



Dalhousie University Commuter Study 2017

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1. INTRODUCTION

Since 2009, the Office of Sustainability at Dalhousie University has invited students, faculty and staff to participate in the annual Commuter Survey. Unlike previously conducted surveys which were deployed in November, this year's survey was distributed in March 2017. A total of 40 questions were used to examine the Dalhousie community's travel patterns, knowledge on current sustainable initiatives and ideas for future sustainable practices. A significant portion of the survey is organized to collect travel information from respondents, including primary campus, mode choice, and commute time and distance. The purpose of this report is to analyse the travel information provided by students, faculty and staff through the 2017 Commuter Survey and compare the results to previously conducted surveys. The University can use this analysis to identify areas of improvement, opportunities for future transportation initiatives and ways to further the Transportation Demand Management Plan (2011).

1.1 Sustainable Transportation at Dalhousie University

In 2010, Dalhousie University released the Sustainable Operations Plan to address campus-wide sustainability. This plan targets university operations and addresses all aspects of sustainability including the built and natural environment, transportation, water, energy, and waste and emissions. Within this plan, the main transportation-related goal was to increase the available sustainable transportation options. To achieve more specific transportation related goals outlined in the Sustainable Operations Plan, the Transportation Demand Management (TDM) Plan was developed. The TDM Plan (2011) furthers the goal of the Sustainable Operations Plan, aiming to shift the transportation system to less auto dependence and to encourage ridesharing, transit and active transportation. The TDM Action Plan (2016) aims to promote a balanced multi-modal transportation system by providing transportation options to students, faculty and staff. Executing on this mission would reduce auto-related emissions, reduce strain on parking and traffic congestion, and provide overall lifestyle improvements for the Dalhousie community. In 2016, Dalhousie opened the University Avenue Protected Bicycle Lane, encouraging cycling as a main sustainable mode to commute to the university. This is a pilot project to test best practices in cycling infrastructure and to incorporate active transportation design into University Avenue.

From the analysis of the annual Commuter Surveys, the University's TDM strategies have been developed, monitored and improved. For example, in the 2011 and 2012 surveys, respondents were asked about their interest in summer and employee bus passes. In 2011, 74% of respondents were interested in a summer student bus pass and 80% of respondents were interested in an employee bus pass; the 2012 survey had similar majorities in favour. Dalhousie University approved a summer student bus pass and an employee bus pass in 2013.

1.2 Previous Surveys

The first Dalhousie Commuter Survey was distributed to the University population in 2009. Dalhousie University merged with the Agriculture College in Truro in 2012, and distributed the Commuter survey through that campus for the first time. Each year improvements are made to the survey questions to ensure consistency and comparability over time, and new questions are introduced related to current initiatives that may influence how people move (e.g. Dalhousie pilot protected bicycle lane in 2017).

1.3 2017 Survey Summary

The 2017 Commuter survey was the eighth of its kind to be conducted at Dalhousie University. This year's survey had 2,150 respondents and 1,690 completed responses, an increase of 580 completed responses from the 2015 survey. Questions were added to this survey to determine the community's thoughts on the University Avenue bicycle lane pilot project, and to examine how the Macdonald bridge closures have affected respondent's daily routines, and what they have done to mitigate these effects.

Figure 1-1: Dalhousie University Campus Locations

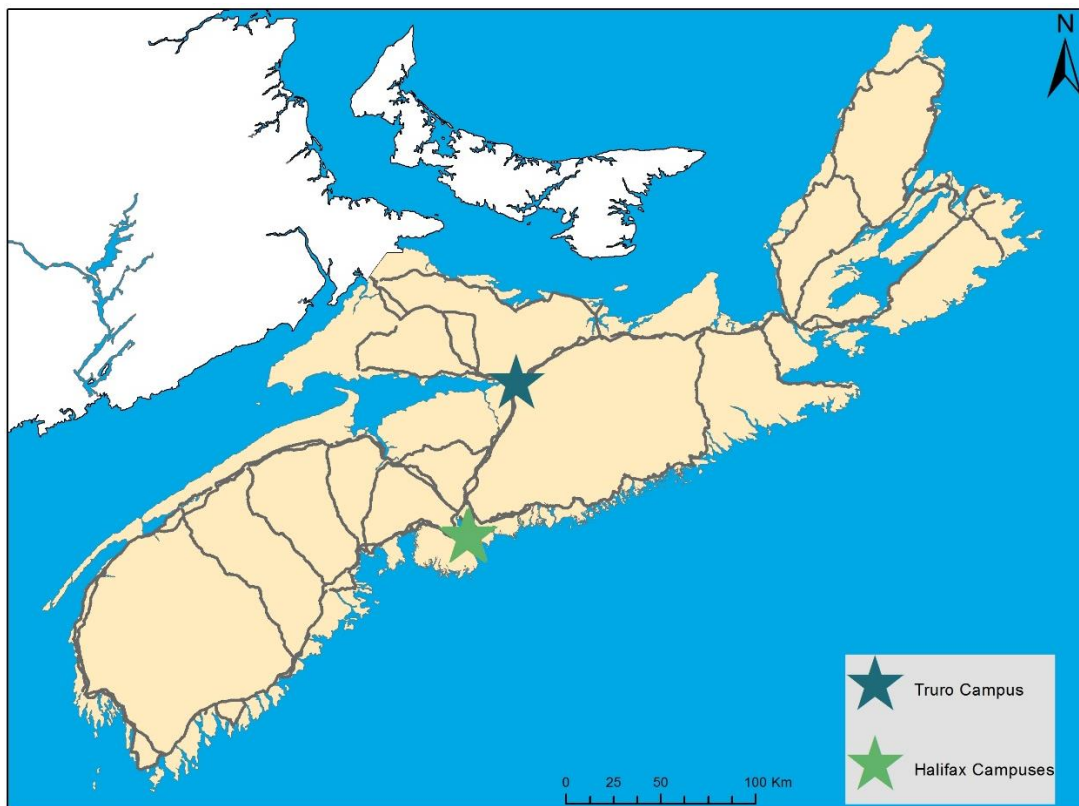
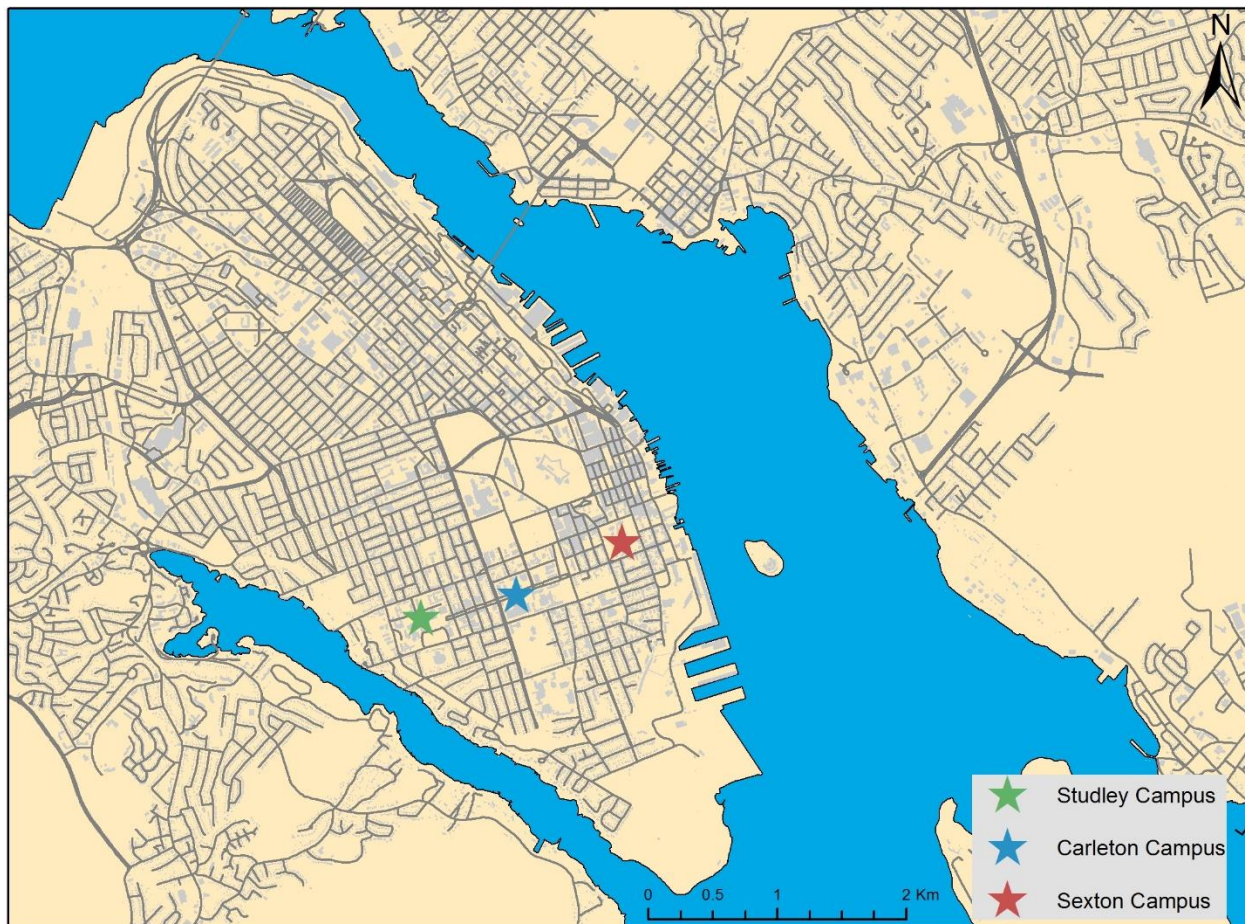


Figure 1-1 displays the location of Dalhousie's Agriculture campus, located in Truro, and the Halifax campuses, located on the Halifax peninsula. The Agriculture campus is approximately 110km away from the three Halifax campuses. Approximately 875 students were enrolled at the Agriculture campus for the 2016/17 academic year, compared to 17,949 students enrolled at the Halifax Campuses. Almost 6,000 faculty and staff members work across all campuses. Figure 1-2 shows the location of the Studley, Carleton, and Sexton campuses on the Halifax peninsula. The Halifax campuses are approximately 1km in distance from each other. The distances between the Agriculture and Halifax campus locations influence the mode in which people choose to travel.

Figure 1-2: Dalhousie University Halifax Campus Locations



2. GENERAL RESPONDENT INFORMATION

When conducting the annual commuter survey and comparing the results over time, it is important to recognize the general information about the respondents which could affect how they choose to move. This section summarizes information about respondents' role at the university, demographics, travel spending and mode access, and home location relative to their primary campus.

2.1 Role at the University

Students represent over half of the total survey group (Figure 2-1), which is expected as students are the largest group at Dalhousie University, compared to faculty and staff. A 10% increase in student responses is observed compared to last year, with a corresponding decrease in staff responses. Approximately 93% of respondents were full-time (Figure 2-2).

Figure 2-1: Respondent Role at the University

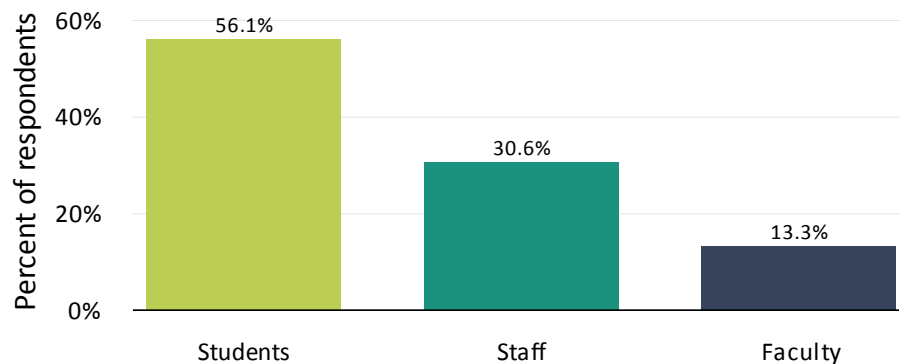
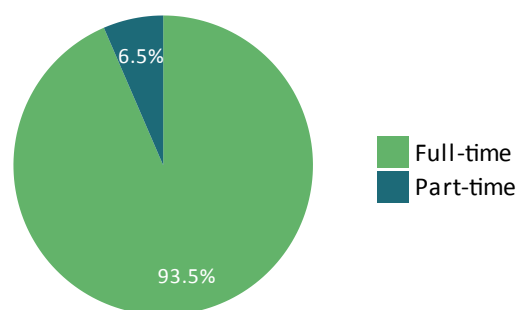


Figure 2-2: Respondent Classification

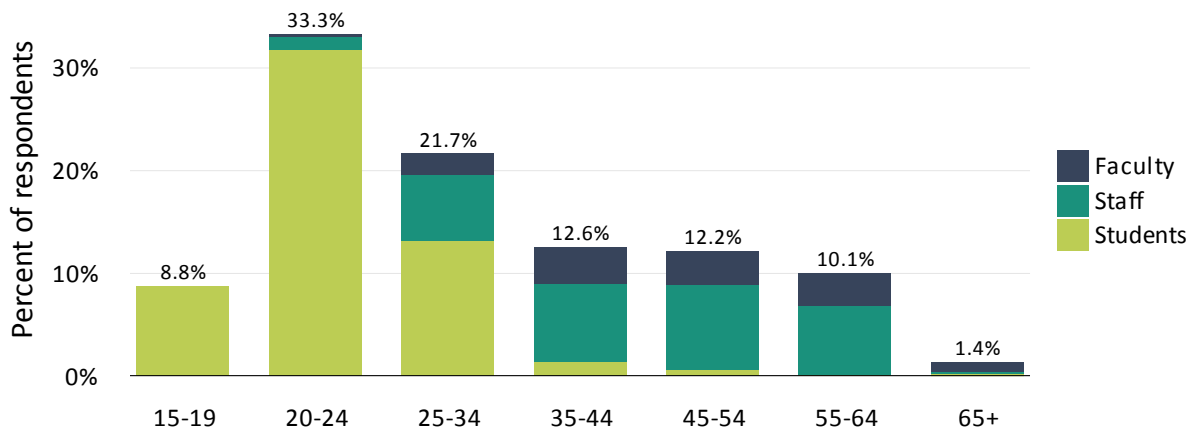


2.2 Demographics

2.2.1 Age

The majority of respondents are between 20 and 34 years old, due to the large proportion of student respondents. As seen in Figure 2-3, a small percentage of faculty and staff are below the age of 25.

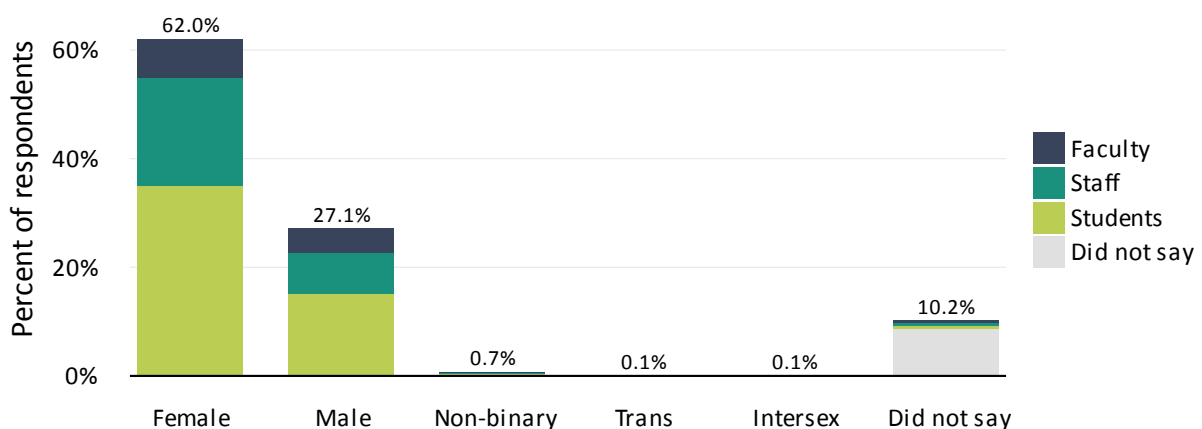
Figure 2-3: Age of Respondents



2.2.2 Gender

Over six in ten of survey respondents identified themselves as female, with fewer than a third identifying as male (Figure 2-4). Over a tenth of respondents did not identify their gender.

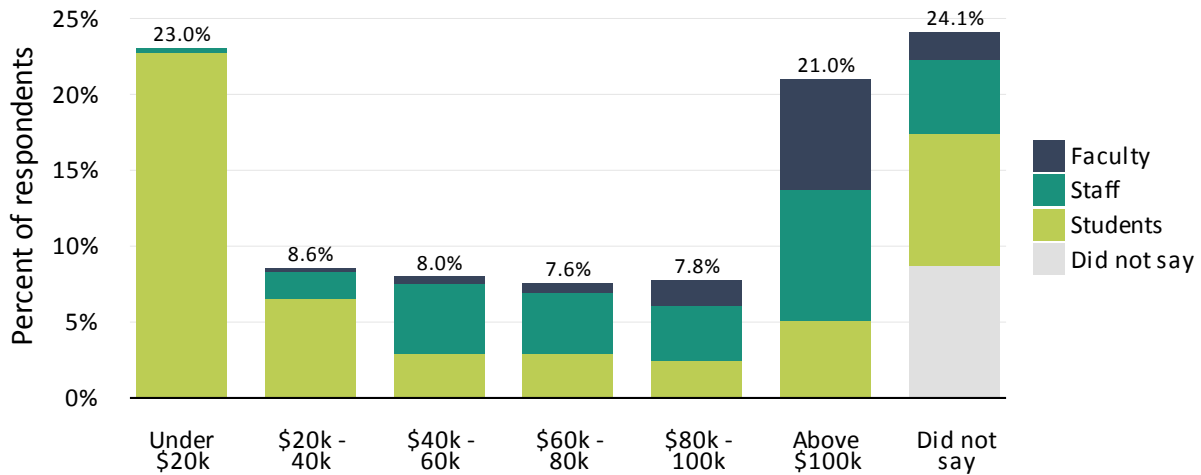
Figure 2-4: Gender of Respondents



2.2.3 Household Income

A similar percentage of respondents had an annual household income under \$20,000 (23%) as had above \$100,000 (21%) (Figure 2-5). As the average household income increases the proportion of faculty and staff in each category also increases, although there are still some students who have an annual household income above \$100,000, possibly because they still live at home with their parents or with a working partner.

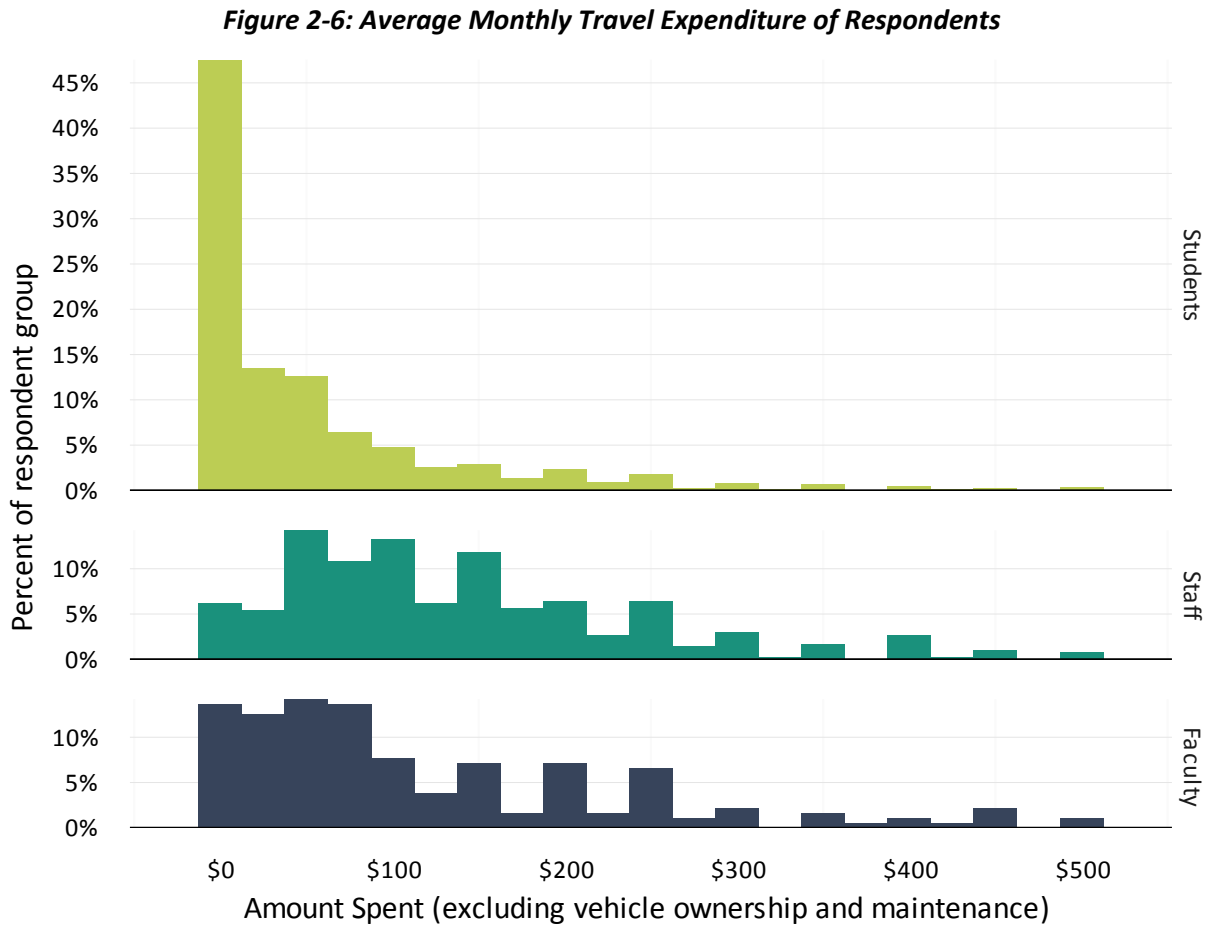
Figure 2-5: Annual Household Income of Respondents



2.3 Travel Spending and Mode Access

2.3.1 Travel Spending

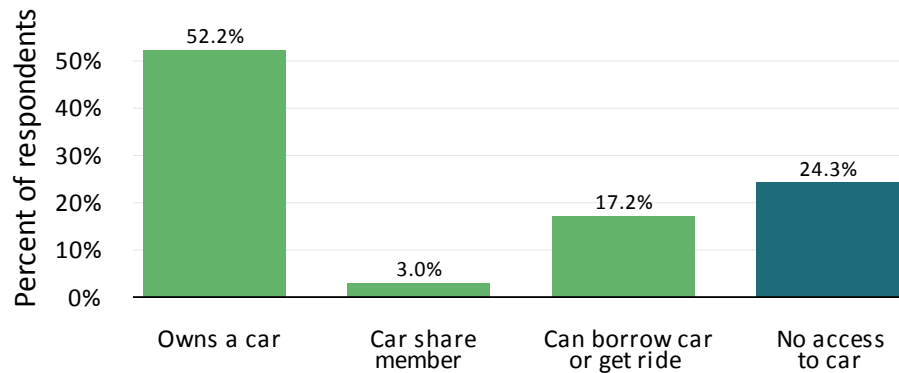
Among all respondents, students spend the least amount of money on travel (Figure 2-6). This corresponds with students generally having a lower household income and the lowest rates of vehicle ownership, seen below.



2.3.2 Vehicle Access and Ownership

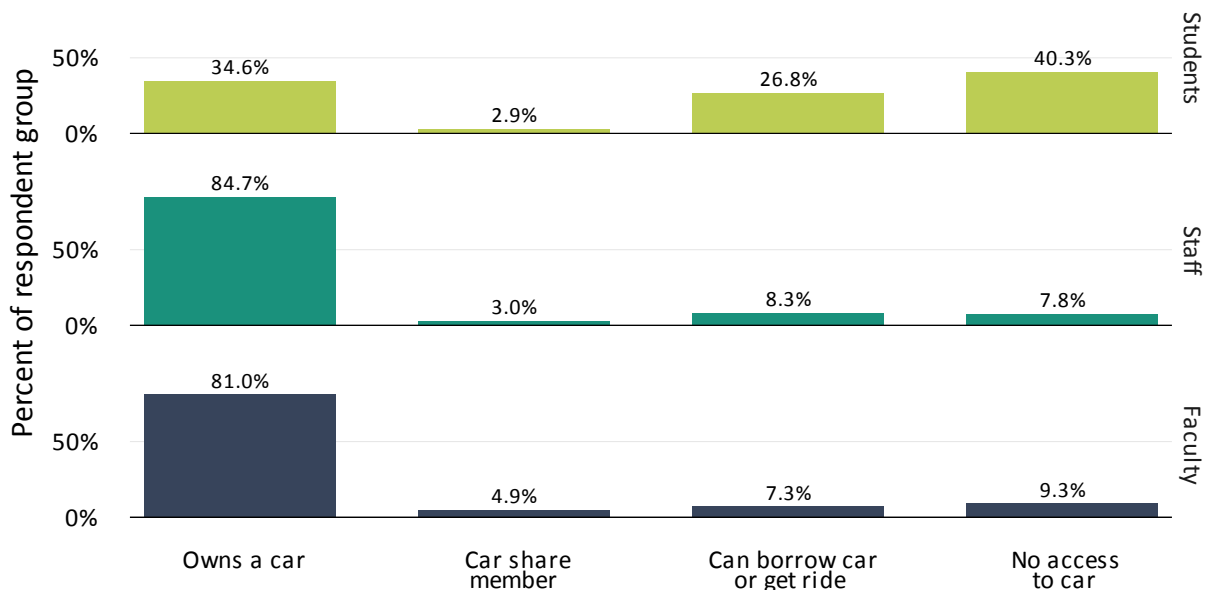
Over half of respondents reported owning a car (Figure 2-7), with 17.2% stating they can borrow or get a ride when needed. Only 3% reported being a car share member, and 24.3% stated they do not own or have access to a car.

Figure 2-7: Vehicle Ownership and Access of Respondents



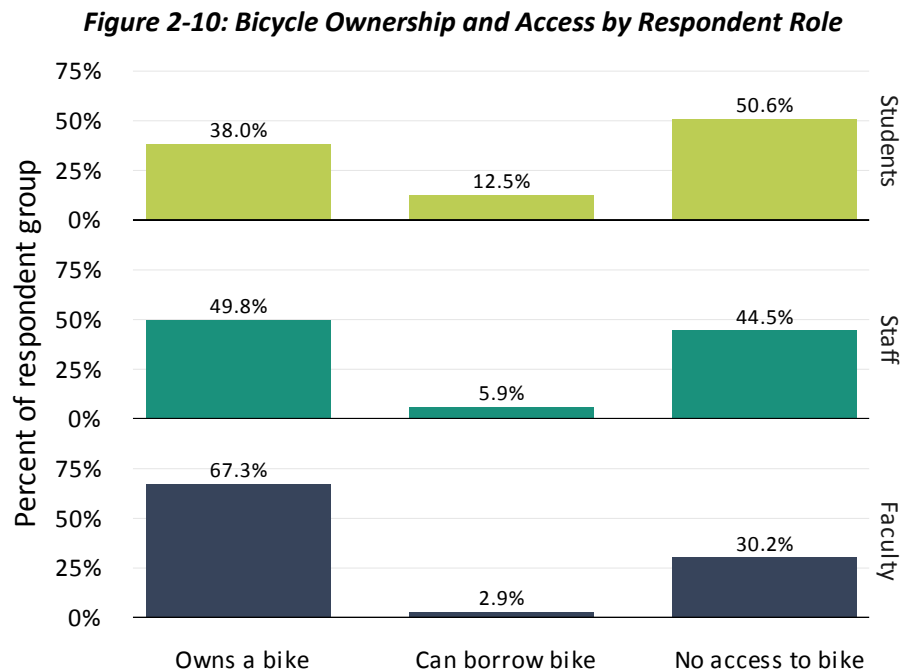
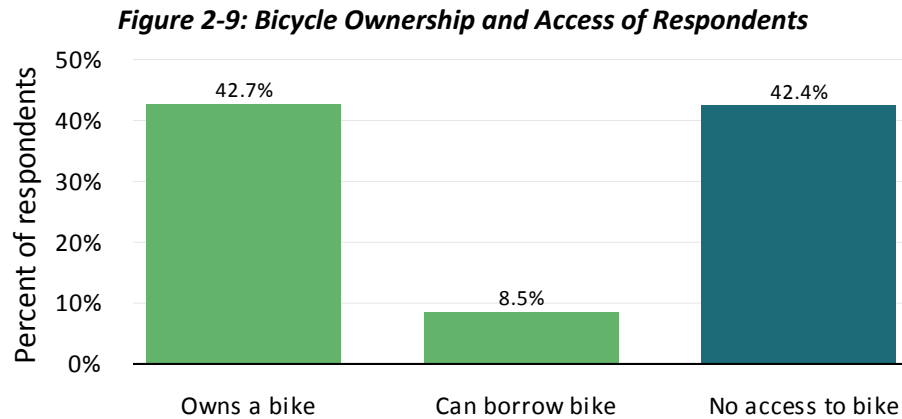
When comparing vehicle ownership and access among respondent groups only 34.6% of students own a car, compared to over 80% of faculty and staff (Figure 2-8). Of the survey respondents, faculty members are most likely to be car share members.

Figure 2-8: Vehicle Ownership and Access by Respondent Role



2.3.3 Bicycle Access and Ownership

Almost the same percentage of respondents own a bike as have no access to a bike (Figure 2-9); however, the balance differs between respondent roles. Students are the least likely to own a bike (Figure 2-10).



2.4 Home Location by Campus

The largest percentage of respondents reported that Studley was their primary campus (Figure 2-11). Only 5% of respondents reported being from the Agriculture campus in Truro, which corresponds with the proportion of students enrolled in that campus compared to Halifax campuses.

Figure 2-11: Primary Campus of Respondents

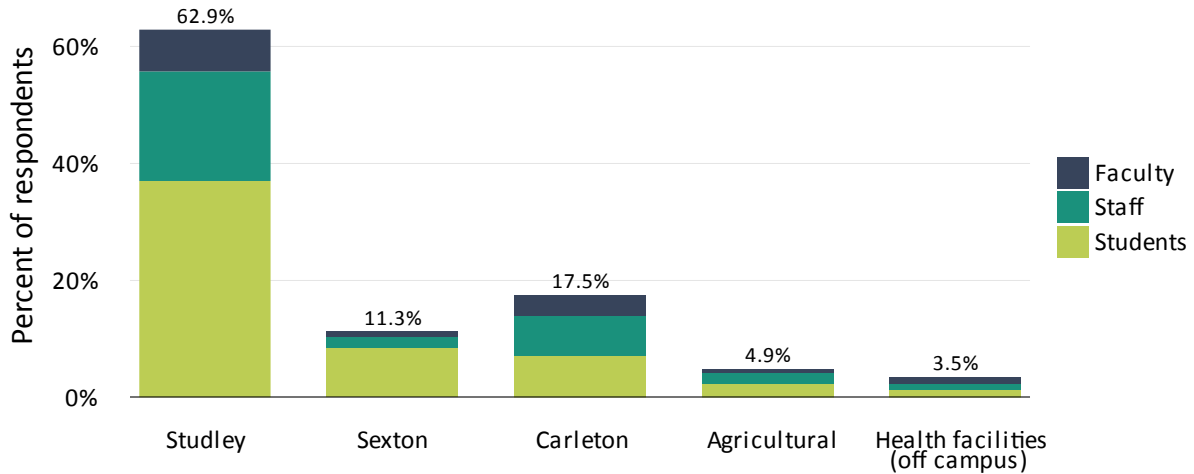
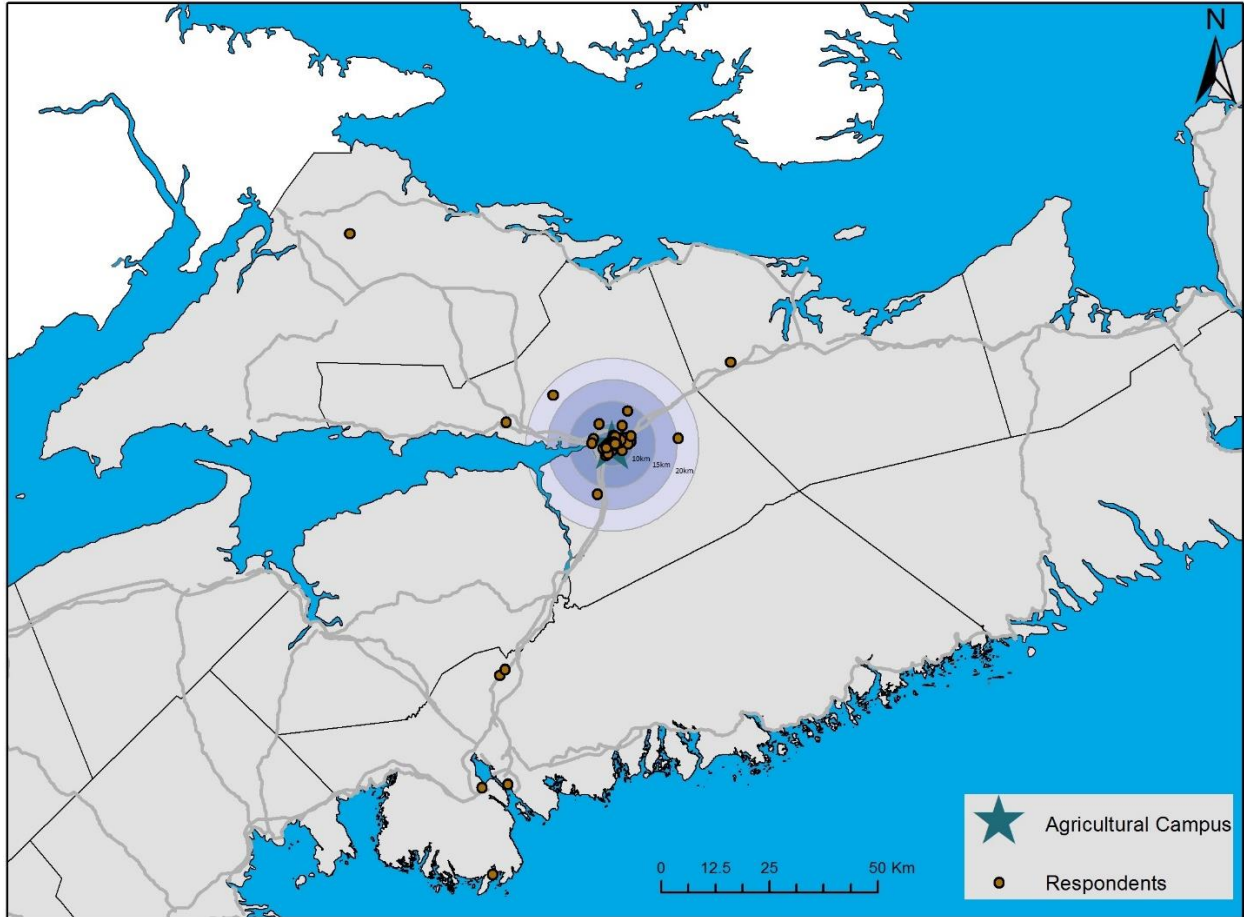


Figure 2-12 shows the home locations of the Agriculture campus respondents. The majority of respondents are within 20km distance to campus, however there are some that travel from Halifax and Cumberland counties.

Figure 2-12: Home Locations of Agriculture Campus Respondents



As shown in Figure 2-13, respondents' home locations seem more dispersed compared to Agriculture campus respondents, with some respondents reporting travelling from Kings County, and Cumberland and Colchester counties.

Figure 2-13: Home Locations of Halifax Campus Respondents

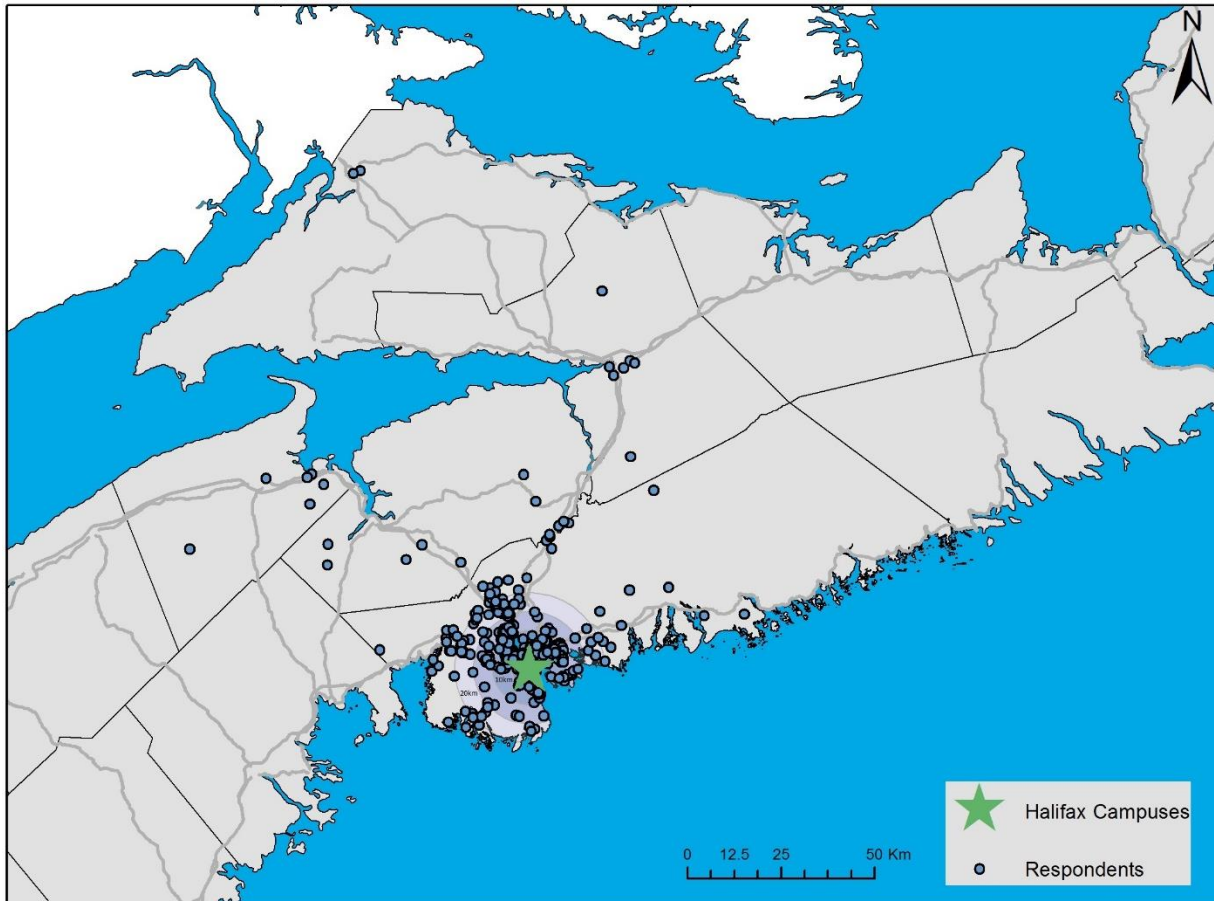
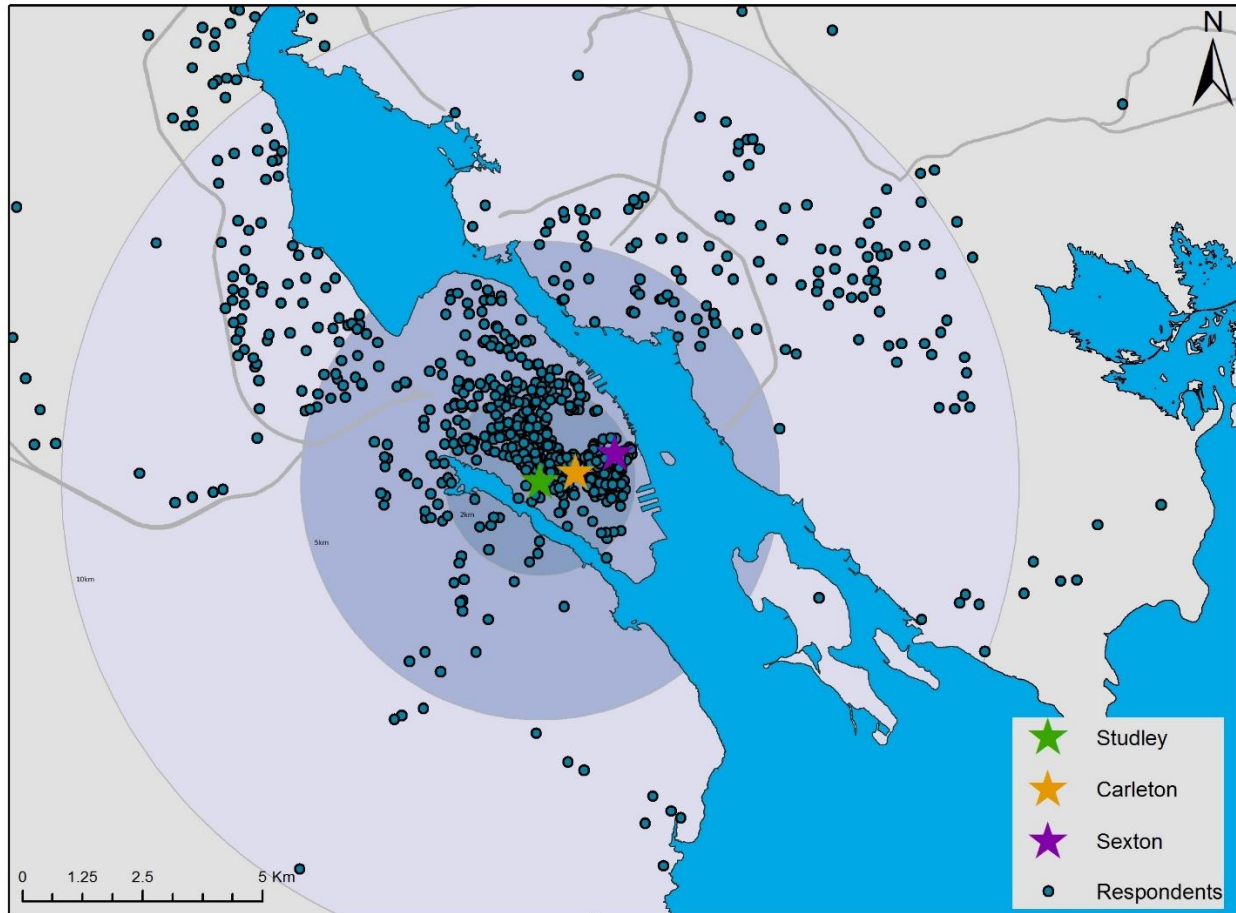


Figure 2-14 displays the home locations of Halifax campus respondents at a larger scale. Most are concentrated on the Halifax peninsula and downtown Dartmouth within 5km of the Halifax campuses. Some respondents live slightly further away with dispersion into Bedford and Sackville areas.

Figure 2-14: Home Locations of Halifax Campus Respondents (large scale)



3. COMMUTE TO AND FROM DALHOUSIE

The annual commuter survey's primary focus was on how members of the Dalhousie community get to and from school or work. This section summarizes information about respondents' commutes, including how far they travel, how long it takes, and the mode they use.

3.1 Distance, Timing and Duration

3.1.1 Distance between Home and Campus

As evident from the maps in Section 2.4, members of the Dalhousie community commute to campus from a wide variety of locations. Figure 3-1, Figure 3-2 and Figure 3-3 show the distribution of distances between respondents' homes and primary campus, organized by respondent role. Figure 3-1 only shows respondents within 10km of their primary campus.

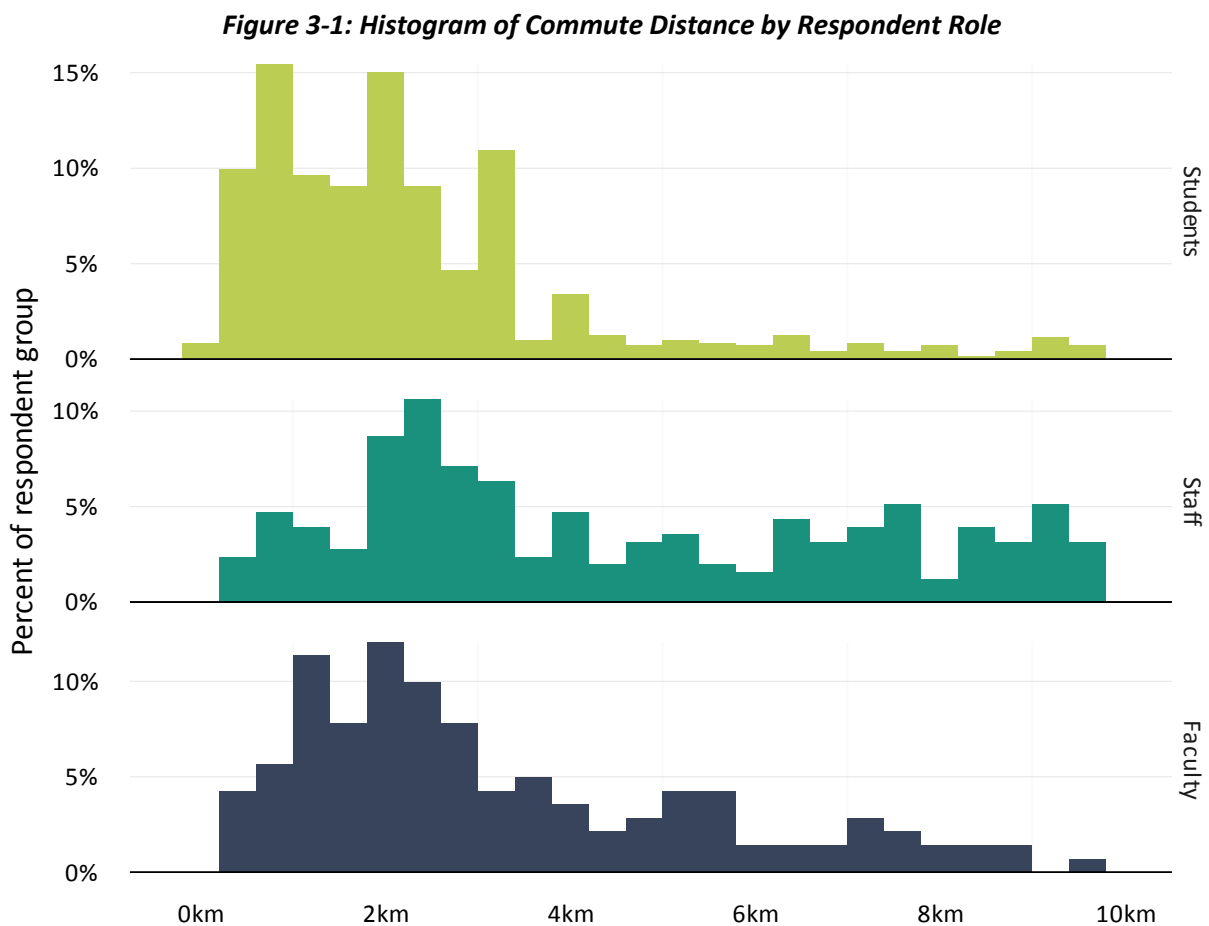
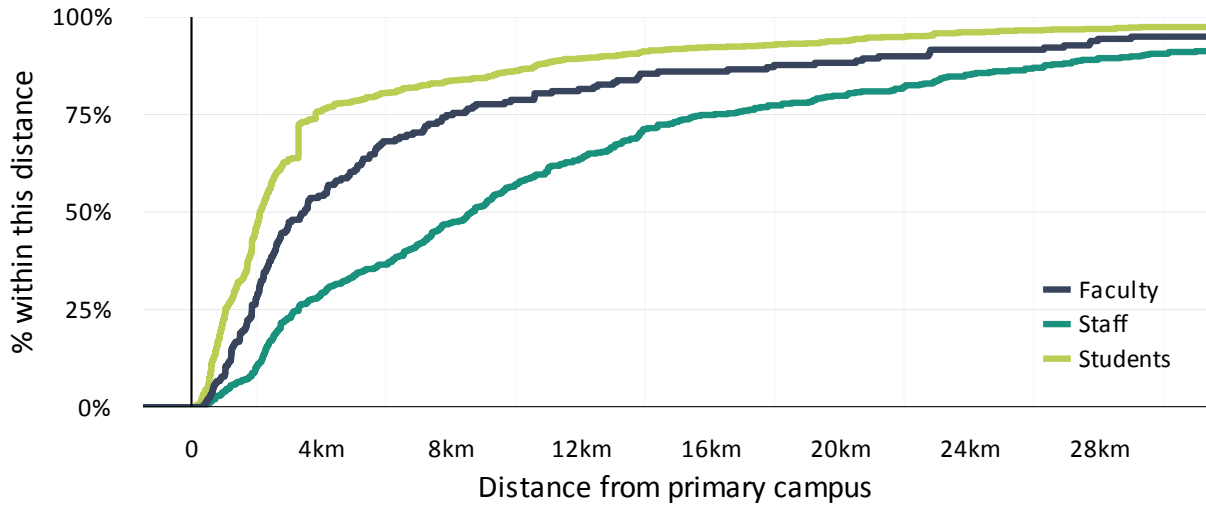
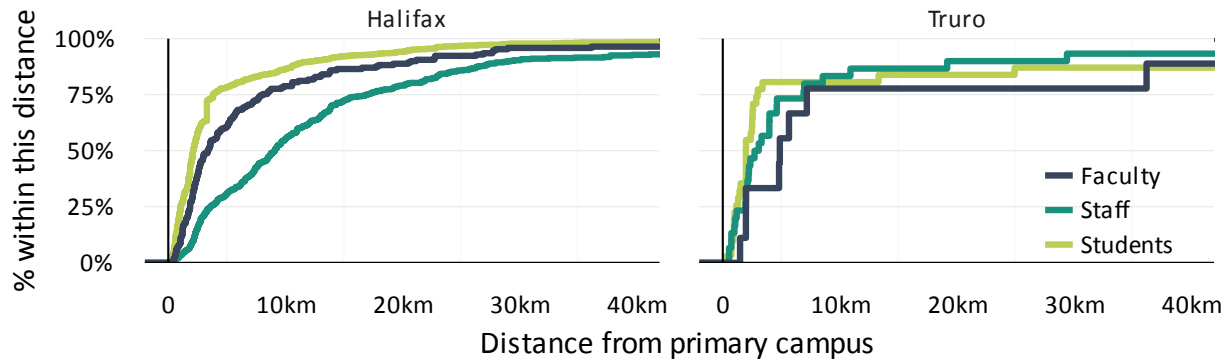


Figure 3-2: Cumulative Proportion of Commute Distance of Respondents



Students tend to live the closest to their primary campus, with a median commute distance of 2.1 km. Faculty have a median commute of 3.5 km while staff have the highest median commute at 8.6 km. Over half of students and faculty live within 5 km of their primary campus, whereas only about a quarter of staff live within 5 km of their campus. Therefore, a reasonable commute by walking or biking could not be achieved by most staff.

Figure 3-3: Cumulative Proportion of Commute Distance by City



Most commuter trips to the Agriculture campus in Truro are shorter than those in Halifax, reflecting the smaller size of the city. However, at the Agriculture campus a substantial proportion of faculty live at least 30 km outside of Truro. Compared to Halifax respondents, staff at the Agriculture campus tend to live closer to that campus than faculty members.

3.1.2 Commute Duration

Commute duration shows a similar pattern to distance. Figure 3-4, Figure 3-5 and Figure 3-6, present the average commute time by respondent role and campus. Durations are more concentrated than distances, probably since those who live further away likely choose higher-speed modes of transportation to commute.

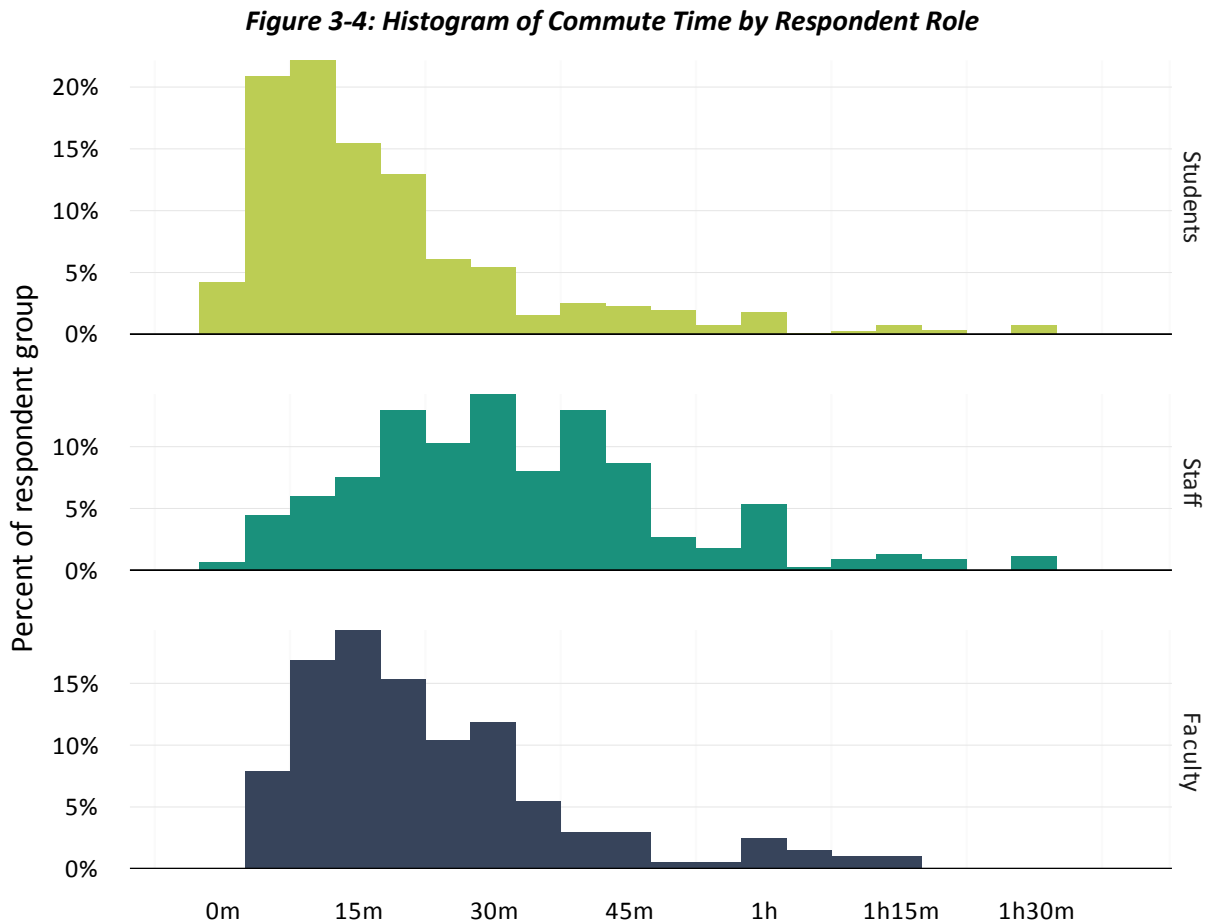
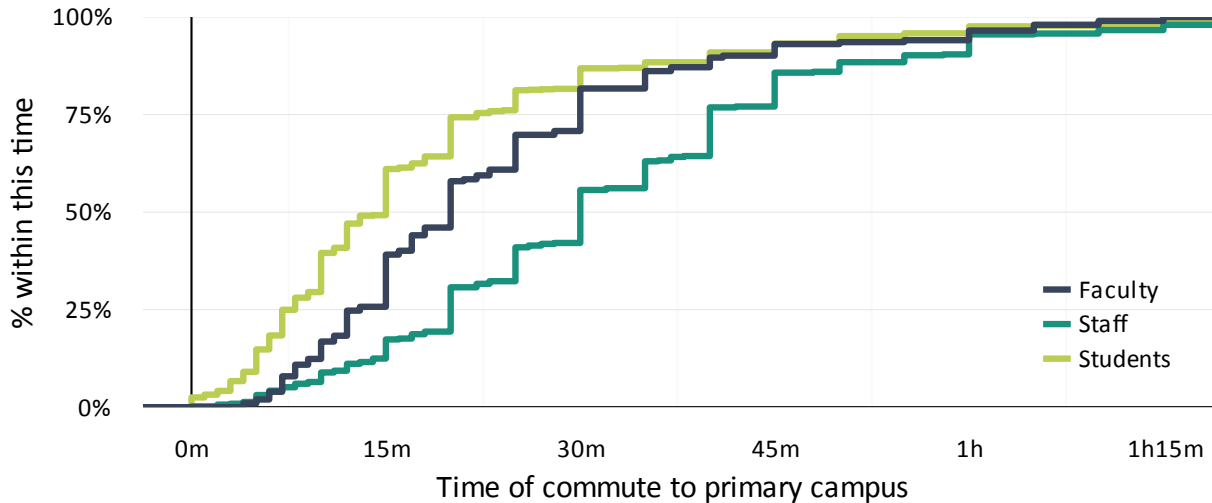
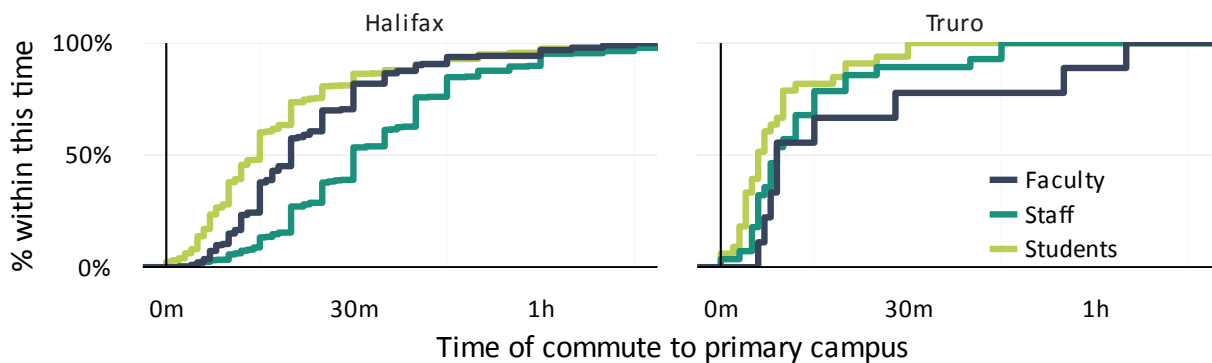


Figure 3-5: Cumulative Proportion of Commute Time of Respondents



Students spend the least amount of time commuting, with a median duration of 15 minutes. Faculty have a median commute of 20 minutes and staff members have the longest commute with a median time of 30 minutes. While only half of staff respondents take 30 minutes or less to get to campus, more than three quarters of students and faculty have a commute within that 30 minutes or less.

Figure 3-6: Cumulative Proportion of Commute Time by Campus

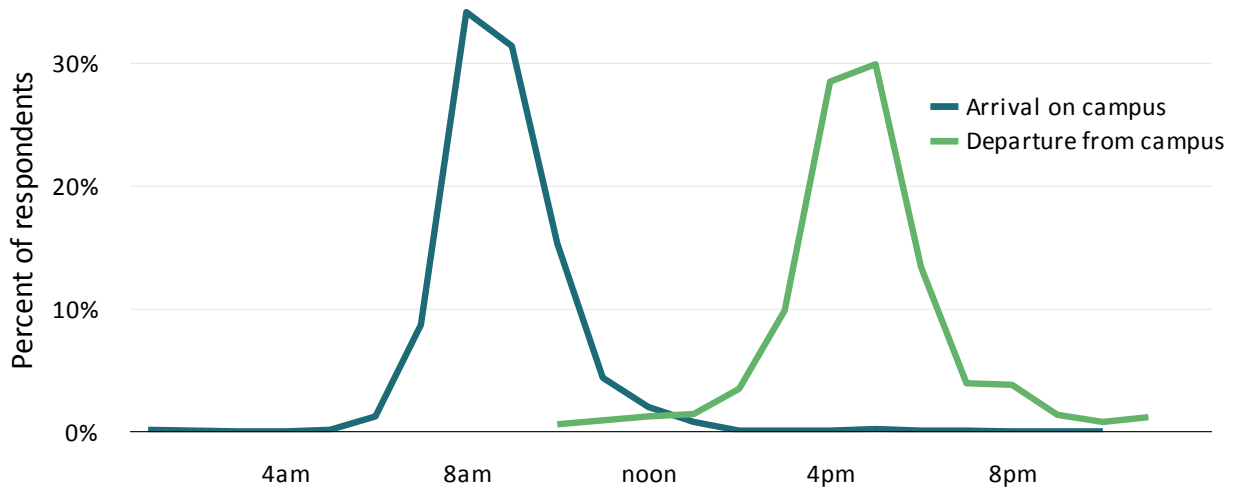


The patterns for commute time by respondent role are similar across campuses, although Agriculture campus staff tend to have shorter commutes than faculty members. A substantially higher proportion of all respondents at the Agriculture campus have commutes under 15 minutes, probably due to Truro's small size and relative low traffic volumes.

3.1.3 Arrival and Departure Time

Figure 3-7 shows that most members of the Dalhousie community tend to arrive at their primary campus between 7am and 10am (peak at 8-9am), and leave between 3pm and 7pm (peak at 4-5pm).

Figure 3-7: Arrival and Departure Times of Respondents



3.2 Travel Modes

Respondents were asked what their primary and secondary mode of transportation was for commuting to and from campus. Primary mode was defined as the mode used to commute for approximately 70% of trips, whereas secondary mode is defined as the mode used for approximately 30% of commute trips.

3.2.1 Primary Mode

As shown in Figure 3-8, walking is the most popular primary mode of transportation to and from Dalhousie University. This is likely because so many respondents live within a few kilometers of their primary campus.

Figure 3-8: Primary Commute Mode of Respondents

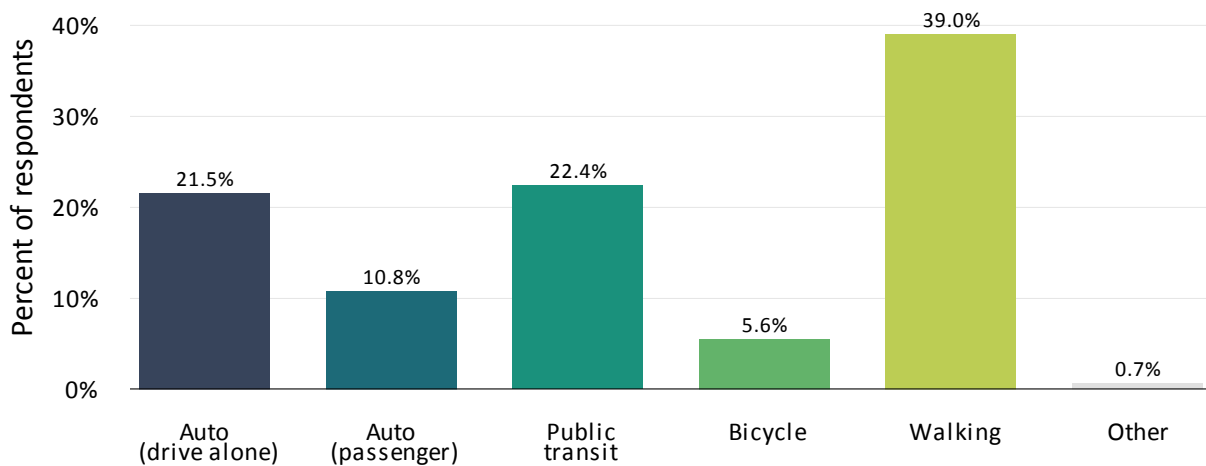


Figure 3-9: Primary Commute Mode by Respondent City

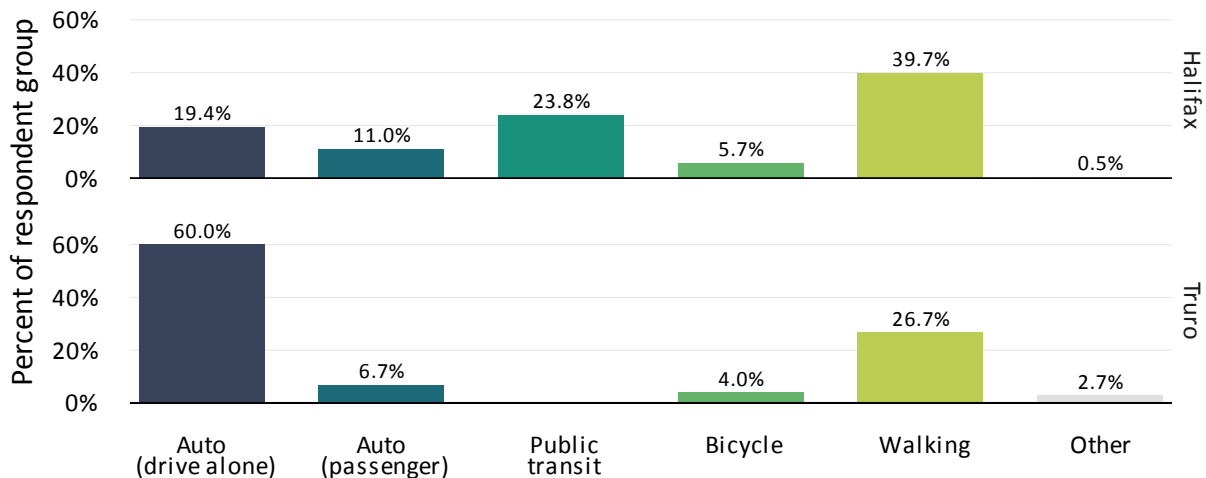
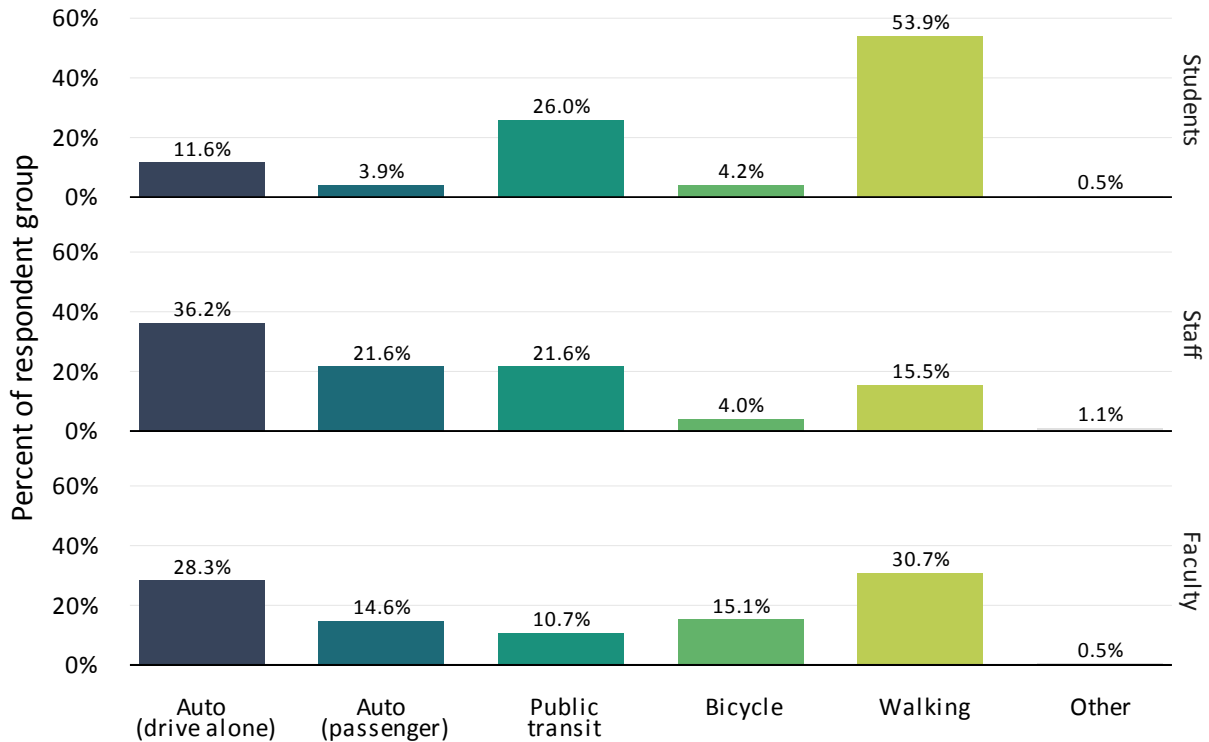


Figure 3-9 and Figure 3-10 show distinct modal distributions between the Halifax and Agriculture campuses, and among students, staff and faculty. More than half of student respondents walk to and from school, whereas only 15% of staff do. Staff are the most likely to drive, either alone or with a passenger. Respondents' primary commuting modes appear fairly stable across time. Of respondents who have been on campus more than one year, only 14.1% changed their primary commute mode since last year.

Figure 3-10: Primary Commute Mode by Respondent Role



3.2.2 Secondary Mode

Of course, many people use a different commute mode from time to time. Figure 3-11 shows the respondents distribution of secondary commute mode, and Figure 3-12 separates choice of secondary commute mode by the respondents' primary mode. Public transit is the most popular secondary mode choice, with transit being especially popular as an alternate mode for respondents who usually walk. However, transit is perhaps not viewed as the most reliable transportation mode. Around one quarter of those who usually drive or walk do not have a secondary mode for commuting, while under 10% of transit users rely on it as their only commute mode. Almost all respondents who usually commute by bicycle have a secondary mode.

Figure 3-11: Secondary Commute Mode of Respondents

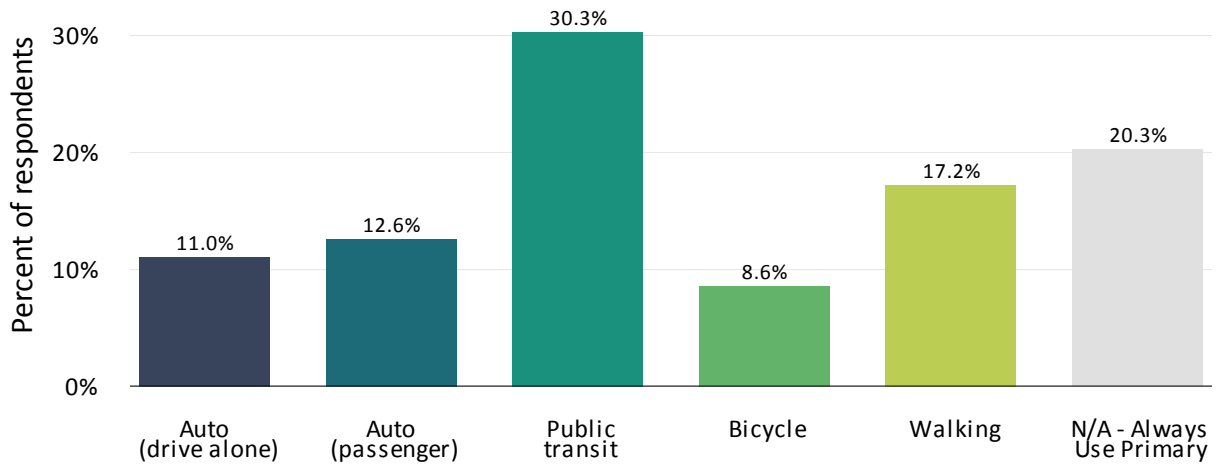
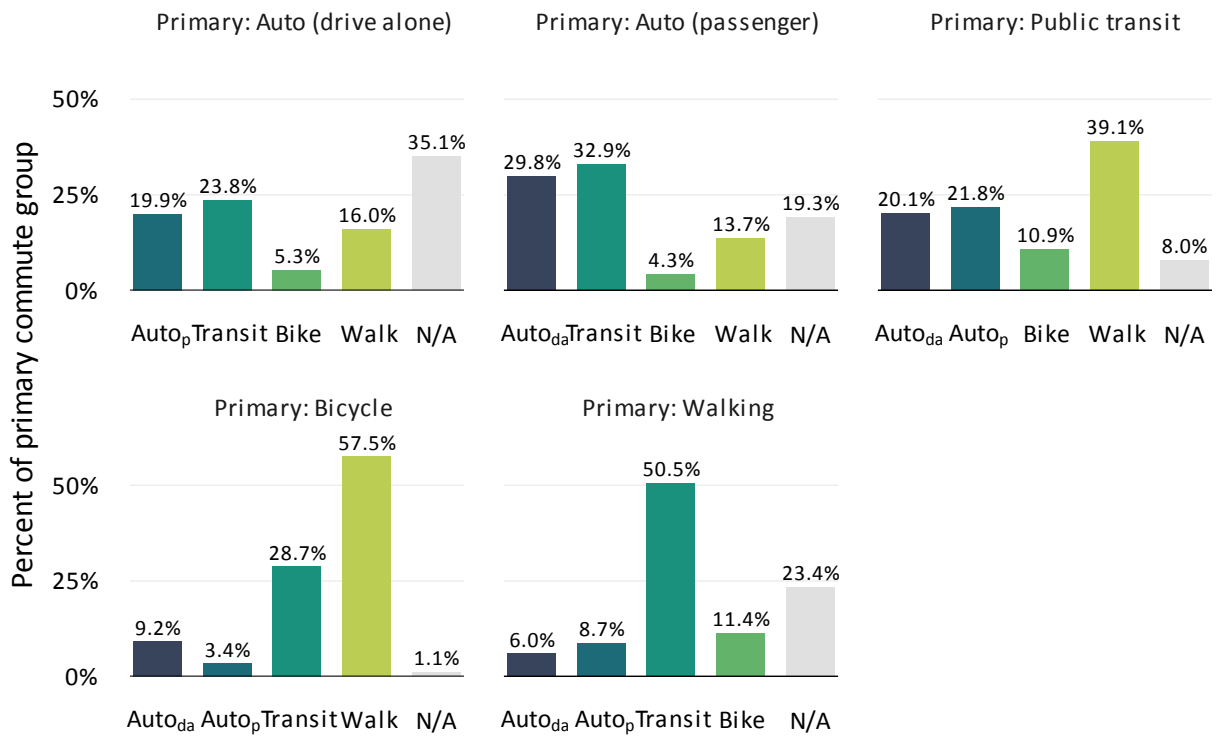


Figure 3-12: Secondary Commute Mode by Respondents Primary Mode



3.3 Parking

The survey asked auto commuters where they usually parked and what parking permits they purchased. Figure 3-13 and Figure 3-14 show responses to these questions. Students are more likely than other groups to find alternatives to Dalhousie lots, especially on-street free parking.

Figure 3-13: Parking Locations of Respondents that Commute by Automobile

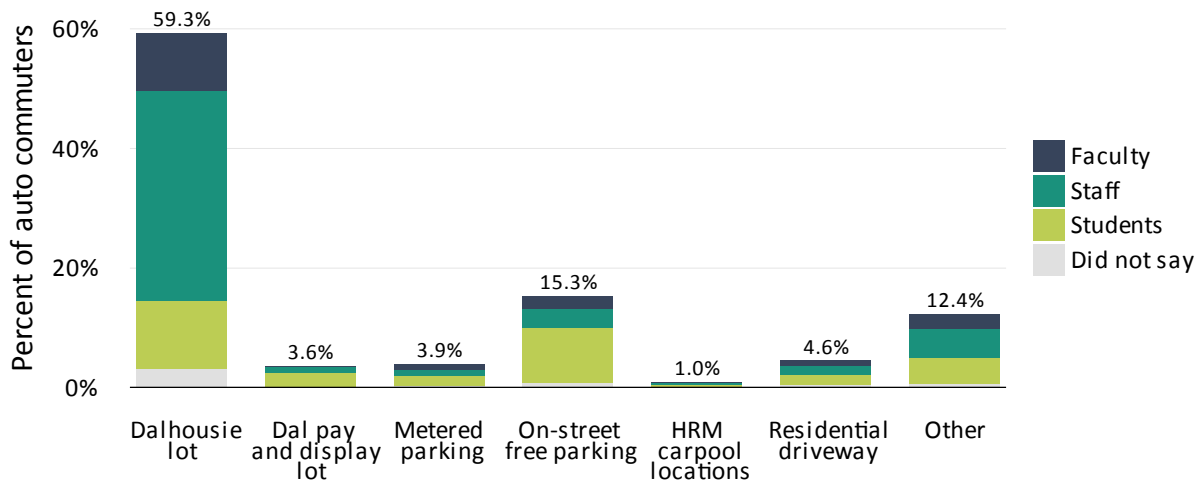
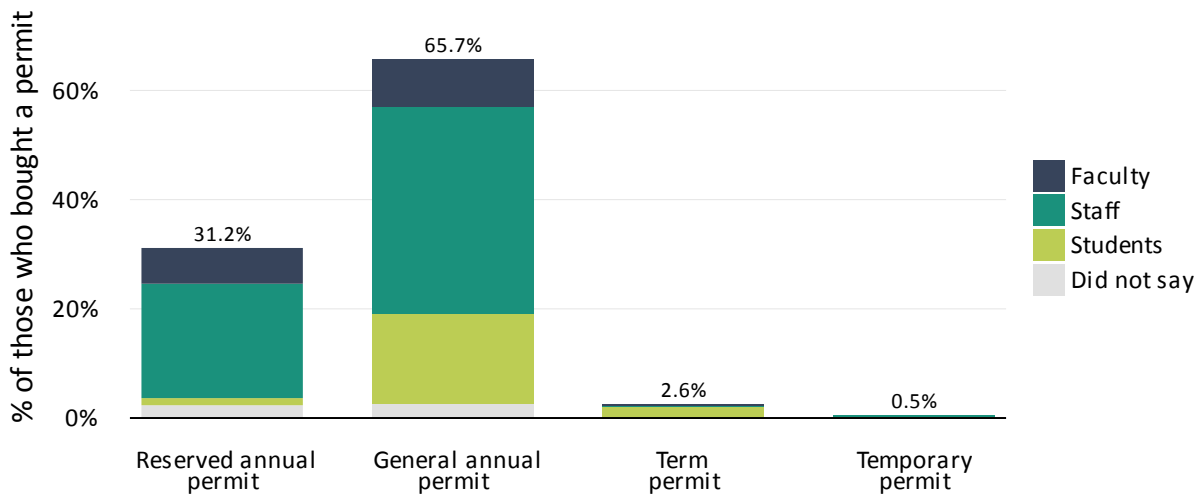


Figure 3-14: Parking Permit Purchase of Respondents that Commute by Automobile

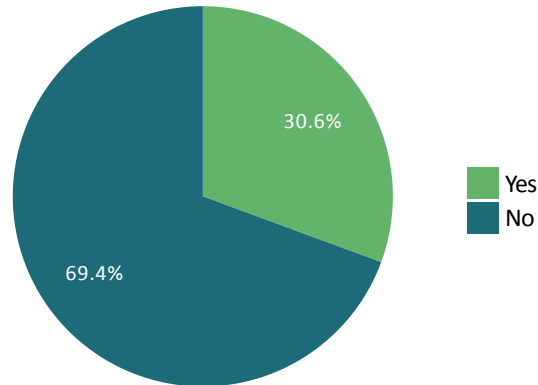


3.4 Sustainable Commuting

3.4.1 Carpooling

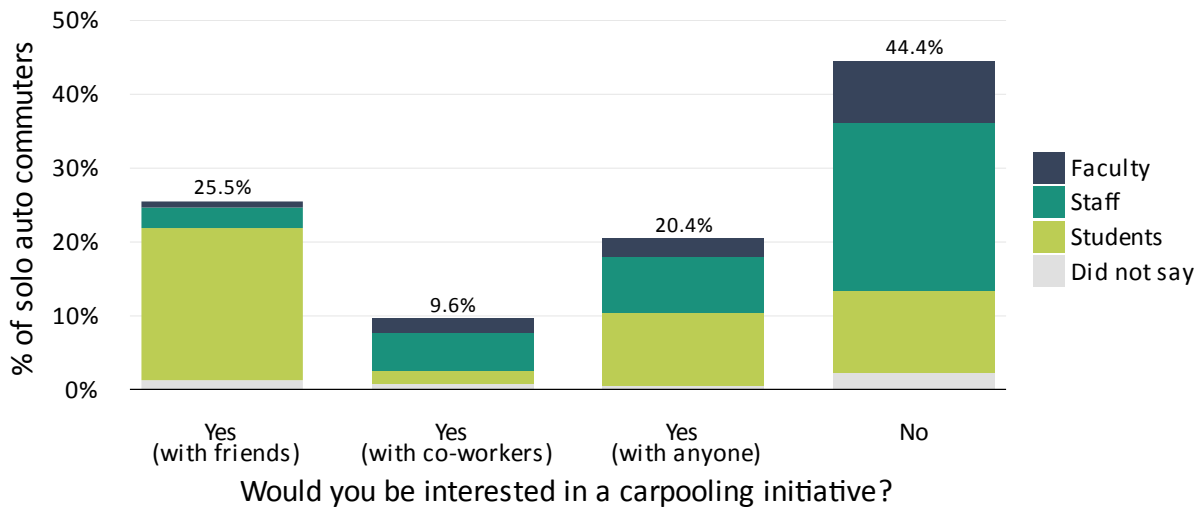
In the questions about commuting mode choice, auto (passenger) includes any manner of sharing a ride, including riding with a partner, roommate or children. Figure 3-15 shows the proportion of these commuters who ride in carpools.

Figure 3-15: Percentage of Automobile Passengers Who Carpool



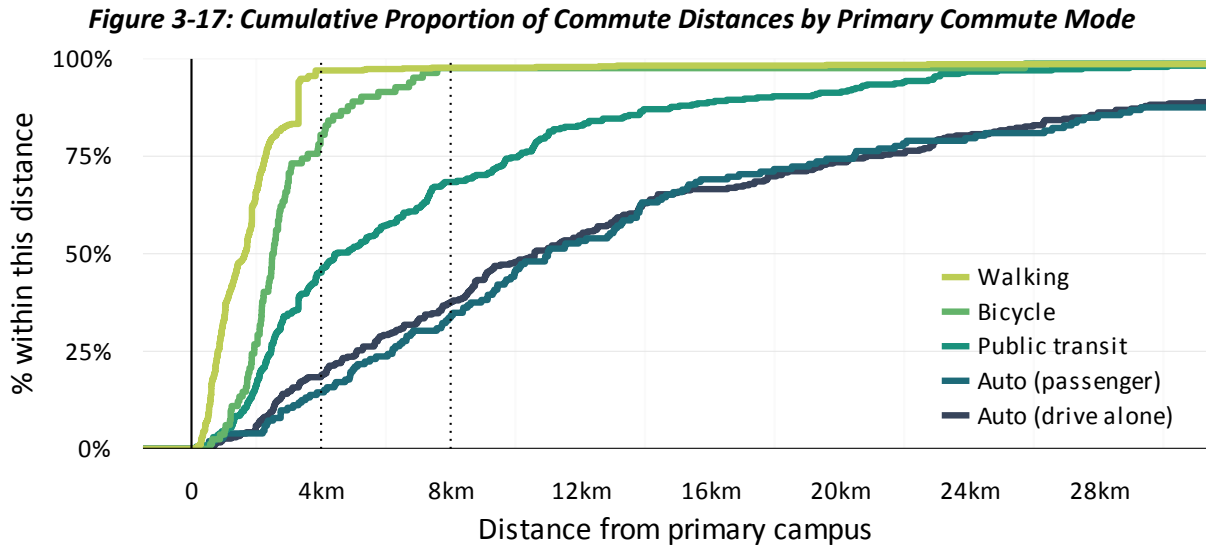
The survey also asked those who commute by driving alone whether they would be interested in a carpooling initiative. As Figure 3-16 shows, more than half of those respondents are interested in carpooling. The majority of those interested would prefer a carpool with friends or co-workers. Additionally, 20.4% of respondents stated they would be interested in carpooling with anyone.

Figure 3-16: Interest in Carpooling Initiatives of Respondents Who Drive Alone

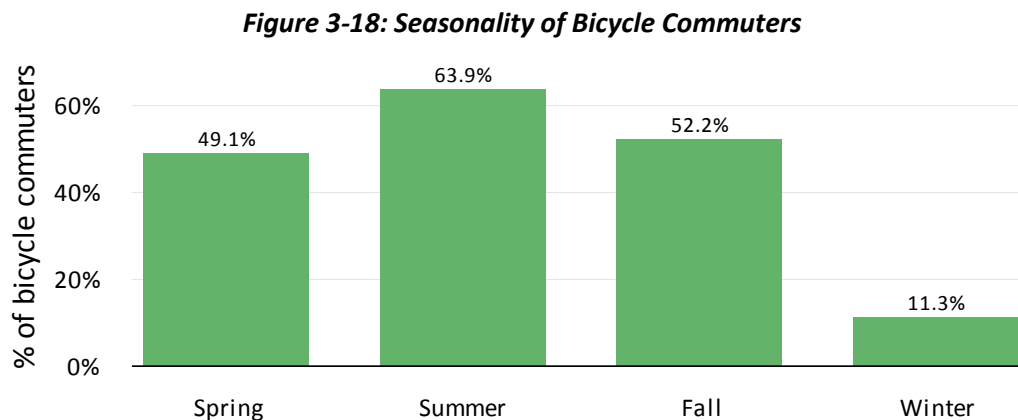


3.4.2 Active Transportation

Much of the Dalhousie community already commutes to campus by active transportation (AT). Students and faculty show especially high rates of AT, with over half of students and 45% of faculty walking or cycling to campus. However, walking and cycling are mainly used for shorter commutes. Figure 3-17 shows that over 95% of respondents who usually walk to campus live within 4 km by road, and over 95% of respondents who usually cycle to campus live within 8km by road. About 15% of drivers live within walking distance (4 km) and an additional 20% live within cycling distance of their primary campus. This suggests that around 1,200 Dalhousie community members live within 4 km and commute by driving.



Unfortunately, AT—and especially cycling—can be seasonal activities in Nova Scotia. Figure 3-18 shows the proportion of bicycle commuters who commute in each season.



4. INTERCAMPUS TRAVEL

The Commuter Survey also asked respondents about their travel among Dalhousie's campuses. This section presents those responses, differentiating between intra-Halifax and Halifax-Truro travel.

4.1 Travel among Halifax Campuses

Figure 4-1 shows that almost half of respondents travel among the three Halifax campuses at least once a month. As Figure 4-2 demonstrates, the vast majority of this intercampus travel is done by walking.

Figure 4-1: Travel Frequency among Halifax Campuses

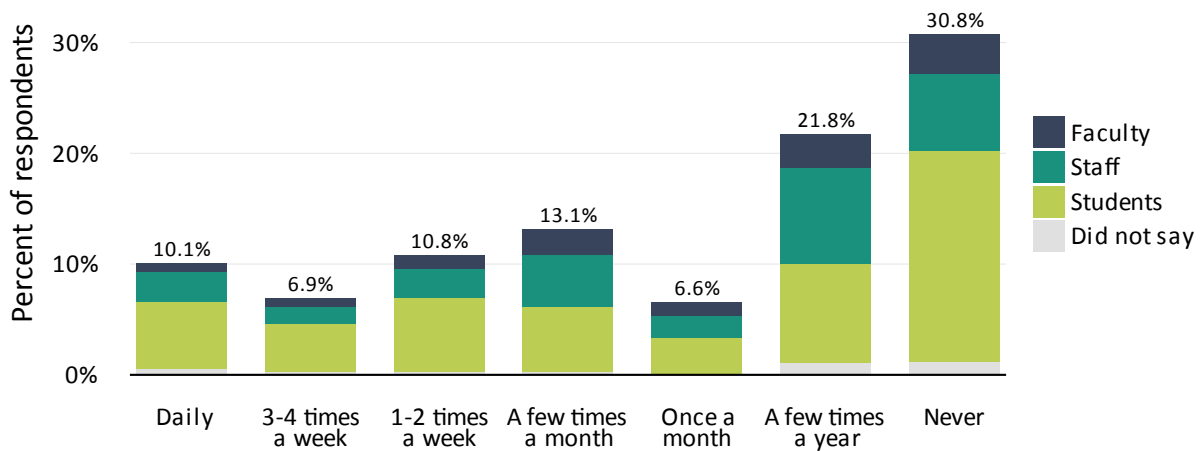
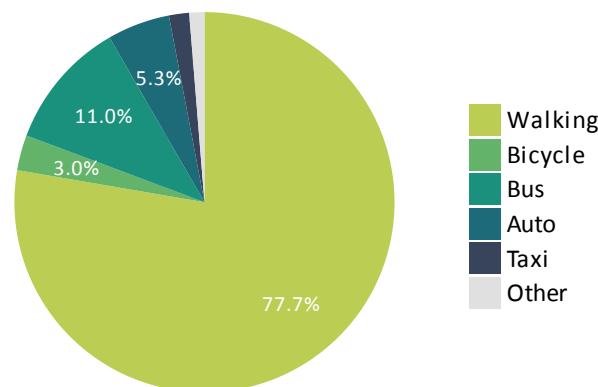


Figure 4-2: Travel Mode between Halifax Campuses



4.2 Travel between Halifax and Agricultural Campuses

Figure 4-3 shows that few respondents travel between Halifax and Truro campuses, and the majority of those who do only travel a few times a year. However, those from the Agricultural Campus are much more likely to travel to the Halifax campuses, as seen in Figure 4-4. Staff and faculty from the Agriculture campus are the groups who do the most travelling between campuses.

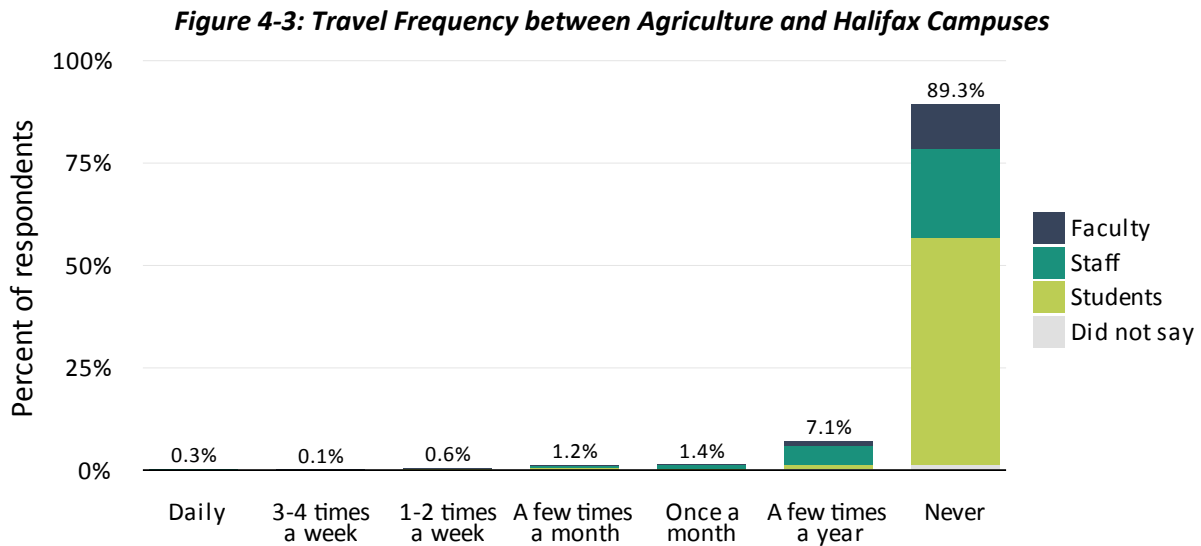
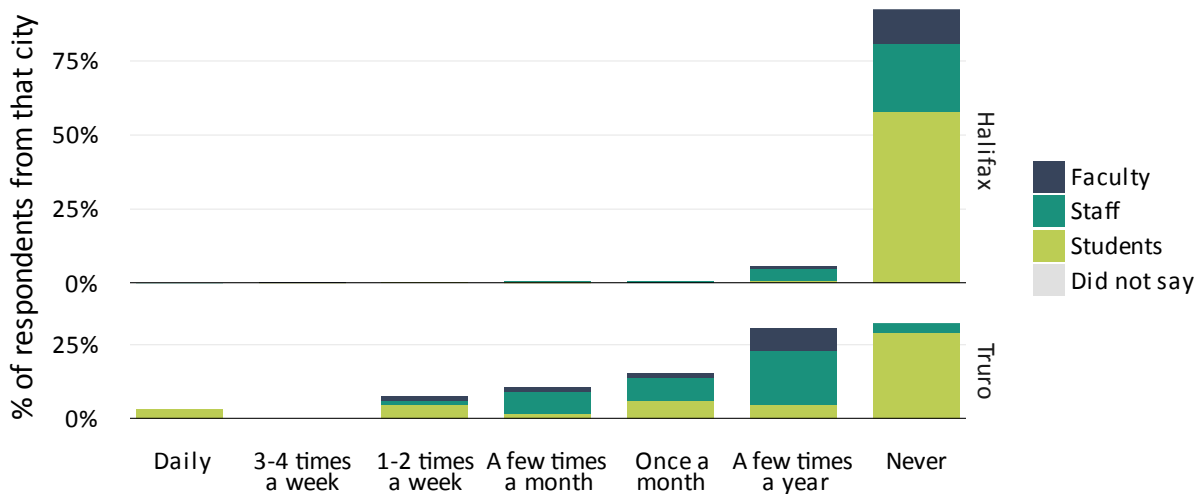
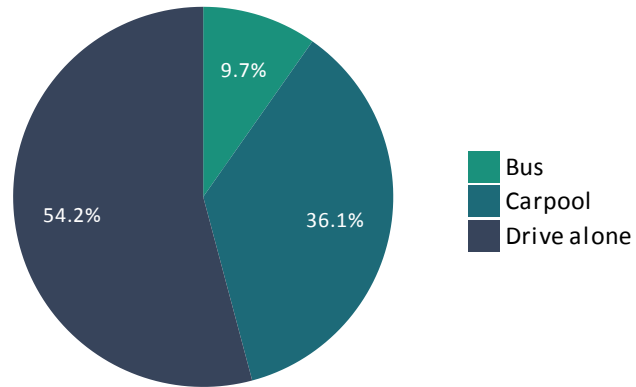


Figure 4-4: Travel Frequency between Agriculture and Halifax Campuses by City of Primary Campus



The vast majority of travel between Halifax and Agriculture campuses is done by auto, with over half of this intercampus travel by solo drivers, as shown in Figure 4-5.

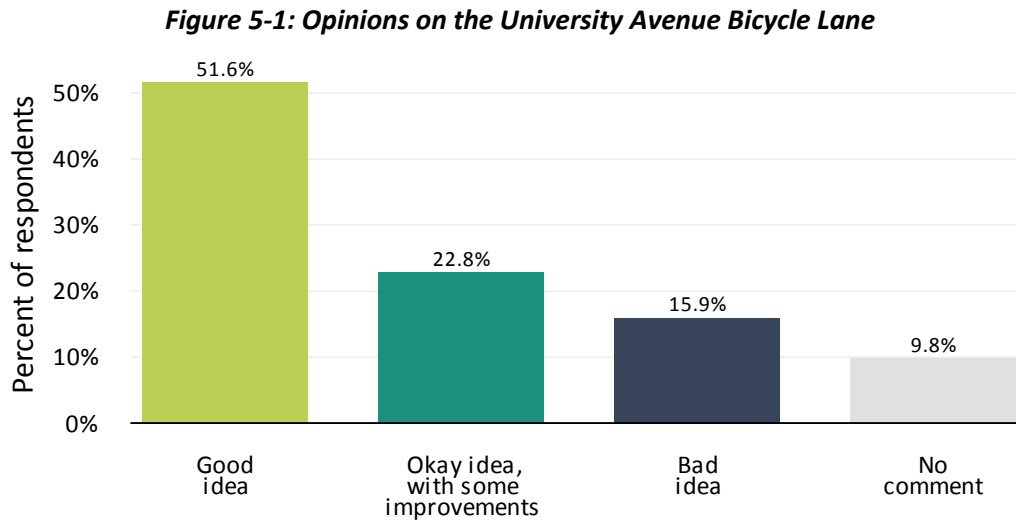
Figure 4-5: Travel Mode between Agriculture and Halifax Campuses



5. OTHER AREAS OF INTEREST

5.1 University Avenue Bicycle Lane

In 2016, Dalhousie University and the Halifax Regional Municipality opened a protected bicycle lane on University Avenue between Robie Street and Lemarchant Street. The commuter survey asked for respondents' opinions on the bike lane (Figure 5-1). The great majority of respondents supported the lane on University Avenue.



The survey also asked respondents to comment on their concerns for the bicycle lane. Many noted that the lane does not connect to other bike lanes, and should form part of a larger network of bicycle lanes and bike-friendly streets. Some respondents were concerned about cars parking in the lane; others argued that since University Avenue is a wide boulevard with low traffic it has no need for a bike lane. Respondents also noted that the lane was not usually cleared properly in the winter which presented hazards to cycling. Many of the respondents who commented were concerned with the reduction of parking and accessibility to the Dalhousie Arts Centre.

Figure 5-2: Opinions on the University Avenue Bicycle Lane by Primary Commute Mode

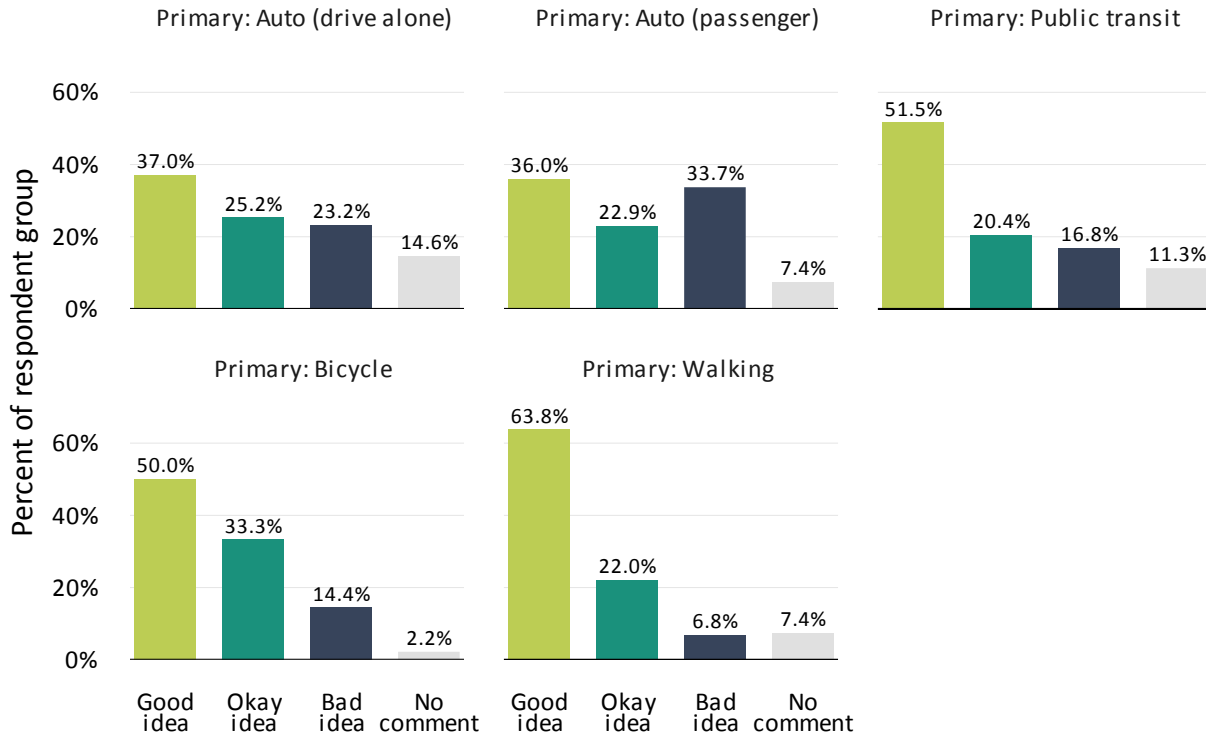


Figure 5-2 displays respondents' attitudes toward the University Avenue bike lane grouped by their primary commute mode. All groups including auto commuters are broadly in support of the project. Notably, those who usually cycle to campus are not the most likely to unequivocally support it. Instead, respondents who cycle as their primary mode are more likely to believe that improvements could be made over other commuters. It is possible that experience using the bicycle lane leads bike commuters to have more ideas for improvements than those who commute by other means.

5.2 Potential Transportation Initiatives

The Commuter Survey asked respondents to suggest transportation initiatives which they felt Dalhousie University should undertake. Responses included a wide variety of suggestions, some in keeping with the University's orientation toward active and sustainable transportation and others less so. Many respondents wrote that they were not previously aware of current transportation initiatives such as the employee bus pass program or free bicycle loans. Accordingly, the most common suggestion was to better promote existing programs so more members of the Dalhousie community can take advantage of them.

Some respondents used the question on transportation initiatives to discuss transportation issues in Halifax. Many argued that improvements to the regional public transit system (more service and more coverage) were needed to move toward sustainable transportation at Dalhousie. Others suggested that the city establish a rail transit option.

Some of the more popular potential initiatives related specifically to Dalhousie included:

- A more flexible and accommodating employee transit pass program. Popular suggestions on how to improve the program included allowing all-year registration.
- Off-campus parking with a shuttle to campus. Many respondents wanted to reduce parking on campus and commute congestion using a Dalhousie-specific Park and Ride system.
- More bicycle parking on campus, especially secure, weather-protected bike lockups.
- An expanded, better funded and well-publicized bicycle sharing system. Some respondents suggested that they would like to loan a bike to get from Studley to Sexton campus or vice versa.
- Changes to the way vehicle parking is managed to give priority to certain groups. Some respondents wanted more economical reserved spaces for carpools, and others wanted designated spaces for those who lived further away and had fewer commuting options. Parking is a controversial topic at the University, with some people wanting more parking and others advocating for less.

Respondents from the Agricultural and Sexton campus noted the lack of transportation initiatives (e.g. bike loans) at those campuses, and many expressed a desire to see existing programs extended to their campus.

5.3 Share the Road Nova Scotia

Share the Road Nova Scotia is an awareness campaign run by Dalhousie Transportation Collaboratory (DalTRAC) in partnership with other community advocacy groups which aims to promote safe driving, biking and pedestrian behaviour so streets are safe for all users. Figure 5-3 shows the proportion of respondents who were aware of the campaign. This figure is down by almost 8 percentage points from the 2015 commuter survey, when 24% of respondents were aware of campaign. Most respondents agree that sharing the road is important (Figure 5-4), but the perceived importance of sharing the road varied for respondents. Approximately, 75% of respondents who usually cycle to campus thought it was “very important”, while only 33% of those who usually drive to campus thought so.

Figure 5-3: Share the Road Nova Scotia Awareness among Respondents

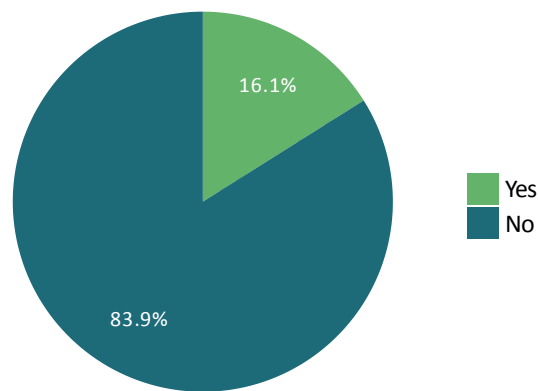
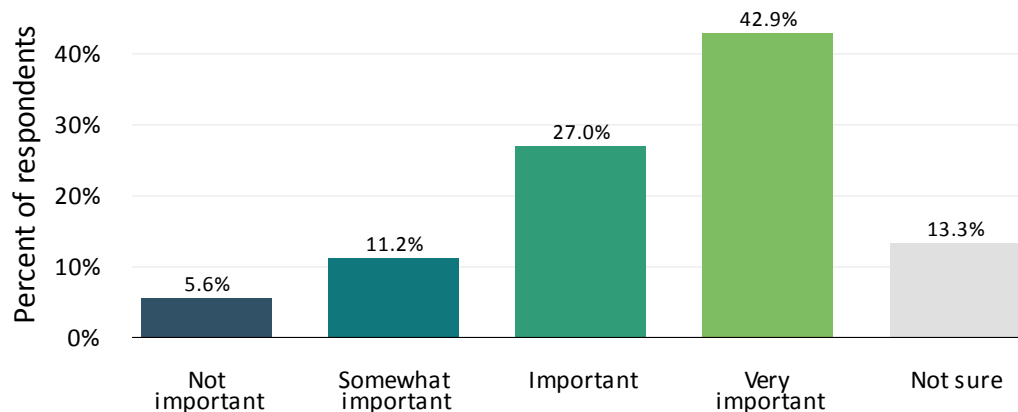


Figure 5-4: Importance of Sharing the Road among Respondents



5.4 Macdonald Bridge Closures

Halifax Harbour Bridges' "Big Lift" project has utilized evening and weekend closures of the Macdonald Bridge from 2015 through 2017. The survey asked respondents how much the bridge closures have affected them (Figure 5-5). Figure 5-6 shows that respondents who drove or walked for their commute were least affected, while those who took public transit were more likely to feel a severe impact from the bridge closures.

Figure 5-5: Bridge Closure Effects

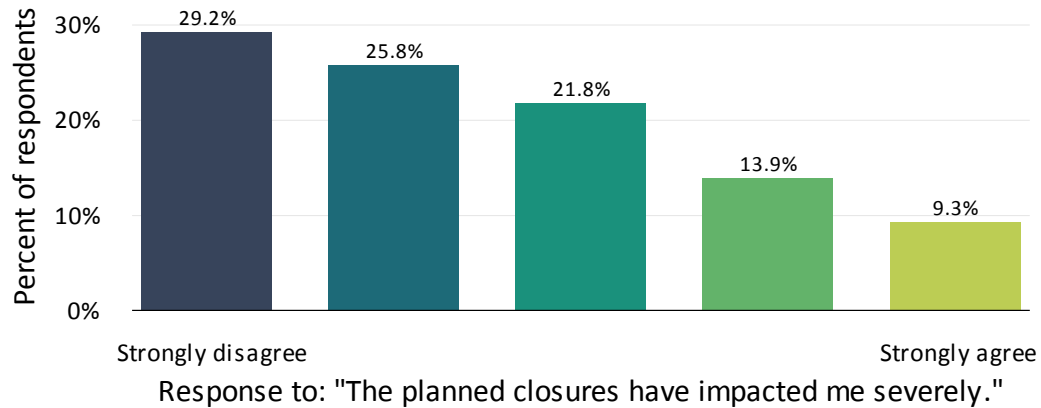
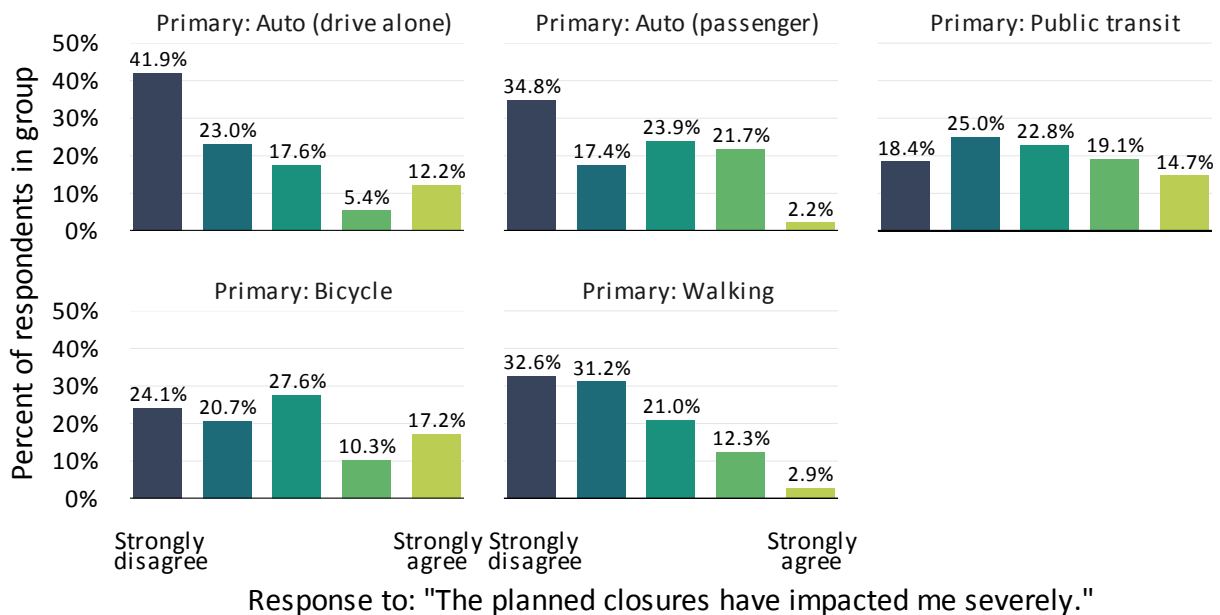
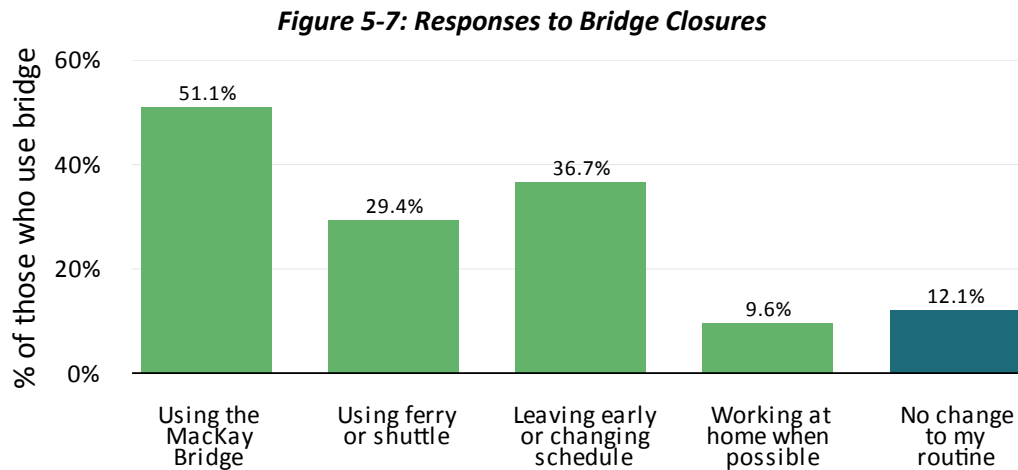


Figure 5-6: Bridge Closure Effects by Primary Commute Mode



Many respondents also submitted written responses describing the impact of bridge closures. These responses also suggested that transit users and cyclists found the closures especially impactful. Many respondents living in Dartmouth found their commute to the Halifax campuses affected, particularly on days when the bridge did not re-open on time in the morning. Respondents from both Halifax and Dartmouth reported that they cut back on travel to evening and weekend social activities (e.g. having dinner downtown) since it would be more difficult to get back home as the bridge was closed.

Figure 5-7 shows how Dalhousie community members who use the Macdonald bridge have coped with closures. Respondents could choose all answers which applied to them. Most people who used the bridge have adapted in at least one way to the closures.



6. COMPARISON BY YEAR

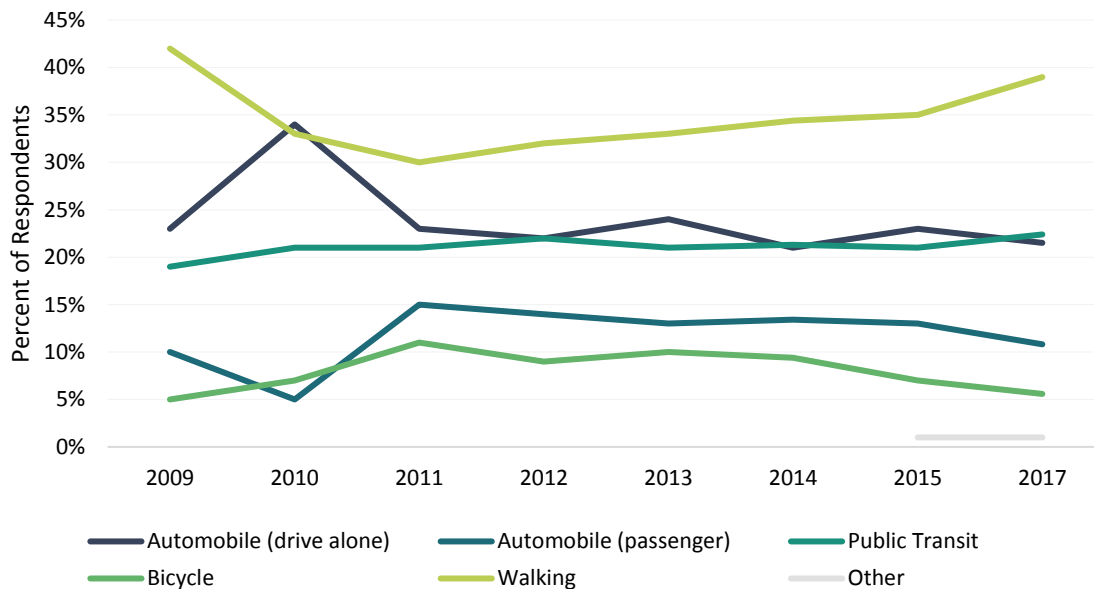
The Dalhousie Commuter Survey has been conducted each year since 2009, with the exception of 2016. This section highlights how some of the key indicators from the survey have changed over time. It is important to note that some variation in the results from year-to-year is likely due to a change in the makeup of the survey sample. Smaller subsamples (e.g. Agriculture campus respondents) are likely to have greater variation due to the sample. It is worth noting that the 2010 sample was smaller than usual (751 respondents compared to between 1500 and 2500 for other years) and thus is more likely to have greater sample error. Since the Commuter Survey does not randomly sample from the Dalhousie population, it is difficult to make statistically valid conclusions about whether observed change represents underlying change or sample error.

6.1 Commute Mode

6.1.1 Comparison of Primary Mode

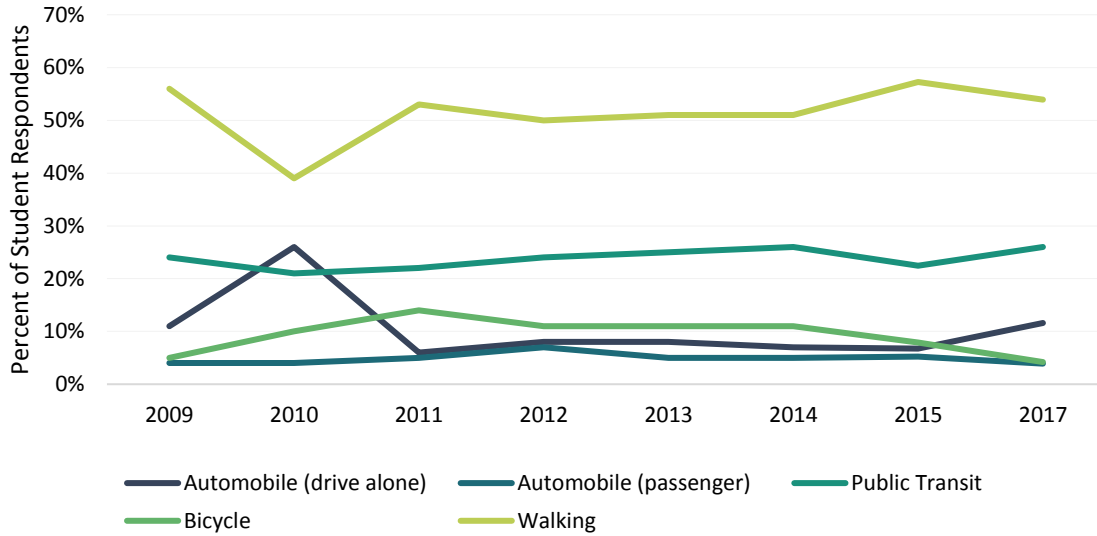
Over time the primary commute mode of respondents has remained consistent (Figure 6-1). In general, walking is the most chosen commute mode over the rest, with automobile and public transit the second and third highest choice. There has been an increase in walking to commute over time.

Figure 6-1: Primary Mode of Respondents (2009 - 2017)



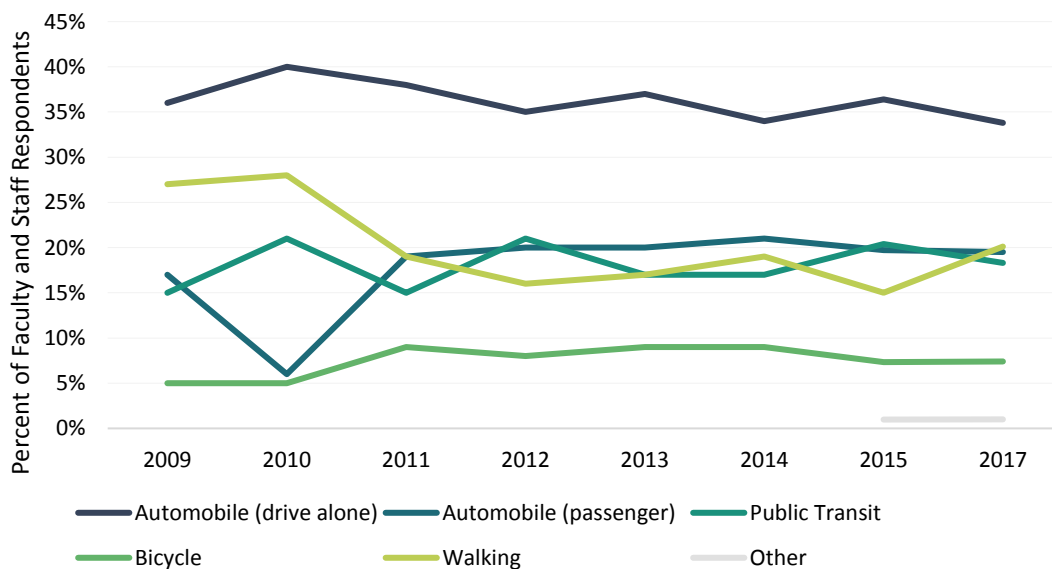
Walking is consistently the main commute mode by students probably due to the majority of student living close to campus (Figure 6-2). The second highest commute mode of students is public transit, most likely due to the bus pass program at Dalhousie University.

Figure 6-2: Primary Mode of Students (2009 - 2017)



Commuting by automobile has remained the main choice by faculty and staff (Figure 6-3).

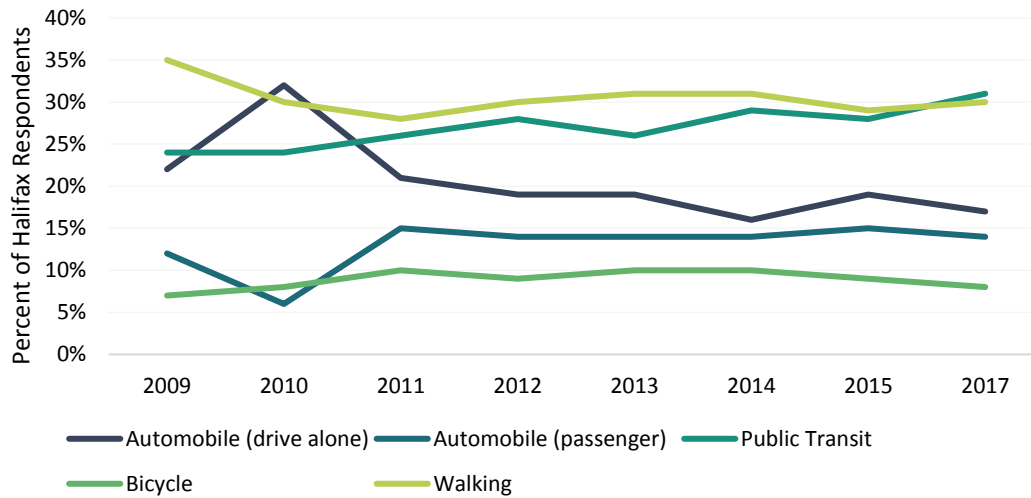
Figure 6-3: Primary Mode of Faculty and Staff (2009 – 2017)



6.1.2 Comparison of Combined Modes

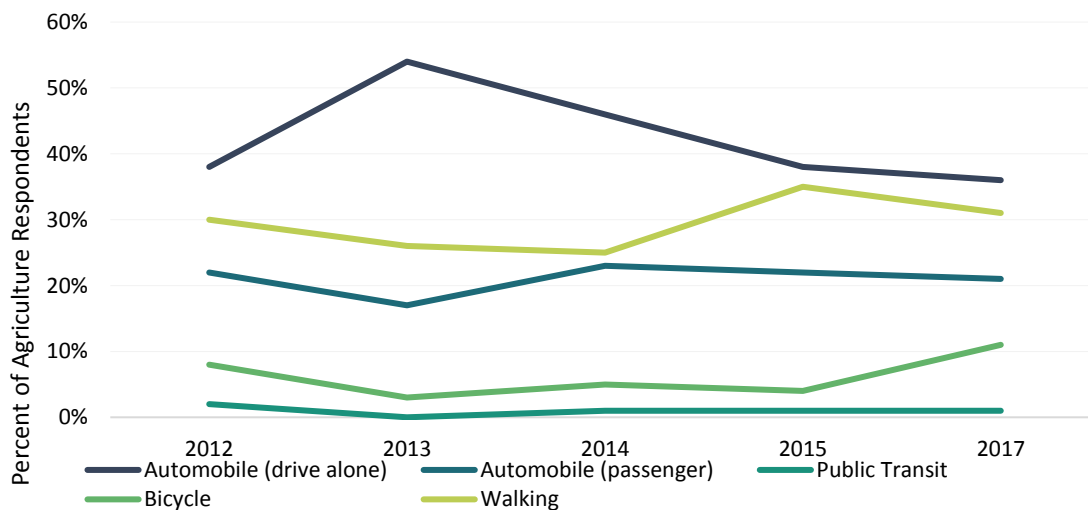
For the Halifax campuses, walking and public transportation have the highest mode share of all commuters (Figure 6-4). Automobile use with passengers has remained consistent at approximately 15% of mode share.

Figure 6-4: Halifax Campuses Combined Mode of all Commuters (2009 - 2017)



As for the Agricultural campus, automobile and walking have been the highest used modes by all respondents (Figure 6-5). This makes sense due to the lack of public transit and bicycle infrastructure in Truro.

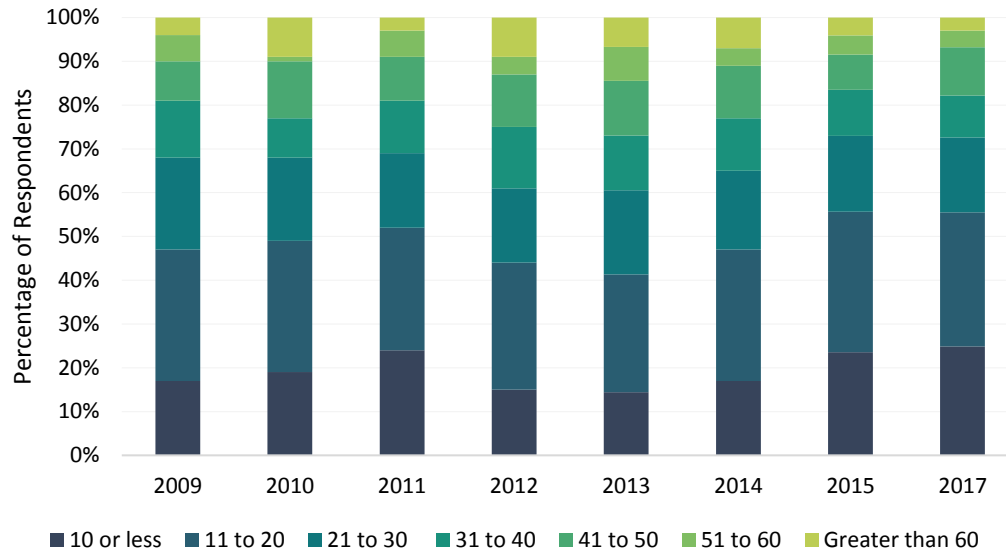
Figure 6-5: Agriculture Campus Combined Mode of all Commuters (2012 - 2017)



6.2 Commute Distance and Duration

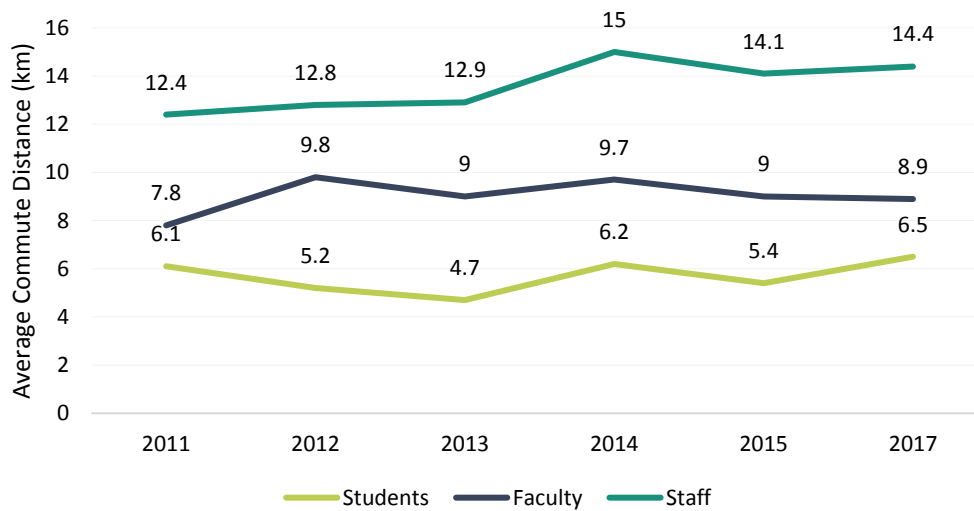
Figure 6-6 shows the commute time in minutes over surveyed years. The results suggest a trend in commuters living closer to campus and therefore spending less time commuting per day.

Figure 6-6: Commute Time in minutes (2009 - 2017)



Staff members consistently have a higher commute distance than all other respondents (Figure 6-7). Students have less distance to commute, making it possible for them to commute by walking or transit more often (Figure 6-2).

Figure 6-7: Average Commute Distance by Respondent Group (2011 - 2017)



7. CONCLUSION

This report presented data from and analysis of the 2017 Dalhousie Commuter Survey. Members of the Dalhousie community live in a variety of locations and use different modes to travel to and from campus and among campuses. Overall, walking and driving are the most popular commute modes. Respondents from Halifax campuses favour walking while those from the Agriculture campus drive more often.

Dalhousie students tend to live closer to their primary campus, have the shortest median commute (15 minutes) and favour less expensive travel modes such as walking and public transit. Many faculty also live close to campus and walk or cycle to work. Staff tend to live the furthest from work and have the longest median commutes (30 minutes). Most Dalhousie staff drive to work, either alone or with someone else.

Data from the Commuter Survey suggests ways in which the University has been successful in its efforts to promote sustainable transportation options. For example, while public transit is used by only 22% of respondents for primary commute mode, it is the most popular secondary mode across all primary commute modes. Transit serves an important backup role for many in the Dalhousie community, even if they do not use it every day, suggesting that the transit pass programs are generally effective. The survey data also highlights where the University could improve its sustainable transportation efforts. For instance, there was a substantial reduction in awareness of the Share the Road Nova Scotia program from 2015 to 2017, and lack of knowledge on initiatives such as the bike rental for the Halifax community.

While the University has been successful in offering transportation alternatives to many of its students and employees, there is also room for innovation to make commuting even more sustainable. Survey respondents suggested many ideas for transportation initiatives which align with the University's direction on transportation, such as:

- working with Halifax Transit to make the employee transit pass program more flexible,
- increasing the availability of secure, protected bicycle parking on all campuses, and
- changing the management of vehicle parking to promote carpooling and other alternatives.

The authors recommend that Dalhousie consider the initiatives proposed by respondents and expand promotion for current initiatives. The high level of support for current projects such as the University Avenue bicycle lane and transit pass programs indicates that the University has a favourable environment for transportation sustainability initiatives to succeed.

7.1 Recommendations for the 2018 Commuter Survey

The authors suggest the following improvements for the next University Commuter Survey:

- Deploy the Commuter Survey in March instead of November, as it seemed to increase the number of respondents.
- While this year's survey attracted about 10% more student responses from 2015, the faculty and staff response rate did not increase. More effort could be made to attract responses from faculty and staff.
- 42% of respondents report having no access to a bike, which suggests a low level of awareness of the Dalhousie Bike Centre program which loans bicycles to faculty, staff and students for free. A direct question on awareness of the Bike Centre and its programming could provide useful insight into the Centre's prominence on campus.
- For question 17 (departure time from campus), a substantial portion of respondents misunderstood the 24-hour time representation and answered that they left campus at 4 or 5am. Using a 12-hour time representation with AM/PM would help avoid misleading answers.

8. DOCUMENTS REFERENCED

Dalhousie University Office of Sustainability. (2010). *Dalhousie University Sustainability Plan*. Retrieved from

http://www.dal.ca/content/dam/Dalhousie/pdf/sustainability/Dalhousie_University_Sustainability_Plan_June_2010%20%28389%20KB%29.pdf

Dalhousie University Office of Sustainability. (2016). Transportation Demand Management Action Plan. Retrieved from

[https://www.dal.ca/content/dam/dalhousie/pdf/dept/sustainability/Transportation/Dalhousie%20Transportation%20Demand%20Management%20Action%20Plan%20\(2015\)_Edited.pdf](https://www.dal.ca/content/dam/dalhousie/pdf/dept/sustainability/Transportation/Dalhousie%20Transportation%20Demand%20Management%20Action%20Plan%20(2015)_Edited.pdf)

Dalhousie University. (2016). 2016/2017 Enrolment Statistics – Summary by Faculty. Retrieved from https://www.dal.ca/content/dam/dalhousie/pdf/dept/oia/Public_Reports_and_Data/Enrollment/2016/Faculty_Dec1-2016.pdf

IBI Group in association with UrbanTrans. (2011). Transportation Demand Management Plan for Dalhousie University. Retrieved from

<http://www.dal.ca/content/dam/Dalhousie/pdf/sustainability/2012Dalhousie%20Transportation%20Demand%20Management%20Report%20Final%20November.pdf>

9. APPENDICES

9.1 Comparison of Secondary Mode By Year

Figure 9-1: Secondary Mode (2009 - 2017)

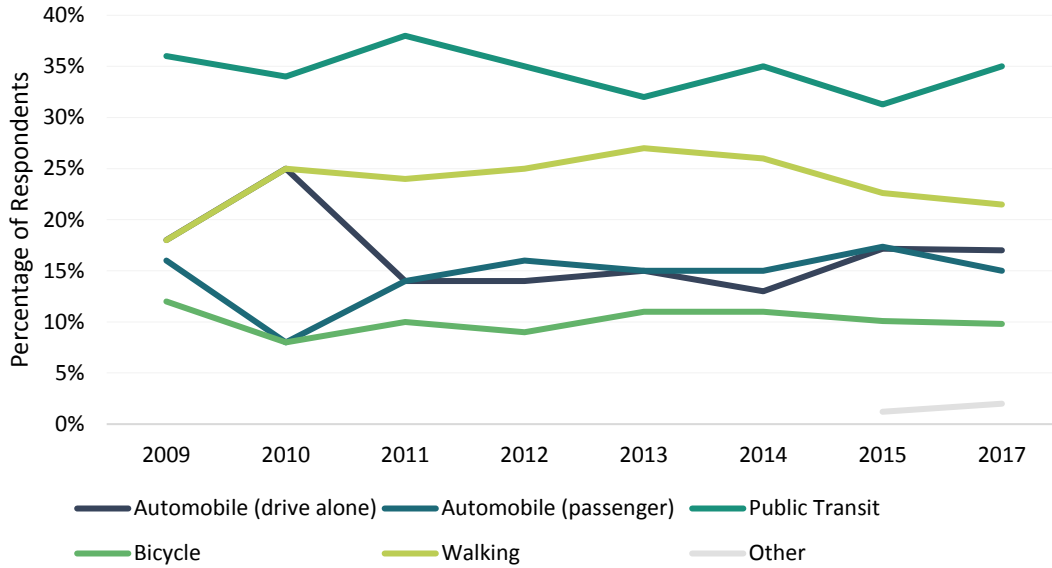


Figure 9-2: Secondary Mode of Students (2009 - 2017)

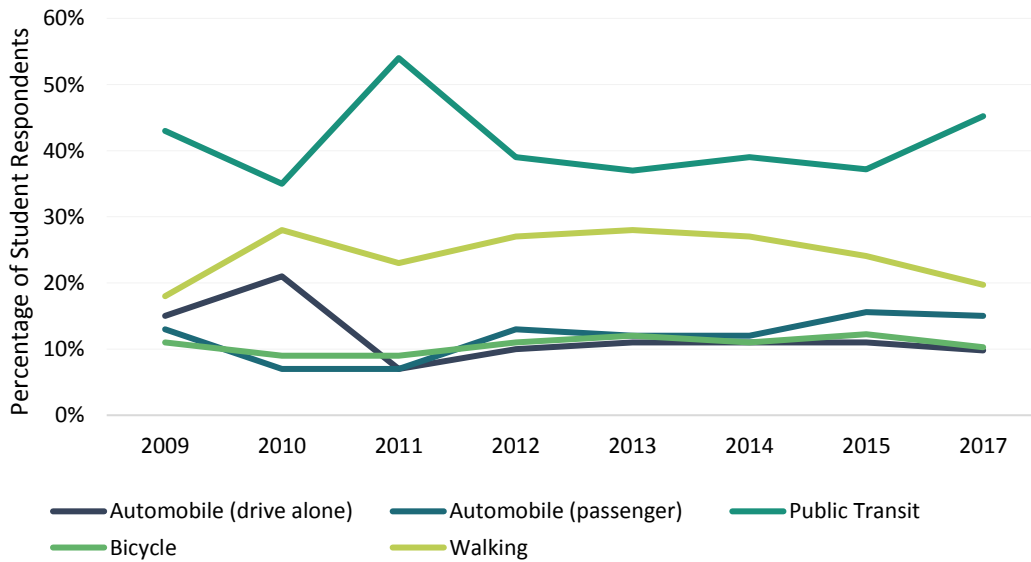
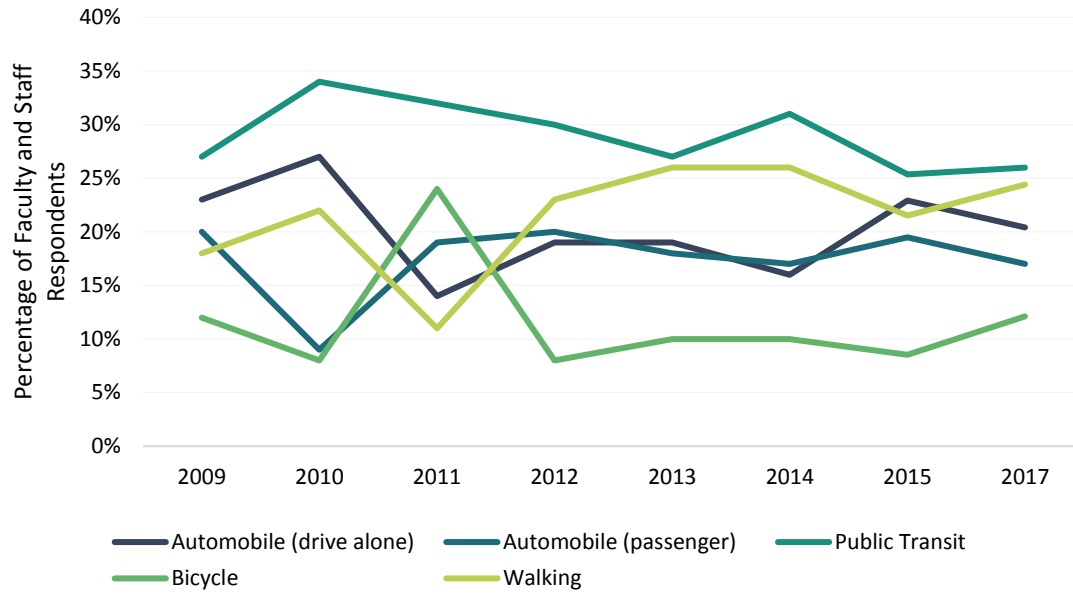


Figure 9-3: Secondary Mode of Faculty and Staff (2009 - 2017)



9.2 Code Book for 2017 Survey

Question #	Description	Codes	
	I hereby agree that I have read and understood these instructions. I also have the knowledge that I am free to withdraw from the survey at any time without penalty	Answers	
		I agree	1
		I do not agree	2
3	A pilot cycle track (protected bicycle lane) has been installed on University Avenue from LeMarchant Street to Robie Street. This pilot will be in place from September 2016 – September 2018. Data from the pilot is being collected throughout the two-year phase to help with the final Halifax-led implementation of the full cycling corridor. What are your comments on the protected bicycle lane on University Avenue?	Question ID	CTCOM
		Answers	
		No comment	1
		Good idea	2
		Bad idea	3
	Okay idea, with some improvements	4	
7	What is your primary mode of transportation (70% of the time or more) for your daily commute to campus throughout the year?	Question ID	PRIMODE
		Answers	
		Automobile – Drive Alone	1
		Automobile – Passenger (including carpooling)	2
		Public transit (including ferry services)	3
		Van pool	4
		Bicycle	5
		Walking	6
	Other (e.g. Motorcycle, Electric Scooter)	7	
8	What is your secondary mode of transportation (less than 30% of the time) for your daily commute to campus?	Question ID	SECMODE
		Answers	
		Automobile – Drive Alone	1
		Automobile – Passenger (including carpooling)	2
		Public transit (including ferry services)	3
		Van pool	4
		Bicycle	5
		Walking	6
		Skateboard/Longboard	7
	Not applicable – always use the primary mode	8	
	Other (e.g. Motorcycle, Electric Scooter)	9	
9		Question ID	SEASBIKE

	If you commute by cycling, in primary or secondary mode, what season(s) do you cycle in? (Choose all that apply)	Answers	
		Spring	1
		Summer	2
		Fall	3
		Winter	4
		Not applicable	5
10	If your primary mode is "Automobile – Passenger", do you carpool?	Question ID	DOCARPL
		Answers	
		Yes	1
		No	2
		Not applicable	3
11	If your primary mode is Automobile (Drive Alone or Passenger), where do you generally park your car?	Question ID	WHEREPARK
		Answers	
		Dalhousie Lots	1
		Dalhousie Pay and Display Lot	2
		Metered Parking	3
		On-street Free Parking	4
		HRM Carpool Locations	5
		Residential Driveway	6
		Not applicable	7
	Other	8	
12	What kind of Dalhousie parking permit did you purchase this year?	Question ID	PERMTYPE
		Answers	
		Reserved Annual	1
		General Annual	2
		Term	3
		Temporary (Daily or Weekly)	4
		Did not purchase any permit	5
	Not applicable	6	
13	Do you use a different primary commute mode this year (in comparison to your primary commute mode in 2015-2016)?	Question ID	PRIMODECH
		Answers	
		Yes	1
		No	2
		Not applicable (first year on campus)	3
14	How many minutes, on average, does it take to get from your home to Dalhousie when you use your primary mode of transportation?	Question ID	AVGTMCOM
		Answers	
		10 or less	1
		11-20	2
		21-30	3
		31-40	4
	41-50	5	

		51-60	6
		Greater than 60	7
15	At what time, on average, do you arrive at Dalhousie?	Question ID	TMARRIVE
		Answers	
		01:00	1
		02:00	2
		03:00	3
		04:00	4
		05:00	5
		06:00	6
		07:00	7
		08:00	8
		09:00	9
		10:00	10
		11:00	11
		12:00	12
		13:00	13
		14:00	14
		15:00	15
		16:00	16
		17:00	17
		18:00	18
		19:00	19
		20:00	20
		21:00	21
		22:00	22
		23:00	23
		24:00	24
16	At what time, on average, do you leave Dalhousie?	Question ID	TMDEPART
		Answers	
		01:00	1
		02:00	2
		03:00	3
		04:00	4
		05:00	5
		06:00	6
		07:00	7
		08:00	8
		09:00	9
		10:00	10
		11:00	11
		12:00	12
		13:00	13
		14:00	14

		15:00	15
		16:00	16
		17:00	17
		18:00	18
		19:00	19
		20:00	20
		21:00	21
		22:00	22
		23:00	23
		24:00	24
17	If you drive alone, would you be interested in a carpooling initiative?	Question ID	CARPLINI
		Answers	
		Yes – with my friends	1
		Yes – with my co-worker	2
		Yes - with anyone	3
		No	4
		Not applicable	5
19	How often do you travel between the Halifax campuses? (Carleton, Sexton and Studley)	Question ID	INCAMFR
		Answers	
		Daily	1
		3 – 4 times a week	2
		1 – 2 times a week	3
		A few times a month	4
		Once a month	5
		A few times a year	6
		Never	7
20	What is your primary means of travel between Halifax campuses?	Question ID	INCAMMODE
		Answers	
		Walking	1
		Bicycle	2
		Bus	3
		Private Car	4
		Taxi	5
		Not applicable	6
		Other	7
21	How often do you travel between the Halifax and Agricultural campuses?	Question ID	AHCAMFR
		Answers	
		Daily	1
		3 – 4 times a week	2
		1 – 2 times a week	3
		A few times a month	4
		Once a month	5

		A few times a year	6
		Rarely	7
		Never	8
22	What is your primary means of travel between the Halifax and Agricultural campuses?	Question ID	AHCAMMODE
		Answers	
		Bus	1
		Carpool	2
		Drive alone	3
		Not applicable	4
23	Are you aware of the Share the Road – Thumbs Up! Campaign, which is running at Dalhousie?	Question ID	STRCMPG
		Answers	
		Yes	1
		No	2
24	How important is sharing the road to you?	Question ID	IMPSTR
		Answers	
		Not important	1
		Somewhat important	2
		Important	3
		Very important	4
		Not sure	5
25	How important was sharing the road to you six months ago?	Question ID	IMPSTR_6MO
		Answers	
		Not important	1
		Somewhat important	2
		Important	3
		Very important	4
		Not sure	5
26	Do you own or have access to a car? (Choose all that apply)	Question ID	ACCVEH
		Answers	
		I own a car	1
		I am a member of a car sharing service	2
		I can borrow a car or get a ride most times I need it	3
		I do not own or have access to a car	4
27	Do you own or have access to a bicycle? (Choose all that apply)	Question ID	ACCBIKE
		Answers	
		I own a bicycle	1
		I can use or borrow a bicycle most times I need it	2

		I do not own or have access to a bicycle	3
28	How much on average (in Canadian dollars) do you spend out-of-pocket on a monthly basis for transportation purposes (for gas, parking, etc.)? Costs of ownership or vehicle maintenance should not be included.	Question ID	SPNDTRANS
		Answers	
		\$0 - \$50	1
		\$51 - \$100	2
		\$101 - \$150	3
		\$151 - \$200	4
		\$201 - \$250	5
		Above \$250	6
30	Please respond to the following statements by indicating your level of agreement: a) The planned closures of the MacDonald Bridge have impacted me severely. b) Unplanned closures/late openings of the MacDonald Bridge have only caused me minor inconvenience c) I am confident that I can deal efficiently with unexpected events d) It is not worth the effort to plan ahead or change the way I do things to cope with the closures e) By planning ahead or changing the way I do things I am able to cope with the Bridge closures	Question ID	IMPBRIDGE (a-e)
		Answers	
		Strongly disagree	1
		Disagree	2
		Neutral	3
		Agree	4
		Strongly Agree	5
31	I have coped with the Bridge closures by (please check all that apply)	Question ID	EXPBRIDGE
		Answers	
		Using the MacKay Bridge	1
		Using Ferry or Shuttle	2
		Leaving early or changing my schedule	3
		Working from home when I can	4
		I have not made changes to how I do things	5
32	What is your age?	Question ID	AGE
		Answers	
		15 – 19	1
		20 – 24	2
		25 – 34	3
		35 – 44	4
		45 – 54	5
		55 – 64	6
		65 and above	7
33	What is your gender?	Question ID	GENDER

		Answers	
		Female	1
		Male	2
		Intersex	3
		Gender non-binary	4
		Trans	5
		Prefer not to say	6
34	What is your annual household income?	Question ID	INCOME
		Answers	
		Less than \$19,999	1
		\$20,000 - \$39,999	2
		\$40,000 - \$59,999	3
		\$60,000 - \$79,999	4
		\$80,000 - \$99,999	5
		\$100,000 and above	6
		Prefer not to say	7
35	What is the postal code of your local residence (i.e. the NS address from which you commute daily to Dalhousie)?		
36	What is your primary campus?	Question ID	PRICAM
		Answers	
		Studley	1
		Carleton	2
		Sexton	3
		Agriculture	4
		Health Facilities (off campus)	5
37	Which of these groups do you currently belong to?	Question ID	RESPGRP
		Answers	
		Students	1
		Faculty	2
		Staff	3
38	Are you a full-time or part-time staff, faculty, or student?	Question ID	FTPT
		Answers	
		Full-time	1
		Part-time	2

9.3 Summary of 2017 Survey Data

Summary of Travel Behaviour for the Dalhousie Sustainability Survey 2017				
Code				
CTCOM	Long Name	Cycle Track Comment		
	Description	A pilot cycle track (protected bicycle lane) has been installed on University Avenue from LeMarchant Street to Robie Street. This pilot will be in place from September 2016 – September 2018. Data from the pilot is being collected throughout the two-year phase to help with the final Halifax-led implementation of the full cycling corridor. What are your comments on the protected bicycle lane on University Avenue?		
			2017	
			n	%
	1	No comment	165	10%
	2	Good idea	873	51%
	3	Bad idea	269	16%
	4	Okay idea, with some improvements	385	23%
	Total	1692	100.00	
PRIMODE	Long Name	Primary Mode		
	Description	What is your primary mode of transportation (70% of the time or more) for your daily commute to campus throughout the year?		
			2017	
			n	%
	1	Automobile – Drive Alone	349	21.5%
	2	Automobile – Passenger (including carpooling)	175	10.8%
	3	Public transit (including ferry services)	363	22.4%
	4	Van pool	2	0.1%
	5	Bicycle	90	5.5%
	6	Walking	632	39%
7	Other (e.g. Motorcycle, Electric Scooter)	11	0.7%	
	Total	1622	100.00	
SECMODE	Long Name	Secondary Mode		
	Description	What is your secondary mode of transportation (less than 30% of the time) for your daily commute to campus?		
			2017	
			n	%
	1	Automobile – Drive Alone	225	14%
	2	Automobile – Passenger (including carpooling)	198	12%
3	Public transit (including ferry services)	461	28.5%	
4	Van pool	2	0.1%	

	5	Bicycle	129	8%
	6	Walking	284	17.6%
	7	Skateboard/Longboard	5	0.3%
	8	Not applicable – always use the primary mode	301	18.6%
	9	Other (e.g. Motorcycle, Electric Scooter)	14	0.9%
		Total	1619	100.00
SEASBIKE	Long Name	Bicycle Season		
	Description	If you commute by cycling, in primary or secondary mode, what season do you cycle in? (Choose all that apply)		
			2017	
			n	%
	1	Spring	235	11%
	2	Summer	307	15%
	3	Fall	250	12%
	4	Winter	55	3%
	5	Not applicable	1211	59%
		Total	2058	100.00
DOCARPL	Long Name	Do you Carpool?		
	Description	If your primary mode is “Automobile – Passenger”, do you carpool?		
			2017	
			n	%
	1	Yes	128	8.1%
	2	No	290	18.4%
	3	Not applicable	1156	73.5%
			Total	1574
WHEREPARK	Long Name	Where do you park?		
	Description	If your primary mode is Automobile (Drive Alone or Passenger), where do you generally park your car?		
			2017	
			n	%
	1	Dalhousie Lots	364	23%
	2	Dalhousie Pay and Display Lot	22	1.4%
	3	Metered Parking	24	1.5%
	4	On-street Free Parking	94	6%
	5	HRM Carpool Locations	6	0.4%
	6	Residential Driveway	28	1.7%
7	Not applicable	967	61.2%	
8	Other	76	4.8%	
		Total	1581	100.00
PERMTYPE	Long Name	Permit Type		
	Description	What kind of Dalhousie parking permit did you purchase this year?		

		2017		
		n	%	
1	Reserved Annual	119	7.5%	
2	General Annual	251	15.7%	
3	Term	10	0.6%	
4	Temporary (Daily or Weekly)	2	0.1%	
5	Did not purchase any permit	395	24.7%	
6	Not applicable	821	51.4%	
	Total	1598	100.00	
PRIMODECH	Long Name	Did your primary mode change?		
	Description	Do you use a different primary commute mode this year (in comparison to your primary commute mode in 2015-2016)?		
		2017		
		n	%	
	1	Yes	194	12%
	2	No	1181	73%
	3	Not applicable (first year on campus)	242	15%
	Total	1617	100.00	
AVGTMCOM	Long Name	Average commute time		
	Description	How many minutes, on average, does it take to get from your home to Dalhousie when you use your primary mode of transportation?		
		2017		
		n	%	
	1	10 or less	394	26.2%
	2	11-20	485	32.3%
	3	21-30	273	18.2%
	4	31-40	150	10%
	5	41-50	96	6.4%
	6	51-60	59	3.9%
7	Greater than 60	47	3%	
	Total	1504	100.00	
TMARRIVE	Long Name	Arrival time		
	Description	At what time, on average, do you arrive at Dalhousie?		
		2017		
		N	%	
	1	01:00	4	0.3%
	2	02:00	3	0.2%
	3	03:00	2	0.1%
	4	04:00	2	0.1%
	5	05:00	3	0.2%
	6	06:00	20	1.3%
	7	07:00	139	8.8%
8	08:00	537	33.8%	
9	09:00	498	31%	

	10	10:00	243	15.3%
	11	11:00	71	4.5%
	12	12:00	32	2%
	13	13:00	13	0.8%
	14	14:00	4	0.3%
	15	15:00	2	0.1%
	16	16:00	2	0.1%
	17	17:00	4	0.3%
	18	18:00	2	0.1%
	19	19:00	2	0.1%
	20	20:00	1	0.06%
	21	21:00	1	0.06%
	22	22:00	1	0.06%
	23	23:00	0	0
	24	24:00	1	0.06%
		Total	1587	100.00
TMDEPART	Long Name	Departure time		
	Description	At what time, on average, do you leave Dalhousie?		
			2017	
			n	%
	1	01:00	4	0.3%
	2	02:00	6	0.4%
	3	03:00	46	2.9%
	4	04:00	115	7.3%
	5	05:00	127	8%
	6	06:00	42	2.7%
	7	07:00	9	0.6%
	8	08:00	14	0.9%
	9	09:00	3	0.2%
	10	10:00	10	0.6%
	11	11:00	4	0.3%
	12	12:00	20	1.3%
	13	13:00	19	1.2%
	14	14:00	49	3.1%
	15	15:00	108	6.9%
	16	16:00	329	21%
	17	17:00	339	21.6%
	18	18:00	167	10.7%
	19	19:00	54	3.4%
	20	20:00	47	3%
	21	21:00	19	1.2%
22	22:00	13	0.8%	
23	23:00	15	1%	
24	24:00	9	0.6%	
		Total	1568	100.00

CARPLIN	Long Name	Car pool initiatives		
	Description	If you drive alone, would you be interested in a carpooling initiative?		
			2017	
			n	%
	1	Yes – with my friends	156	9.8%
	2	Yes – with my co-worker	59	3.7%
	3	Yes - with anyone	125	7.9%
	4	No	272	17.1%
	5	Not applicable	979	61.5%
		Total	1591	100.00
INCAMFR	Long Name	Intercampus Frequency		
	Description	How often do you travel between the Halifax campuses? (Carleton, Sexton and Studley)		
			2017	
			n	%
	1	Daily	161	10.1%
	2	3 – 4 times a week	111	6.9%
	3	1 – 2 times a week	173	10.8%
	4	A few times a month	210	13%
	5	Once a month	105	6.6%
	6	A few times a year	348	21.8%
7	Never	492	30.8%	
	Total	1600	100.00	
INCAMMODE	Long Name	Intercampus mode		
	Description	What is your primary means of travel between Halifax campuses?		
			2017	
			n	%
	1	Walking	906	56.7%
	2	Bicycle	35	2.2%
	3	Bus	128	8%
	4	Private Car	62	3.9%
	5	Taxi	20	1.3%
	6	Not applicable	433	27%
7	Other	15	0.9%	
	Total	1599	100.00	
AHCAMFR	Long Name	Agriculture and Halifax frequency		
	Description	How often do you travel between the Halifax and Agricultural campuses?		
			2017	
			n	%
	1	Daily	4	0.3%
	2	3 – 4 times a week	2	0.1%
	3	1 -2 times a week	8	0.5%
4	A few times a month	17	1.1%	
5	Once a month	20	1.2%	

	6	A few times a year	100	6.4%
	7	Rarely	154	9.8%
	8	Never	1264	80.6%
		Total	1569	100.00
AHCAMMODE	Long Name	Agriculture and Halifax mode		
	Description	What is your primary means of travel between the Halifax and Agricultural campuses?		
			2017	
			n	%
	1	Bus	27	1.7%
	2	Carpool	100	6.4%
	3	Drive alone	150	9.6%
	4	Not applicable	1285	82.3%
			Total	1562
STRCMPG	Long Name	Share the Road campaign		
	Description	Are you aware of the Share the Road – Thumbs Up! Campaign, which is running at Dalhousie?		
			2017	
			n	%
	1	Yes	251	16%
	2	No	1312	84%
			Total	1563
IMPSTR	Long Name	Importance of road sharing		
	Description	How important is sharing the road to you?		
			2017	
			n	%
	1	Not important	88	5.6%
	2	Somewhat important	175	11.2%
	3	Important	422	27%
	4	Very important	670	42.9%
	5	Not sure	208	13.3%
		Total	1563	100.00
IMPSTR_6MO	Long Name	Importance of road sharing 6 months ago		
	Description	How important is sharing the road to you six months ago?		
			2017	
			n	%
	1	Not important	114	7.3%
	2	Somewhat important	194	12.5%
	3	Important	406	26.1%
	4	Very important	591	37.9%
	5	Not sure	253	16.2%
		Total	1558	100.00
ACCVEH	Long Name	Vehicle Access		

	Description	Do you own or have access to a car? (Choose all that apply)		
		2017		
		n	%	
	1	I own a car	883	54.1%
	2	I am a member of a car sharing service	50	3%
	3	I can borrow a car or get a ride most times I need it	290	17.8%
	4	I do not own or have access to a car	410	25.1%
	Total	1633	100.00	
ACCBIKE	Long Name	Bicycle Access		
	Description	Do you own or have access to a bicycle? (Choose all that apply)		
		2017		
		n	%	
	1	I own a bicycle	721	45.6%
	2	I can use or borrow a bicycle most times I need it	144	9.1%
	3	I do not own or have access to a bicycle	717	45.3%
	Total	1582	100.00	
SPNDTRANS	Long Name	Spend on Transit		
	Description	How much on average (in Canadian dollars) do you spend out-of-pocket on a monthly basis for transportation purposes (for gas, parking, etc.)?		
		2017		
		n	%	
	1	\$0 - \$50	687	49.5%
	2	\$51 - \$100	278	20%
	3	\$101 - \$150	134	9.7%
	4	\$151 - \$200	105	7.6%
	5	\$201 - \$250	70	5%
6	Above \$250	114	8.2%	
	Total	1388	100.00	
EXPBRIDGE	Long Name	Bridge Experience		
	Description	I have coped with the Bridge closures by (check all that apply)		
		2017		
		n	%	
	1	Using the MacKay Bridge	287	36.8
	2	Using Ferry or Shuttle	165	21.1
	3	Leaving early or changing my schedule	206	26.4
	4	Working at home when I can	54	6.9
5	I have not made any changes to how I do things	68	8.7	
	Total	780	100.00	
AGE	Long Name	Age		

	Description	What is your age?		
			2017	
			n	%
	1	15 – 19	135	8.7%
	2	20 – 24	541	33.3%
	3	25 – 34	334	21.7%
	4	35 – 44	194	12.6%
	5	45 – 54	188	12.2%
	6	55 – 64	155	10.1%
	7	65 and above	22	1.4%
		Total	1542	100.00
GENDER	Long Name	Gender		
	Description	What is your gender?		
			2017	
			n	%
	1	Female	1047	67.9%
	2	Male	458	29.7%
	3	Intersex	1	0.06%
	4	Trans	1	0.06%
	5	Gender non-binary	11	0.7%
	6	Prefer not to say	25	1.6%
		Total	1543	100.00
INCOME	Long Name	Income		
	Description	What is your annual household income?		
			2017	
			n	%
	1	Less than \$19,999	389	25.2%
	2	\$20,000 - \$39,999	145	9.4%
	3	\$40,000 - \$59,999	135	8.7%
	4	\$60,000 - \$79,999	128	8.3%
	5	\$80,000 - \$99,999	131	8.5%
	6	\$100,000 and above	355	23%
7	Prefer not to say	260	16.9%	
		Total	1543	100.00
PRICAM	Long Name	Primary Campus		
	Description	What is your primary campus?		
			2017	
			n	%
	1	Studley	970	62.9%
	2	Carleton	270	17.5%
	3	Sexton	174	11.2%
4	Agriculture	75	4.9%	
5	Health Facilities (off campus)	54	3.5%	

		Total	1543	100.00
RESPGRP	Long Name	Respondent Group		
	Description	Which of these groups do you currently belong to?		
			2017	
			n	%
	1	Students	865	56.1%
	2	Faculty	205	13.3%
	3	Staff	472	30.6%
		Total	1542	100.00
FTPT	Long Name	Full-time or Part-time		
	Description	Are you a full-time or part-time staff, faculty, or student?		
			2017	
			n	%
	1	Full-time	1442	93.5%
	2	Part-time	100	6.5%
		Total	1542	100.00