

StudentMoveTO

From Insight to Action on Transportation for
Post-Secondary Students in the GTHA

2019 Transportation Survey Findings



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For more information:
Contact: studentmoveto@ryerson.ca or visit our website
www.StudentMoveTO.ca

About StudentMoveTO

StudentMoveTO is a collaborative research partnership designed to generate insights, debates, and actions to improve transportation experiences for post-secondary students in the Greater Toronto and Hamilton Area (GTHA), Canada. The partnership includes ten colleges and universities, the provincial transportation planning agency - Metrolinx, the City of Toronto, as well as several community organizations, and is supported by a Social Sciences and Humanities Research Council (SSHRC) grant. The goal of StudentMoveTO is to better understand how students travel to and from campuses and other destinations.

In a typical school year, more than **600,000** college and university students use the GTHA's transportation infrastructure for their daily travel needs.

A large number of students live off-campus, and colleges and universities in the GTHA are spread throughout the region, constituting both downtown and suburban campuses. At this scale, time spent commuting limits students' ability to engage in activities in and outside of the classroom, impacting their academic experience and overall life satisfaction.

When classes are offered in person, which is the optimal learning model for the vast majority of programs, the success of post-secondary institutions in the GTHA depends on students being able to effectively and efficiently reach campus at all hours of the day. In the face of the COVID-19 pandemic, the majority of university and college classes in the GTHA in the 2020 Fall semester are being offered remotely, and this could be extended further into 2021 depending on public health conditions. In the current moment, isolation and loneliness could replace long commutes as a key challenge for students taking online courses throughout the region.

In a typical school year, most post-secondary students rely on public transit for much of their daily travel needs, and many spend long times commuting to and from campuses. In addition, there may be spatial and social inequities in how the current transportation infrastructure and services meet the travel demand of college and university students. For some institutions, excessive demand for car parking is a critical issue, while for others, student safety while walking or bicycling on busy urban and suburban roads is a major challenge.

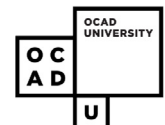
With a massive wave of students not traveling daily to reach their classes for the foreseeable future, this has dramatic impacts on transit agency ridership and revenues, road traffic, and usage of sidewalks and bicycle lanes in busy student areas.

In fall 2019, StudentMoveTO conducted the **largest-ever survey** of student transportation to better understand student travel patterns, experiences, and preferences.

Pre-pandemic, the insights generated through this initiative would support effective transportation policymaking, planning, and innovation in a busy, congested, unequal region. Post-pandemic, the findings take on added urgency, as they provide an evidence base to safely and equitably restart campus activities for hundreds of thousands of students across the region. This report presents the key preliminary findings from the survey. The findings point to changes to transportation services and infrastructure to foster safe mobility as campus activities ramp up in a post-COVID world. These changes will increase the quality of life for students and the overall vitality of the GTHA and its transportation infrastructure.

Study Partners

Post-Secondary Institutions



Government and Community Partners



Survey Method

The 2019 StudentMoveTO survey was conducted using a hybrid sampling methodology. For most institutions, all registered post-secondary students were invited to complete the survey. OCAD University excluded non-credit continuing education students, and at the University of Toronto, a random sample of 60,000 registered students were invited to participate in the survey.

The survey started on October 1st and ended on November 30th, 2019. Within this timeframe, some institutions chose to survey for a shorter duration (Table 1).

To collect data that is representative of student travel patterns, survey invitations were sent from an institutional email address (such as studentmoveto@ryerson.ca) in batches, when each day, an equal number of invitations were sent to a random set of students from the total student pool. Ontario Tech University was an exception, where all students received their invite in one email blast. This approach ensured that there were no systematic biases in invitation and reported travel patterns that may vary across days of a week and between warmer and colder days in the fall season. Each recipient of the survey received two follow-up reminder emails to complete the survey.

The survey was designed on an online travel survey platform

TRIASI (Travel and Activity Internet Survey Interface), which was developed at the University of Toronto Transportation Research Institute (UTTRI). The survey allowed invitees to use any platform they choose (desktop, laptop, tablet, and smartphone) for securely completing the survey. The TRIASI software was assessed to make sure that it satisfied Accessibility for Ontarians with Disabilities Act (AODA) requirements and software vulnerability tests.

The survey questionnaire included questions to collect information that include personal and household attributes, institutional information, information on mobility tools used for daily travel, a complete travel diary of a day, attitude and behaviour towards key transportation issues and policies in the region, as well as perceptions of travel satisfaction, campus participation, and subjective well-being.

Research approval was obtained from Research Ethics boards at all 10 participating post-secondary institutions.

Almost 330,000 post-secondary students received a survey invite, and more than 18,500 students participated (i.e., completed at least parts of the survey), thus making StudentMoveTO the largest and the most diverse student data ever collected and analyzed.

Sociodemographic Characteristics



Table 1 - Institutions and Response Rates

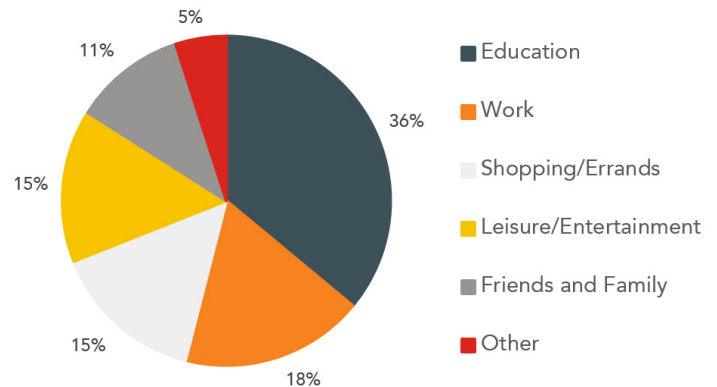
	# of Students*	# of Responses	Response Rate	% of All Responses	# of Students That Filled Out Travel Diary	% of Students That Filled Out Travel Diary	Survey Start Date	Survey End Date
Centennial College	25,454	1,153	5%	6%	416	2%	Oct. 3	Nov. 17
Durham College	14,026	1,167	8%	6%	358	3%	Oct. 15	Nov. 15
McMaster University	38,474	1,706	4%	9%	854	2%	Oct. 1	Nov. 30
Mohawk College	40,000	657	2%	4%	245	1%	Oct. 3	Nov. 30
OCAD University	4,788	422	9%	2%	177	4%	Oct. 2	Nov. 30
Ontario Tech University	10,390	714	7%	4%	308	3%	Nov. 21	Nov. 30
Ryerson University	47,296	3,968	8%	22%	1,538	3%	Oct. 1	Nov. 30
Sheridan College	29,108	1,139	4%	6%	462	2%	Oct. 28	Nov. 17
University of Toronto	60,000	5,289	9%	29%	2,567	4%	Oct. 4	Nov. 30
York University	58,271	2,298	4%	12%	964	2%	Oct. 1	Nov. 30
Total	327,807	18,513	6%	100%	7,889	2%		

*indicates the number of students who received the survey

Trip Purpose

Trips recorded in the travel diary show that GTHA post-secondary students travel throughout the region for a variety of purposes. The most common type of trips are the trips relating to education such as commute trips (36%); however, the majority of trips (64%) were for non-academic purposes. Reflecting on all trips made during a day, students recorded trips to get to work (18%), run errands/go shopping (15%), participate in leisure/entertainment activities (15%), and meet friends and family (11%). This data reveals that while effective and efficient trips to and from campus are important, transportation systems and policies must also be designed to meet the equally significant non-academic needs of students.

Figure 1 - Trip Purpose (n=12,249 trips)



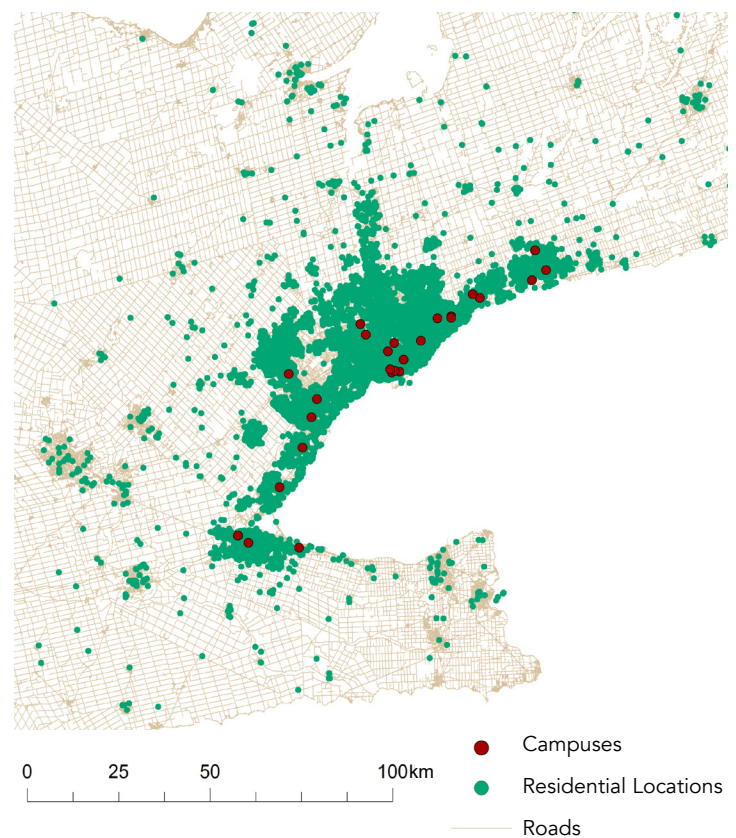
Commute Distance and Commute Duration

Post-secondary students live in all parts of the GTHA region as well as smaller population centres beyond its borders (Figure 2). As a result, many students have long commute times. Results from the StudentMoveTO survey show that 30% of college and university students have a one-way commute time to campus of one hour or more, indicating that these students spend more than two hours travelling to/from their campuses every day. On average, post-secondary students have a one-way commute distance of 14.6 kilometres and a commute duration of 45.9 minutes (Table 2).

Comparing 2015 data to 2019 data, the average commute duration for students at the four Toronto-based universities (OCAD University, Ryerson University, University of Toronto, York University) has not changed significantly over the past four years, despite new transportation infrastructure (e.g., new subway connection to York University, many cycling facilities and the popularity of ride sharing services such as Uber/Lyft).

Commute duration varies significantly by mode. While cyclists, pedestrians, and car users have average one-way commutes of less than 30 minutes, one-way transit commutes average more than an hour. Data also showed a significant difference in commute duration depending on whether a student took local (subway, streetcar, bus) or regional (GO train, GO bus) transit. Local transit commutes averaged just under an hour one way, while regional transit commutes averaged just over an hour-and-a-half.

Figure 2 - Location of Institutions and Residences of Students



On average, post-secondary students have a...

one-way commute distance of

14.6 kilometres



one-way commute duration of

45.9 minutes

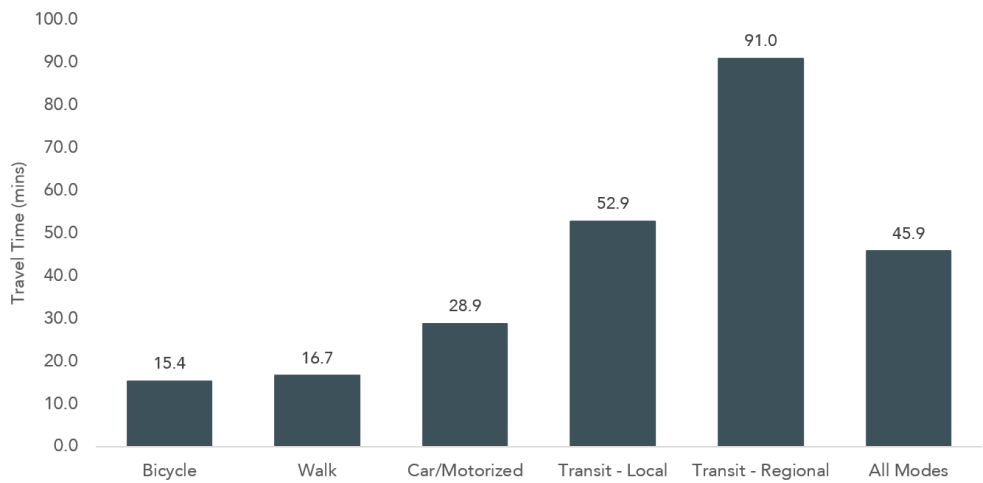


Average Distance from Home to Campus and Average Travel Time

Table 2 - Network Distance and One-Way Travel Time between Home and Primary Academic Campus (n = 5,391 trips)

Distance from Home to Campus	
< 5 km	34%
5 to 10 km	16%
10 to 20 km	21%
20 to 30 km	14%
30+ km	15%
Average (km)	14.6
Travel Time	
<30 min	40%
30 to 60 min	30%
60 to 90 min	20%
90+ min	10%
Average (min)	45.9

Figure 3 – Average One-Way Travel Time to Campus (2019) (n= 5,391)



Note: one-way travel times and distance between home and campus locations identified in the travel diary were estimated using OpenTripPlanner, an open-source multi-modal transportation network analysis software, as well as a GTHA travel demand model developed by the University of Toronto. Travel time estimates were based on the mode of transportation reported in the travel diary for home-campus and campus-home trips in Fall 2019 and travel conditions on the dates of October 19, 2019 (Saturday travel), October 20, 2019 (Sunday travel), or October 22, 2019 (weekday travel).

Mode Share

Almost two thirds of all students (60%) reported using either local transit (buses, streetcars, subways) or regional transit (GO Trains, GO buses) as their primary travel mode when commuting to campus (Figure 4).



However, students are less reliant on both local transit (33%) and regional transit (6%) when all trips are considered, with cars and other motorized vehicles constituting a larger mode share when compared to campus commutes only (34% vs. 19%) (Figure 5).



This finding highlights the importance of transit for the student experience and campus participation.

Figure 4 - Mode Share (Home to Campus/Campus to Home Trips, from Travel Diary) (n = 5,391 trips)

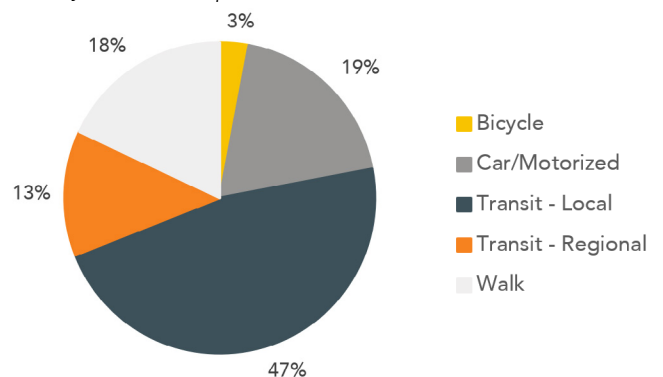
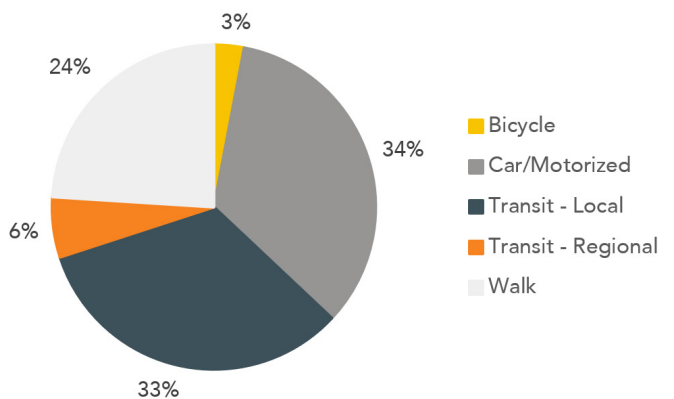


Figure 5 – Mode Share (All Trips, from Travel Diary) (n = 18,000 trips)



Day of Week and Time of Travel

Most trips to campus occur on Monday and Tuesday and decline from Wednesday onward, while non-campus trips are more consistent throughout the week (Figure 6). Commute time was explored for local and regional transit (GO Transit) given it is the typical commute mode for the majority of students (60%) and scheduling and system capacity are important considerations for transit agencies. Students commuting using local or regional transit typically travel during rush hour periods. Just over half of transit trips to campus occur between 7 AM and 10 AM (51%) and 39% of trips from campus to home occur between 4 PM and 7 PM (Figure 7).

Figure 6 - Distribution of Trips by Day of Week (n = 18,000)

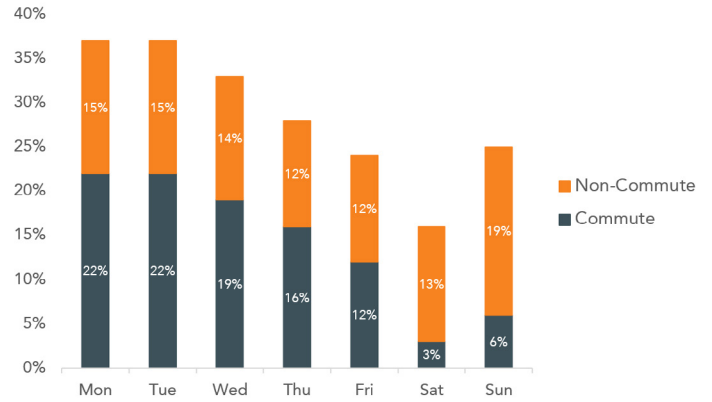
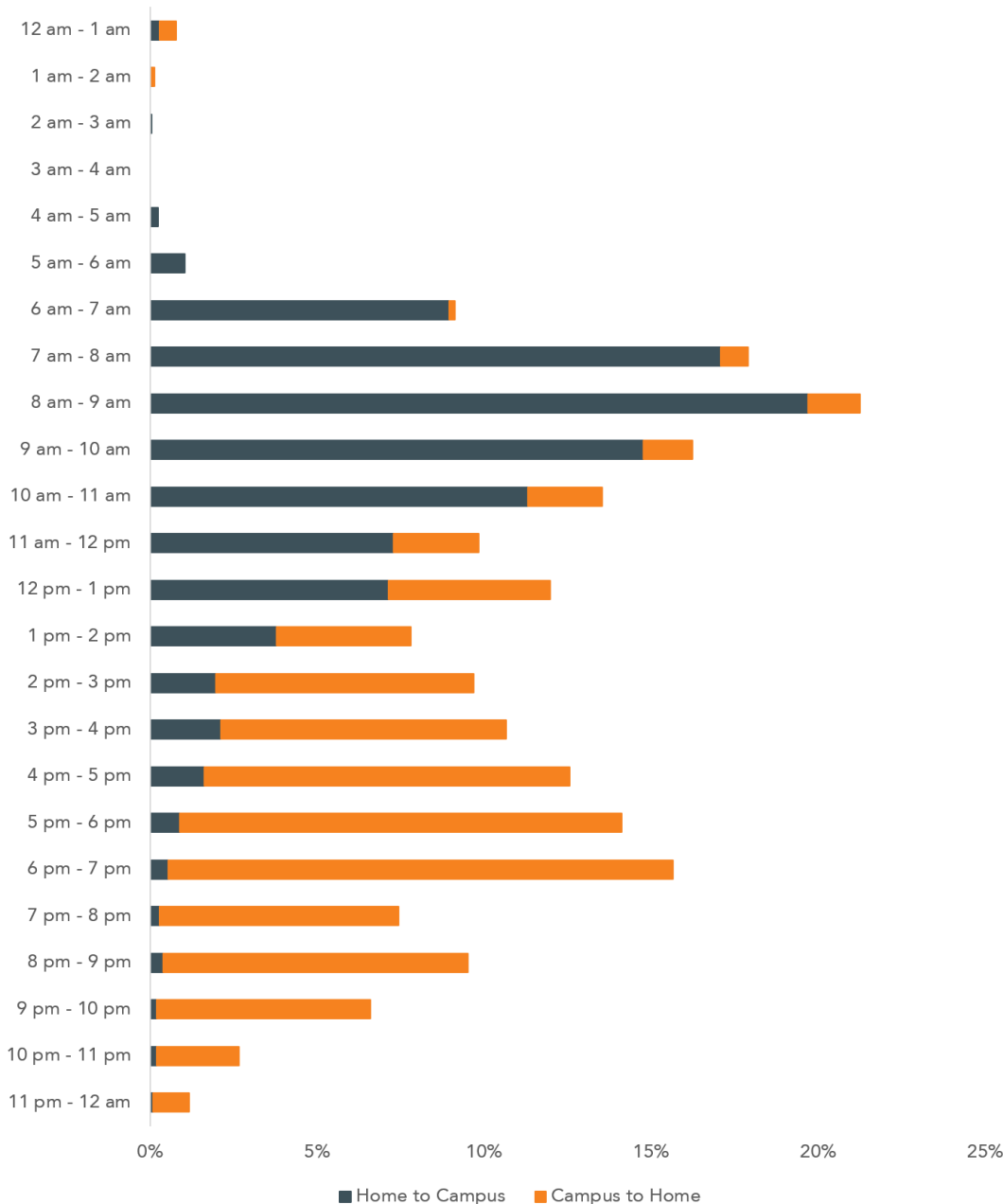


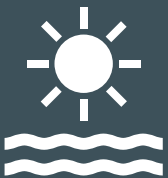
Figure 7 - Distribution of Transit Trips from Home to Campus/Campus to Home by Time of Day (n = 3,249)



Most trips to campus occur on **Mondays & Tuesdays**



Over **50%** of transit trips to campus occur between



7 AM and 10 AM.

39% of trips from campus to home occur between



4 PM and 7 PM.

Figure 8: Average Commute Duration from Home to Campus (minutes) (n = 5,391 trips)

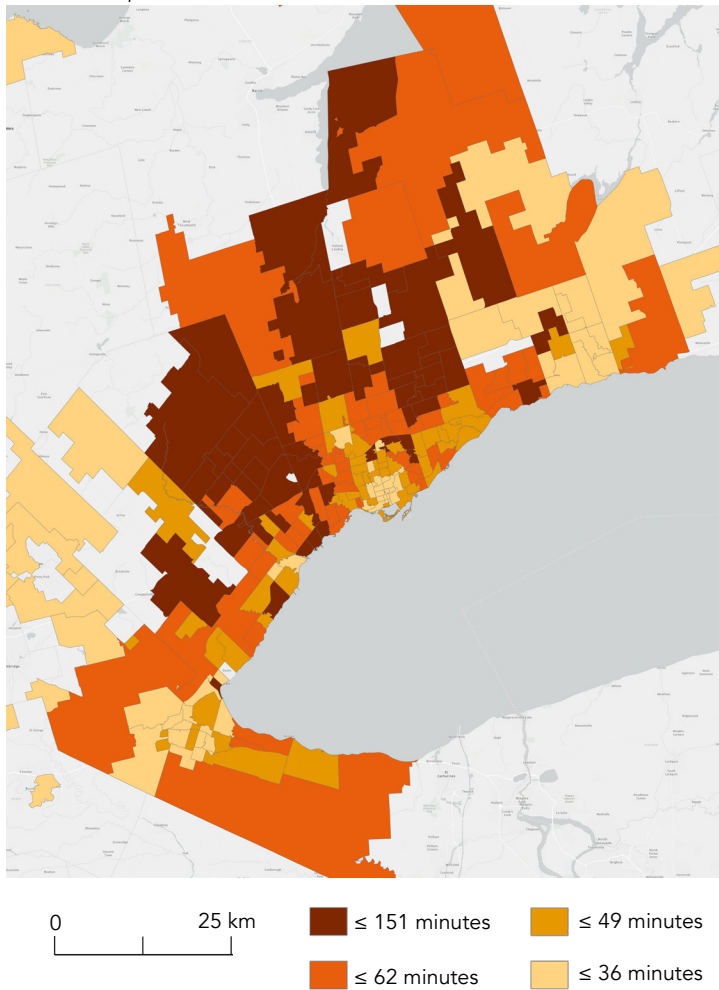
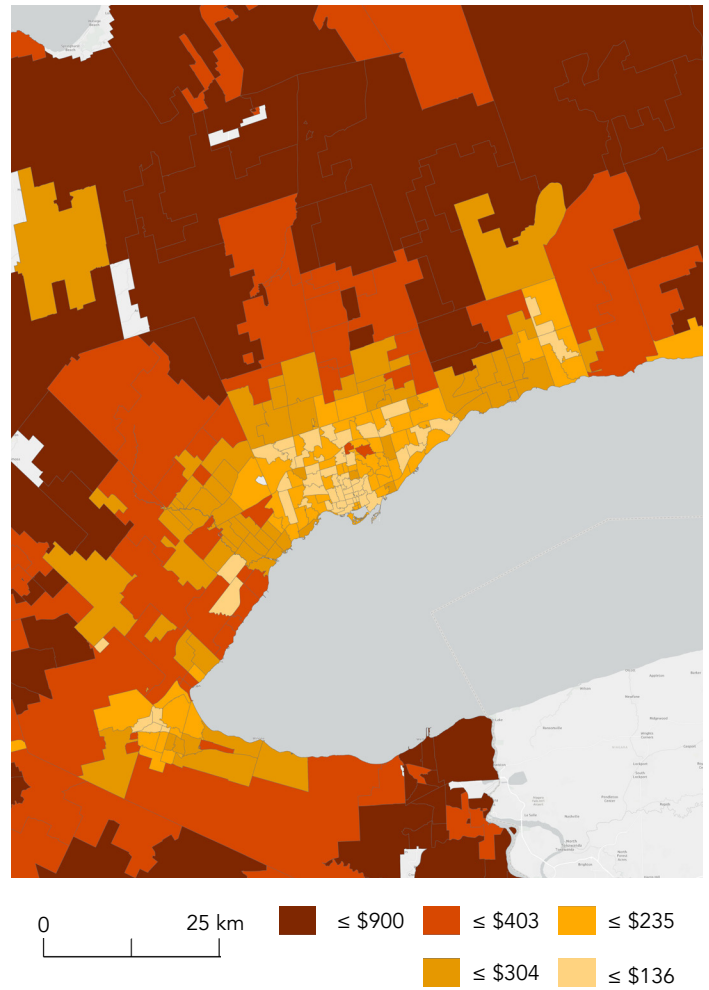


Figure 9: Average Monthly Transportation Cost (n = 16,612 students)



Survey data reveals an inequity of transportation cost - both in time spent commuting to campus as well as out-of-pocket transportation expenses - throughout the region. The greatest transportation costs are found in the northern areas of the GTHA and outside the major urban centres of Toronto and Hamilton. Greater distance to colleges and university campuses, limited transit service to and within these areas combined with low-density built form may explain some of the observed spatial inequity. Further research using the StudentMoveTO data may provide more detailed insights and inform targeted policy and transit planning.

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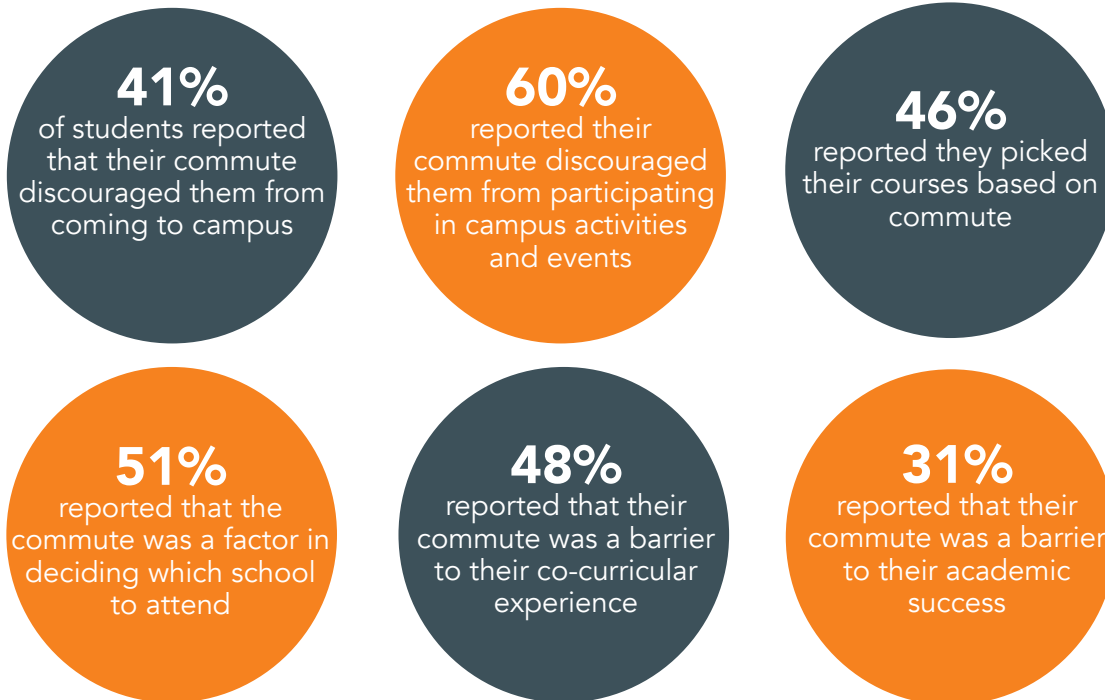
Did you know?

The average student spends **\$220 per month** on transportation in the GTHA

Impact of Commute on Campus Participation and Academic Success

Commuting was found to affect the degree to which students participate in academic and extracurricular campus life. 41% of students reported their commute discouraged them from coming to campus, 60% reported their commute discouraged them from participating in campus activities and events, and 46% reported that they picked their courses based on their commute. Close to half reported the commute was a factor in deciding which school to attend (51%) and that their commute was a barrier to their co-curricular experience (48%).

Clearly for a large number of students, their commuting negatively affects the post-secondary experience. Additionally, three out of 10 students (31%) reported that their commute was a barrier to their academic success. Improved transportation infrastructure and better transit service will contribute to student well-being. StudentMoveTO data will provide further insights into how these future improvements may reflect student needs.



Conclusion

The preliminary findings outlined in this report provide crucial insights into the transportation experiences of post-secondary students in the GTHA, an often overlooked but important part of the population. Students travel throughout the region to participate in their studies, often at length and predominantly on public transit, and a concerning number report their commute negatively impacts their academic experience.

StudentMoveTO provides valuable data to support evidence-based planning and policy from urban and transportation planners, post-secondary institutions, and governments. While further research using StudentMoveTO data will provide more insights and identify more nuanced behavioural patterns, needs, and challenges, our preliminary findings suggest an improved commute experience would have positive benefits for student well-being, campus vitality, and transportation throughout the region.

StudentMoveTO data is publicly available to enable further research, planning and advocacy. For more information, and to request access to data, please visit:

www.studentmoveto.ca

