**	**267**	**272**	**2**	**1,009**	**737**	**-**	**1,616**	**603**	**117**	**6,205**

Table C9 – Transit Passenger trips Total Arriving and Leaving UVic

Transit Passenger Count - Total Arriving and Leaving UVic Average Per Monday to Friday - Sept 7 to Dec 3, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	2
6:00 AM	12	4	0	6	3	0	7	17	0	19	6	0	74
7:00 AM	67	34	4	28	30	0	46	47	0	110	55	46	467
8:00 AM	167	119	29	64	68	0	256	133	13	213	121	57	1243
9:00 AM	215	100	48	64	106	2	287	160	0	231	142	0	1356
10:00 AM	130	54	23	45	33	0	117	95	0	183	87	0	768
11:00 AM	167	66	32	45	45	0	131	105	0	209	110	0	908
12:00 PM	164	64	26	49	50	2	152	103	0	210	104	0	923
1:00 PM	176	63	18	40	42	0	153	94	0	261	100	0	947
2:00 PM	222	64	24	67	63	0	151	121	0	250	117	0	1079
3:00 PM	207	76	9	54	73	0	161	129	0	281	118	71	1180
4:00 PM	175	76	15	51	59	2	216	147	0	246	95	21	1104
5:00 PM	114	49	9	31	39	0	127	92	0	204	72	22	759
6:00 PM	116	34	0	35	0	0	97	77	0	154	70	0	583
7:00 PM	55	18	0	21	0	0	70	47	0	110	24	0	344
8:00 PM	52	15	0	18	0	0	51	41	0	89	14	0	280
9:00 PM	47	9	0	12	0	0	45	25	0	81	18	0	236
10:00 PM	25	7	0	7	0	0	17	21	0	41	0	0	117
11:00 PM	11	5	0	4	0	0	12	14	0	26	0	0	72
12:00 AM	12	2	0	2	0	0	8	10	0	9	0	0	43
1:00 AM	14	0	0	0	0	0	8	19	0	0	0	0	41
2:00 AM	0	0	0	0	0	0	0	7	0	0	0	0	7
Total	**2,150**	**860**	**237**	**644**	**612**	**6**	**2,110**	**1,503**	**13**	**2,927**	**1,253**	**218**	**12,534**
	17%	**7%**	**2%**	**5%**	**5%**	**0%**	**17%**	**12%**	**0%**	**23%**	**10%**	**2%**	**100%**

Table C10 – Transit Bus Trips Arriving to UVic

Transit Trips Count - Arriving to UVic Average Per Monday to Friday - Sept 7 to Dec 3, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	2	1	0	2	1	0	1	3	0	2	0	0	12
7:00 AM	6	3	0	4	2	0	4	4	0	6	2	2	33
8:00 AM	7	6	1	5	3	0	10	7	1	9	6	2	57
9:00 AM	8	4	2	5	4	1	9	7	0	7	6	0	53
10:00 AM	5	3	1	4	1	0	4	4	0	6	3	0	31
11:00 AM	5	3	1	4	1	0	4	4	0	6	3	0	31
12:00 PM	5	3	1	4	2	1	4	4	0	6	3	0	33
1:00 PM	5	3	1	3	1	0	4	4	0	7	3	0	31
2:00 PM	5	3	1	4	2	0	4	4	0	6	3	0	32
3:00 PM	6	4	1	4	1	0	4	4	0	7	4	0	35
4:00 PM	6	4	2	5	2	1	5	4	0	8	4	1	42
5:00 PM	6	4	2	5	1	0	5	4	0	7	4	1	39
6:00 PM	5	4	0	5	0	0	5	4	0	4	3	0	30
7:00 PM	4	3	0	3	0	0	5	4	0	4	1	0	24
8:00 PM	4	2	0	4	0	0	4	4	0	3	1	0	22
9:00 PM	4	2	0	3	0	0	4	4	0	3	1	0	21
10:00 PM	3	2	0	2	0	0	3	4	0	3	0	0	17
11:00 PM	2	1	0	2	0	0	2	3	0	3	0	0	13
12:00 AM	2	2	0	1	0	0	2	2	0	2	0	0	11
1:00 AM	2	0	0	0	0	0	2	2	0	0	0	0	6
2:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	**92**	**57**	**13**	**69**	**21**	**3**	**85**	**81**	**1**	**99**	**47**	**6**	**574**

Table C11 – Transit Bus Trips Leaving UVic

Transit Trips Count - Leaving UVic Average Per Monday to Friday - Sept 7 to Dec 3, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	1	0	0	0	0	0	1	1	-	0	0	0	3
6:00 AM	3	3	0	3	0	0	3	3	-	3	2	0	20
7:00 AM	3	4	2	5	2	0	5	4	-	4	3	1	33
8:00 AM	4	4	1	4	1	0	5	4	-	7	4	0	34
9:00 AM	5	4	1	4	1	1	4	4	-	6	3	0	33
10:00 AM	5	3	1	4	2	0	4	4	-	6	3	0	32
11:00 AM	5	3	1	4	1	0	4	4	-	6	3	0	31
12:00 PM	5	3	1	4	1	1	4	4	-	6	3	0	32
1:00 PM	5	3	1	4	2	0	4	4	-	7	4	0	34
2:00 PM	6	3	2	5	2	0	4	5	-	6	4	0	37
3:00 PM	7	4	1	5	4	0	7	6	-	9	4	2	49
4:00 PM	6	4	1	5	3	1	9	7	-	8	4	1	49
5:00 PM	5	4	1	5	2	0	5	4	-	8	3	1	38
6:00 PM	4	3	0	4	0	0	4	4	-	4	2	0	25
7:00 PM	4	2	0	3	0	0	4	4	-	3	1	0	21
8:00 PM	4	2	0	3	0	0	4	4	-	3	1	0	21
9:00 PM	4	2	0	3	0	0	4	3	-	3	1	0	20
10:00 PM	3	2	0	2	0	0	2	3	-	3	0	0	15
11:00 PM	2	2	0	1	0	0	2	2	-	3	0	0	12
12:00 AM	2	0	0	0	0	0	2	2	-	1	0	0	7
1:00 AM	1	0	0	0	0	0	1	2	-	0	0	0	4
2:00 AM	0	0	0	0	0	0	0	0	-	0	0	0	0
Total	**84**	**55**	**13**	**68**	**21**	**3**	**82**	**78**	**-**	**96**	**45**	**5**	**550**

Table C12 – Transit Bus Trips Arriving and Leaving UVic

Transit Trips Count - Total Arriving and Leaving UVic Average Per Monday to Friday - Sept 7 to Dec 3, 2021 Fall Period													
Hour	**Rte 4**	**Rte 7**	**Rte 9**	**Rte 11**	**Rte 12**	**Rte 13**	**Rte 14**	**Rte 15**	**Rte 17**	**Rte 26**	**Rte 39**	**Rte 51**	**Total**
5:00 AM	1	0	0	0	0	0	1	1	0	0	0	0	3
6:00 AM	5	4	0	5	1	0	4	6	0	5	2	0	32
7:00 AM	9	7	2	9	4	0	9	8	0	10	5	3	66
8:00 AM	11	10	2	9	4	0	15	11	1	16	10	2	91
9:00 AM	13	8	3	9	5	2	13	11	0	13	9	0	86
10:00 AM	10	6	2	8	3	0	8	8	0	12	6	0	63
11:00 AM	10	6	2	8	2	0	8	8	0	12	6	0	62
12:00 PM	10	6	2	8	3	2	8	8	0	12	6	0	65
1:00 PM	10	6	2	7	3	0	8	8	0	14	7	0	65
2:00 PM	11	6	3	9	4	0	8	9	0	12	7	0	69
3:00 PM	13	8	2	9	5	0	11	10	0	16	8	2	84
4:00 PM	12	8	3	10	5	2	14	11	0	16	8	2	91
5:00 PM	11	8	3	10	3	0	10	8	0	15	7	2	77
6:00 PM	9	7	0	9	0	0	9	8	0	8	5	0	55
7:00 PM	8	5	0	6	0	0	9	8	0	7	2	0	45
8:00 PM	8	4	0	7	0	0	8	8	0	6	2	0	43
9:00 PM	8	4	0	6	0	0	8	7	0	6	2	0	41
10:00 PM	6	4	0	4	0	0	5	7	0	6	0	0	32
11:00 PM	4	3	0	3	0	0	4	5	0	6	0	0	25
12:00 AM	4	2	0	1	0	0	4	4	0	3	0	0	18
1:00 AM	3	0	0	0	0	0	3	4	0	0	0	0	10
2:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	**176**	**112**	**26**	**137**	**42**	**6**	**167**	**159**	**1**	**195**	**92**	**11**	**1124**
	16%	**10%**	**2%**	**12%**	**4%**	**1%**	**15%**	**14%**	**0%**	**17%**	**8%**	**1%**	**100%**

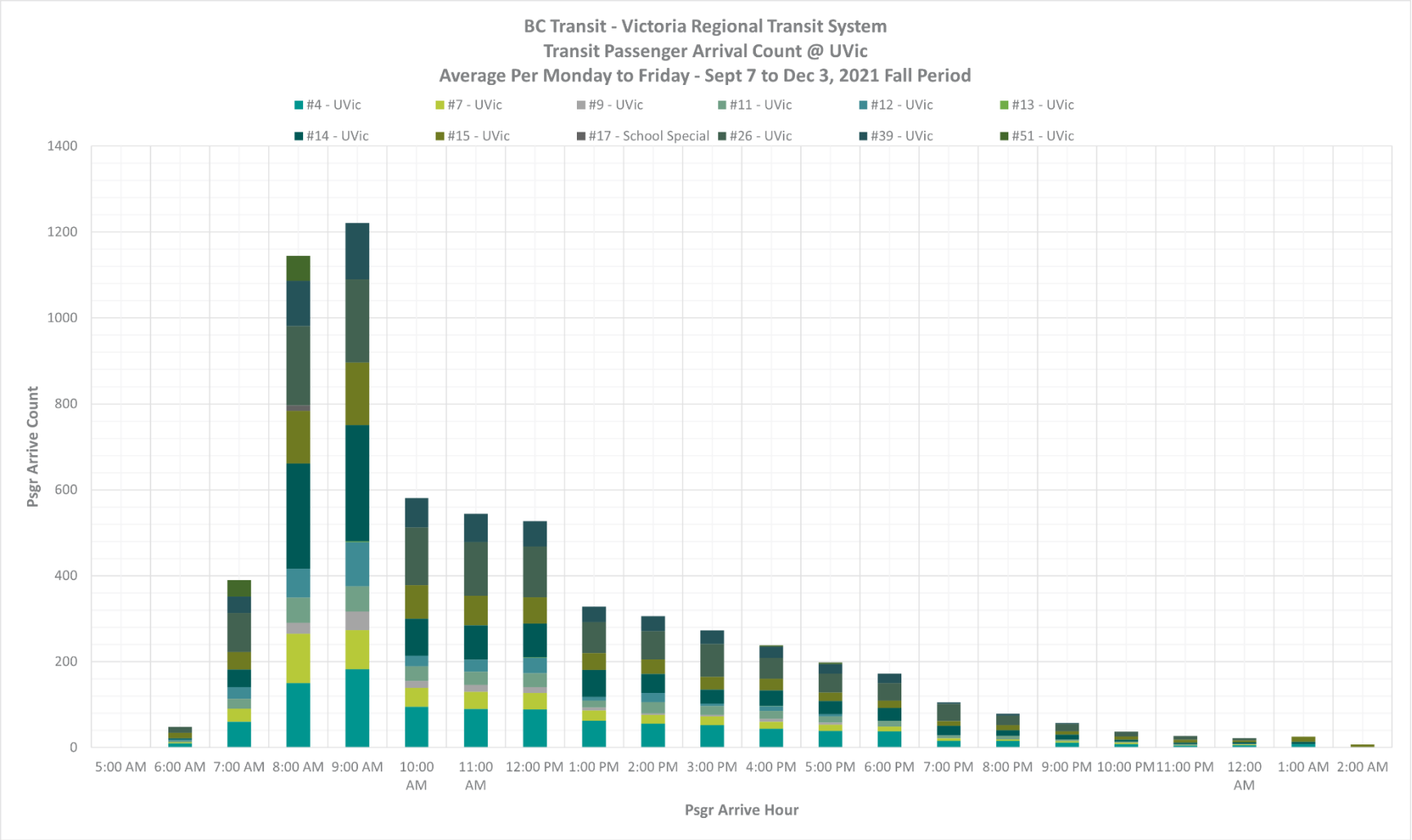

Figure C5 - Distribution Transit Passenger Trips Total Arriving to UVic

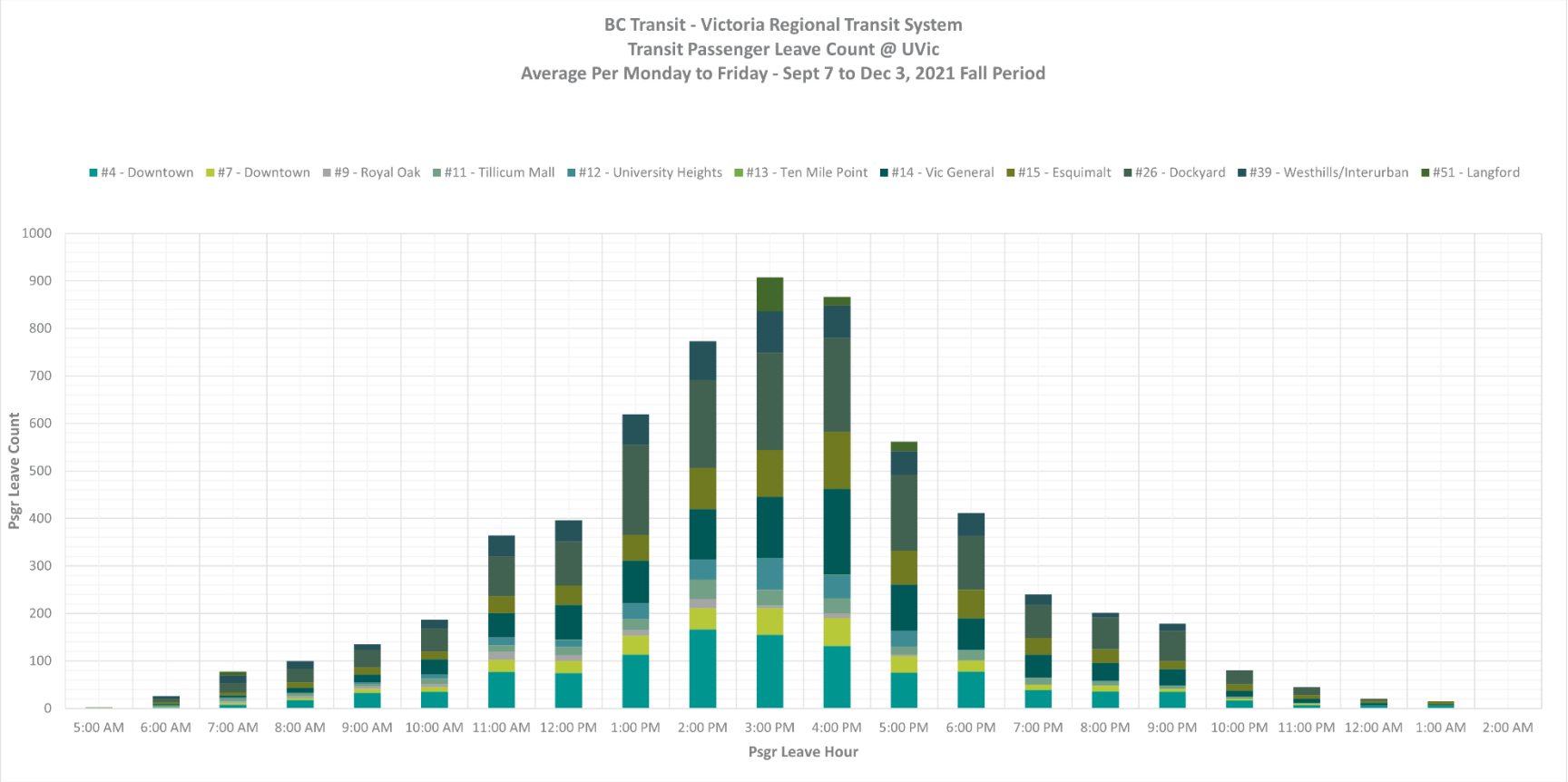

Figure C6 - Distribution Transit Passenger Trips Total Leaving UVic

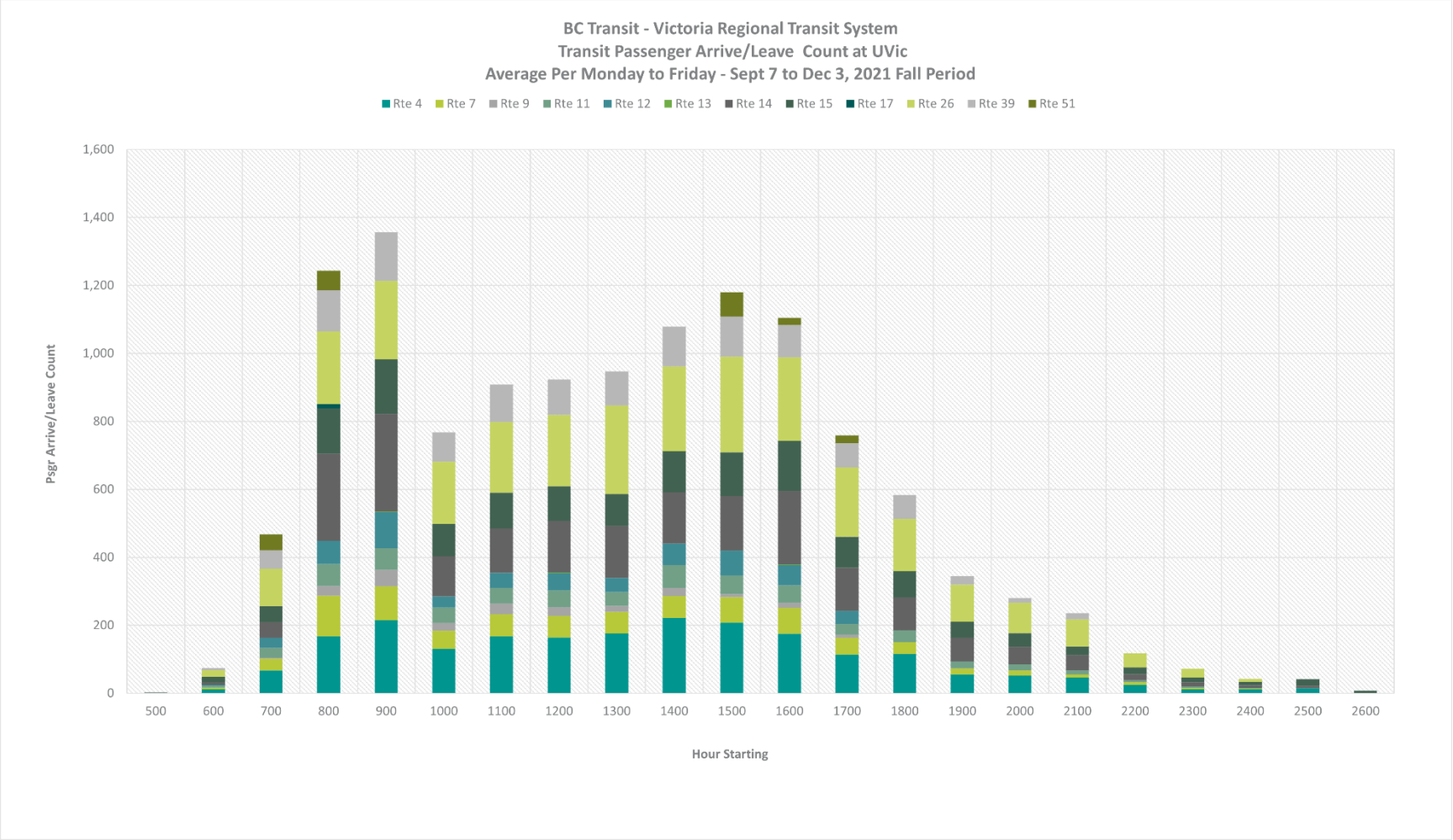

Figure C7 - Distribution Transit Passenger Trips Total Arriving and Leaving UVic

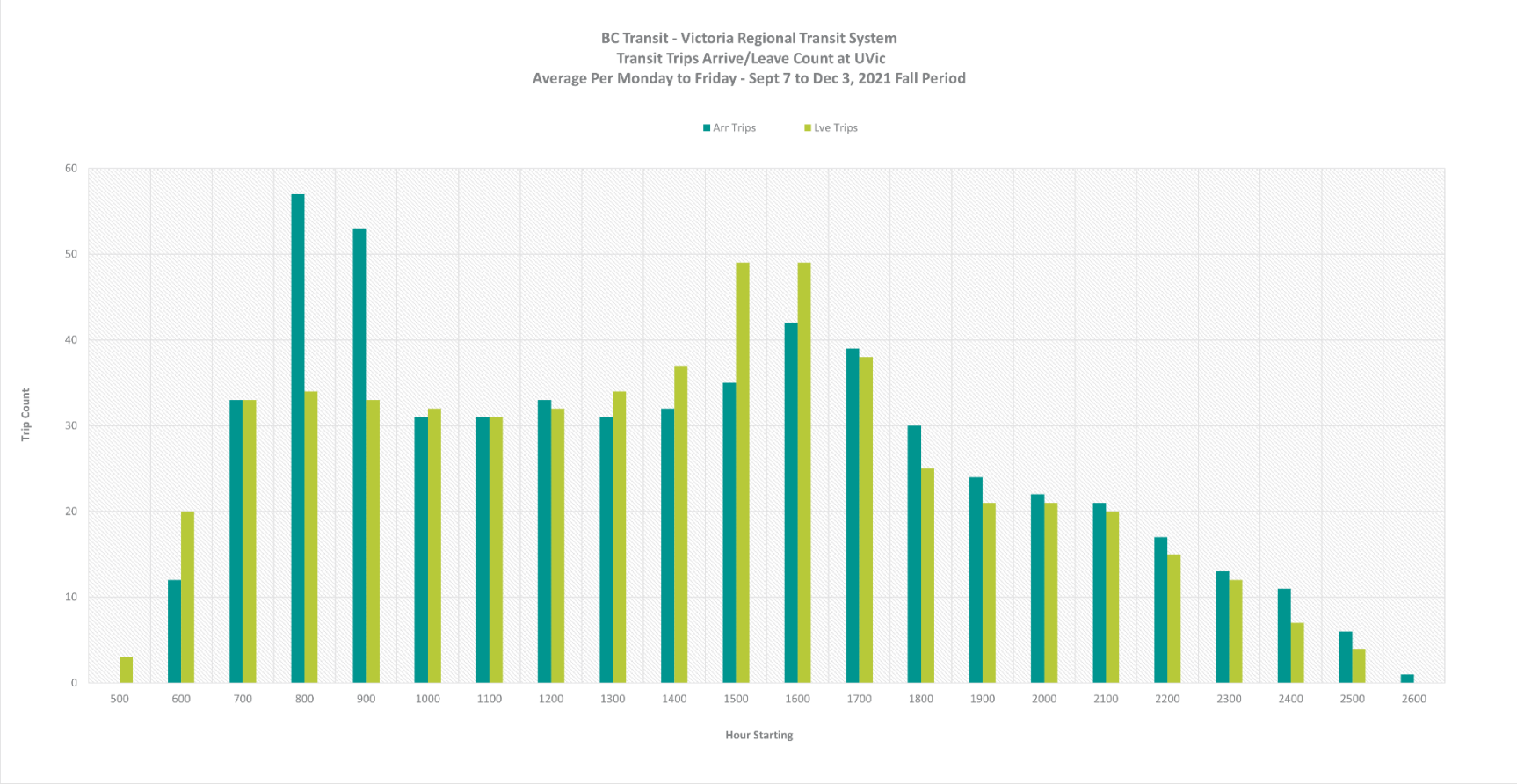

Figure C8 - Distribution Transit Bus Trips Arriving and Leaving UVic

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