

University of British Columbia - Vancouver Campus

Transportation Status Report Fall 2023



THE UNIVERSITY OF BRITISH COLUMBIA

Executive Summary

UBC has set a number of transportation targets to reduce greenhouse gas emissions from commuting in support of our ambitious climate action plan targets and land use plan goals. To meet these targets, UBC encourages and supports more sustainable modes of transportation including transit, biking, walking and carpooling, through an integrated land-use and transportation plan including implementation of a transportation demand management strategy. Every fall since 1997, UBC has monitored travel patterns to and from campus to evaluate progress towards the transportation targets. These targets and the corresponding results from the 2023 data collection effort are summarized below.

TARGET 1: By 2040 at least two-thirds of all trips to and from UBC will be made by walking, cycling or transit and maintain at least 50% of all trips to and from the campus on public transit.

× In 2023, 54% of all trips were made by transit, walking and cycling.

✓ In 2023, 53% of all trips to and from the campus were made by transit.

TARGET 2: Reduce Single Occupant Vehicle (SOV) trips to and from UBC by 20% from 1997 levels and reduce single occupancy vehicle trips per person to and from UBC by 30% from 1997 levels.

× In 2023, there were 53,200 SOV vehicle trips, which is a 16% increase from 1997 levels.

× In 2023, there were 0.83 SOV trips per person, which is a 24% reduction from 1997 levels.

TARGET 3: Maintain daily private automobile traffic at or less than 1997 levels. Private automobiles include single occupant vehicles and carpools / vanpools, but do not include buses, motorcycles and trucks.

✓ In 2023, there were 58,800 private vehicles per day, which is a 6% reduction from 1997 values.

The focus of the first transportation target is the mode of transportation used to travel to and from campus. Trips by mode from 1997 to 2023 are presented in **Figure A**. As shown, there have been substantial changes in the way people get to and from campus over the years. In addition, up until 2020 there has been an increase in the number of trips per day as a result of academic and neighbourhood growth on campus (one of the lasting impacts of COVID-19 has been a reduction in trips overall to/from campus correlated to a rise in remote work since 2020). Most of the increase in trips has been in trips by transit, which is credited to the introduction of the student U-Pass in 2003. In 2023, the sustainable mode share (walking + cycling + transit) was 54%, which is just under the high of 57% in 2013 and 2014.

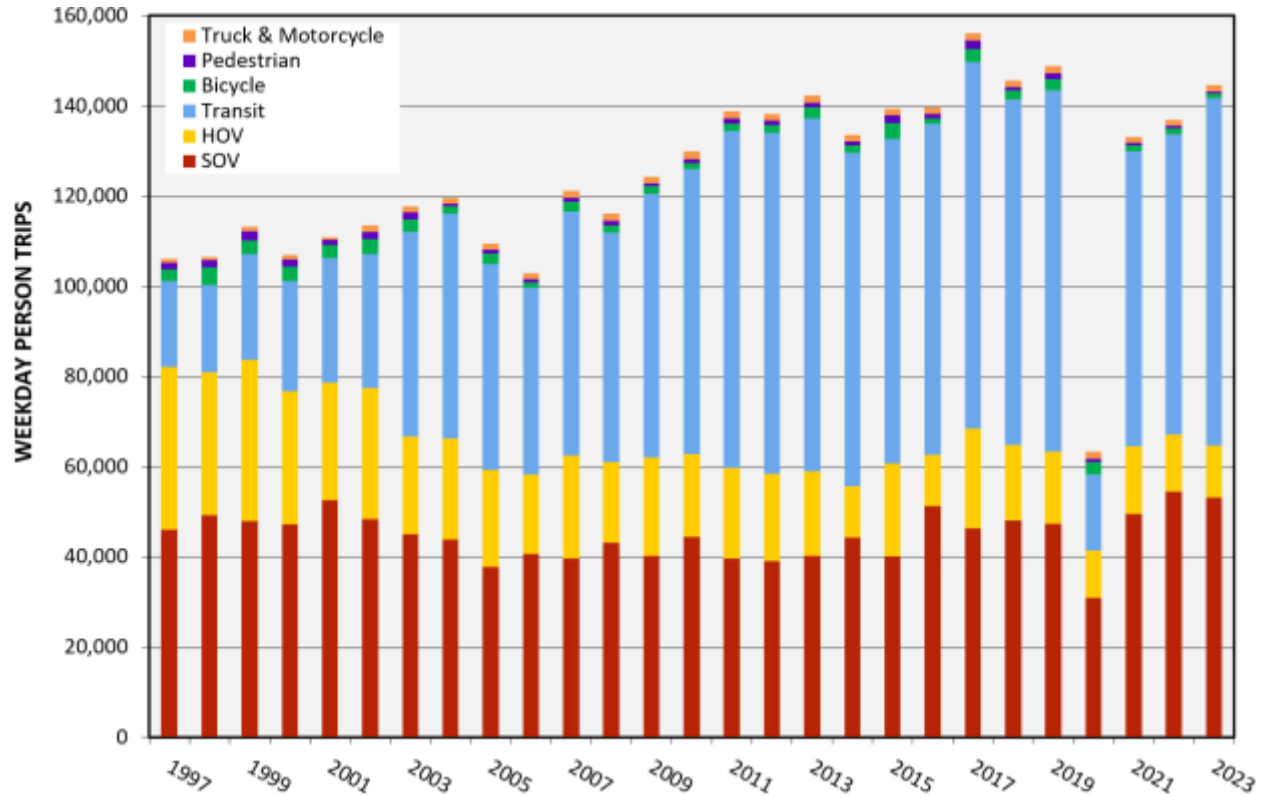


Figure A: Weekday Person Trips to / from UBC, 1997 – 2023

Bicycle and pedestrian mode share to / from UBC are very low in comparison to transit and SOV mode share, however, there are still an impressive amount of people biking to campus. It is anticipated that the number of pedestrian and bicycle trips will gradually increase, but the mode share for these two modes are not expected to increase significantly as a percentage of total trips to and from campus due to the longer commute distances from where a majority of the campus population lives and the uphill climb to get to campus. However, a cross jurisdictional e-bike share program with the City of Vancouver introduced in late 2023 may remove barriers of cycling to campus for some.

The second transportation target is related to SOV trips compared to the baseline 1997 levels. In 2023, there was an 16% increase in SOV trips to campus compared to 1997. The number of SOV trips in 2023 are just below what was observed in 2022. The increase in SOV trips may be attributed to ongoing avoidance of transit due to overcrowding as well as more people using ride-hail companies to commute to campus. In order for UBC to achieve Target 2 in future years, the number of SOV trips to / from campus will need to decrease and trips made by transit, biking and carpooling will need to increase. This can be

accomplished through ongoing efforts to encourage and support sustainable mode choices in addition to continued support for remote work, where possible.

Target 3 focuses on reducing overall automobile traffic, which includes single occupant and high occupant vehicle trips. **Figure B** captures the trend in automobile traffic to / from UBC since 1997. Included in the chart is a representation of the three-year rolling average, to soften fluctuations in data year to year, measured against campus population growth. In 2021, a new methodology was used to estimate the average daytime population on campus using Full Time Equivalent (FTE) numbers of staff, students and faculty, directly provided by UBC’s Planning and Institutional Research (PAIR) department. This new methodology was retroactively applied back to 2000, which explains the drop in population between 1999 and 2000.

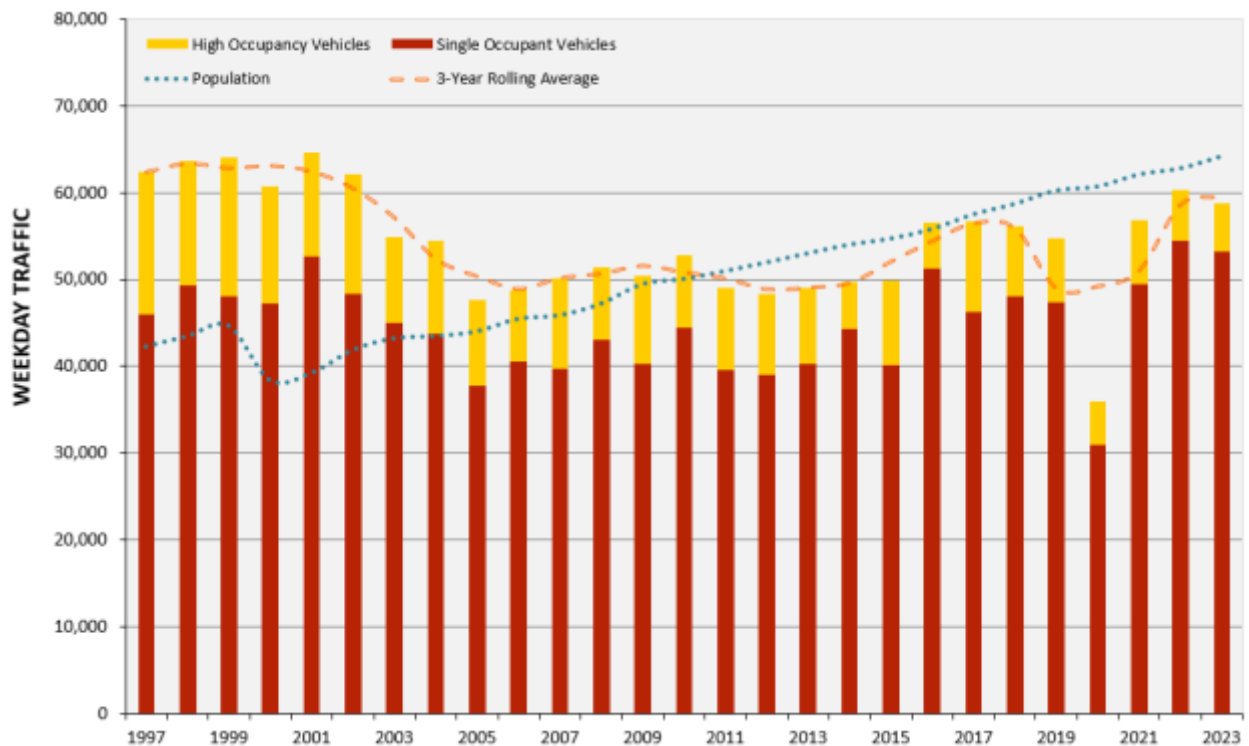


Figure B: Average Weekday Automobile Traffic to / from UBC, 1997 – 2023

Automobile traffic declined in 2003, which is when the U-Pass was introduced, and it remained relatively steady until 2016 at which point vehicle trips began to rise again (with the exception of 2020). Despite this, overall vehicle volumes continue to remain below 1997 levels since 2003 allowing us to consistently achieve Target 3.

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1 INTRODUCTION

Since 1997, UBC has collected data each fall to monitor travel patterns to and from the Vancouver Campus. This UBC Transportation Status Report Fall 2023 provides a snapshot of overall travel trends, and details of travel patterns for each mode of transportation to and from UBC, as well as an overview of transportation trend lines since 1997 at UBC.

This 2023 data was collected over one week in the fall of 2023. Although there has been a full return to on-campus teaching, and transit ridership has largely rebounded from COVID-19, remote work conditions remain in place for many staff, leading to slightly lower overall number of trips compared to pre-COVID years.

1.1 Context

Transportation planning at UBC is undertaken within the direction and context provided by several plans and policies, including:

- **UBC Strategic Plan: Shaping UBC’s Next Century** sets out UBC’s collective vision and purpose, as well as goals and strategies for the years ahead. The Plan builds on the university’s previous strategic plan, Place and Promise, and focuses on three themes that are believed to be critical to society today: Inclusion, Collaboration and Innovation. Shaping UBC’s Next Century will guide decisions, actions and interactions into the future, and will create a framework for resource allocation across the University.
- **Campus Vision 2050.** In January 2022, UBC launched Campus Vision 2050 – a comprehensive public planning process to create and update key land use policy documents, including the Vision and an amended Land Use Plan. The Vision is anchored around six big ideas, including a “Connected Campus”, which prioritizes sustainable modes of transportation, including walking, rolling, cycling and micromobility, and transit. Campus Vision 2050 was approved by UBC’s Board of Governors in December 2023, pending adoption of the Land Use Plan by the BC Minister of Municipal Affairs.
- **The UBC Land Use Plan.** In June 2010, the Minister of Community and Rural Development enacted legislation that realigned the responsibility for this plan, previously known as the Official Community Plan. The OCP is no longer a regional district bylaw. The University is responsible for the Land Use Plan with direct oversight by the Minister of Municipal Affairs. The Land Use Plan includes a number of transportation policies aimed at increasing walking, cycling and transit in preference to trips by single-occupant vehicles. The Land Use Plan also includes policies to support the development of complete and compact communities, helping reduce commuter trips to/from the campus. The Land Use Plan was updated in December 2023 as an outcome of Campus Vision 2050, and is currently under consideration for adoption by the BC Minister of Municipal Affairs.
- **The Vancouver Campus Plan.** In 2010, UBC adopted a new Vancouver Campus Plan, which covers the academic lands of UBC’s Vancouver Campus. This plan guides the institutional capital investment in facilities for teaching and research, student housing and campus infrastructure and services. The Vancouver Campus Plan is being updated in 2024-2025 to align with Campus Vision 2050.
- **Neighbourhood Plans.** For each of the neighbourhoods on campus, there is a neighbourhood plan describing site-specific land uses, development controls, design guidelines, and servicing and

transportation strategies consistent with UBC's Land Use Plan. Each neighbourhood is designed to support the University's academic mission, while providing the amenities and services required to achieve a compact, transit-oriented, pedestrian friendly community.

- **UBC Climate Action Plan 2030.** UBC's recent Climate Action Plan (CAP 2030), puts the university on an accelerated path to net zero emissions for buildings and energy supply and for the first time includes targets for extended impact emissions, which includes commuting. Commuting by students, faculty and staff to the Vancouver campus is the highest extended impact emissions category accounting for nearly the same GHG emissions of buildings and energy supply combined. The Plan includes a suite of actions to significantly reduce greenhouse gas emissions by commuting over the next 15 years that are in alignment with UBC's Transportation Plan targets.
- **Neighbourhood Climate Action Plan (NCAP).** The NCAP will be presented to UBC's Board of Governors for approval in June 2024 and sets an accelerated pathway to a net-zero and climate resilient community for the residential neighbourhoods on UBC's Vancouver campus. NCAP identifies immediate and long-term actions to significantly reduce greenhouse gas emissions in the neighbourhoods and to prepare and adapt for the impacts of a changing climate. An integral part of NCAP is land use planning to create a compact community, where people have local access to community services reducing the need for car travel.
- **The UBC Transportation Plan.** UBC has committed to implement a comprehensive and integrated transportation management strategy. The Transportation Plan is the result of that commitment, and was approved by UBC's Board of Governors in November 1999 and renewed in 2014. The Plan includes targets to ensure accountability, shape decision making and inspire the community to act in ways to achieve UBC's campus vision. The targets identified in The Plan include:
 - **TARGET 1:** By 2040 at least two-thirds of all trips to and from UBC will be made by walking, cycling or transit and maintain at least 50% of all trips to and from the campus on public transit.
 - **TARGET 2:** Reduce single occupant vehicle trips to and from UBC by 20% from 1997 levels and reduce single occupancy vehicle trips per person to and from UBC by 30% from 1997 levels.
 - **TARGET 3:** Maintain daily private automobile traffic at or less than 1997 levels.

Note, the Transportation Plan will be updated in 2025 to align with Campus Vision 2050.

1.2 Transportation Monitoring Program

Travel patterns to and from UBC are monitored on an on-going basis through a variety of different data collection methods. Data is collected each fall at the end of October to early November to enable consistent year to year comparisons of travel patterns, mode shares, and traffic volumes. Additional data collection activities may be undertaken at other times of the year to obtain information regarding specific modes of travel, seasonal variations and localized traffic volumes, but are not documented in this report. The annual monitoring results are used to assess progress towards meeting UBC's transportation targets and also help guide future implementation priorities.

Data collection activities for 2023 are summarized in **Table 1.1**, and data collection locations are illustrated in **Figure 1.1**.

Table 1.1: Summary of Transportation Data Collection

Data Collection Activity	Locations	Description
Turning Movement Counts (TMC)	At intersections throughout campus	Manual observation for 8 hours (3hrs in AM, 2hrs in Midday, 3hrs in PM) for one day.
Automatic Traffic Recorder (ATR) Volume / Speed Counts	Roads throughout campus.	Automatic tube counters on roads for 7 days (24 hours / day).
ATR Screenline Traffic Counts	Screenlines	Automatic tube counters on roads for 7 days (24 hours / day).
Transit Ridership	Screenlines	Manual observation for 22.5hrs (6:00AM to 4:30AM) over one day.
Vehicle Occupancy & Classification	Screenlines	Manual observation for 8 hours (3hrs in AM, 2hrs in Midday, 3hrs in PM) for one day.
Bicycle and Pedestrian Counts	Screenlines	Manual observation for 15 hours (6AM to 9PM) over one day.
Heavy Trucks	Screenlines	Manual observation for 13 hours (6AM to 7PM) for one day each quarter.
Licence Plate Surveys	South Campus / Wesbrook Place Neighbourhood	Licence plate surveys are conducted to understand travel patterns. Every other year.

1.3 Understanding the Data

The following terms and measures are used throughout this report to describe various characteristics of travel patterns and trends at UBC:

- A **screenline** is an imaginary line across which trips are recorded. At UBC, the screenline around the campus is illustrated by the dotted blue line in **Figure 1.1**. As shown, there are approximately five different entry and exit options, indicated by the screenline ATR.
- **Mode share** (also called “mode split”) refers to the relative proportions of trips by various travel modes during a particular time period. Mode shares are generally reported for single occupant vehicles (SOVs), carpool and vanpools (also called high occupancy vehicles or HOV’s), transit, bicycle, pedestrians and other modes such as motorcycles and trucks.
- The data presented in the Transportation Status Report include **traffic volumes** and **person trips**. Traffic volumes are simply the number of vehicles passing a point, whereas person trips are the number of people passing a point by all modes of transportation. A person trip is a one-way trip made by one person. For example, in one hour there might be 500 vehicles travelling along a section of road (traffic volumes generally reflect vehicles travelling in both directions). These 500 vehicles might include 450 automobiles with a total of 600 persons in them, 30 buses with a total of 1,000 persons in them, and 20 light and heavy trucks with 25 persons in them. The total number of person trips associated with these 500 vehicles is 1,625 person trips.

*Throughout this report, unless otherwise stated all reported trips are in **person trips**.*

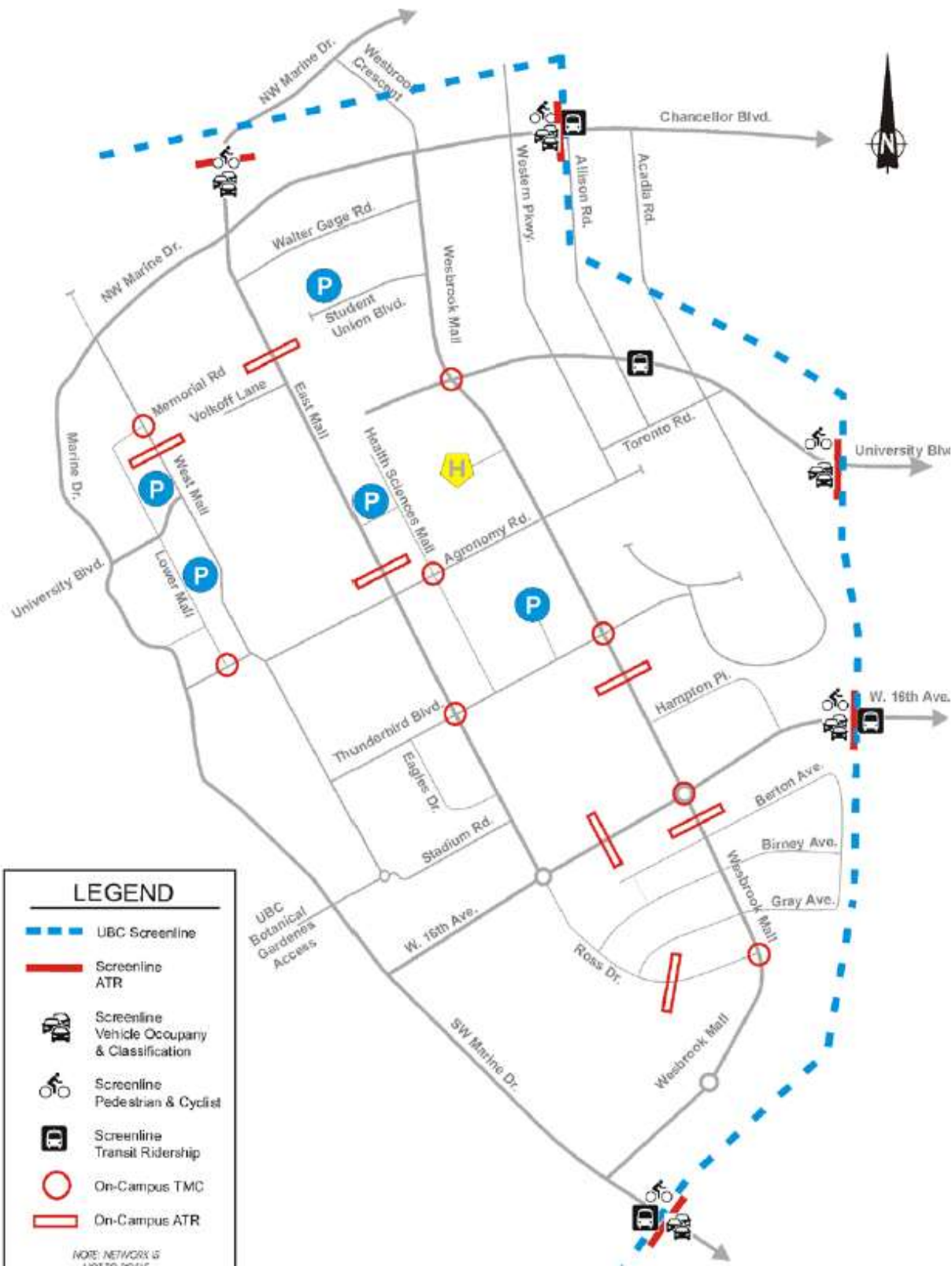


Figure 1.1: Data Collection Locations

- The population at UBC — students, staff, faculty and residents — has increased every year from 1997. This means that when comparing absolute numbers of person trips and traffic volumes, changes from one year to another reflect the effects of two different factors — changes in travel patterns and increases in population growth. To distinguish changes in travel patterns from changes due to population increase, a different measure is used — **trips per person**. This provides a consistent basis for monitoring travel trends regardless of how much or how little population growth occurs. Trips per person are calculated as the number of person trips divided by the average daytime population on campus. The methodology to calculate the average daytime population was revised in 2021 to incorporate Full Time Equivalent's (FTE) of staff, students and faculty as reported by UBC's Planning and Institutional Research department. Numbers of on-campus residents are not included in the population count, in many cases it could be a double count as a result of many staff, faculty and students living on campus.
- Substantial effort and cost are required to collect travel data at UBC. Consequently, it is neither reasonable nor necessary to collect all data in all locations at all hours of the day and night. Instead, some data are collected during selected **time periods** only (*Table 1.1* indicates the time periods for each type of data collection activity). Traffic data on all routes leading to and from UBC are collected over a period of one week between the end of October and early November using automatic counters placed on the roadway. Vehicle occupancy and classification counts are done manually for a total of 8 hours from the morning peak through the afternoon peak periods. Daily totals are estimated by combining occupancy and classification data with the average daily traffic data.
- **Rolling average.** Much of the data presented in this report is from a single day to a week and observed travel patterns fluctuate from year to year and are heavily influenced by weather. Consequently, the results for any particular year should not be considered in isolation. A more meaningful picture of travel patterns is obtained by considering trends over time. To better illustrate trends and minimize the apparent variability from year to year, charts illustrating trips by mode for each year since 1997 include a trend line based on a three-year rolling average. Rolling averages are calculated as the average of a particular year plus one year before and one year after. This means that for 2006, for example, the rolling average is calculated as the average number of trips in 2005, 2006 and 2007.

1.4 Changes at UBC Affecting Travel Patterns

UBC is striving to reduce automobile trips to and from the UBC Vancouver Campus through its land use planning and by encouraging the use of sustainable modes of transportation, including transit, carpooling, cycling and walking. To date, UBC has implemented several initiatives in support of non-automobile modes of transportation, including a student U-Pass program, bicycle infrastructure, end-of-trip facilities, and a bicycle share program, carshare parking, a vanpool pilot program, a subsidized staff transit pass pilot program, and is exploring carpooling programs and incentives. In addition, TransLink, in collaboration with UBC, has made ongoing efforts to improve transit service and increase transit capacity to UBC.

Key changes at UBC that have affected travel patterns among students, staff, faculty and community members are as follows:

- Population.** The daytime population at UBC has increased by 52% since 1997. This includes increased student enrolment and associated increases in faculty and staff. For the purposes of monitoring trends in travel to and from UBC, the average daytime population on campus, comprised of students (including those who live in student residence), staff and faculty, is used to calculate person trips. UBC neighbourhood residents are not included in the population estimate. In many cases it would result in a double-count since many staff, faculty and students live in campus neighbourhoods. **Table 1.2** summarizes population figures for fall 1997 and fall 2023.

It is important to note that the methodology for estimating the average daytime population changed in 2021 to better represent how many staff, students and faculty may be on campus each day. The average daytime population estimate is derived directly from the Planning and Institutional Research Department (PAIR) using Full Time Equivalent (FTE) numbers of staff, students and faculty.

Table 1.2: Average Daytime Population at UBC, 2023 vs. 1997

Group	Fall 1997	Fall 2023	Increase (count / percentage)	
Students	33,200	48,400	+15,200	+45.8%
Staff	7,250	11,650	+4,400	+60.7%
Faculty	1,850	4,150	+2,320	+126.8%
Totals	42,300	64,200	21,930	51.9%

Source: UBC Planning and Institutional Research Department

- U-Pass Program.** One of the most significant changes affecting travel patterns at UBC has been the student U-Pass, which was introduced in September 2003. The U-Pass is a universal transportation pass that is mandatory for all eligible students at a cost to students in 2023/2024 of \$45.10 per month. The U-Pass offers students unlimited access to TransLink Bus, SkyTrain and SeaBus services (all zones), and discounted West Coast Express fares. The U-Pass program benefit is loaded onto the Compass Card, which came into effect in 2016, and enables more robust data collection on usage. Prior to this, the U-Pass program benefit was on a U-Pass card not capable of data collection.
- Increased transit service.** In conjunction with introduction of the student U-Pass, TransLink has

substantially increased the level of transit service provided to UBC and continues to make service improvements annually. The majority of the increase has been on the Route 99 B-Line. Other improvements since 1997 include a new Route 33 on 16th Avenue, and several express routes including the new R4 RapidBus Route launched in January 2020 that connects UBC to Joyce Station via 41st Avenue. TransLink ridership data indicates routes to UBC carry the highest passenger volumes in the region year over year. More effort is being made on transit priority in the region and at UBC with the provision of bus lanes on Wesbrook Mall between 16th Avenue and University Boulevard.

- **Class start times were changed in September 2001.** In an effort to spread the transit demand in the morning peak period, UBC adjusted morning class start times. Previously, the first classes in the morning all began at 8:30 a.m. This was changed so that some students begin classes at 8:00 a.m., some at 8:30 a.m., and others at 9:00 a.m. Subsequent analysis showed that the desired spreading of morning peak demands was achieved, and that as a result, 12% more transit trips per day were accommodated on the same number of buses. Although there are limitations with further efforts to spread class start times, Campus Planning will continue to emphasize the importance with scheduling services to continue to spread the class start times out as class space permits.
- **Parking supply and costs.** UBC has eliminated approximately 3,500 commuter parking stalls on campus since 1997 — a reduction in the commuter parking supply of over 25%. At the same time, the price of parking on campus has increased (UBC does not provide any free parking spaces on campus for commuters). For example, the cost to park for the day for staff and faculty has increased from \$2 in 1997 to \$14 in 2023, and prices for parking permits and visitor parking have also increased.
- **Electric vehicle chargers.** As a result of the growth in Electric Vehicle (EV) ownership across the region, UBC has been adding EV charging stations in the parkades across campus. Currently UBC Parking offers access to over 70 EV chargers (both Level 2 and fast chargers), which is the highest in the region per capita. UBC will continue to add more as capacity permits and has also started implementing strategies to increase turnover of the use of the stations.
- **Bicycle facilities.** Since 1997, new bicycle lanes have been implemented on several roadways on campus and to / from campus. Most notable was the conversion of University Boulevard west of Blanca, from two lanes in each direction to one travel lane and one bicycle lane in each direction. Bicycle lanes were also added on SW Marine Drive, Wesbrook Mall, East Mall, Thunderbird Boulevard and 16th Avenue. Similarly, the City of Vancouver has made significant progress on bike facilities that connect to the five key routes to and from UBC. All unrestricted roads on campus function as shared roadways that accommodate cyclists as well as automobiles. Bicycle racks are provided at every building on campus in addition to secure bike lockers, bike cages and numerous end-of-trip facilities. UBC also offers a bike share program on campus through HOPR with discounted rates for the campus community and in 2023 UBC partnered with MOBI to link the City of Vancouver's bike share program with UBC, allowing people to ride between the City of Vancouver and UBC.
- **Alternative modes of travel.** UBC has encouraged the use of non-single occupancy vehicle (SOV) modes of travel through a range of programs, including a comprehensive transportation demand management strategy that includes U-Pass, bike-share, carpooling, car sharing, cycling, a vanpool pilot, a discounted staff transit pass program pilot, an emergency ride home program, and other sustainable transportation programs.

- **Campus development and land use.** UBC has developed and is continuing to develop additional housing for students, staff, and faculty on-campus as a means of reducing the commuting population. At the same time, an increased number and range of commercial services and amenities are now available on campus and in the University Endowment Lands adjacent to campus to reduce the need to travel off campus.

1.5 More Information

The following resources provide additional information regarding travel patterns and trends at UBC, as well as transportation services and facilities. Most of this information can be found at UBC's Campus and Community Planning [website](#):

- This UBC Transportation Status Report Fall 2023, along with previous Transportation Status Reports.
- The 2022 and 2017 Transportation Survey.
- 2014 UBC Transportation Plan.
- The 2005 Strategic Transportation Plan.
- A review of the first 18 months of the student U-Pass program and the results of the Community Transportation Pass (ComPASS) demonstration project.
- Information on other transportation facilities and services on campus.
- Information regarding campus plans and neighbourhood plans.

2 Summary of Transportation at UBC

This section presents a general summary of transportation to and from UBC including person trips, trips per person, mode share, and vehicle occupancy. Details for each different mode of transportation are presented in *Section 3*.

2.1 Person Trips

The average weekday person trips to and from UBC in fall 2023 was 144,600. A summary and comparison of daily person trips by mode for 1997, 2022 and 2023 are provided in *Table 2.1* and *Figure 2.1*.

Table 2.1: Weekday Person Trips to / from UBC Vancouver

Travel Mode Classification	Person Trips			
	Fall 1997	Fall 2022	Fall 2023	Change 1997-2023 (count / %)
Single Occupant Vehicle (SOV)	46,000	54,500	53,200	+7,200 +15.7%
Carpool / Vanpool (HOV)	36,100	12,600	11,400	-24,700 -68.4%
Transit	19,000	66,600	77,100	+58,100 +305.8%
Bicycle	2,700	1,300	1,100	-1,600 -59.3%
Pedestrian	1,400	600	400	-1,000 -71.4%
Truck & Motorcycle	900	1,400	1,400	+500 +55.6%
Totals	106,100	137,000	144,600	+38,500 +36.3%

In 2023, the number of person trips increased by 5% from 2022, but are 3% less than 2019 levels (likely due to an increase in remote working since COVID-19). Trips by transit increased 16% from 2022, but are still 4% lower than pre-Pandemic levels (which was over 80,000 trips per day). The number of SOV trips is slightly lower than 2022, which can be attributed to more people returning to taking transit as opposed to driving alone or getting picked-up / dropped-off. However, the number of people driving alone is still 12% higher than in 2019, likely attributed to a combination of a growing mode share in ride hailing along with some transit trips moving to SOV trips).

Comparing the 2023 data to 2019, the key differences are an increase in SOV trips, a decrease in HOV trips and a decrease in transit trips, consistent with regional trends. Further, in 2023 there were just under half the number of trips made by active modes compared to 2019.

There is a lot of variability in trips by mode year over year. To help smooth the variability, a three-year rolling average is referenced throughout the report.

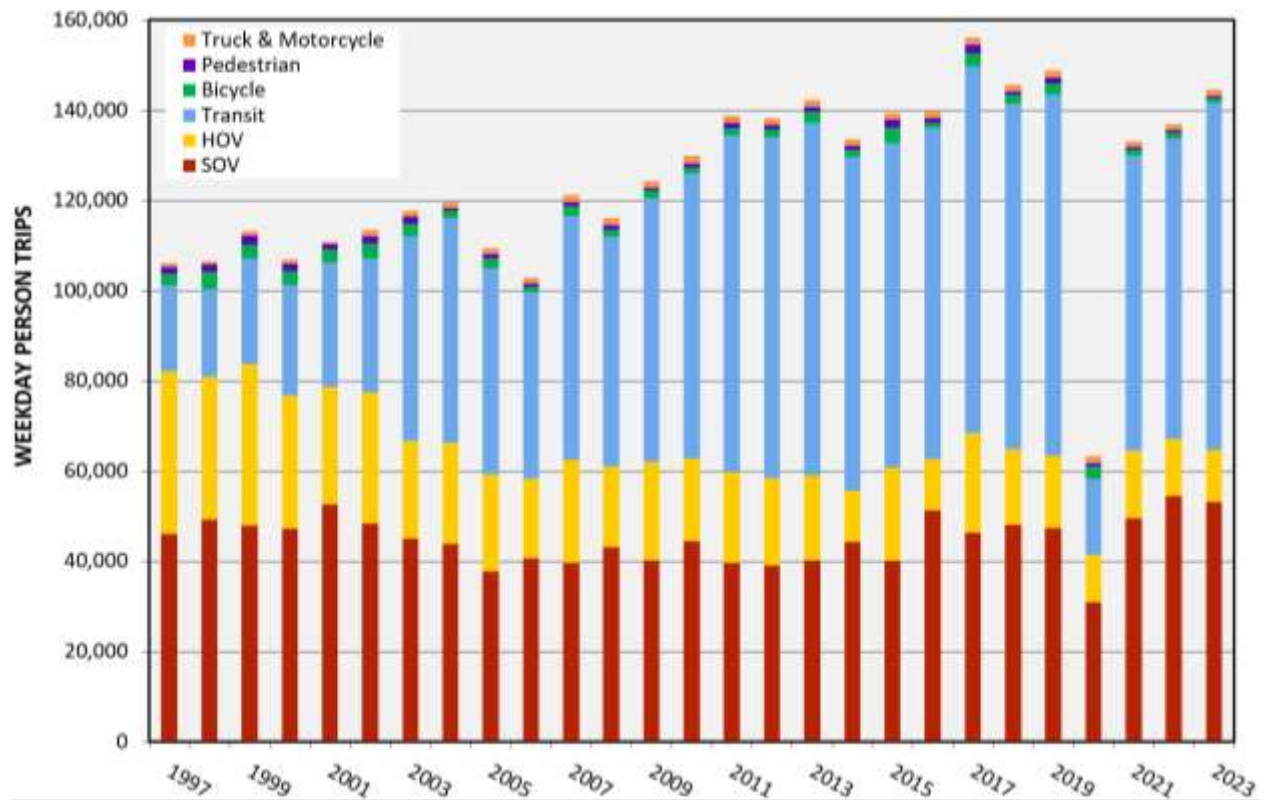


Figure 2.1: Weekday Person Trips to / from UBC, 1997 – 2023

To compare travel patterns from year to year on a consistent basis, it is important to negate the effects of population / enrolment growth. To compare the trips per person by mode, the average weekday person trips for each mode is divided by the average number of people on campus per day. The methodology used to determine the average weekday population on campus changed in 2021 and includes FTE for staff, students and faculty. The campus population and trips per person to and from UBC are presented in **Table 2.2**.

Table 2.2: Weekday Trips Per Person to / from UBC

Travel Mode Classification	Trips Per Person				
	Fall 1997	Fall 2022	Fall 2023	% Change 2022-2023	% Change 1997-2023
Single Occupant Vehicle (SOV)	1.09	0.87	0.83	-5%	-24%
Carpool / Vanpool	0.86	0.20	0.18	-6%	-79%
Transit	0.45	1.06	1.20	+10%	+167%
Bicycle	0.06	0.02	0.02	-10%	-73%
Pedestrian	0.03	0.01	0.01	-17%	-81%
Truck & Motorcycle	0.02	0.02	0.02	-2%	+2%
Totals	2.51	2.18	2.25	+3%	-10%
AVG DAYTIME POPULATION*	42,300	62,800	64,200	+3%	+52%

*Avg. Daytime population numbers obtained from PAIR and include FTE of students, staff and faculty.

In 2023 the total trips per person was lower compared to pre-COVID levels (2.47) and the transit trips per person has rebounded closer to pre-COVID levels (1.33).

2.2 Mode Share Summary

The mode share comparison for 1997 and 2023 is shown in **Figure 2.2**. As shown, the most noticeable differences in 2023 compared to 1997 are the increased transit mode share, decreased HOV mode share, and slightly decreased SOV and Bicycle mode shares.

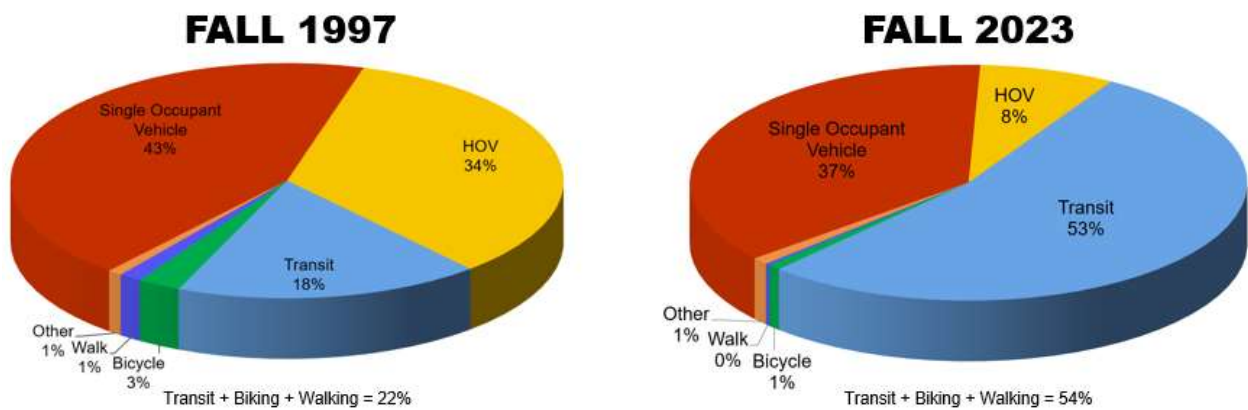


Figure 2.2: Average Weekday Trips by Mode to / From UBC, 1997 vs. 2023

TARGET 1: By 2040 at least two-thirds of all trips to and from UBC will be made by walking, cycling or transit and maintain at least 50% of all trips to and from the campus on public transit.

× In 2023, 54% of all trips were made by transit, walking and cycling.

✓ In 2023, 53% of all trips to and from the campus were made by transit.

The distribution of weekday person trips throughout the day is shown below in **Figure 2.3**. In 2023, the peak hour number of trips returned to pre-COVID patterns with sharp morning and afternoon peak periods, which is less desirable than spread-out peak periods. Rounded peaks are better to reduce the strain on the transportation network and more importantly the public transportation system. Peak demands, like what is shown below, translate to overcrowding and poor service / experience to transit riders, which can push people to less sustainable transportation alternatives.

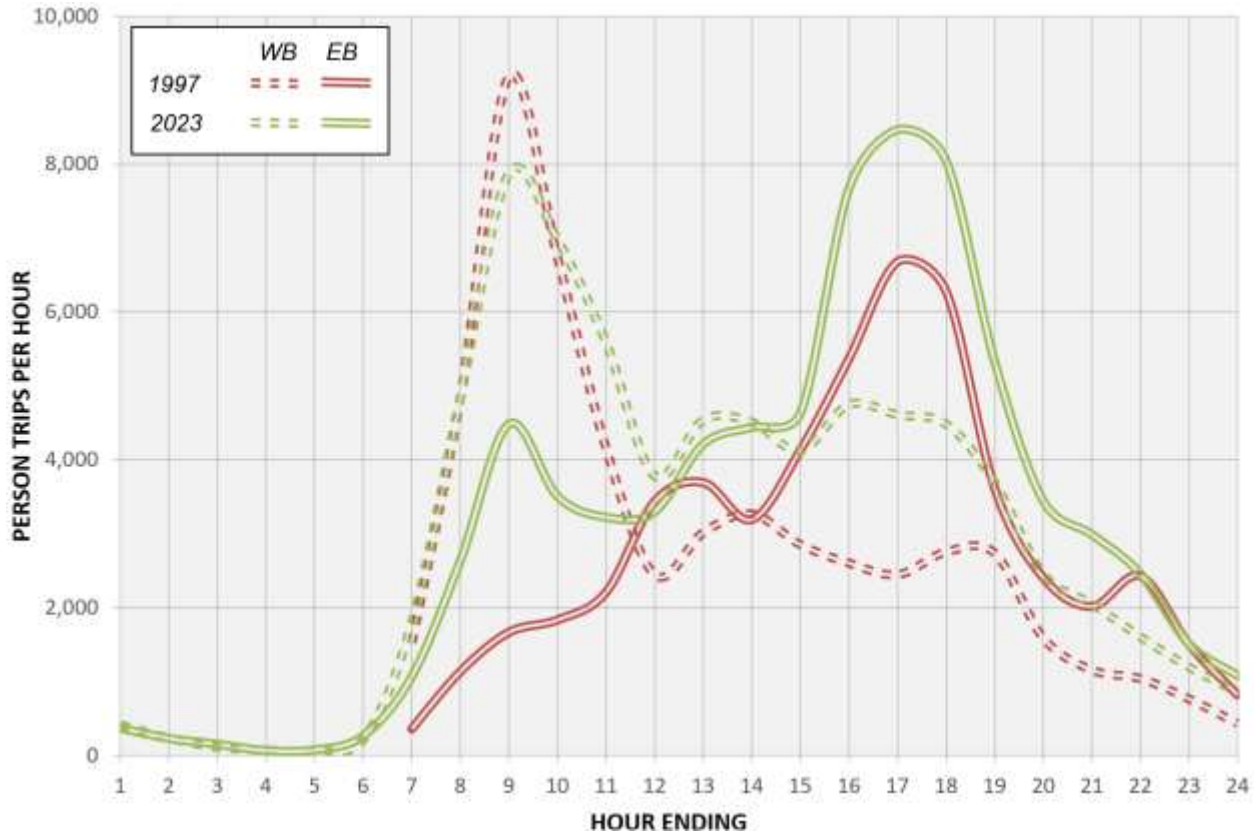


Figure 2.3: Hourly Distribution of Average Weekday Person Trips to / from UBC, 1997 vs. 2023

There is an increase in the number of trips in the off-peak direction compared to 1997. This is generated from the increased residential population on campus that travel outside of the UBC boundary daily for work or other needs.

The peak hour summary of trips by mode is summarized in **Table 2.3**. This information is useful to understand how many trips per hour are occurring and by what mode. In 2023, the morning peak hour experienced lower volumes to campus compared to the afternoon peak hour from campus, attributable to more people ending work and classes at the same time.

Table 2.3: Average Peak Hour Person Trips by Mode to/from UBC, 2023

Travel Mode Classification	AM Peak Hour (8am to 9am)		PM Peak Hour (4pm to 5pm)	
	Westbound	Eastbound	Westbound	Eastbound
Single Occupant Vehicle (SOV)	1,830	1,990	2,115	2,180
High Occupancy Vehicle	445	445	490	420
Transit	5,360	1,930	1,955	5,705
Bicycle	155	20	10	100
Pedestrian	35	30	15	20
Truck & Motorcycle	50	65	20	40
Totals	7,875	4,480	4,605	8,465

2.3 Automobile Traffic

Automobile traffic to and from UBC decreased substantially from 1997 values once the U-Pass was introduced, but it began climbing again in 2016 as a result of overall campus growth and capacity constraints of transit service to and from campus.

The second target in UBC’s transportation plan is to reduce single occupant vehicle trips to and from UBC by 20% from 1997 levels. In 2023, this target was not met as shown in **Table 2.4**.

Table 2.4: Average Weekday SOV and HOV Traffic Volume to/from UBC, 1997 vs. 2023

Travel Mode Classification	Fall 1997	Fall 2023	Change (count / percentage)	
Single Occupant Vehicle (SOV)	46,000	53,200	+7,200	+16%
High Occupant Vehicle (HOV)	16,400	5,600	-10,800	-66%
Totals	62,400	58,800	-3,600	-6%

As shown in the table above, the number of average weekday automobile trips is 6% below 1997 levels, which is attributed to a substantial decrease in HOV traffic. SOV traffic has been steadily increasing since 2012, which will be discussed further in Section 3.3.

Table 2.5 summarizes the daily traffic volumes at each screenline location. It is important to note that these figures include trucks, buses and motorcycles, in addition to SOV's and HOV's so the numbers in this table do not match those presented in **Table 2.4**.

Table 2.5: Summary of Average Weekday Traffic Volumes at Screenlines

Screenline	Average Daily Traffic Volume			
	Fall 1997	Fall 2021	Fall 2022	Fall 2023 (%)
NW Marine Drive	2,040	1,440	1,625	1,225 (2%)
Chancellor Boulevard	11,660	8,190	8,370	8,670 (14%)
University Boulevard	14,610	10,890	11,600	10,970 (18%)
16th Avenue	12,880	16,740	15,165	17,480 (28%)
SW Marine Drive	23,410	23,038	27,700	23,995 (38%)
Totals	64,600	60,300	64,460	62,340

There was a slight decrease in overall traffic to and from campus in 2023 compared to 2022, but an increase in traffic on Chancellor Boulevard and 16th Avenue.

Vehicle occupancy allows UBC to understand travel patterns of the community. Vehicle occupancy is a measure of the average number of people travelling per vehicle during a certain period of time and are presented in **Table 2.6** for the last few years. As shown, the average vehicle occupancy for all vehicle trips in 2023 is lower than previous years, which is due to the increase in SOV trips. The number of people in carpool trips is also lower in 2023 at 2.05 people per carpool vehicle, down from 2.17 in 2022.

Table 2.6: Average Daily Vehicle Occupancy to / from UBC

Travel Mode Classification	Fall 1997	Fall 2021	Fall 2022	Fall 2023
Vehicles (SOV's + HOV's)	1.32	1.14	1.11	1.10
HOV's (Carpools / Vanpools)	2.20	2.06	2.17	2.05

3 Transportation to and from UBC

This section of the Transportation Status Report describes travel patterns and trends for trips to and from the UBC Vancouver campus for each mode of travel. Information regarding transportation conditions on campus is presented in **Section 4**.

3.1 Transit

Generally, transit usage has been very high as a result of the student U-Pass program, continued improvements in transit service, a reduced supply of commuter parking, and higher parking costs on campus.

Table 3.1 provides a summary of transit trips and transit mode share from fall 1997 to fall 2023, highlighting the change from 2002 to 2003 when the student U-Pass was introduced. In 2023, there were 77,100 trips per day, which is up from 2022, but still 4% less than the number of transit trips compared to 2019. This is consistent with the region where transit recovery is still ongoing, however, transit trips to and from UBC have recovered faster compared to the rest of the region.

Table 3.1: Summary of Average Weekday Transit Trips to / from UBC

Transit Trips	Before U-Pass		After U-Pass		Change 1997-2023	
	Fall 1997	Fall 2002	Fall 2003	Fall 2023	(count / percentage)	
Person Trips	19,000	29,700	45,400	77,100	+58,100	+305%
Trips Per Person	0.45	0.71	1.05	1.20	+0.75	+167
Transit Mode Share	18%	26%	39%	53%	+35%	+198%

Table 3.2 provides a summary of transit trips by corridor while **Table 3.3** provides a summary of transit trips by route comparing the last three years.

Table 3.2: Average Weekday Transit Trips to / from UBC by Corridor

Corridor	Fall 2019 (%)	Fall 2021 (%)	Fall 2022 (%)	Fall 2023 (%)
Chancellor Blvd.	11,120 (14%)	7,480 (11%)	6,500 (10%)	9,100 (12%)
University Blvd.	31,200 (39%)	21,710 (33%)	26,720 (40%)	29,150 (38%)
16th Avenue	10,230 (13%)	10,490 (16%)	9,850 (15%)	8,650 (11%)
SW Marine Drive	27,640 (34%)	25,820 (39%)	23,530 (35%)	30,200 (39%)
Totals	80,190	65,500	66,600	77,100

Table 3.3: Average Weekday Daily Transit Trips to / from UBC by Route

	Route	Fall 2021 (%)	Fall 2022 (%)	Fall 2023 (%)
4	4th Avenue	2,260 (3%)	3,440 (5%)	3,840 (5%)
9	Broadway	1,110 (2%)	1,270 (2%)	1,490 (2%)
14/N17	Broadway	3,040 (5%)	4,190 (6%)	4,300 (6%)
25	King Edward	6,380 (10%)	6,360 (10%)	5,440 (7%)
33	16th Avenue	4,110 (6%)	3,480 (5%)	3,150 (4%)
44	4th Ave. Express	3,030 (5%)	2,470 (4%)	4,340 (6%)
49	49th Avenue	9,620 (15%)	8,660 (13%)	12,680 (16%)
84	4th Ave. Express	4,450 (7%)	4,040 (6%)	4,750 (6%)
99	Broadway B-Line	15,210 (23%)	17,770 (27%)	18,690 (24%)
R4	41st Ave RapidBus	15,910 (24%)	14,760 (22%)	17,560 (23%)
NIS	Not In Service	380 (1%)	160 (0.2%)	910 (1%)
	Totals	65,500	66,600	77,100

In January 2020, the new R4 RapidBus was launched, to replace the 43 and 41. It has proven to be a very popular service, even exceeding the 99 in 2021. In 2023 the 99 B-Line performed just above the R4 for carrying the highest volume of passengers to and from UBC. The introduction of the R4 also impacted the distribution of transit trips, as shown in **Table 3.2**, resulting in SW Marine Drive carrying more transit trips compared to 2019.

Figure 3.1 illustrates transit ridership from year to year and includes the three-year rolling average to help soften variation year over year. A sharp increase was observed in 2003 when the U-Pass was introduced, which was followed by a steady increase until it leveled off in 2011. Transit ridership has been recovering since 2020 and is now approximately 96% of 2019 ridership.

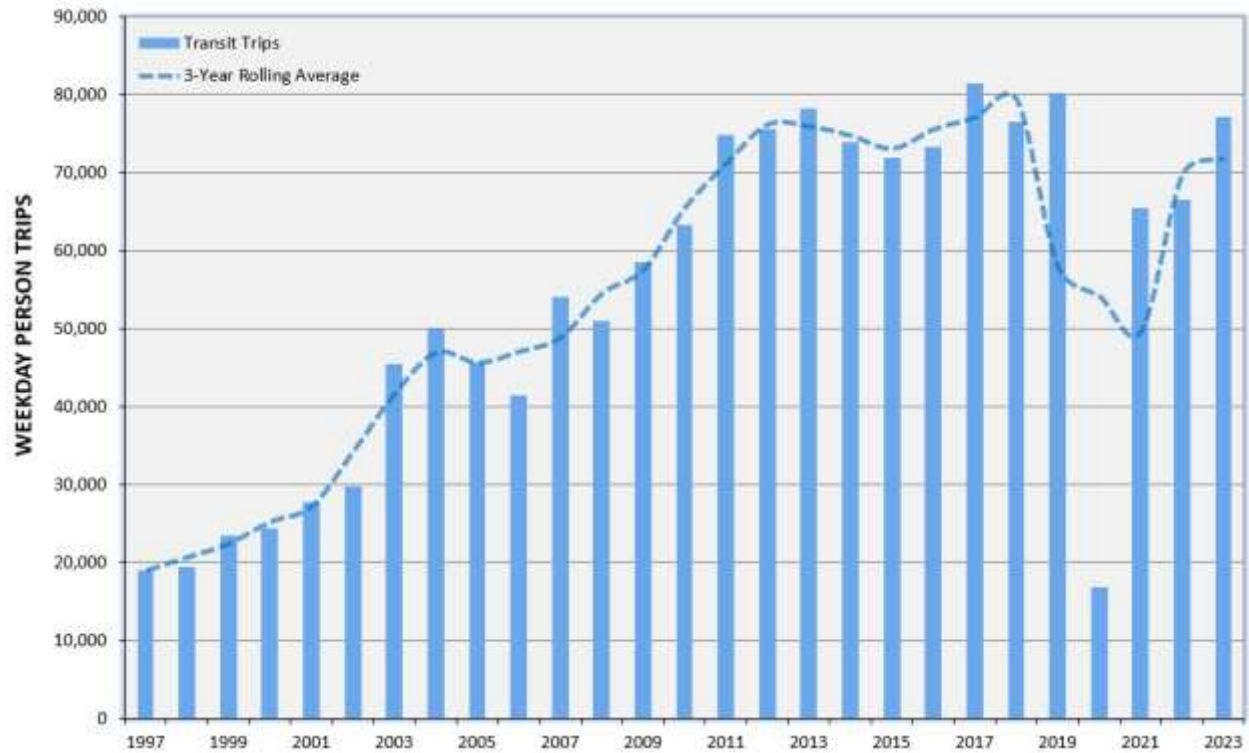


Figure 3.1: Average Weekday Transit Trips to / from UBC, 1997 – 2023

A summary of the most significant observations about transit trips to / from UBC is as follows:

- Bus routes using University Boulevard account for 38% of all transit trips to / from UBC, which is consistent with 2019 counts. The highest number of transit trips arrive / depart UBC on routes using SW Marine Drive, with 39% of all transit trips.
- Ridership in the “UBC Line”¹ corridor amounts to 61% of all transit trips to and from UBC.
- The R4 RapidBus route carries 23% of all transit trips and the 99 B-Line carries 24% of all transit trips.
- Express bus routes carry 59% of all transit trips.
- Trolley bus Routes account for 12% of all transit trips.

¹ UBC Line refers to the future rapid transit line to UBC that is expected to be used by people currently taking transit to / from UBC via Chancellor Boulevard, University Boulevard and 16th Avenue.

The daily distribution of transit trips to and from UBC in 2023 and 1997 is shown in **Figure 3.2**. Compared to 2022, the hourly peak periods in 2023 are much higher and still exhibit peaks. Sharp peaks are less desirable as they translate to overcrowded buses and pass-ups along the route, which in turn contribute to unsatisfied customers and people choosing alternative, less sustainable modes. In 2023, a peak of transit in the eastbound direction in the morning was observed, which is related to neighbourhood growth and more people travelling outside of the UBC boundary daily for work, school, or other needs.

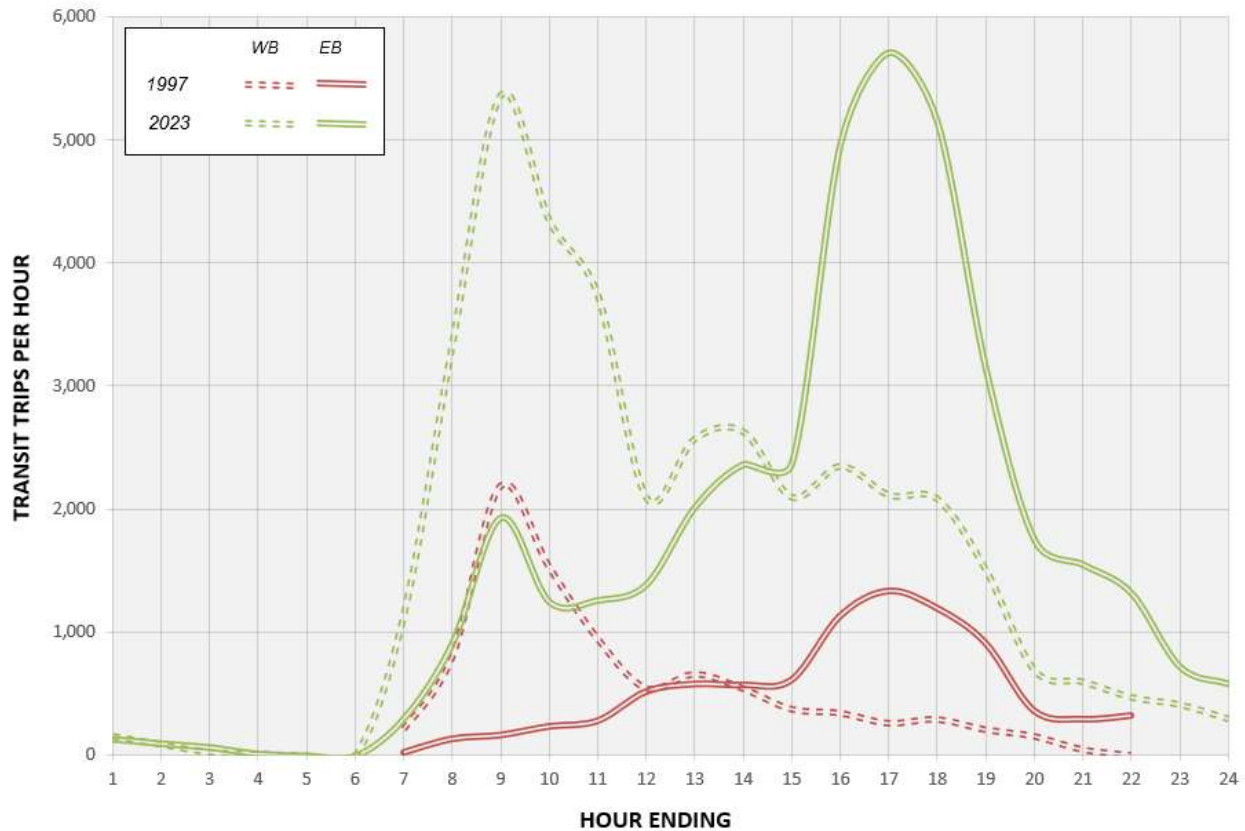


Figure 3.2: Distribution of Average Weekday Transit Trips to / from UBC, 1997 vs. 2023

In 2022, UBC carried out a transportation survey of the campus community to gather more detailed information about travel to / from and around campus. This survey is carried out approximately every five years to supplement annual monitoring and is used to help inform future improvements on campus. The top three responses to a question about what would increase the likelihood of travelling to or from campus by public transit more often were a rapid transit connection; reduced overcrowding; and increased frequency of service. In fact, 69% of all survey respondents said they would very likely take transit if there was a rapid transit connection to UBC. Of people that currently do take transit to travel to or from UBC, the average travel time from respondents was 58 minutes, one way, which is up from 51 minutes from the 2017 survey results.

3.2 Bicycles and Pedestrians

Table 3.4 and **Figure 3.3** provide summaries of the trend in bicycle trips from fall 1997 to fall 2023. There was a significant decrease in trips by bike after the U-Pass program was introduced in 2003. However, the number of trips did increase and was holding relatively steady until 2021 when a drop occurred and are now just over 1,000 trips per day. This reduction in bike trips is not well explained given the amount of investment in the region on cycling infrastructure, however, there are no protected routes connecting UBC to the City of Vancouver’s cycling network. A fully protected bike route to UBC is a high priority for UBC with continued advocacy efforts to the BC Ministry of Transportation and Infrastructure for improvements.

Table 3.4: Summary of Average Weekday Bicycle Trips to / from UBC, 1997 vs. 2023

Average Weekday Bicycle Trips	Before U-Pass		After U-Pass		Change 1997-2023 (count / percentage)	
	Fall 1997	Fall 2002	Fall 2022	Fall 2023		
Person Trips	2,700	3,300	1,300	1,100	-1,600	-59%
Trips Per Person	0.06	0.08	0.02	0.02	-0.05	-73%
Bicycle Mode Share	2.5%	2.9%	1%	0.8%	-1.8%	-70%

Since data is recorded over a single day, variations in data year over year are highly anticipated, particularly as weather has a direct correlation with people’s decision to ride their bike.

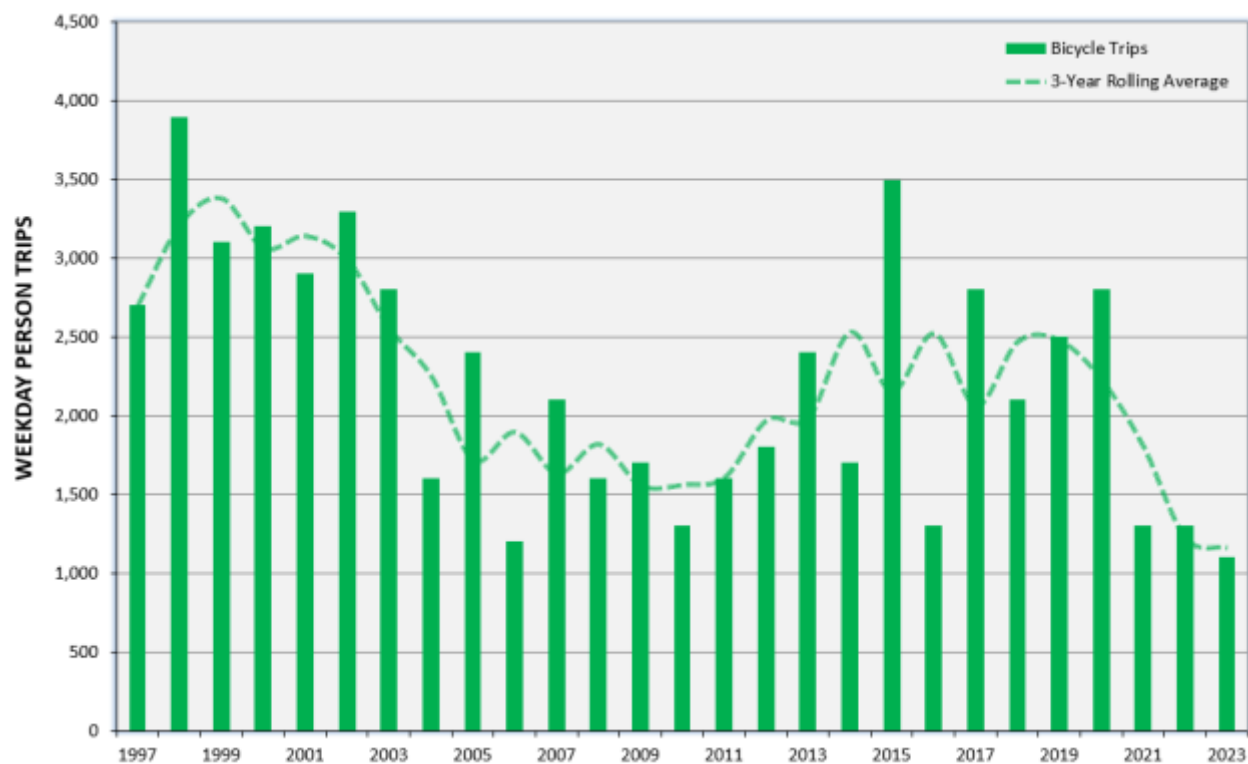


Figure 3.3: Average Weekday Bicycle Trips to / from UBC, 1997 – 2023

In 2019, UBC entered into a new bike share program with HOPR on campus, but this program does not have an impact on commuter trips since the program serves on campus trips only. In late 2023 an integrated e-bike share program between UBC and the City of Vancouver launched, however, it was after the data collection period so the impacts of the new program will not be observed until 2024.

From the 2022 Transportation Survey, 32% of people who biked to campus once a week or less indicated they would very likely travel to and from campus by bike or e-bike more often with a bike share program. The Transportation Survey also asked the campus community what would help them bike to campus more often (including e-bikes and other micromobility devices). The top three responses were if they lived closer to campus; if they had access to cheaper or discounted e-bikes; and if there were more higher-quality secure bike parking and end of trip facilities.

All buses operating on transit routes serving UBC are equipped with bicycle racks, each of which has space for two bicycles. Below is a summary of the usage of racks over the past three years:

- In 2023, total of 90 bicycles were on buses at a 2.4% usage rate of rack space.
- In 2022, total of 79 bicycles were on buses at a 1.9% usage rate of rack space.
- In 2021, total of 78 bicycles were on buses at a 1.9% usage rate of rack space.

UBC tracks this usage to identify capacity issues. It is not uncommon for bike racks on popular routes to campus be full in the morning because more cyclists (71%) bring their bikes on buses westbound, up the hill, to campus. The most popular transit routes for cyclists to travel with their bicycles are the 99 B-Line and the R4 rapid bus (57% combined).

Table 3.5 provides a summary of the trend in pedestrian trips, and **Figure 3.4** illustrates year-by-year changes. Similar to bicycle trips, pedestrian trips decreased significantly after the U-Pass was introduced and have fluctuated over the past few years with another decrease in 2023.

Table 3.5: Summary of Average Weekday Pedestrian Trips to / from UBC, 1997 vs. 2023

Average Weekday Pedestrian Trips	Before U-Pass		After U-Pass		Change 1997-2023 (count / percentage)	
	Fall 1997	Fall 2002	Fall 2022	Fall 2023		
Person Trips	1,400	1,600	600	400	-1,000	-71%
Trips Per Person	0.03	0.04	0.01	0.01	-0.03	-81%
Pedestrian Mode Share	1.3%	1.4%	0.4%	0.3%	-1%	-79%

Over the long term, UBC doesn't anticipate an increase in pedestrian trips or pedestrian mode share to and from campus as a result of the location of the campus and the distance to where a majority of the commuting population lives. However, UBC will continue to make improvements to infrastructure to enhance the walking and rolling experience on campus since all trips must start or end with these modes.

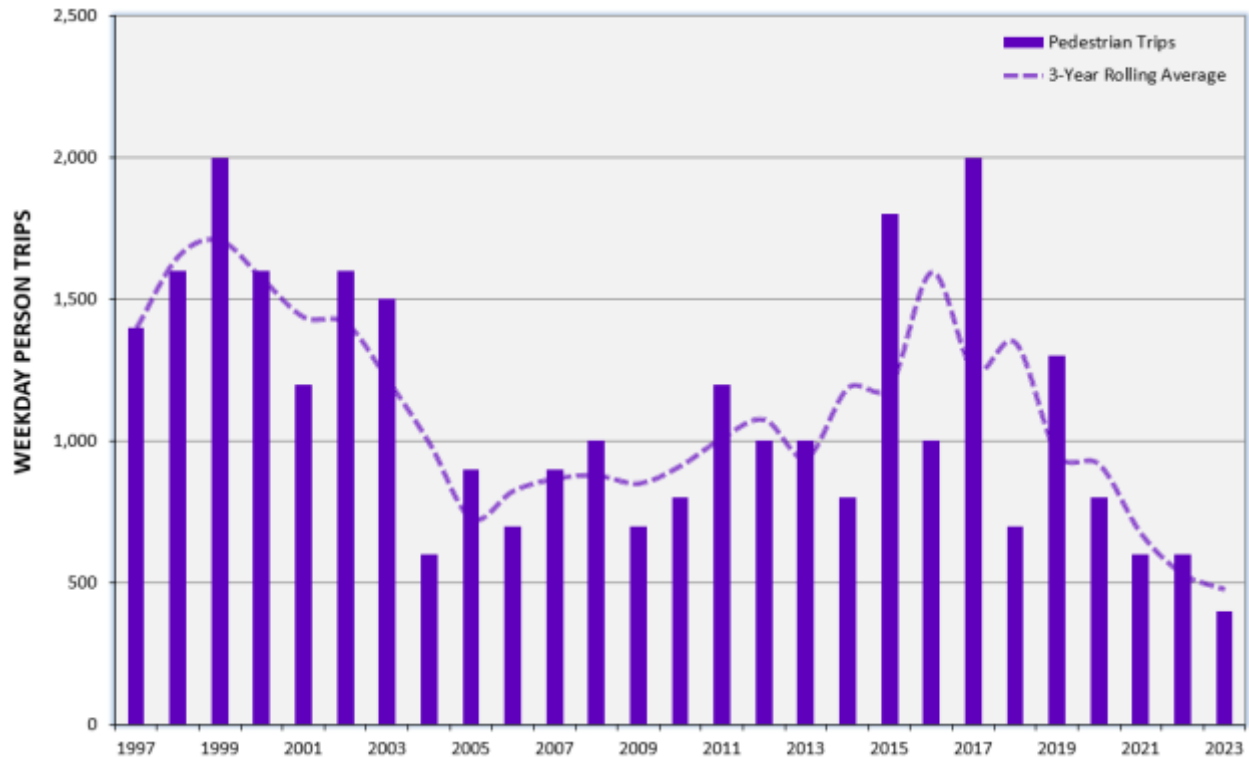


Figure 3.4: Average Weekday Pedestrian Trips to / from UBC, 1997 – 2023

In 2022, the BC Ministry of Transportation and Infrastructure (MoTI) completed an Active Transportation Study of the area, which identified the need for improvements to active transportation infrastructure on all Ministry roadways. Timelines for implementation have not been identified, but UBC will continue to advocate for these essential improvements to support the use of active modes to travel and from campus.

3.3 Automobiles

UBC is committed to reducing the amount of single occupant automobile traffic travelling to and from UBC each day as indicated by two of the three transportation targets (**Section 1.1**) focusing on vehicle traffic.

Table 3.6 provides a comparison of SOV travel in fall 1997 and fall 2023, and **Figure 3.5** provides a summary of year-by-year changes with the three-year rolling average.

Table 3.6: Summary of SOV Trips to / from UBC

Average Weekday SOV Trips	Fall 1997	Fall 2022	Fall 2023	Change 1997-2023 (count / percentage)	
Person Trips	46,000	54,500	53,200	+7,200	+16%
Trips Per Person	1.09	0.87	0.83	-0.26	-24%
SOV Mode Share	43%	40%	37%	-7%	-15%

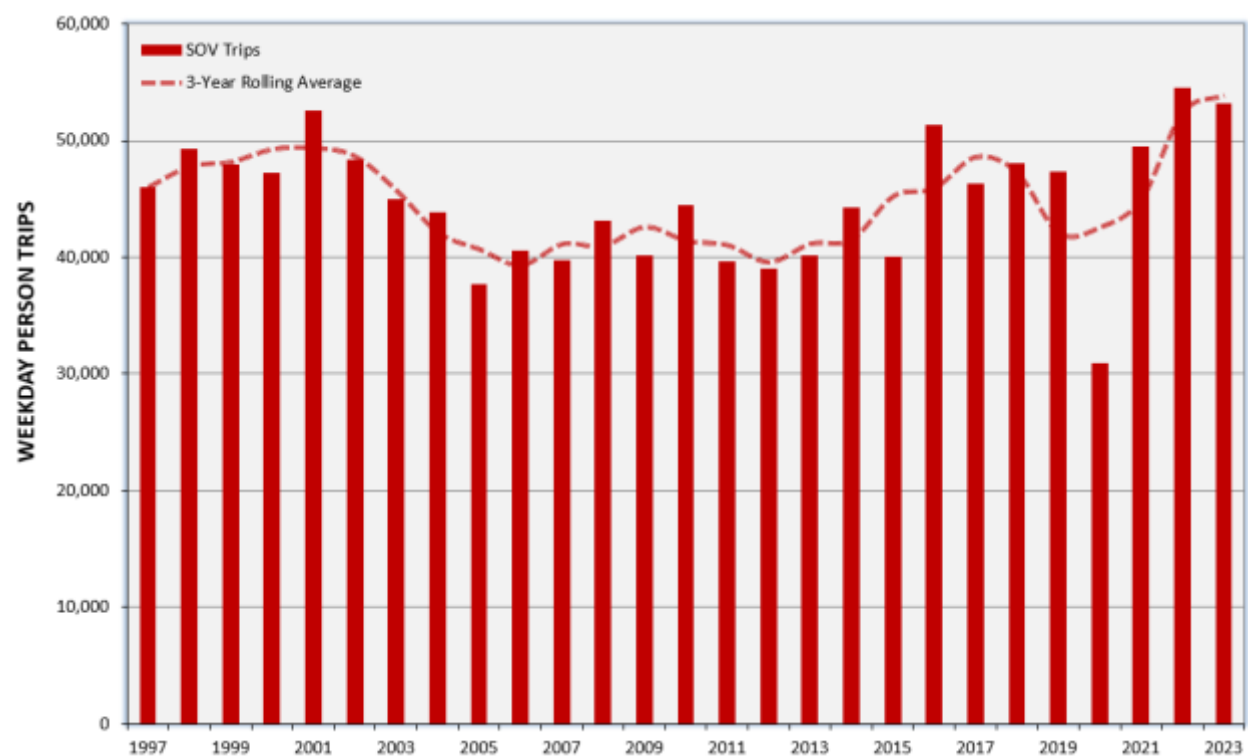


Figure 3.5: Average Weekday SOV Trips to / from UBC

This year, the number of SOV trips decreased slightly from the 2022 all-time high, but still remain higher than 2019 levels. This is likely attributable to lasting impacts from COVID-19 with fewer people sharing rides or taking transit and instead are driving alone or getting dropped-off and picked-up by family, friends, or ride-hailing companies.

From the 2022 Transportation Survey, the campus community was asked why they chose to drive alone. Their top three responses were to save time; for convenience; and because they live too far from UBC to take transit.

Carpooling, or High Occupancy Vehicle travel (HOV), has decreased substantially since 1997. A summary of the trend in HOV travel is provided in **Table 3.7**, and a summary of year-by-year changes and the three-year rolling average is provided in **Figure 3.6**.

Table 3.7: Summary of HOV Trips to / from UBC

Average Weekday HOV Trips	Fall 1997	Fall 2022	Fall 2023	Change 1997-2023 (count / percentage)	
Person Trips	36,100	12,600	11,400	-24,700	-68%
Trips Per Person	0.85	0.20	0.18	-0.68	-79%
HOV Mode Share	34%	9%	8%	-26%	-77%

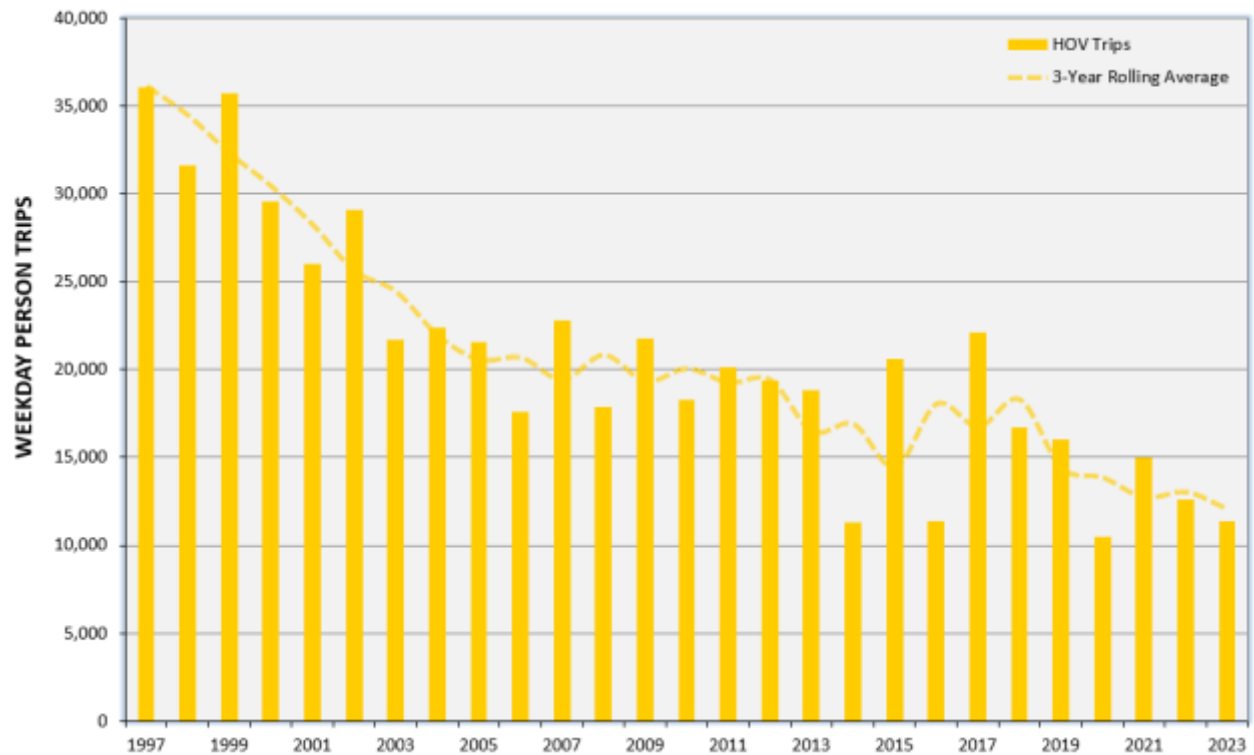


Figure 3.6: Average Weekday HOV Trips to / from UBC

The 2022 survey results found that nearly 80% of people that drive also park on campus, while 7% park off campus then bike, walk or roll and 6% park off campus then take transit. When asked if increased parking fees would help drivers choose alternative modes, the answer was ‘not at all likely’ indicating that the need for vehicles to run errands or other reasons overpowers the cost of parking.

Figure 3.7 shows the change in daily automobile traffic volumes from 1997 to 2023. In fall 2023, daily automobile traffic was 58,800 vehicles per day, which is a 6% decrease from 1997. From 1997 to 2015, daily traffic to / from UBC decreased, but from 2016 onwards the number of automobile trips has generally increased, which is likely attributed to population growth overall (both in neighbourhoods and academic growth). Although some of the people living within neighbourhoods work or study at UBC, other members of the household may not, resulting in more trips off campus in the morning and to campus in the evening. As previously noted, in 2021 a new methodology was used to determine average daily population on campus from 2000 onwards, which is why there appears to be drop in the campus population line in 2000 in **Figure 3.7**.

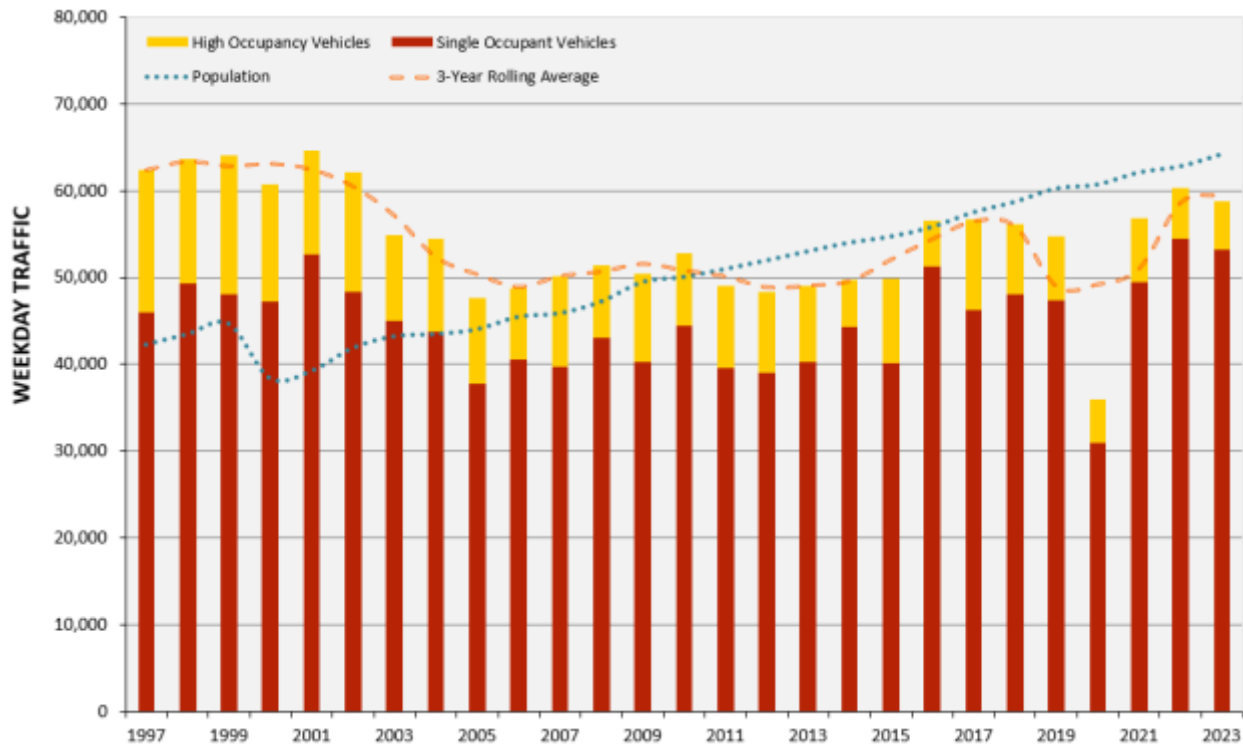


Figure 3.7: Average Weekday Automobile Traffic to / from UBC, 1997 – 2023

Although UBC has experienced more vehicle traffic over the last few years compared to 2019, the demand for parking has not experienced the same growth, which supports the theory that there are more pick-up / drop-off trips occurring on campus (through ride-hailing services and personally arranged trips).

UBC manages the additional vehicles on campus from ride-hailing by allocating curb space for pick-ups and drop-offs within the central academic campus. This helps to prevent unwanted stopping activity in busy areas and can make it easier for people less familiar with the campus. There is also a fee charged to ride-hailing companies to operate on campus, which are used to deliver programs and infrastructure that encourage sustainable transportation.

TARGET 2: Reduce single occupant vehicle trips to and from UBC by 20% from 1997 levels and reduce single occupancy vehicle trips per person to and from UBC by 30% from 1997 levels.

- × In 2023, there were 53,200 SOV vehicle trips, which is a 16% increase from 1997 values.
- × In 2023, there were 0.83 SOV trips per person, which is a 24% reduction from 1997 values.

TARGET 3: Maintain daily private automobile traffic at or less than 1997 levels. Private automobiles include single occupant vehicles and carpools / vanpools, but do not include buses, motorcycles and trucks.

- ✓ In 2023, there were 58,800 private vehicles per day, which is a 6% reduction from 1997 values.

While UBC’s transit ridership has largely rebounded from COVID-19, there are some lasting impacts on transportation trends locally and across the region. UBC will continue to monitor progress against our targets alongside ongoing efforts to bring a rapid transit connection to UBC; and support initiatives that shift behaviour away personal vehicles onto buses, carpools, and more active modes.

As a result of the significant uptake of car sharing in Vancouver, UBC started tracking the number of car share trips to and from campus. Car share vehicles were counted at screenline locations over an eight-hour period, which is presented below in **Table 3.8**. UBC provides around 160 dedicated parking stalls to Modo and Evo carshare in addition to overflow parking on the roof level of parkades. In 2020, Car2Go stopped operating in Vancouver, leaving Evo as the only one-way car share provider for the city.

Table 3.8: Summary Car Share Trips to and from UBC

Car-Share Vehicle Trips	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023
1-Person Trips	388	408	503	497	163	408	399	563
2-Person Trips	41	73	41	101	45	82	63	93
3+ Person Trips	7	39	9	13	18	11	22	3
Totals	436	520	553	611	226	501	484	659

There was a significant increase in car share trips to / from UBC from 2015 to 2019, but there was a drop in 2020 as a result of COVID and the departure of Car2Go. However, the number of trips by carshare has continued to grow since, reflecting an all-time high in 2023 with 659 carshare trips to and from campus, where nearly all trips made with only one person in the vehicle.

Results from the 2022 Transportation Survey of the campus community identified the top three reasons respondents use car share vehicles are to run errands / shopping; when the weather is poor; and for visiting friends and family.

More research is required to determine the overall benefits of car share at UBC given a majority of the trips are still a single occupancy vehicle trip and they are likely replacing transit trips.

3.4 Heavy Trucks

Construction activity at UBC and the day-to-day operation of the university generate truck traffic. The City of Vancouver, through which all trucks must travel to reach UBC, manages heavy truck traffic with a number of bylaws and regional regulations. For the purposes of monitoring travel patterns to and from UBC, heavy trucks are defined as vehicles with three or more axles. This simpler definition makes it easier to monitor heavy truck traffic, as it is only necessary to count the number of axles on a truck to determine whether it is a “heavy truck”. In addition, the purpose of monitoring is to help us better understand truck volume and noise rather than vehicle weights.

Counts of heavy truck traffic are undertaken on a quarterly basis, shown in **Table 3.9**, while **Figure 3.8** compares the total construction and non-construction related truck traffic at UBC over the last three years.

Table 3.9: Average Weekday Heavy Truck Trips to / from UBC, 2023

Route	Type of Truck		Totals by Route
	Construction	Non-Construction	
Chancellor Boulevard	14	7	21 (6%)
University Boulevard	14	16	30 (10%)
W 16 th Avenue	29	12	41 (12%)
SW Marine Drive	179	62	241 (72%)
Totals	247 (71%)	97 (29%)	334 (100%)

As shown in the table, on average there are 334 heavy truck trips per day to / from UBC, which is just below what was counted in 2022. Of the 334 trips, 71% of them are construction related trips. Of the four routes to / from UBC, SW Marine Drive carries 72% of the truck traffic. The biggest difference from 2022 is the increase in the number of trucks on SW Marine Drive and a decrease in the number of trucks using University Boulevard and W 16th Avenue.

Truck traffic is variable depending on what stage of construction projects are in at the time of data collection and in 2023 there were many active project sites in the excavation stage when counts were being conducted.

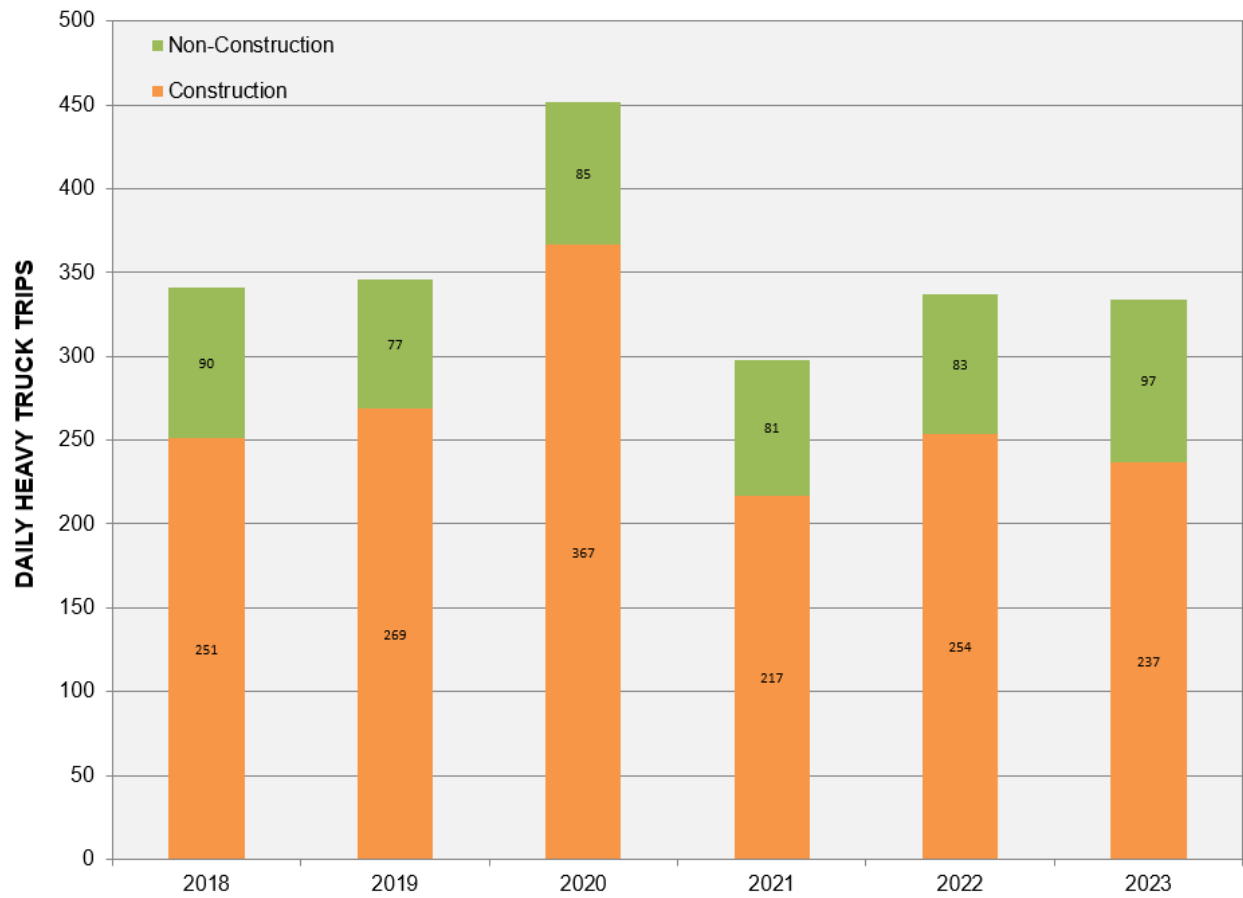


Figure 3.8: Heavy Truck Trips to / from UBC

4 Traffic Conditions At UBC

This section of the *Transportation Status Report* summarizes transportation conditions on campus, particularly traffic volumes and speeds at key locations throughout the campus. In 2023, traffic speed data was not collected due to changes in equipment availability with the consultant used for data collection and an industry change in the preferred methodology of speed data collection. UBC will explore other ways to collect speed data and possibly replace existing practice with site specific speed monitoring. In the meantime, traffic speed data from previous years is copied below.

4.1 Traffic Speeds

Traffic speeds were recorded over one week on campus using pneumatic tubes. The locations are identified in *Figure 1.1*.

The 85th percentile speed is used for the purposes of representing travel speeds and is the speed below which 85% of the traffic travels. The average 85th percentile speed data from 2019 to 2022 is summarized in *Tables 4.1 and 4.2* for eastbound / northbound traffic and westbound / southbound traffic, respectively. Data highlighted in red represents locations where collected speed data is >5km/h above the posted speed limit in the current monitoring year. Note, data is not collected at every location annually, which is why there are empty boxes in the following tables.

Table 4.1: Average 85th Percentile Traffic Speeds (km/h) Eastbound / Northbound, 2018 – 2022

Location	Speed Limit (km/h)	Eastbound / Northbound			
		Fall 2019	Fall 2020	Fall 2021	Fall 2022
Wesbrook Mall s/o Gage	50	50	-	44	54
Wesbrook Mall s/o University	50	45	51	50	54
Thunderbird w/o Wesbrook	30	37	-	46	-
West Mall s/o University Blvd	30	33	-	33	30
East Mall s/o Thunderbird	30	48	-	48	47
Wesbrook Mall n/of 16 th Ave	50	53	-	51	-
Wesbrook Mall s/o 16th Ave	50	33	40	35	30
16th Ave w/o East Mall	60	68	-	67	-
16th Ave w/o Wesbrook Mall	50	56	67	64	70
16th Ave e/o Wesbrook Mall	50	67	63	84	70
Chancellor e/o Western Pkwy	50	54	58	58	56
University e/o Toronto Rd	50	61	63	62	59

Table 4.2: Average 85th Percentile Traffic Speeds (km/h) Westbound / Southbound, 2018 – 2022

Location	Speed Limit (km/h)	Westbound / Southbound			
		Fall 2019	Fall 2020	Fall 2021	Fall 2022
Wesbrook Mall s/o Gage	50	44	-	38	56
Wesbrook Mall s/o University	50	49	51	53	51
Thunderbird w/o Wesbrook	30	47	-	43	-
West Mall s/o University Blvd	30	30	-	34	31
East Mall s/o Thunderbird	30	57	-	48	47
Wesbrook Mall n/of 16 th Ave	50	54	-	57	-
Wesbrook Mall s/o 16th Ave.	50	31	43	30	30
16th Ave w/o East Mall	60	68	-	79	-
16th Ave w/o Wesbrook Mall	50	61	58	58	68
16th Ave e/o Wesbrook Mall	50	60	64	67	65
Chancellor e/o Western Pkwy	50	58	62	57	56
University e/o Toronto Rd	50	60	57	63	62

Overall, speeds in 2022 were comparable to 2021, with a few exceptions as noted below:

- Traffic speeds on BC Ministry of Transportation and Infrastructure roadways to and from campus far exceed the posted speed limit of 50 km/h. This includes 16th Avenue, University Boulevard, and Chancellor Boulevard. The most concerning speed data is on 16th Avenue east and west of Wesbrook Mall where 85th percentile speeds are 65-70km/h in a 50 km/h speed zone. UBC has informed the local RCMP detachment and the Ministry to bring awareness to this speeding issue.
- Wesbrook Mall south of Chancellor Boulevard saw an increase in speeds, but only just above the 50km/h speed limit. Reasons for the increase in speeds are likely attributed to increased traffic overall as well as the newly paved roadway condition.
- According to the UBC Road and Traffic Rules, local road speed limits are 30km/h. For the most part, speeds on UBC’s local roads are within the acceptable range of the 30km/h speed limit. Reasons for less speeding on the internal roadways include heavy pedestrian traffic and traffic calming measures.

UBC will continue to advocate for speed reduction measures around campus. For example, UBC was successful at getting the speed limit on 16th Avenue reduced from 60km/h to 50km/h to create a consistent speed limit along the corridor.

4.2 Traffic Volumes

Peak hour traffic volumes collected over one day at key intersections on campus are illustrated in **Figures 4.1** and **4.2**. The turning volumes are not intended to represent average daily traffic volumes or conditions, but are intended to provide a general overview of traffic patterns to / from and on campus during the AM and PM peak hours.

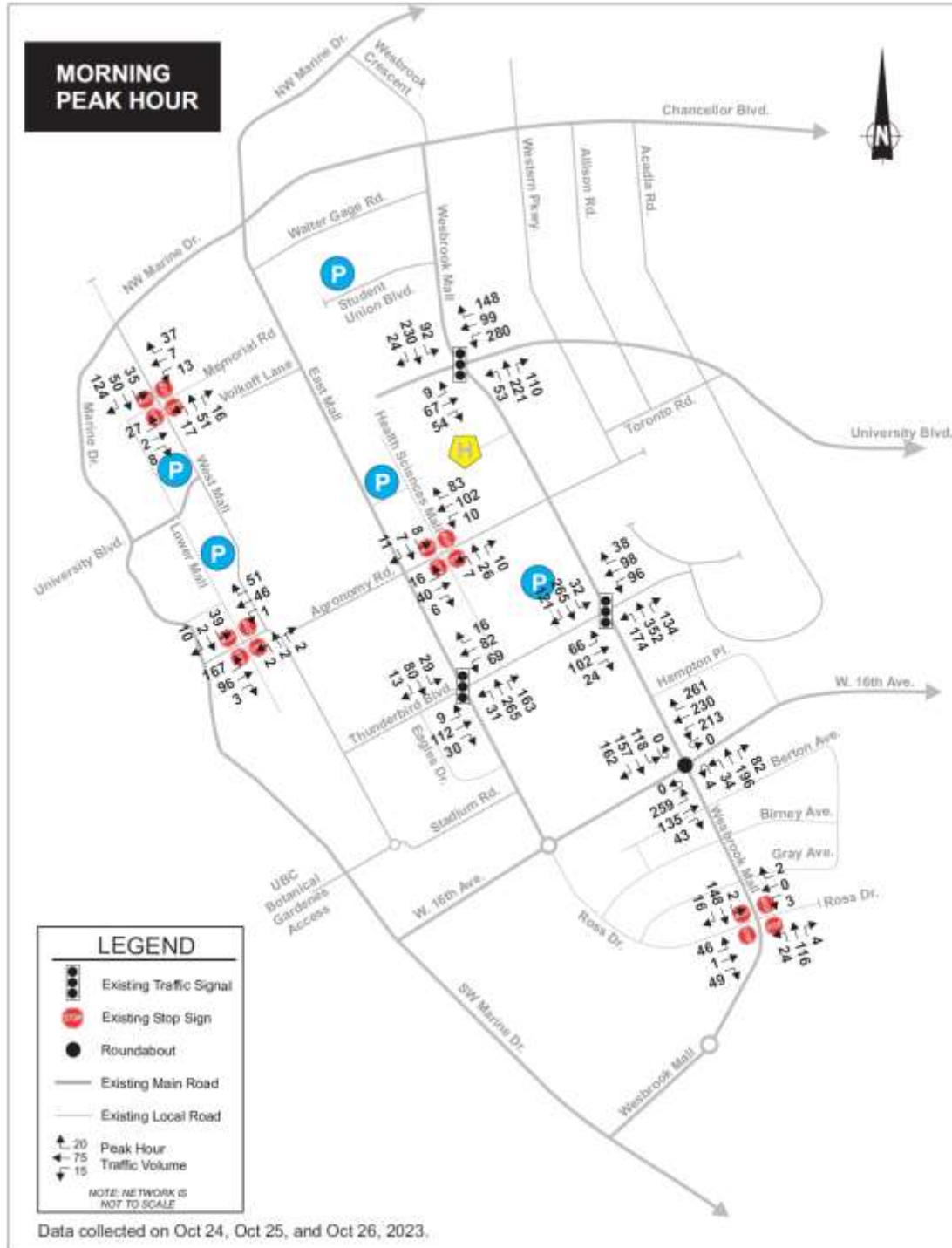


Figure 4.1: Morning Peak Hour Traffic Volumes at UBC

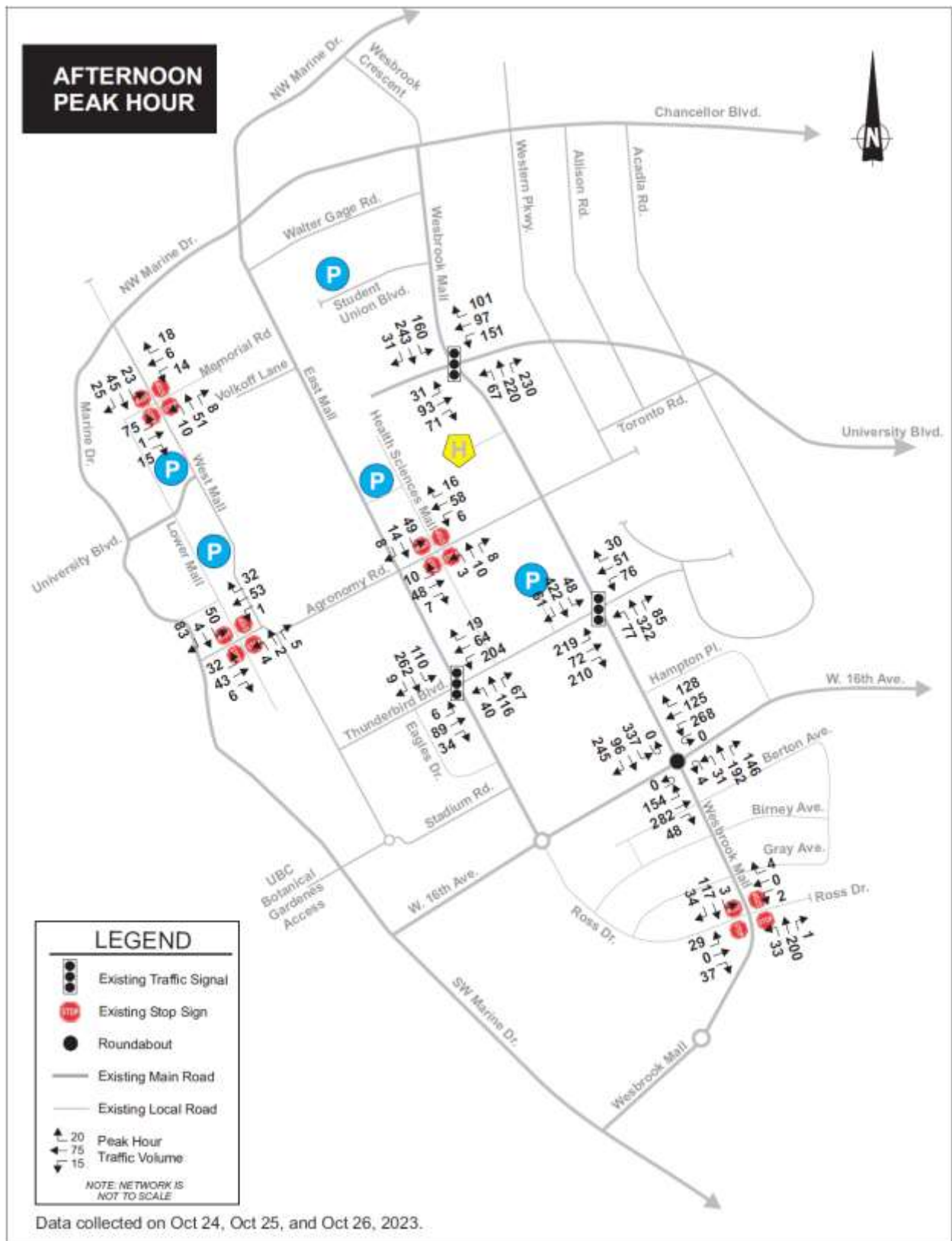


Figure 4.2: Afternoon / Evening Peak Hour Traffic Volumes at UBC