

# Findings from the 2013 McGill Commuter Survey

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*Submitted to*

Office of Sustainability  
McGill University

*Prepared by*

Emory Shaw  
Evelyne St-Louis  
Dea Van Lierop  
Michael Grimsrud  
Colin Stewart  
Ana Tepavac  
Kevin Manaugh  
Ahmed El-Genaidy



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Emory Shaw, Evelyne St-Louis, Dea Van Lierop, Michael Grimsrud, Colin Stewart, Ana Tepavac, Kevin Manaugh, Ahmed El-Geneidy

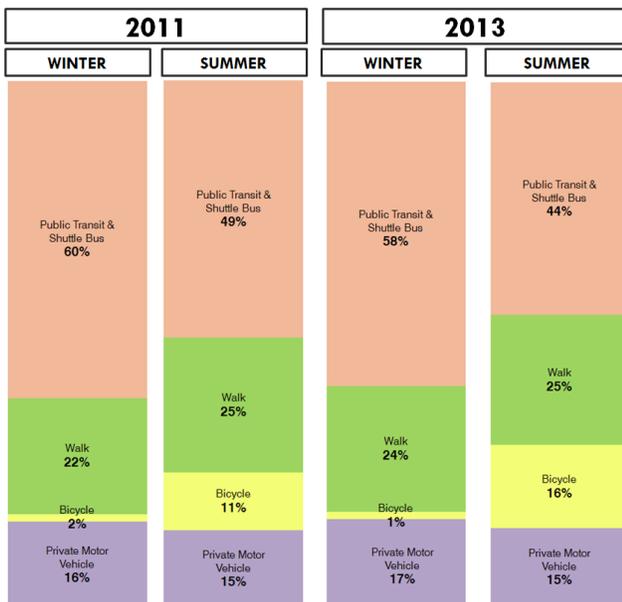
McGill University contributes significantly to the transportation network and commutes of the Montreal region. The results of the 2013 McGill Transportation Survey have been compiled for analysis in order to examine commuting behaviour patterns of the McGill community.

## Response Rate

A total of 20,851 survey invitation emails were sent out to McGill students, faculty and staff. 6,609 responses were received, yielding a survey response rate of 31.7%. After extensive data cleaning, the final sample size is 5,610 responses. 48.7% are students, and 51.3% are employees (faculty and staff).

## Mode Split

The 2013 commuting mode split among the sampled McGill affiliates as compared to 2011 is as follows:



Active transport and public transit combined (sustainable forms of transportation) comprise 83% of transportation to and from McGill in the winter, and 85% in the summer. These totals are similar to those of 2011 (84% and 85% respectively). The most important difference between both years is the 5% increase in cycling as an alternative to public transit. Seasonality has a considerable influence on the mode split: Cold-snowy weather drastically decreases bicycle use and increases public transit usage. The number of motorists and pedestrians, however, remains relatively constant. Also, motor vehicle use accounts for a higher proportion of trips made to Macdonald campus, whilst public transit and cycling is more prevalent to the downtown campus.

## Demographic Mode Split

Students use active transportation the most. However, 20% of men cycle versus 10% of women. Higher income levels, older age and higher university status generally implies increased private motor vehicle usage to the detriment of public transit. Active transportation modes are consistent across most income, status and age groups, yet are always highest among members of the lowest and youngest groups.

## Encouraging the use of sustainable transportation

Encouraging the uptake of sustainable modes of transportation by the McGill population requires a nuanced understanding of people's opinions on different modes of transportation, the barriers discouraging them from using these modes, their perceptions of safety from traffic, crime, and bicycle theft, as well as their own suggestions for how to encourage sustainable transport to and from McGill.

## Satisfaction

Active transportation users (pedestrians and cyclists) feel the most energized and least stressed after their commute. They also see more to their commute than just arriving at their destination and regard their commutes as more time consistent than for other mode users. Inconsistent trip time and lengthy wait times are by far the highest of concerns for users of the intercampus shuttle. For metro and bus users, lengthy and inconsistent trip times are important issues as well. Crime is of some concern for metro users and pedestrians.

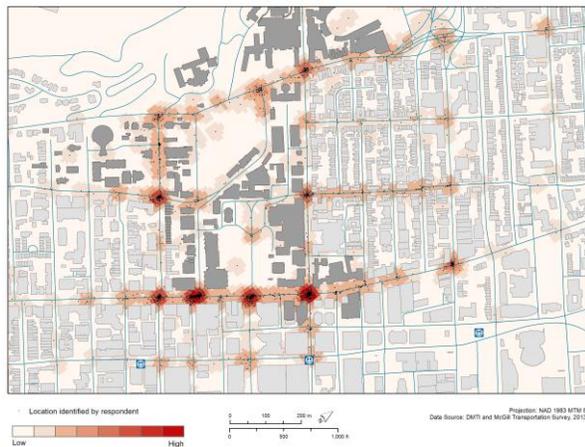
## Opinions, Intentions and Barriers

All mode-users would like to walk and cycle more, especially motorists with regard to the former. Motorists along with cyclists have the most polarized points of view on multiple levels, yet there is consensus among all mode users that investment in public transportation is a priority. As for barriers, the lack of available bicycle parking on campus inhibits a considerable portion of respondents from cycling as a way to commute to McGill. Safety from traffic while cycling is also a prominent barrier. Finally, many respondents do not drive to McGill because of the lack of car parking.

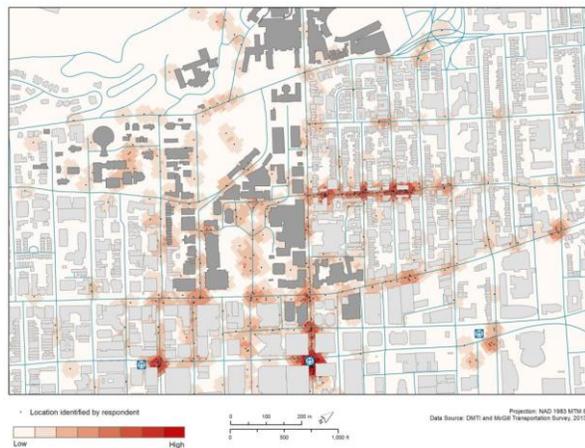
## Safety from traffic, crime, and bicycle theft

The two following maps present point density analyses of respondents' perceptions of dangerous locations in terms of traffic and crime. Several intersections and corridors clearly emerge as problematic (in red).

Regarding traffic, the main reason given by respondents for feeling unsafe is the interaction between motorists and non-motorists, (cars, pedestrians and cyclists) indicating the need to harmonize different street users at busy intersections such as Sherbrooke and University or Sherbrooke and McTavish.



For crime (see below), locations tend to concentrate around Peel and McGill metro stations. The Milton St. corridor is also frequently mentioned. The majority of comments targeted the presence, behaviour, or actions of strangers in the street, and elements of the built environment such as inadequate lighting and isolation as the cause of feeling unsafe.



## Respondents' suggestions and comments

Respondents provided varied suggestions as to how to generally encourage sustainable transportation to and from McGill. Several that were made in 2011 were reiterated in 2013.

- Reduce transit fares through an agreement with local transit service providers or extend discount rates to students over 25 years old.
- Improve public transit services and infrastructure, especially connectivity and overall reliability. More flexible nonstandard hours, especially for commuter trains.
- Increase bicycle parking capacity and discourage additional automobile parking.
- Improve bicycle safety and address theft on campus.
- Improve cycling services and infrastructure, especially maintenance during winter.
- Find a better solution to the cycling dismount policy on campus (e.g. designated lanes)
- Improve pedestrian infrastructure, provide adequate lighting, and ensure increased pedestrian security through signage at specific intersections.
- Increase shuttle frequency and capacity to overcome long wait times and overcrowding while providing adequate shelter at bus stops and heating in the buses.
- Increase safety and use of sustainable transportation through awareness and education that also address urban social issues such as homelessness.

## Conclusions

The 2013 Commuter Survey Report seeks to highlight possible paths of actions that McGill University can take to foster the use of active and public transportation to and from both the Downtown and Macdonald campuses. Many of the aforementioned suggestions are actions that reside in the University's power and could increase the McGill community's sense of safety and security, ease, and desire to use sustainable modes of transportation. Finally, the educational and awareness component are also key to this process.

## **ACKNOWLEDGMENTS**

We would like to thank Kathleen Ng and Brian Karasick, the McGill Office of Sustainability, and McGill Campus and Space Planning for their feedback and guidance at various stages of this project. We would also like to thank Daniel Schwartz from IT Customer Services for his assistance in developing the online survey and managing the distribution of the survey to the McGill Community, as well as Isabelle Carreau from Planning and Institutional Analysis for providing approvals to distribute the survey to the McGill community and for assisting with sample selection. Our many thanks to all those who provided incentives for this project free-of-charge: Mariott Residence, McGill Bookstore, McGill Athletics, McGill Athletics Redbird Sports Shop, McGill's centre for Personal and Cultural Enrichment, McGill Faculty Club, Bixi, Apple, and Second Cup. We would also like to thank all those in the McGill community who took the time to fill out the survey. Finally, we express our gratitude to the Natural Sciences and Engineering Research Council (NSERC).

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## Section I – Report Introduction

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More and more universities and other higher education institutions have been showing a willingness to examine their daily operations' environmental impacts and to develop amelioration strategies. According to Tolley (1996), daily commutes of students, faculty and staff to and from campus cumulatively account for the greatest proportion of the environmental impact of academic institutions. Commuters' travel mode choices also influence the use of space, and thus the quality of life, on campus. For instance, a university campus that has many private automobile commuters might require a large number of parking spaces, at the detriment of other interesting uses of campus space and university investment. As demonstrated by Shannon et al. (2006), and Balsas (2003), significant efforts have been made in recent years to understand commuting patterns of college and university campus users, and to promote sustainable forms of transportation (walking, cycling, and public transit) to these locations.

McGill University is a large institution that has noticeable impacts and influences all across the city of Montreal. Indeed, McGill has two large main campuses (Downtown campus, in the heart of the Island of Montreal, and Macdonald campus, on the West Island in St-Anne-de-Bellevue), several teaching hospitals spread across the city, and over 35,000 individuals making regular trips to these locations. It is therefore essential to examine how people get to and from these locations and to understand how these patterns have come about and how McGill can encourage sustainable forms of transportation. With such large facilities, and such a large community, it is clearly important that McGill University finds ways to reduce its environmental impact. The first key step to bring about a shift toward more sustainable modes of transportation is to *understand* commuting patterns to and from campus. This often involves a comprehensive, detailed commuting survey disseminated to the whole of the university community, including students, faculty and staff. This has been a common approach in the last few years (Páez & Whalen 2010; Cotnoir & Chénier, 2008), and it is considered an effective method of data collection because it can capture additional information, such as mode choice motivations and perceptions of safety and of barriers to using certain modes, in addition to mode share.

This approach was adopted for McGill University in 2011. The Transportation Research at McGill (TRAM) research group<sup>1</sup>, in collaboration with the McGill Sustainability Office, undertook a project beginning in December 2010 to assess the travel behaviour of McGill University students, faculty and staff.<sup>2</sup> One of the main components of this project consisted of a detailed online survey distributed to faculty, staff and students. A sample of 4,698 respondents was obtained. The objective of this survey was firstly to understand how University members commute to McGill campuses and how they use the various transportation services offered by the City of Montreal, by other transportation agencies within

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<sup>1</sup> TRAM is a multidisciplinary team including faculty members and students mainly from the School of Urban Planning, Faculty of Engineering, McGill University.

<sup>2</sup> The project was funded through the McGill Sustainability Projects Fund.

the Metropolitan Region, and by McGill University. The second objective was to quantify the environmental impact of travel to McGill by measuring greenhouse gas emissions (GHG) from travel. This 2011 survey was successful in obtaining basic information for McGill's use and in increasing awareness of the environmental impacts of the McGill community. This survey was also useful in generating data that guided several research projects conducted by TRAM and other McGill researchers. The results have been presented at academic conferences and published in several peer-reviewed journals

Therefore, TRAM and the Office of Sustainability decided to undertake a second large-scale survey in 2013. The final sample, including only complete survey responses, is 5,610 respondents. The 2013 McGill Transportation Survey is meant to fulfill two main objectives. First, it is intended as a follow-up study to the 2011 survey. It is useful for gathering current information on commuting patterns and establishing a new baseline that can help the McGill Sustainability Office to measure success in promoting more sustainable transportation in the coming years. Similarly, it is useful for noting of any changes that may have occurred in the last two years in terms of commuting patterns. Thus, comparing the 2013 results to the 2011 results represents an important element of this report. Second, the 2013 survey focuses more on elements of behaviour, perceptions, and preferences of commuters.

Consequently, though several aspects of the survey remained the same as the 2011 version (some key information is essential to gather, especially concerning actual commuting patterns), the survey also shifted attention on certain points and updated the phrasing of some questions. For example, one of the main objectives of the 2011 survey was to quantify the environmental impact of travel decisions of McGill users by estimating GHG emissions. This was not repeated in the 2013 survey. Instead, greater emphasis was put on commuter motivations, as well as on perceptions of safety and on barriers to using certain types of modes of transportation. In addition, the 2013 survey examines perceptions of safety in terms of crime, traffic, and bicycle theft. The expanded sections on how people make travel choices will be very useful in guiding policy to attract people to use sustainable modes of travel. For example, are there members of the McGill community who would like to cycle to campus but do not feel safe, or people who would like to take transit, but do not have a reliable or practical route option? In addition, the 2013 edition presented a new method in addressing and phrasing seasonality: while the 2011 survey used the familiar collegial terms *fall* and *winter* to gauge seasonal difference, the present one used *typical warm-dry day* and *typical cold-snowy day* to avoid any subjective seasonal misinterpretation. In effect, the new method addresses seasonality in a more accurate manner, yet presents a potential for inter-year comparison problems.

The following report provides a detailed account of the results of the 2013 survey research project. We begin with a description of the survey design and methodology. Then, we provide a detailed analysis of the survey results. First, we present basic summary results of mode share, of distances traveled, of the effects of seasonality on travel behaviour, and of the motivations or barriers influencing mode choice. Second, we present levels of satisfaction individuals have with elements of their trip, in order to guide future action to promote sustainable transportation. Third, we examine student and staff

perceptions of safety, in terms of traffic and crime, as well as issues of bicycle parking, perceived bicycle crime and actual bicycle theft. Finally, this report explores the suggestions raised by survey respondents related to improving sustainable transportation options to McGill campuses, and presents some concluding remarks to underline the important findings of the survey.

## Section II – Survey Description

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### SURVEY DESIGN

The TRAM research group conducted a large-scale online survey during the month of March and early April 2013 in order to collect information on the travel behaviours, motivations, and perceptions of the McGill community. The target population was all McGill students, staff, and faculty. The goal was to obtain a representative sample for these different types of people, as well as for the different McGill campuses. The TRAM research group designed and conducted the survey with the collaboration of faculty specialists in transportation planning and travel behaviour, members of the McGill Office of Sustainability, as well as Daniel Schwartz, from the McGill IT Services department. A series of revisions and pilot testing were undertaken, based on feedback from these collaborators, before disseminating the survey to the McGill community (refer to Appendix I for the full survey). The survey was approved by the Office of the Provost, as well as by the Research Ethics Board Office.

The survey was carefully designed to minimize the potential for survey abandonment by respondents. For example, the survey included a question filtering mechanism which modified the series of questions based on the respondent's previous answers. Also, some questions were left optional but survey progression required answering others, ensuring that the most important information was provided.

The first part of the survey asked respondents to describe their typical trip to McGill. This included: an indication of their home location (option to enter either a postal code or a point on a map); an indication of their destination (which campus, and approximate location on campus); the specific breakdown of their commute into "trip legs" (the various pieces that make up a single one-way trip to campus, often involving different modes of transportation); as well as the specific train, metro or bus route used if the respondent indicated public transit as one of the modes. This information is meant to ensure the most accurate trip modelling possible. Finally, the survey also distinguished trips made on dry, warm days from trips on cold, wet days – in cases where these differed – in order to take into account seasonality when making travel decisions.

Second, the survey focused on motivations and barriers for choosing specific modes, the level of satisfaction for different travel modes, as well as the way people feel after their commute using a particular travel mode (stressed, relaxed, level of energy etc.). The survey also included a section that asked respondents if they sometimes felt unsafe with regard to crime or traffic when walking from McGill to a home location, to transit or to parking. Respondents then had the options of indicating on a map a specific location where they felt unsafe and commenting on reasons they feel unsafe. This section examines the psychological aspects of travel choice and behaviour. Results from this section can provide insight into how to encourage people to use sustainable forms of transportations, or how to overcome the barriers that may be preventing them from walking, cycling or taking public transit.

The third section included questions on car and bicycle parking. In particular for bicycle parking, several questions paid attention to people's perceptions of where bicycle theft was likely to occur, and if applicable, asked respondents to specify when and where their bicycle was stolen. Questions about preferred bicycle paths and parking infrastructure were also included. These questions help identify potential improvements that could be made to active transportation facilities to further encourage the use of these modes in travel to McGill campuses.

The survey concluded with a series of open-ended questions where respondents could provide suggestions to encourage the use of sustainable transportation to McGill, as well as general comments and concerns about travelling to McGill.

## SURVEY DISSEMINATION

Emails with a link to the online survey invited students, faculty and staff to participate. A unique "token" number was associated with this link to allow for personalized survey distribution, to send out reminder emails only to those who did not complete the survey, to avoid sending such reminders after survey completion, and to prevent multiple replies by individuals. In order to guarantee the confidentiality and anonymity of respondents, all personal information was removed from the collected data before it was released for analysis. Only the survey administrator, Daniel Schwartz, had access to this personal information, for administrative purposes.

An email list of all McGill faculty, staff and students was obtained from the Office of the Provost. Email invitations were distributed to all faculty and staff that had a McGill email address. Ideally, the survey would have also been disseminated to the entire McGill student population, so as to obtain the largest possible number of completed survey responses. However, out of concern about overloading students with email requests, the number of invitations that could be sent to students was limited to 30% of McGill's student population. This being a relatively small portion of the total student population, the invitations were distributed so as to ensure a representative sample of students from both McGill campuses, as well as a representative sample of students commuting from different parts of the Metropolitan region. Thus, student residents were randomly sampled within each borough and municipality in the Montreal Census Metropolitan Area (CMA), the goal being to achieve responses from 5% of the total McGill student population residing in each borough or municipality (refer to Figure 3 for the actual sampling rates achieved).

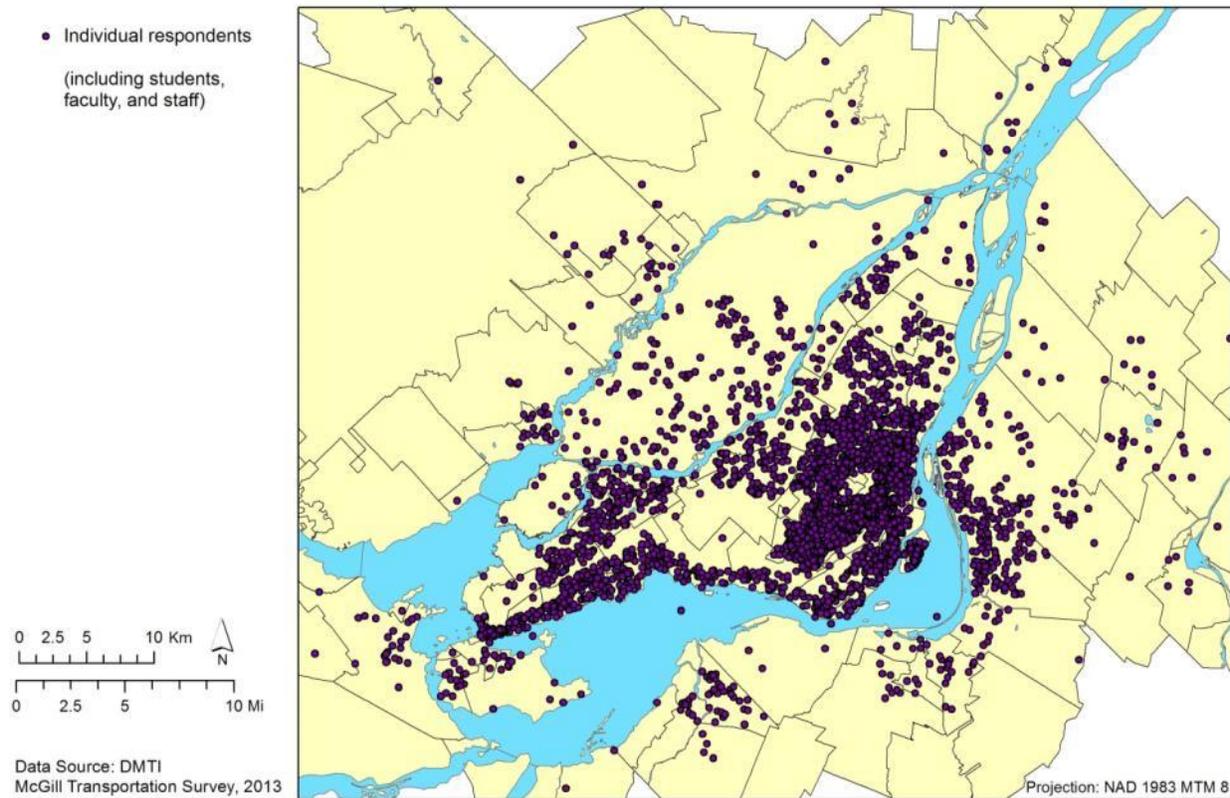
Finally, to avoid overloading the online survey, the online invitations were sent out in batches during the first days of the survey. The survey remained active for a total of 35 days during March and early April 2013. A total of 20,851 surveys were disseminated to the McGill community. Prizes were offered to encourage survey participation and a reminder email was sent out after a week of non-completion.

## SURVEY RESPONSES

20,851 surveys were distributed to the McGill community for the McGill Transportation survey; 6,609 responses were obtained by the closing date of the survey. This yielded a response rate of 31.7 %, which is quite high. The response rate of the 2011 McGill Transportation survey was 25.5% and similar rates have been obtained in comparable studies such as Páez & Whalen (2010). However, after cleaning the data to remove incomplete and nonsensical survey responses, 5,610 entries were determined suitable for use in subsequent analyses of the survey results. This is a larger sample than that obtained for the 2011 McGill Transportation Survey, for which 4,698 clean and complete surveys were obtained.

From the total number of full survey respondents (5,610 respondents), 2,880 respondents (51.3 %) are McGill employees (including faculty and staff), and 2,730 respondents (48.7 %) are McGill students. Despite the restriction placed on the number of students to whom the survey invitation could be distributed (discussed in the previous section), overrepresentation of McGill employees as compared to McGill students was lower than with the 2011 McGill Commuter Survey. This year's survey sample is thus both larger and more representative than that of 2011.

A large majority of survey respondents (96.7%) reside within the Montreal CMA. Figure 1 illustrates the distribution of their home locations throughout the region, showing that a majority of survey respondents reside on the Island of Montreal itself, with a high concentration around the downtown McGill campus and in the central-city boroughs and municipalities. There is also a high concentration of survey respondents located around the Macdonald campus and adjacent boroughs and municipalities of the West Island. This reflects the fact that a considerable proportion of McGill students and employees live close to either of the main McGill campuses. Large numbers of respondents also live outside the Island of Montreal, namely in Laval, north of the Island, and in Longueuil, Brossard, St-Lambert, and Chateauguay on the South Shore. Overall, the home location responses do not present major differences compared to the 2011 survey responses.



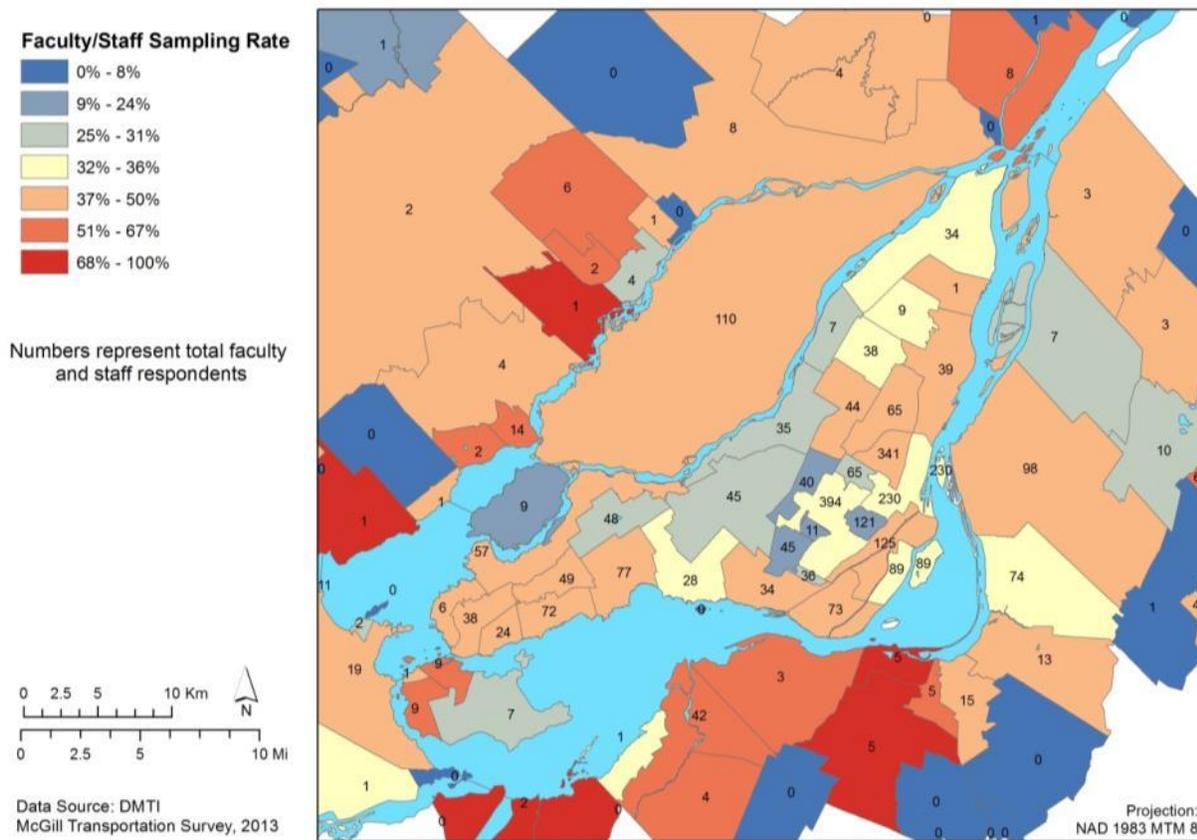
**Figure 1: Spatial distribution of the home location of all survey respondents, including students, faculty and staff**

**Figures 2 and 3** illustrate the sampling rate of McGill employees (including all faculty and staff) and McGill students, respectively, within each of the boroughs and municipalities in the Montreal metropolitan region. The sampling rates were calculated by dividing the number of survey respondents living in each borough or municipality within the metropolitan region (determined by geocoding the home location of respondents using the postal code or nearest street intersection provided by the survey) by the total number of McGill employees or students living in each of these boroughs or municipalities. The colour gradient in **Figures 2 and 3** depicts the sampling rate by borough or municipality, while the numbers shown on the map represent the actual numbers of employee and student respondents.

Although it appears that the sampling rate for some boroughs or municipalities is very high (such as the areas represented in dark orange and red in **Figures 2 and 3**), or low, where resident populations are very small this does not necessarily mean that people from such areas are significantly more or less responsive than average. We observe this especially in **Figure 2**: the majority of red and orange zones are outlying municipalities with few McGill employees living in the areas. However, some boroughs or municipalities have a high sampling rate *and* a high number of respondents – particularly in certain areas on the Island of Montreal (see **Figure 3**). In these cases, the sampling rates might reflect particularly high levels of interest among the surveyed populations.

Overall, the results presented in **Figures 2** and **3** illustrate that the survey respondents provide a good representation of employees and students, respectively, commuting to McGill from all over the Montreal CMA, with the exception of a few outlying areas.

For McGill faculty and staff (**Figure 2**), we obtained a sampling rate of 9% or higher for the majority of the boroughs and municipalities in the region, and a large portion of boroughs display a sample rate between 25% and 50%. In fact, when comparing the 2013 results to those of 2011, we discern a general increase in staff sampling rates. In 2013, a considerable number of boroughs and municipalities in the region show a sampling rate in the 32% - 50% range (even when disregarding the outlying municipalities with only a few individual respondents) in comparison to 2011, when the sampling rates were generally in the 25% - 36% range. Nevertheless, several boroughs on the Island of Montreal that were slightly underrepresented in 2011 remain so in 2013, such as St-Laurent, Cote-St-Luc, Westmount, Hampstead, and Mount-Royal.



**Figure 2: Sampling rate of faculty and staff by borough or municipality in the Montreal CMA**

For McGill students (**Figure 3**), a sampling rate of 5% or higher was obtained for most boroughs and municipalities, though outlying areas are perhaps underrepresented for students in the most Northern and Southern municipalities. In addition, some areas further away from the Island of Montreal,

such as Laval, La Prairie, and Mirabel, saw a decrease in both their number of student respondents and their sampling rate between the 2011 and 2013 surveys.

However, we notice generally higher sampling rates and student respondent numbers in 2013 as compared to the 2011 results, especially on the Island of Montreal. This is particularly noticeable in the central-city boroughs and municipalities. For example, Mercier-Hochelaga-Maisonneuve increased in its number of respondents from 27 to 46, and increased in sampling rates from 7% to 11% between 2011 and 2013. Other central-city boroughs such as the Plateau-Mont-Royal, Outremont, Ville-Marie, and the Sud-Ouest display similar trends. A few areas further away from the downtown campus (but still on the Island of Montreal) also show increasing values. We notice a larger number of respondents in St-Anne-de-Bellevue (an increase from 37 to 113 student respondents, and from the 10-12% range, to 29%) and Baie d’Urfé – reflecting a higher response rate from MacDonald campus students in 2013. Another example is the Rivières-des-Prairies-Pointe-aux-Trembles borough, on the eastern tip of the Island, which increased in its number of student respondents from 6 to 16, and in its sampling rate from the 1-4% range to 7%. Overall, despite the limitation set on the number of students to whom invitations could be sent, the results show success and improvement in student sample representativeness.

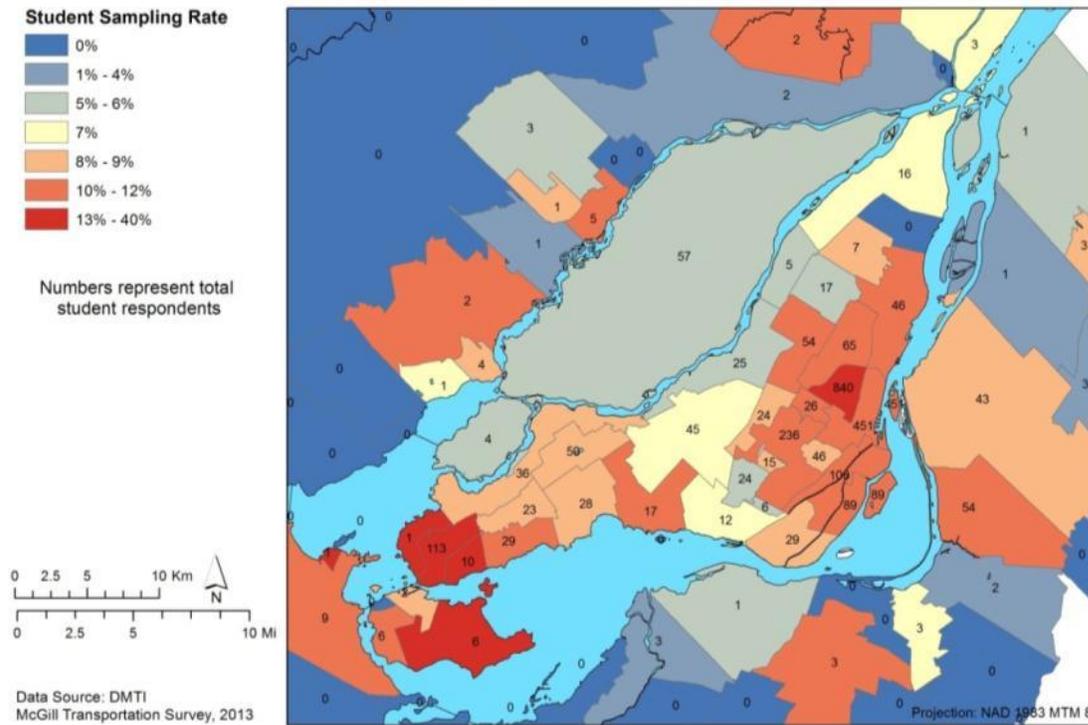


Figure 3: Sampling rate of students by borough or municipality in the Montreal CMA

# Section III – Summary Statistics

## MODE SPLIT

The mode split is the proportion of individuals who choose one form of transportation over another to arrive at their destination. Various modes of transportation define the commuting patterns within the McGill community. Mode split is categorized into three types of travel: those who use active transportation, those who use public transit, and those who use private motor vehicles. Each category could be further classified to specify the particular type of mode. These subdivisions would include: bicycling or walking (active transport); using the bus, metro, commuter train or McGill shuttle (public transit); and taxis, private cars, two-wheeled motor vehicles, or carpooling (private motor vehicles).

In this report, and unlike in 2011, we specify bicycling and walking, rather than generalizing active transportation. This was done to better reflect the differentiated nature of these two modes; in speed, in effort, in personal investment, in seasonality, and in the people that these very different yet sustainable modes attract. Thus, along with private motorized vehicles and public transit, these four main categories provide a simple framework with which to demonstrate the overall mode share of the survey sample population. The surveyed mode split by season is illustrated in **Figure 4**. Seasons are defined as cold-snowy and warm-dry days, just as it was worded in the original survey, though it should be noted that in this report, “summer” is often used to designate the latter, while “winter” is used to refer to the former.

Using expansion factors to account for the overrepresentation of McGill employees as well as spatial weighting to account for certain neighbourhoods being over- or under-represented in the survey, **Figure 4** effectively illustrates the most accurate possible portrait of McGill’s commuting patterns overall for 2013. Active transport and public transit, combined, are the primary modes of transport for just over

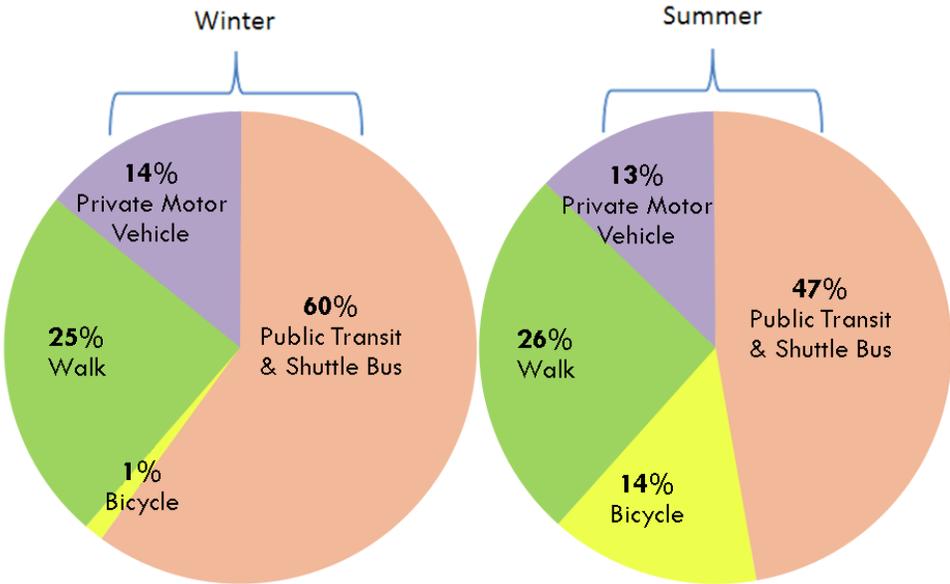


Figure 4: Mode split using expansion factors on cold, snowy days (left), and on warm, dry days (right)

86% of commuters' travel to McGill campuses for both seasons. In addition, these charts show that cycling witnesses the greatest proportional change by season (from 1% in the winter, to 14% in the summer), whilst walking and driving remain relatively stable. Indeed, walking increases by 1% in the summer, while driving decreases by 1% in the summer. Public transit also varies noticeably by season: it decreases from 60% to 47%, due mainly to the significant uptake of cycling in the summer (detailed in **Figure 6**)

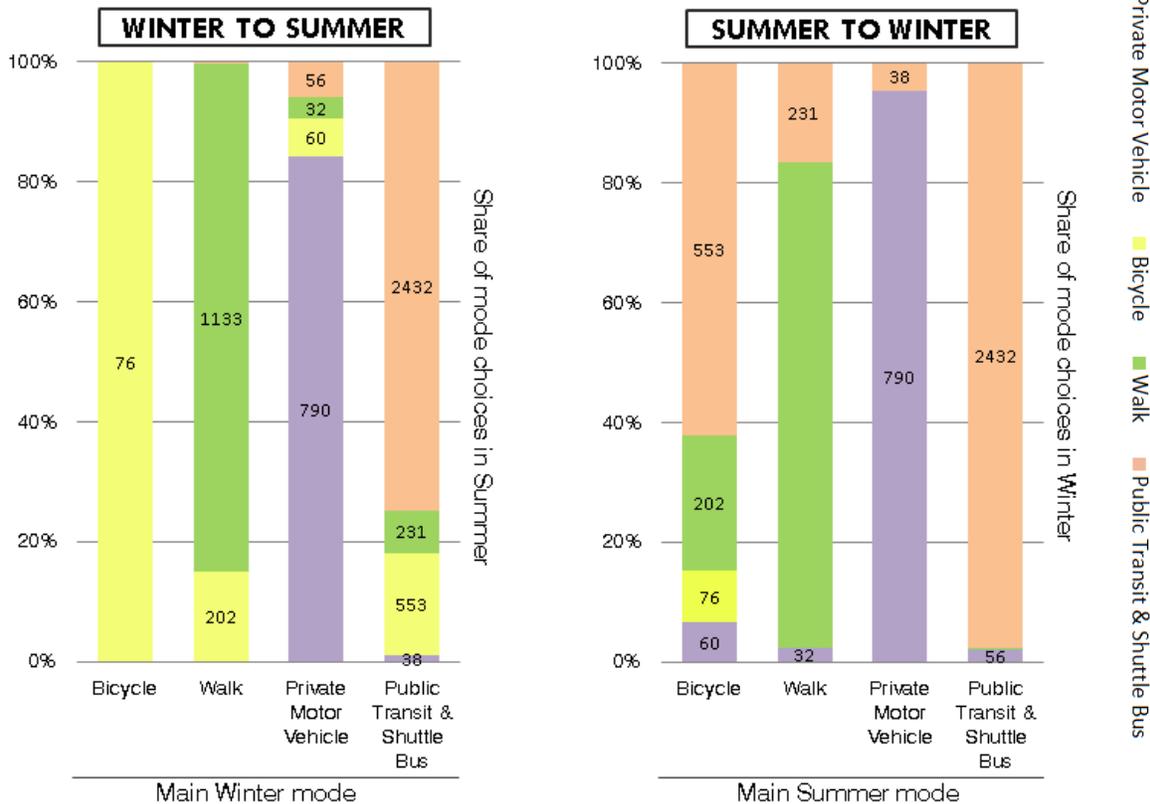
Comparing these results to the 2011 survey necessitates the exclusion of expansion factors and spatial weighting as these were applied differently that year. Using only the *count*, or in other words, the absolute number of respondents who are classified as cyclists, pedestrians, motorists or public transit users, we can draw a reasonable outline of commuting patterns and their variation between 2011 and 2013, the most noticeable and consistent change being the increase in bicycle use.



Figure 5: Mode split for 2011 and 2013 without spatial weighting or expansion factors

However, it should be noted that the wording used in the 2011 survey differs from that used in the 2013 survey. “Winter” and “Fall”, terms that resemble the jargon designating university semesters, were used in 2011. For the 2013 survey, which this report analyses, the terms “typical cold-snowy day” and “typical warm-dry day” were used to get a more accurate picture and avoid any ambiguities regarding interpretation of season names. In our comparison above, *Summer* or “warm-dry day” is compared to “Fall”, and *Winter*, or “cold-snowy day” to 2011’s “Winter”.

To further illuminate mode choice by season, **Figure 6** shows the seasonal flux of mode share in greater detail, conveying how people, and which mode users, change their mode depending on the season. This graph shows what portion of users of a given mode switches to other another mode with the change of season. For example, most respondents who claim to commute by bicycle on warm-dry days (first column to the right of the centre vertical axis) switch to various other modes on cold, snowy days. Just over 60% of summer cyclists choose public transit instead of cycling during the winter, about 20% walk in winter weather, and a hard-core minority maintain their cycling activity throughout the year. In contrast, walking, also a mode of active transportation, has a very different and far more stable seasonal flux. This might be due to a “distance threshold” (see discussion of **Figure 8**) that allows walking to be bearable regardless of outdoor conditions. The same can be said of the 20% of cyclists who choose to walk during winter: with residences within bearable walking distance from campus, they might choose to walk rather than cycle due to the extra effort caused by snow and danger by ice. The figure also shows that the vast majority of drivers maintain their mode habit year-round. The trend is similarly stable for transit users, yet around 15% of winter transit users switch to cycling as their mode of transportation during summer.

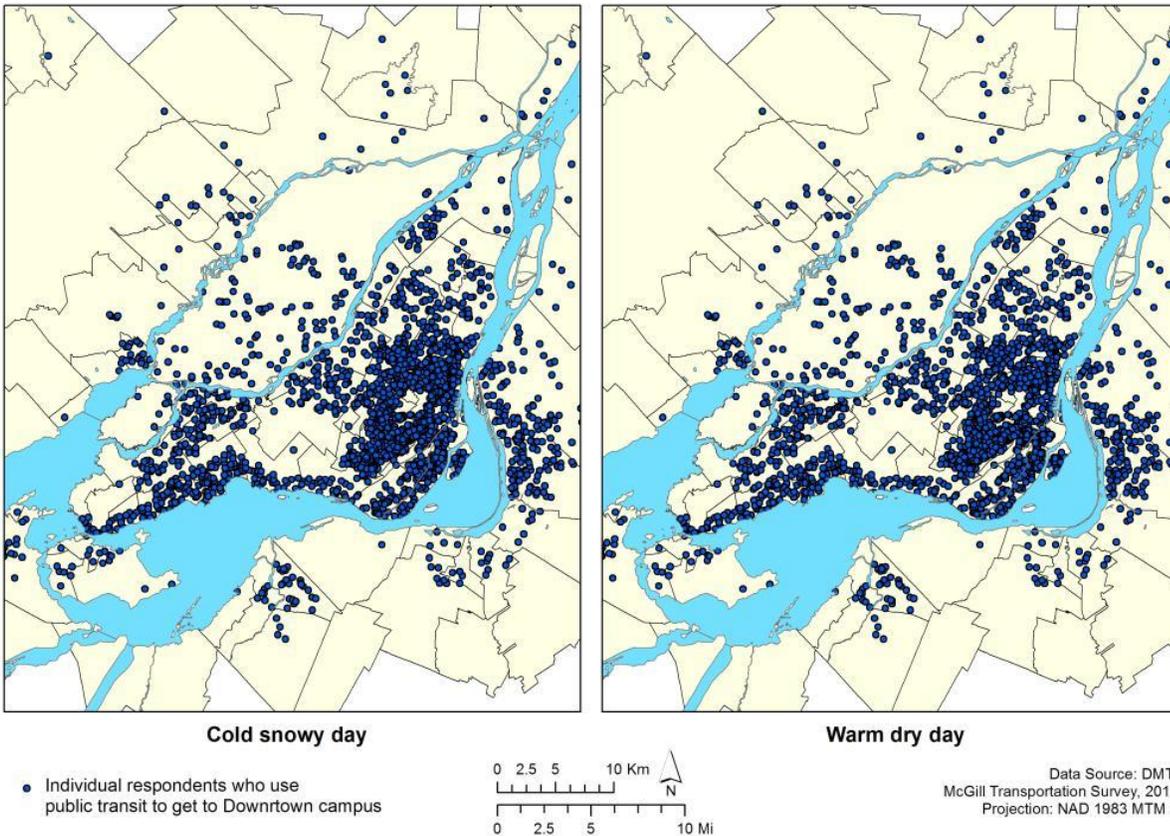


**Figure 6: Mode change from winter to summer for each given mode (left); mode change from summer to winter for each given mode (right)**

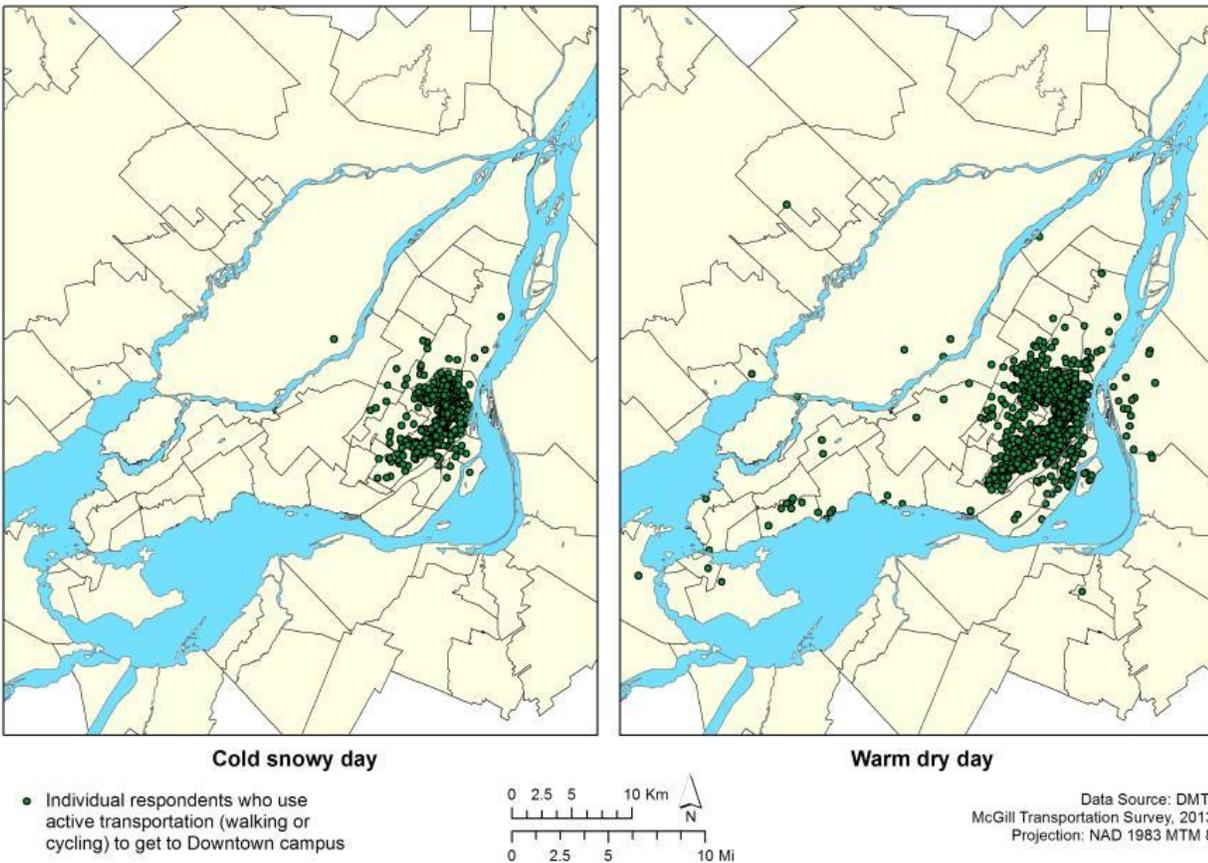
It is also educative to examine people's main mode of transportation in relation to their home location. The following maps display the origin location from which people commute, which campus they are heading to, and their main mode of transportation (public transportation, active transportation, or private motorized vehicle). The maps differentiate commutes traveled on cold snowy days from those on warm, dry days. The first series of maps (**Figures 7 and 9**) shows individual respondents who take public transportation (commuter train, bus, or metro) to the downtown and Macdonald campuses, respectively. **Figures 8 and 10** show those who use active transportation, and **Figures 11 and 12** show those who use a private motorized vehicle.

A majority of people chose to use public transit as their main mode of transportation, especially in winter (60%), but in the summer as well (47%). It is interesting to see the large geographical extent within the CMA from which people commute by public transit. Public transit is as extensive in its reach as the private motor vehicle. Moreover, it is worth comparing the public transit maps for cold, snowy days to those of warm, dry days. For example, in **Figure 7** we see a decrease in public transit users when the weather is warm and dry (as previously mentioned), but these additionally tell us that people who stop using public transit on warm dry days seem to be concentrated relatively close to the downtown campus.

To better understand this pattern, we can look at the active transportation maps (**Figures 8 and 10**). It seems that people who live a moderate distance from campus (for example, people West of Atwater, but East of Montreal-West; or people in the Plateau Mont-Royal and Mile-End neighborhoods) switch to active transportation on warm, dry days (largely from public transit as previously discussed). The radius of active transportation users extends much further around the downtown campus area in the summer than in the winter. Coming back to the idea of the "distance threshold" mentioned above, based on the maps and the charts, it seems that the walkers, who tend to walk all year long, live quite close to campus (downtown, Milton-Park neighborhood, parts of the Plateau), while people who take up cycling on warm dry days are those who live a little further away from their destination. In the winter, that distance is too far to cycle, but in the summer, it is more feasible and/or enjoyable.

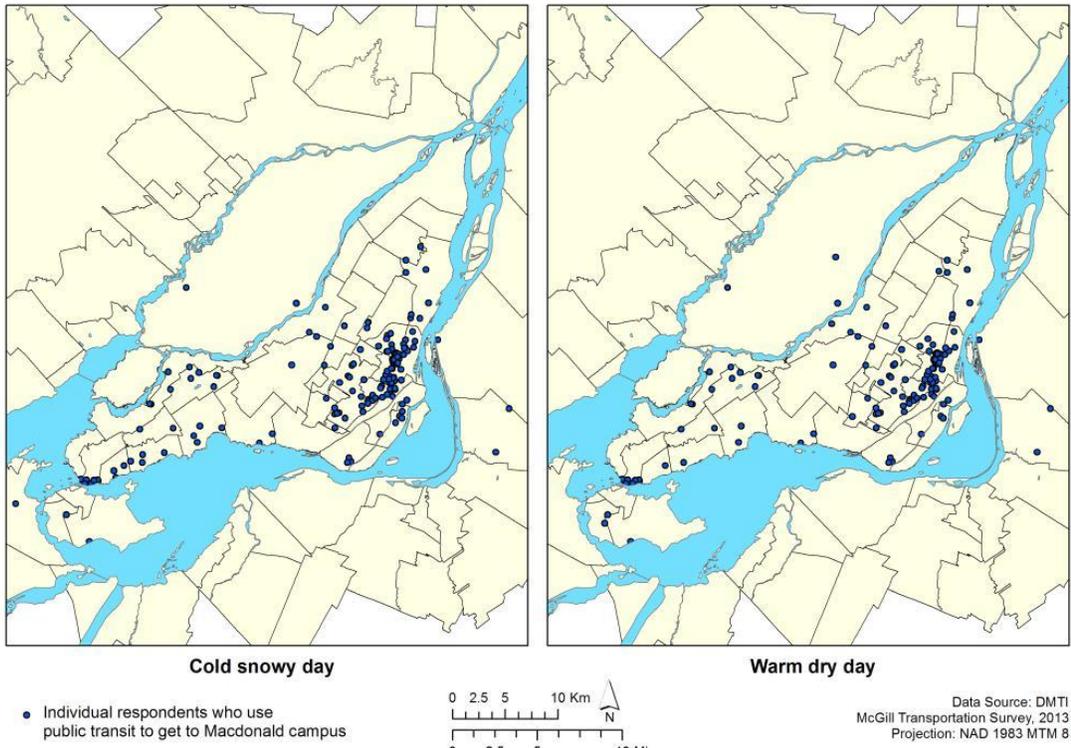


**Figure 8: Home location of respondents whose main mode of transportation to the downtown campus is public transportation for cold, snowy days (left) and for warm, dry days (right)**

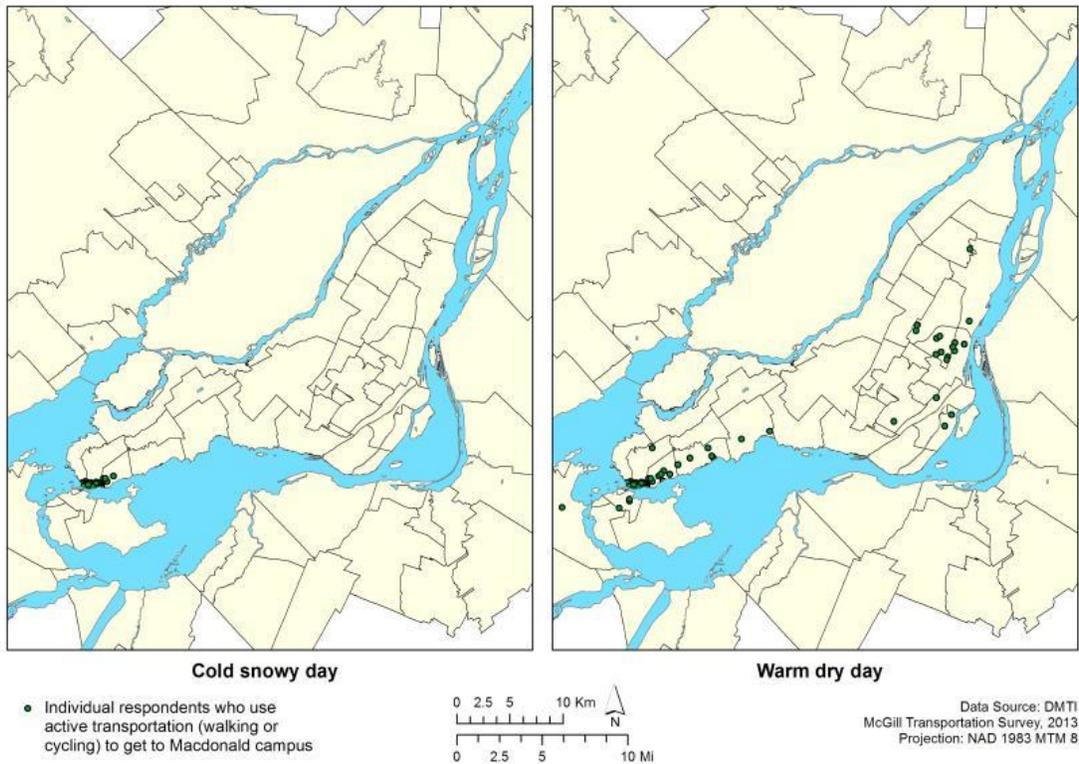


**Figure 7: Home location of respondents whose main mode of transportation to the downtown campus is active transportation (walking and cycling) for cold snowy days (left) and warm dry days (right)**

The same pattern is also discernible for the Macdonald campus, as shown in **Figures 9 and 10**. However, because of the small sample size, and because of the location of the Macdonald campus in St-Anne-de-Bellevue, it is less stark of a change. We do notice a slight decrease in public transit commuters to Macdonald in the summer, as well as a summer increase in active transportation users, especially from people located in the West Island (St-Anne-de-Bellevue, Baie d'Urfé, Pointe-Claire and Île-Perrot) or relatively near Downtown Montreal.



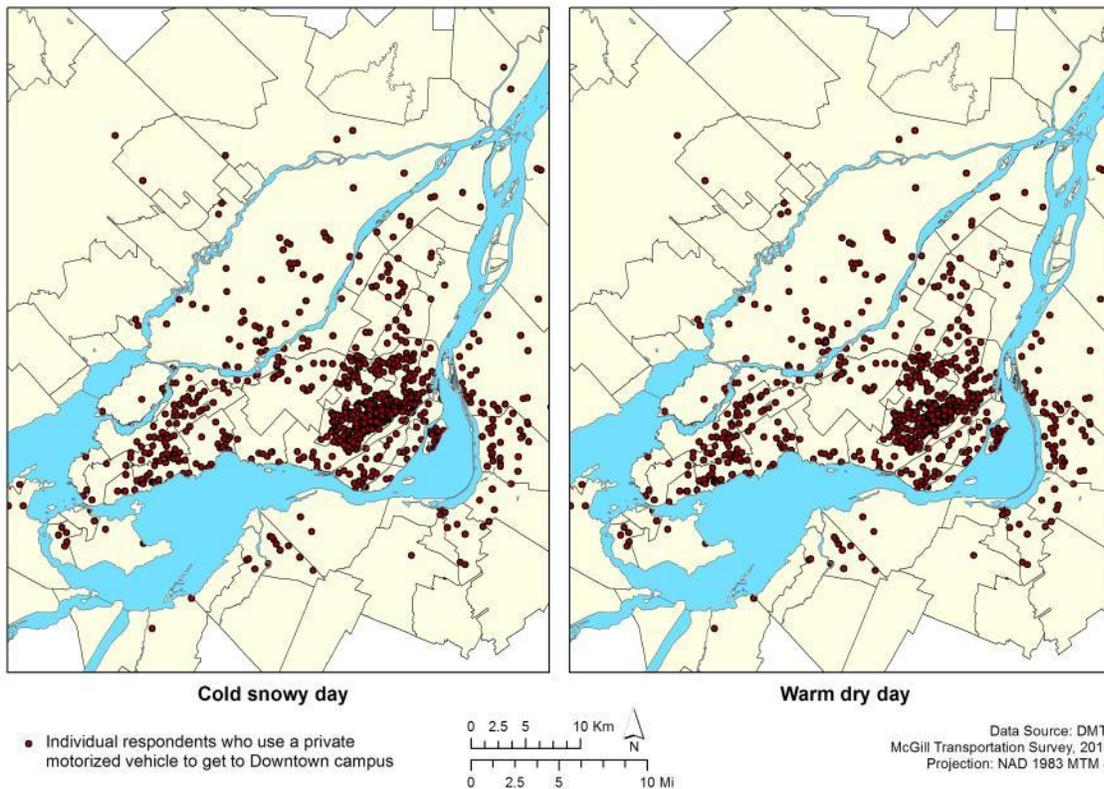
**Figure 9: Home location of respondents whose main mode of transportation to the Macdonald campus is public transportation for cold, snowy days (left) and for warm, dry days (right)**



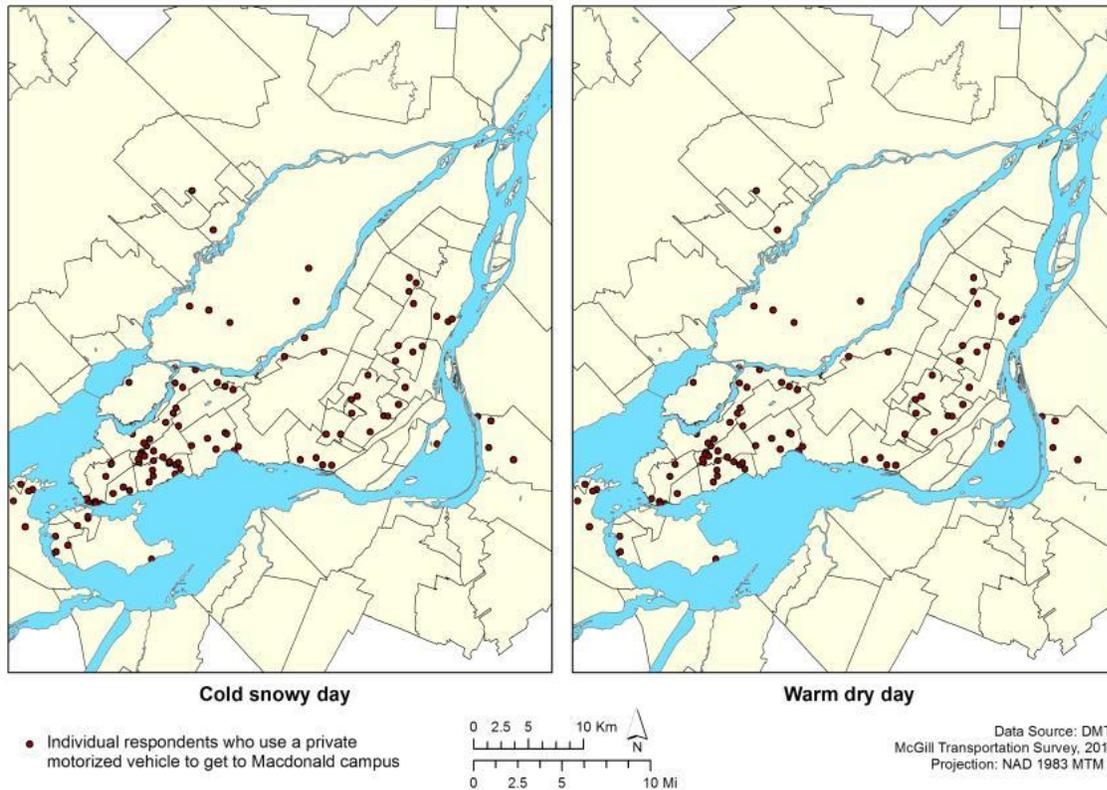
**Figure 10: Home location of respondents whose main mode of transportation to the Macdonald campus is walking or cycling (active transportation) for cold snowy days (left), and for warm dry days (right)**

Concerning private motor vehicles (**Figures 11 and 12**), it is more difficult to notice changes based solely on the maps than for other modes. The first observation is that, as for public transit, the geographic reach of this mode is large, and extends to outlying areas of the metropolitan region. Users of private vehicles seem fairly dispersed across the region. In addition, it seems that the use of cars is fairly constant across seasons, as also demonstrated in **Figure 4** (decrease from 14% to 13% from winter to summer).

Compared to the downtown campus, a large proportion of trips made to the Macdonald campus involve private motorized vehicles. Active transportation is feasible, but only for people living relatively close, or for people willing to cycle for a considerably long distance (such as those cycling from the downtown campus). Public transit is an option – the McGill shuttle service, the commuter train, and a few bus lines are available – but service is sparse and not always quick or reliable, making private motor vehicles comparatively attractive.

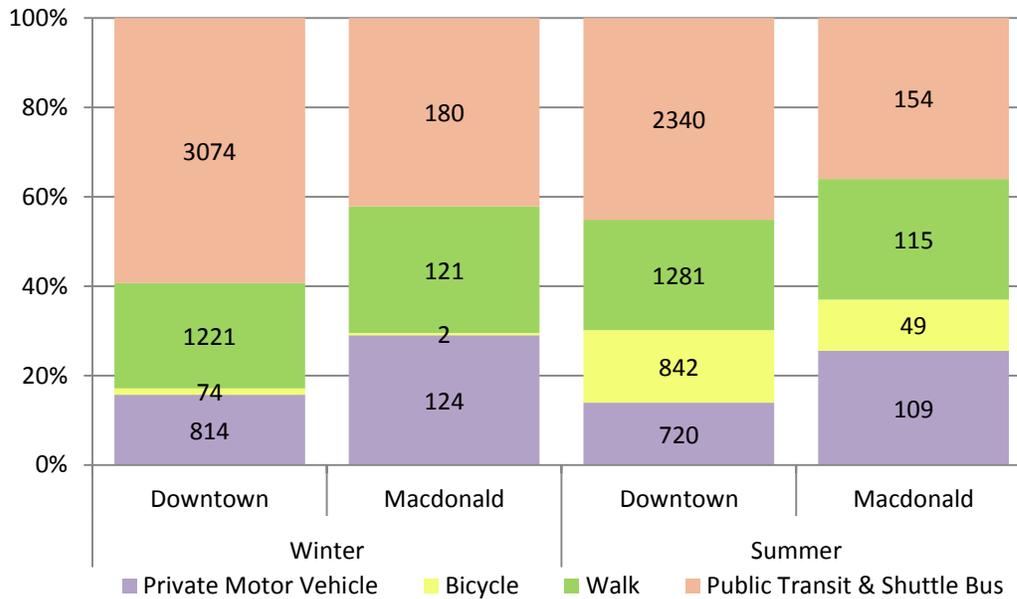


**Figure 11: Home location of respondents whose main mode of transportation to the downtown campus is a private motorized vehicle for cold, snowy days (left) and for warm, dry days (right)**



**Figure 12: Home location of respondents whose main mode of transportation to the Macdonald campus is a private motorized vehicle for cold, snowy days (left) and for warm, dry days (right)**

Furthermore, it is interesting to look at the mode split by campus. As is illustrated in **Figure 13**, active transport modes remain fairly constant for both campuses and seasons. As has been seen in previous figures, bicycle usage increases during summer for both campuses (**Figure 13**), but the downtown campus sees a slightly higher proportion of cyclists in both seasons. Bicycle infrastructure is highly developed around the downtown core, facilitating the movement of people by this active means. The small town of Ste. Anne de Bellevue, along with on-campus residences, provide places for living within walking distance of campus – hence the strong proportion of walkers – yet does not have the same extensive network of cycling facilities as the urban centre. The highest levels of transit rates are found among those that travel to the downtown campus. Due to the proximity of the McGill metro station to the lower end of campus, as well as the high frequency of several buses on the main arteries nearby, high transit use to these areas is not unexpected. Of those who travel to the Macdonald campus, the intercampus shuttle contributes to one fourth of all trips made there. Of public transit users who commute to Macdonald campus, 60% of their trips during winter include the intercampus shuttle and 67% during summer. This shows that on top of facilitating access between campuses, the shuttle plays an important role in students’ daily commutes to this West Island campus.

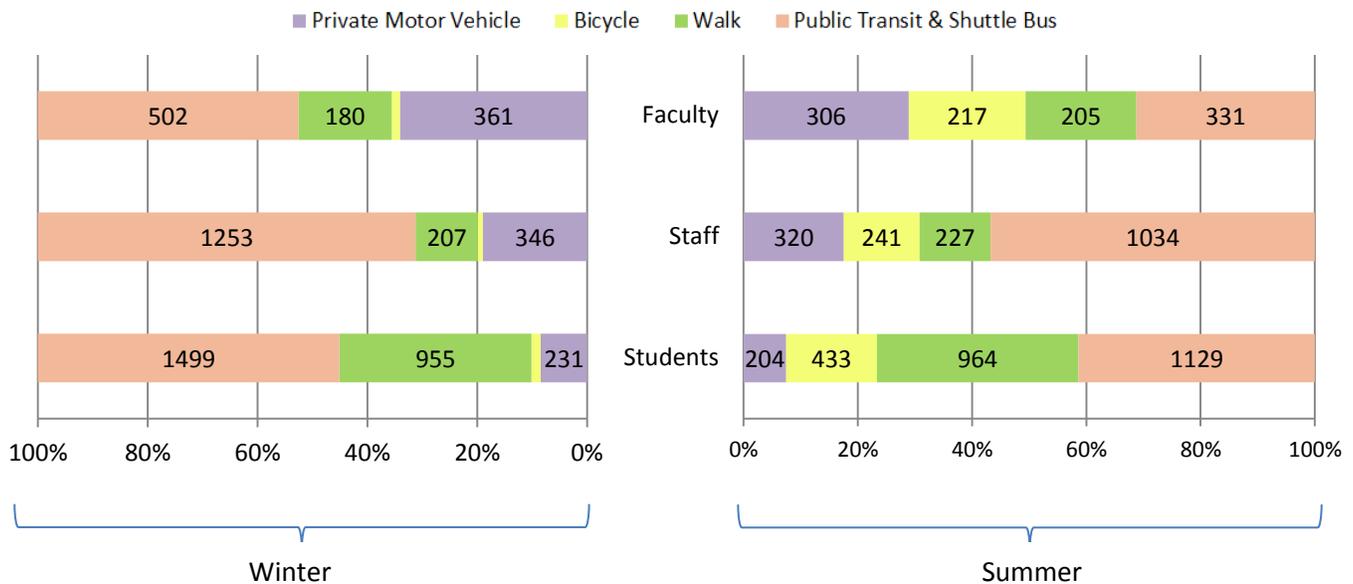


**Figure 13: Summer mode of transport by campus**

A higher proportion of Macdonald than downtown commuters drive to campus. With its location on the far end of the West Island, the area is significantly less dense in population and destinations, and is thus capable of supporting less frequent or direct transit service. As mentioned above, the commuter train, the McGill shuttle bus, and few bus lines service the town of Ste. Anne de Bellevue, but the comparatively limited service reduces the viability of these options for some commuters. While walking and cycling are feasible if individuals live near the Macdonald campus, many commute long distances, often difficult here without an automobile.

## DEMOGRAPHIC MODE SPLIT

When looking at the mode split by university status (**Figure 14**), we see that transportation choices vary by status. Motor vehicle use is higher for staff (between 15 to 20% for winter or summer) than students (less than 10%), and even higher for faculty (30 to 40%). An apparent seasonal flux is consistent across all categories, with cycling as a prominent mode in the summer time for students, staff and faculty alike, mainly taking away from private motor vehicle and public transit ridership.



**Figure 14: Transport mode by university status (faculty, staff, and student)**

When looking at the mode split by age (**Figure 15**), we see that an increase in age is associated with a higher prevalence of car use, whereas both active transport and public transit gradually decreases with age. However, the most common mode continues to be public transit and rates of transit use stay relatively constant across age brackets. For winter months, transit share exceeds 50% in all but two groups: those under 20 years old, and those over 70 years old. These findings are consistent with the 2011 survey. Transit accounts for nearly 60% of the mode share in most other age brackets. However, the general pattern illustrates that the share of bicycling and walking decreases substantially with age. Active modes of transportation are highest in the youngest age brackets, reach a minimum for baby boomers and slightly increase for those in their late 60's and 70's. As pictured in **Figure 14**, 90% of students (who tend to be some of the younger university commuters) cycle, walk, or take transit, but **Figure 15** shows that the non-automobile share for the two youngest groups is much higher still.

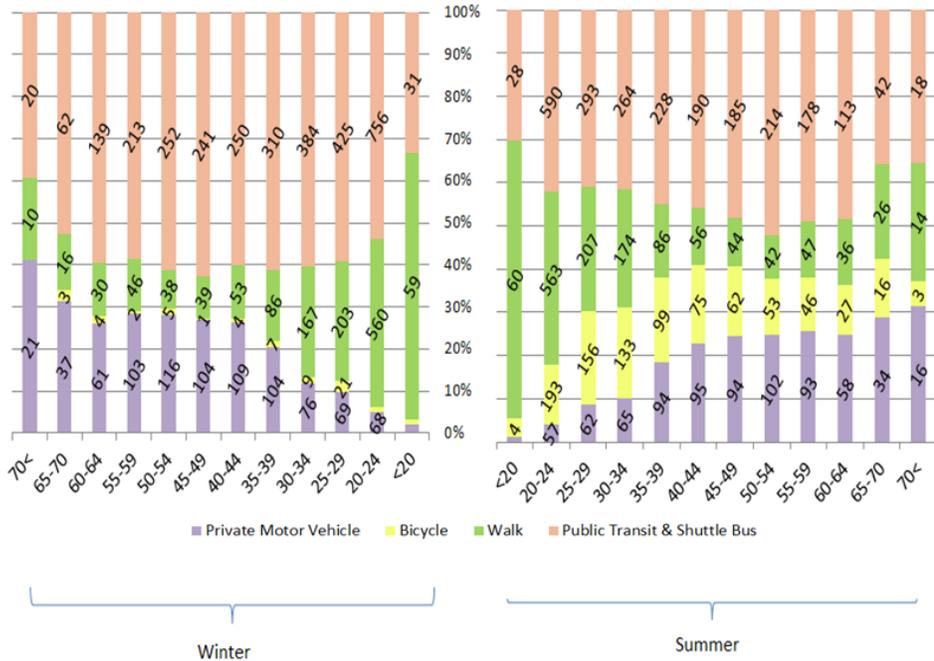


Figure 15: Transport mode by age group

Reported annual income might not always accurately indicate spending power, as some respondents, particularly students, earn little while at school but draw from substantial personal or family funds. Nonetheless, mode choice appears to differ greatly by income level. Higher income levels are correlated with increased car use to the detriment of public transit, which decreases accordingly (Figure 16). Active transportation mode shares, however, remain relatively constant across all income levels except for the lowest, in which it is comparatively high. This trend is visible for both cold snowy and warm dry days. While financial necessity might play a large role in the use of active transportation modes at the lower end of the income gradient, respondents with higher income might choose these modes more for exercise, leisure or environmental reasons. These motivations and barriers are later explained and illustrated in Sections IV and V.

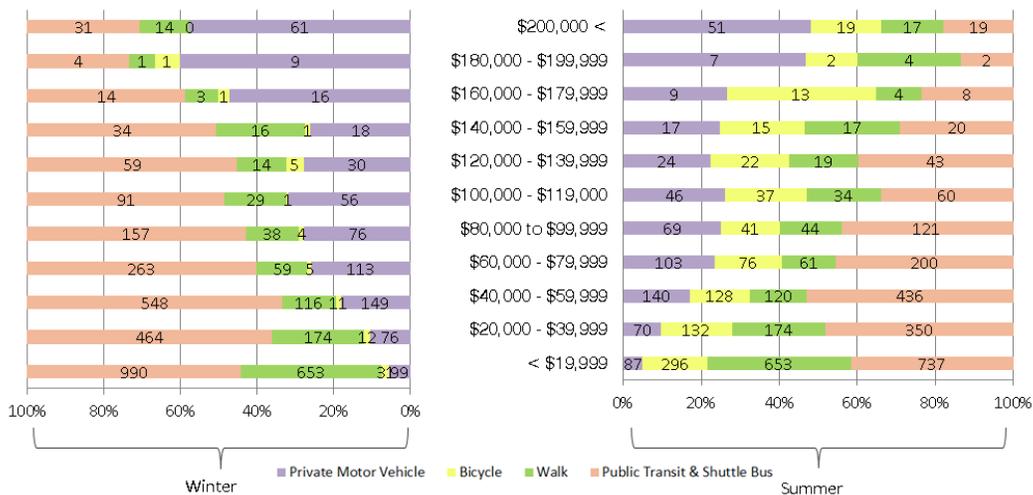
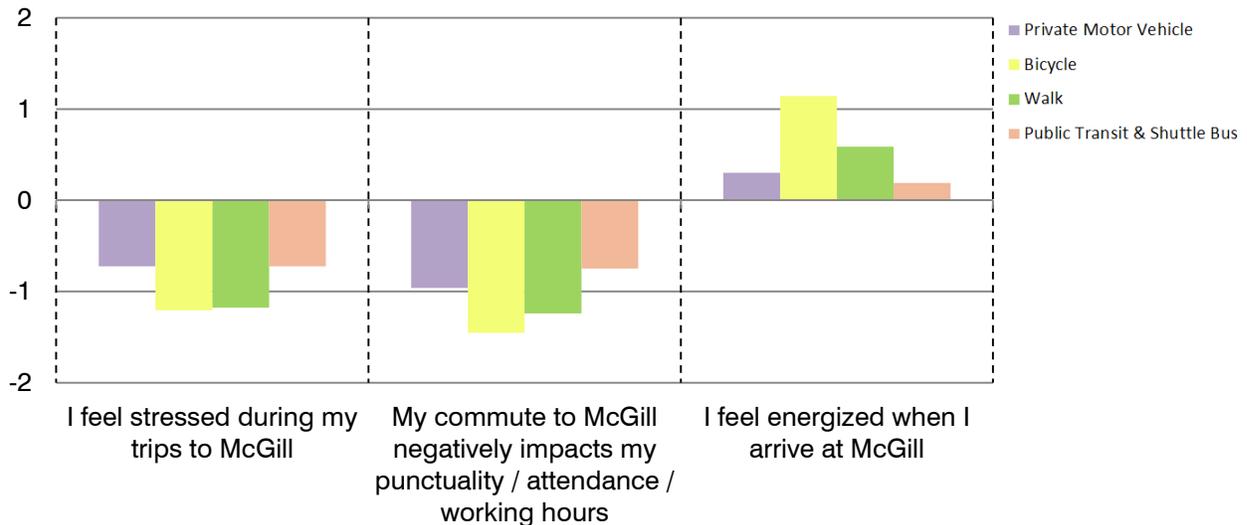


Figure 16: Transport mode by income

## Section IV – Trip Satisfaction

Commuting is most enjoyable when disturbances are minimized, and when efficiency and convenience are maximized. To that end, mode choice decisions involve trade-offs of factors such as travel time, cost, and comfort, affected by season and other conditions. The impetus to adopt higher commuting costs may coincide with the onset of harsh temperatures, while the convenience of walking may be reconsidered if shorter travel time can be attained through another mode. Trip satisfaction reflects such issues, and satisfaction with elements of the daily commute can affect subsequent choices.

**Figure 17** below shows how different mode users feel during or after their trip to McGill – asked on the basis of their level of stress, their level of energy, and their ability to be punctual. Drivers show the highest level of stress during their trip, and public transit users follow closely after. Walkers and cyclists have about the same level of stress. This might be related to the troubles of being stuck in traffic for drivers and people who use the bus, as well as the congestion of the metro, for example. Similarly, drivers and users of public transit also show more concern about how their mode choice negatively affects their punctuality than do active transport users – this might also be due to congestion and traffic. Finally, drivers and public transit users are about equal in feeling the least energized after their trip to McGill. Walkers rank slightly higher, while cyclists report feeling the most energized after their commute, suggesting possible positive impacts on their work or study performance.



**Figure 17: Mean degree of agreement with statements regarding overall trip satisfaction by main mode of transportation on a warm, dry day. The horizontal axis labeled with a 0 indicates *Neutral*, with everything above indicating *Agree* (1) or *Strongly Agree* (2) and everything below the horizontal axis indicating *Disagree* (-1) or *Strongly Disagree* (-2)**

**Figures 18 to 24** show respondents' levels of satisfaction with regard to various statements related to the modes of transportation they use, and provide much more nuance than **Figure 17**. Weather severity can be a forceful determinant of mode share. Disturbances caused by seasonality affect trip satisfaction, particularly during colder months. Although cyclists and walkers may feel the direct effects of snow accumulation, ice, and cold, users of active modes were in fact found to have the highest rates of satisfaction. Between 80% and 90% of summer *and* winter cyclists "agree" or "strongly agree" with statements regarding comfort, safety from crime, time consistency, and length of time (**Figures 18 and 19**). Cyclists are much less satisfied, however, with regard to safety from traffic, especially during winter. The same is true for their perceived condition of bicycle infrastructure, which is also worse in winter. This is understandable given that some bicycle paths remain covered in snow or parked on by cars, their maintenance perhaps given low priority due to the low cyclist population during this season.

For those who walk to campus, levels of agreement with most statements regarding trip satisfaction are slightly lower yet remarkably similar to those of cyclists, the exception being a much higher opinion of traffic safety (**Figures 18 and 19**). Approximately 80% of walkers "agree" or "strongly agree" with statements regarding satisfaction with the length of time and comfort of their walking trip, as well as safety from traffic, crime, and unwanted attention. Comfort and length of time spent walking are slightly less satisfactory in winter, understandably, given the exposure to harsh weather, making walking lengths perceived as pleasant in the summer rather painful in the winter. The high agreement that bicycle- and foot-travel times are consistent (**Figure 18 and 19**) helps explain the low reported impact on punctuality and attendance, and possibly stress, seen in **Figure 17**. Active transportation users have reduced reliance on parts of transportation networks that are often congested by private motor vehicles and public transit, and have more control over their trip even in bad conditions, as weather delays can often affect entire network operations.

## Bicycle

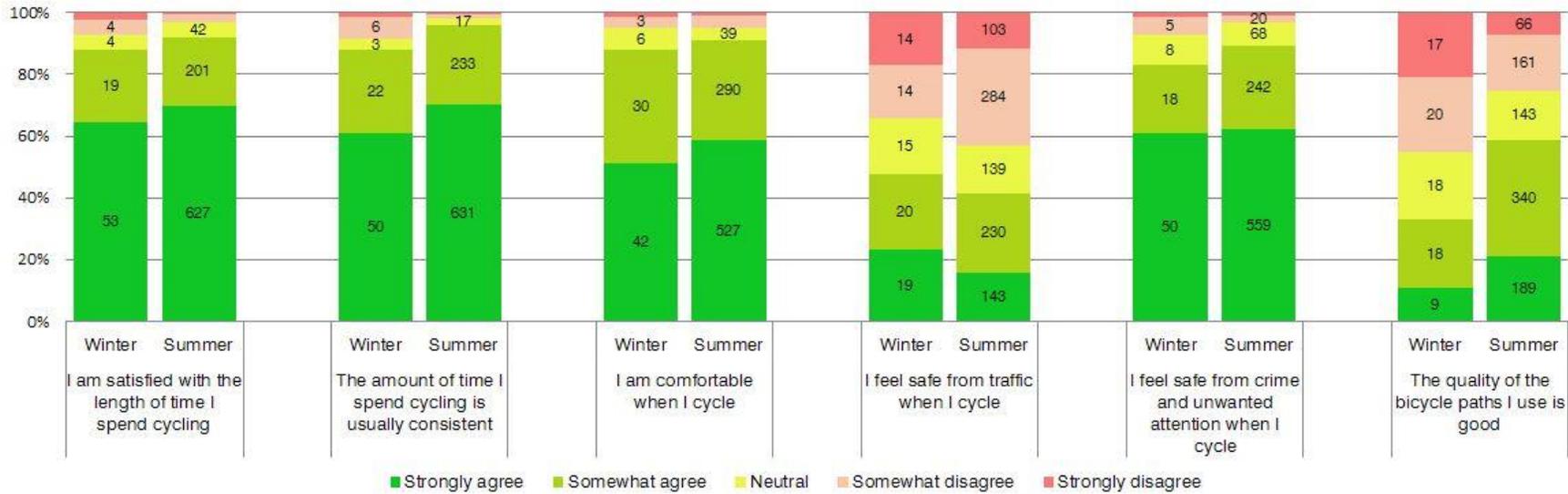


Figure 19: Level of satisfaction of respondents who used a bicycle as part of their commute to McGill

## Walk

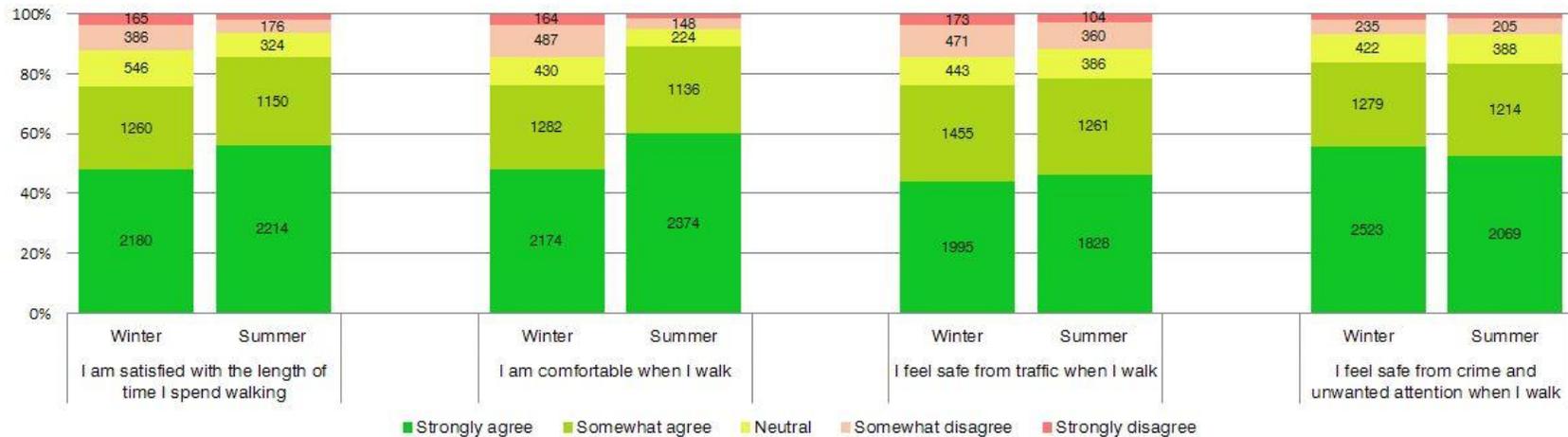


Figure 18: Level of satisfaction of respondents who walked as part of their commute to McGill

Around 60% of motorists are satisfied with their commute time, which is 20% less than for those using active modes of transportation. This level of satisfaction is similar to those for bus and intercampus shuttle (**Figures 20, 22, 24**). These three modes are those for which respondents are the least satisfied regarding length of time spent in the vehicle. Interestingly, these three modes rely the most directly on the road network, where congestion is common. Similarly, cold and snowy weather affects buses and cars more than any other mode surveyed. Conversely, those using rail are more satisfied by 10% on average with regard to length of time. Motorists are, however, quite satisfied with time consistency - much less so than active mode users, but to a similar degree as commuter train users. Levels of satisfaction with trip time consistency for these two classes are far greater than for bus and metro users. The metro is often plagued by delays to an entire line, while the bus may suffer the same traffic delays as cars, but is further burdened by frequent stops and slow passenger boarding.

Motorists, like cyclists – as independent riders of a personal vehicle and predominantly road users – feel more vulnerable to traffic than pedestrians (**Figures 18, 19, 20**). Cyclists feel by far the most vulnerable, as their size is no match against a car or truck and infrastructure is much less catered to their mobility needs, yet their speed is much higher than walkers'. Despite their defences, motorists remain a serious danger to other motorists, and the danger of a crash is well known. Tension between motorists and cyclists, seemingly increasing every year as cyclist numbers increase, might also add to the motorists' stress (**Figures 18, 20**). This is explored in Section VII.

The aspect that motorists are the least satisfied with, and less so than for any other mode class in the survey, is cost (**Figure 20**). Less than half of drivers are satisfied with the cost of driving. Commuter train users come second, followed by other public transit users. With high and rising fuel prices, as well as taxes and other costs associated with car ownership, the car is the most expensive mode of transportation for survey respondents. Commuter trains are indeed the most costly mode of public transit in Montreal, yet along with cars, they are the only viable modes available to many commuters beyond Montreal's dense urban grid. This may be a dilemma for several members of the McGill community. The cost of living far from campus is illustrated in their level of satisfaction, indicating that these users may be aware of better alternatives closer to the city core, but unavailable to them (refer, for example, to the maps of Section III, showing that car users are often those who live further from the city core). Commuter train, metro and bus users have similar levels of satisfaction regarding cost, with between 50% and 60% agreeing or strongly agreeing with the statement that the cost of these services are reasonable (**Figures 21, 22, 23**).

Understandably, people are more satisfied with the length of time it takes them to get to a bus stop than a metro station, given the much wider dissemination of the former. Time consistency is similarly viewed for metro and bus in the summer, yet users are less satisfied with the latter in winter when weather delays affect road networks but not underground rail. However, satisfaction with safety from crime and unwanted attention is 10% less in metros, likely due to the limited mobility within a metro station, and perhaps to the presence of loiterers or panhandlers. The issue of crime will be further discussed in Section VI.

People using the intercampus shuttle are the least satisfied with service performance. This is an important finding, considering that this service is directly provided by McGill University and is still the fastest way to get from downtown to West Island and back without a car. The satisfaction with waiting time for this service, at 30% in summer and just over 20% in winter, is the lowest level of satisfaction among public transit services surveyed. The bus, which departs from each campus every 45 minutes and generally takes about 35 minutes to reach the other if traffic conditions permit, sometimes lacks sufficient capacity. Some would-be passengers then need to wait for the next shuttle, especially during peak hours. This can be uncomfortable in winter if one must remain queued outside to secure a spot. Moreover, the bus ceases operation at 6:00 pm. These are indeed limitations in service, yet this bus is at times the only direct mode of public transit available from downtown to West Island (other options require taking the metro first and then a bus which is required to stop along the way).

In general, trip satisfaction is greater on warm, dry days than on cold, snowy days, and to the same degree for active modes as for motorized modes. Satisfaction regarding bicycle infrastructure shows the greatest seasonal difference, with approximately 25% less satisfaction in winter than in summer. The only factors associated with higher degrees of agreement in winter than in summer are those regarding crime. Satisfaction associated with safety from unwanted attention is perceivably and consistently higher in buses, metros and commuter trains during winter by a small margin. The intercampus shuttle sees no threat of crime or unwanted attention; this is expected given the reserved and homogenous nature of its passengers, all of whom are McGill students.

## Motorized Vehicle

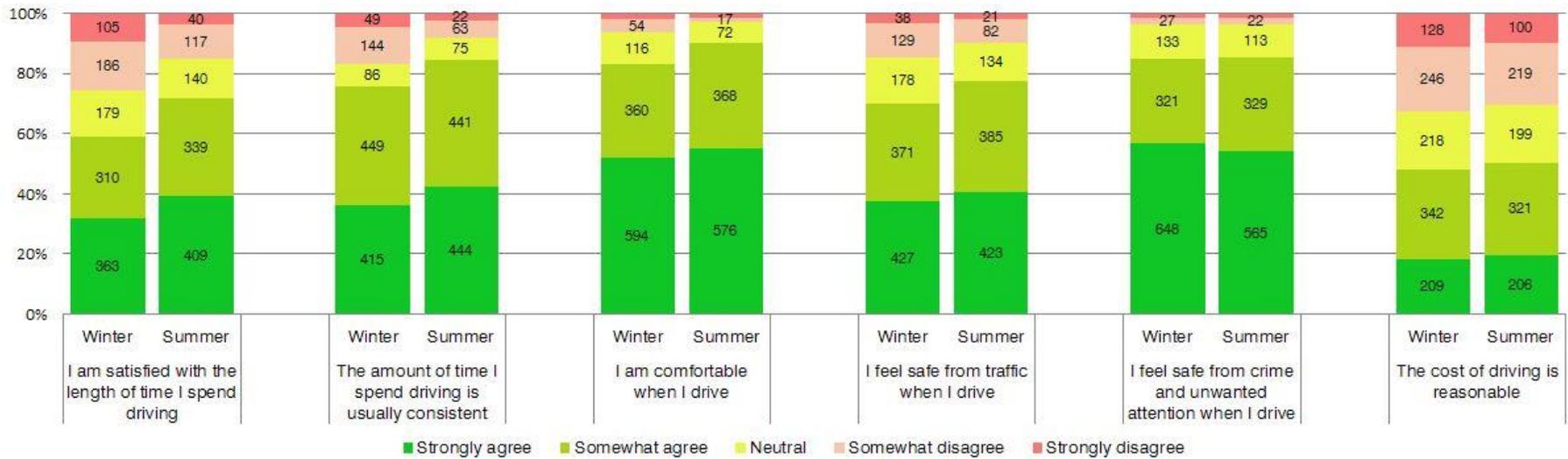


Figure 20: Level of satisfaction of respondents who used a private motorized vehicle as part of their commute to McGill

## Commuter Train

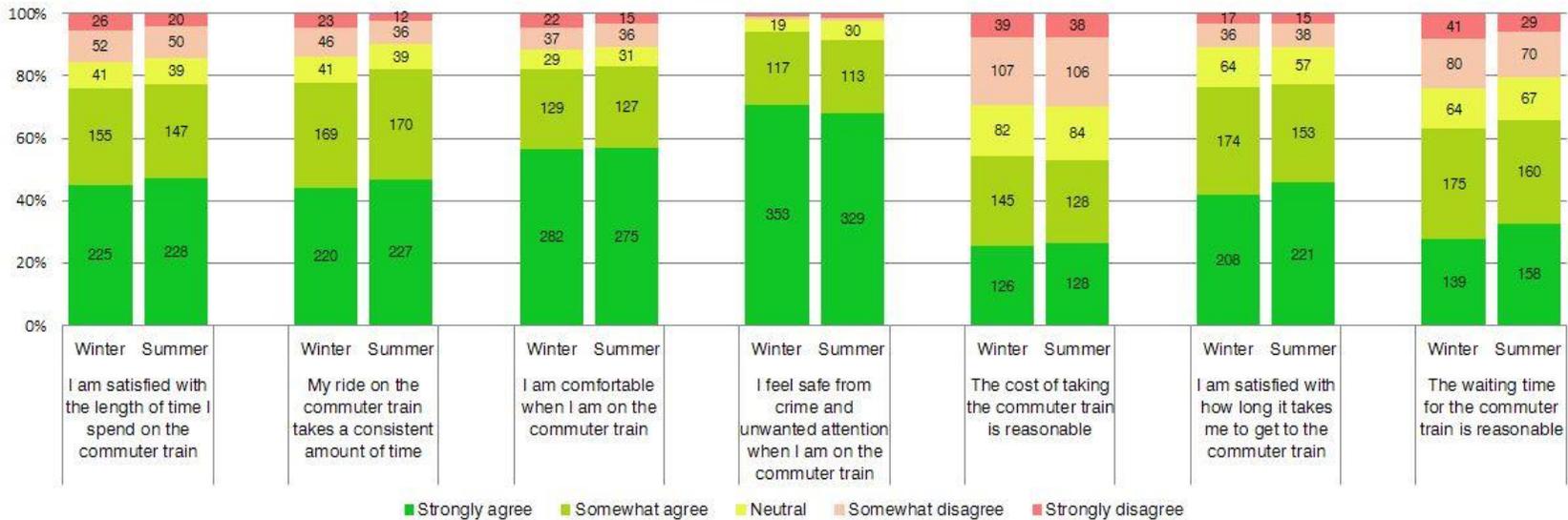


Figure 21: Level of satisfaction of respondents who used the commuter train as part of their commute to McGill

## Bus

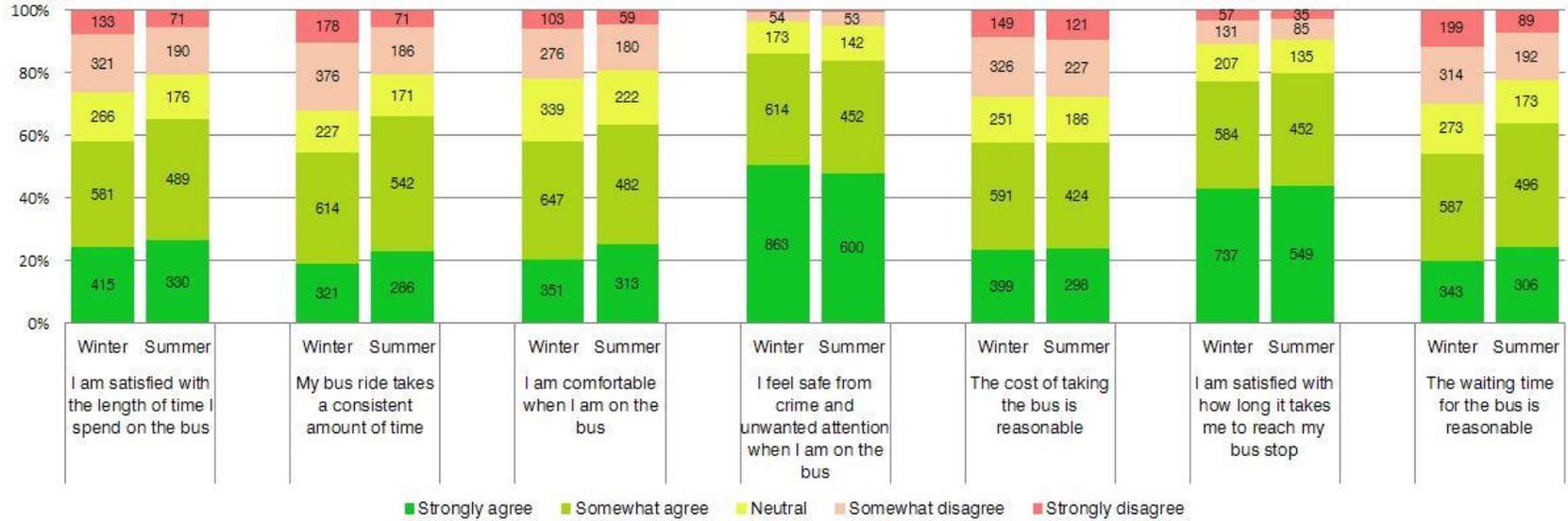


Figure 23: Level of satisfaction of respondents who use the bus as part of their commute to McGill

## Metro

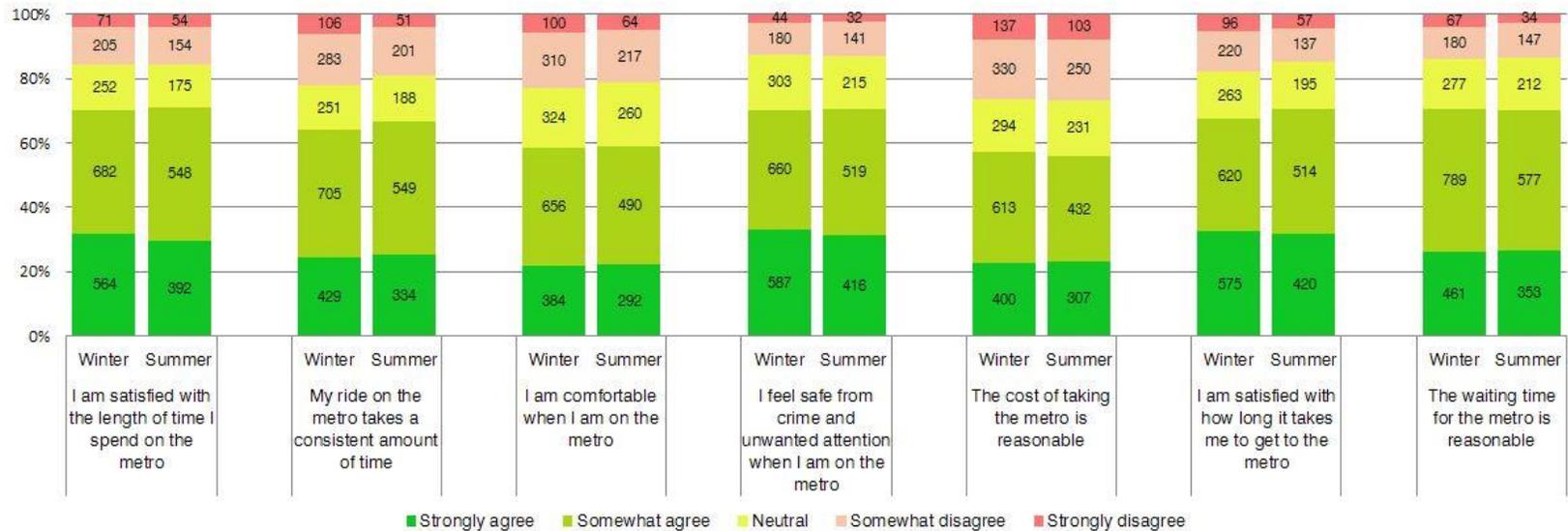
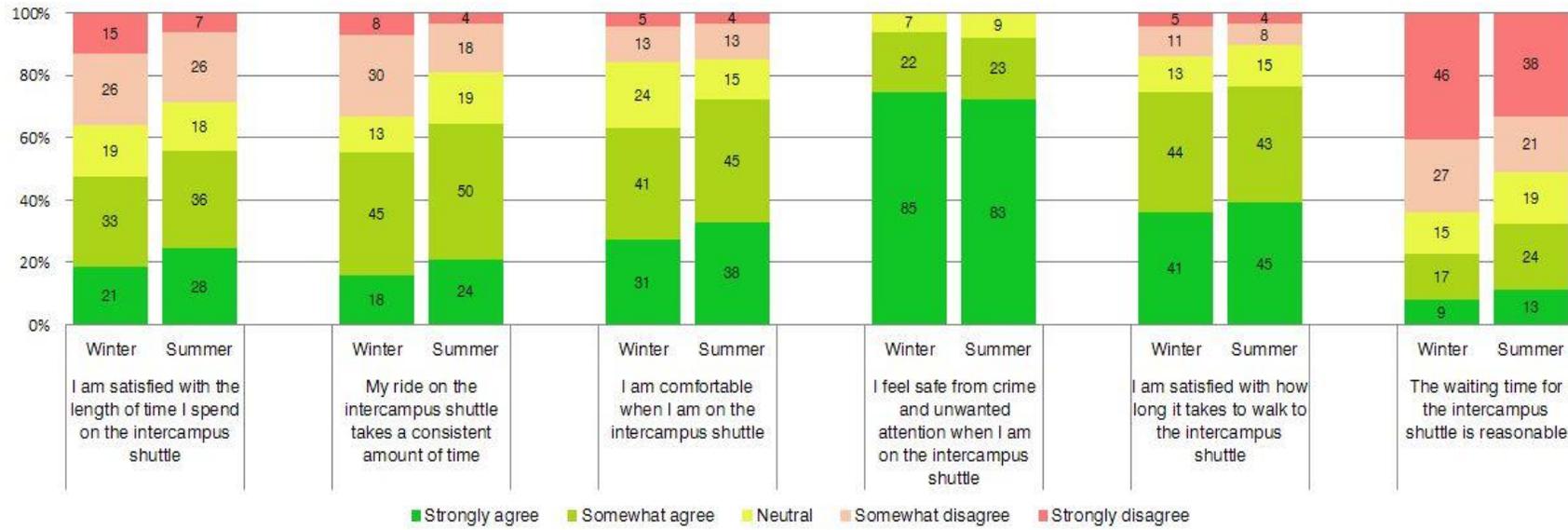


Figure 22: Level of satisfaction of respondents who use the metro as part of their commute to McGill

## Intercampus Shuttle



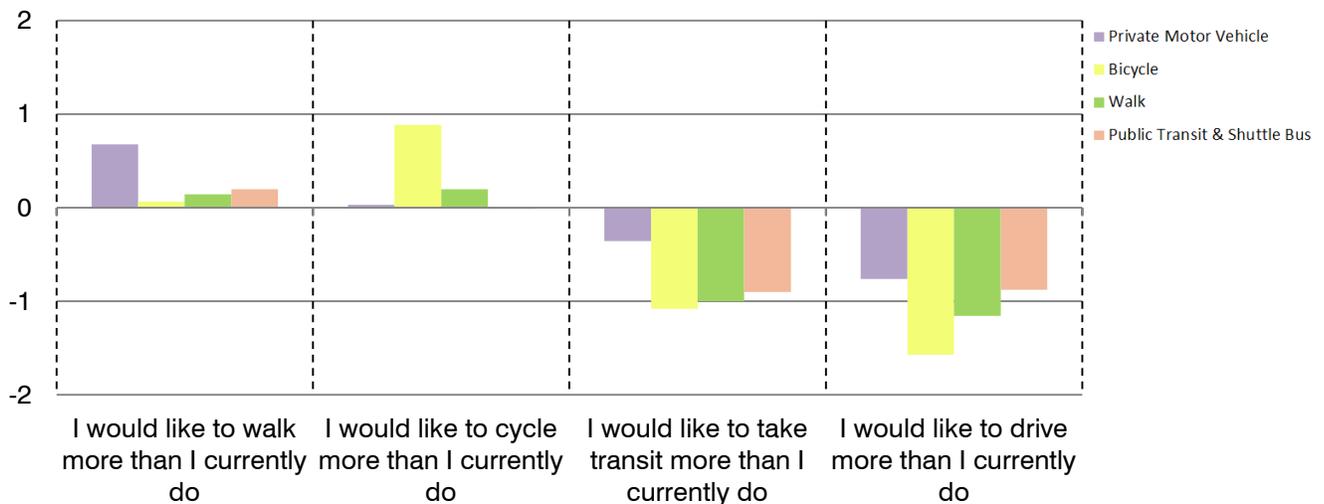
**Figure 24: Level of satisfaction of respondents who used the inter-campus shuttle as part of their commute to McGill**

## Section V - Opinions and barriers regarding mode choice

In this section, we summarize some of the most interesting results concerning people’s opinions and barriers to their mode choices. The survey asked respondents, by main summer commute mode, about whether they would like to use more of each transport mode (**Figure 25**); it also asked about issues of social interaction (**Figure 26**), and about how people perceive their travel time (**Figure 27**). Finally, it asked about their preferences in terms of public funding (**Figure 28**) and the barriers they face regarding different modes of transport (**Figures 29 to 34**).

### OPINIONS and INTENTIONS

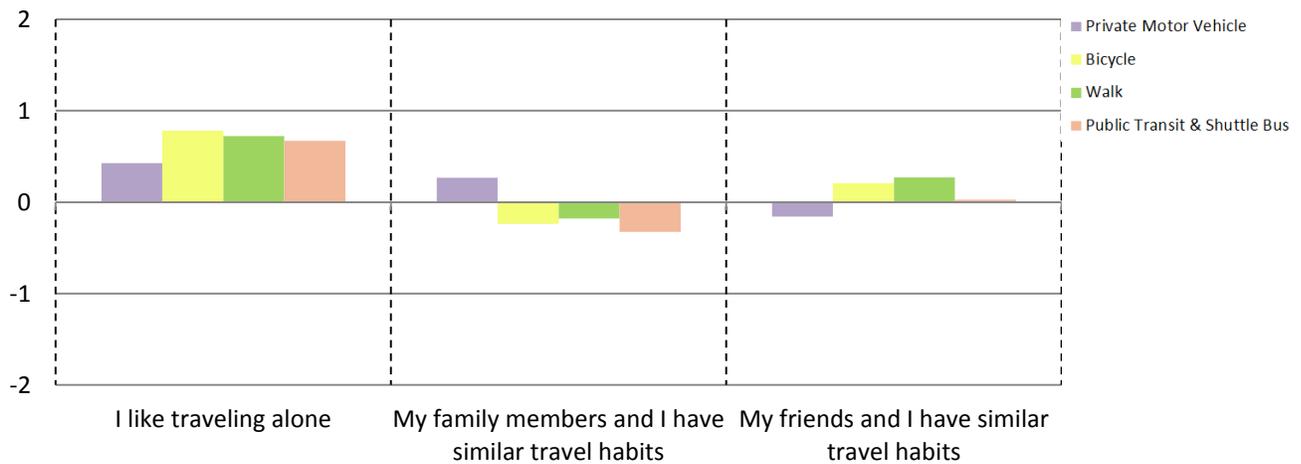
**Figure 25** shows that commuters from every mode class would like to use active modes of transportation more than other types. Respondents whose main mode of transportation is the train, metro, or bus have a greater intent to walk more than they currently do in comparison to cyclists or walkers. This is also true for drivers, and more so. Most probably, drivers walk far less than any other mode-class, whereas public transit does create the need to walk to and from the bus stop, or metro/train station, and sometimes within or between transfer points. Motorists notably have very little intent to drive more than they currently do. This unfavourable view on driving is held even more strongly by other mode users, especially cyclists, who are also the group most wanting to cycle more. Transit users’ driving desire fairly closely resembles motorists’.



**Figure 25: Mean degree of agreement with statements regarding transportation mode intentions, by main summer commute mode. The horizontal axis labeled with a 0 indicates *Neutral*, with everything above indicating *Agree* (1) or *Strongly Agree* (2) and everything below the horizontal axis indicating *Disagree* (-1) or *Strongly Disagree* (-2)**

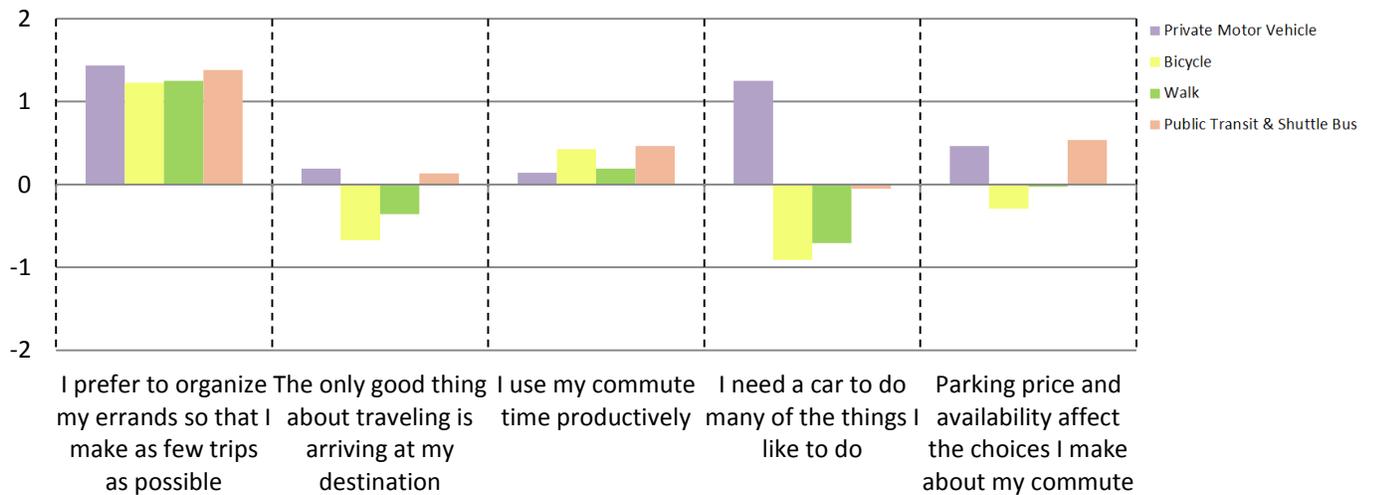
This might reflect cost differences: it is possible that many use public transportation to travel long distances instead of a car for financial reasons, although they would gladly use a car if they could. Some respondents might own a car they wish to use to commute to McGill, but in response to parking price and unavailability (especially downtown), decide instead to park at a train station and take the commuter train (note: respondents who drive to a metro or commuter train station were classified as transit users in this analysis). On the other hand, drivers are substantially more open to increasing their transit use than are members of any other group, but as with driving (and unlike active modes), all commuter groups would generally prefer to use transit less than they do.

**Figure 26** shows results concerning social interactions and different modes of transportation. Motorists, ironically, agree the least with the statement regarding enjoying travelling alone, yet they claim the least similar travel habits to their friends of all commuter groups. Their family members do, though, have relatively similar travel habits. In addition, according to the survey data (*not included in this report*), it seems that Montrealers are more likely to use their car to reach campus than are their foreign counterparts. A majority of motorists are McGill employees, and many have children. There are also three times as many motorists among student respondents who are native to the Montreal CMA than to international students and those from the rest of Quebec and Canada, likely due to many still living where they grew up in a suburban environment with few other transportation options, as opposed to those from elsewhere who situate themselves close to campus upon arriving in Montreal. Living in a low-density environment reduces public transit options, and active transportation requires too much effort and time due to longer distances. Given that such a motorist lives in the same location as their family, their transportation habits are alike. However, their friends, at least those who attend McGill, for the most part are probably not motorists (**Figure 4**). As for public and active transportation users, their perceptions regarding these social parameters are quite similar; their transportation behaviour is generally unlike that of their family members and slightly more similar to that of their friends. Walkers and cyclists are by far the most comfortable with travelling alone, which may seem contradictory given their increased vulnerability to unwanted attention and even crime and traffic (**Figures 18, 19, 26**).



**Figure 26: Mean degree of agreement with statements regarding social perceptions, by main summer commute mode. The horizontal axis labeled with a 0 indicates *Neutral*, with everything above indicating *Agree (1)* or *Strongly Agree (2)* and everything below the horizontal axis indicating *Disagree (-1)* or *Strongly Disagree (-2)***

Concerning perceptions that have to do with trip planning and trajectories (**Figure 27**), motorists agree that they organize their errands into as few trips as possible more than do other commuters, followed closely by public transit users. However, overall, there is visible consensus in agreement with organizing one’s errands in as little trips as possible. Vehicular travel such as driving and public transit, unlike active transport, keeps passengers sedentary, requires regular financial input, and is likely to become tedious and taxing as trip frequency increases. Travel tedium is suggested by motorists’ and public transit users’ overall slight agreement with the statement “The only good thing about travelling is arriving at my destination”, contrasted with walkers and cyclists’ disagreement (**Figure 27**). Motorists also use their time the least productively, controlling a vehicle requiring substantial attention. Whilst pedestrians’ reported productivity is somewhat similar, cyclists and public transit users claim to use their time slightly more productively, the former enjoying exercise, excitement and rapid exploration, and the latter being able to rest in a carefree state of movement and apply themselves to a variety of activities.



**Figure 27: Mean degree of agreement with statements regarding trip planning and trajectories, by main summer commute mode. The horizontal axis labeled with a 0 indicates *Neutral*, with everything above indicating *Agree (1)* or *Strongly Agree (2)* and everything below the horizontal axis indicating *Disagree (-1)* or *Strongly Disagree (-2)***

For questions that involve societal issues of investment in public infrastructure (**Figure 28**), cyclists and motorists are again the more polarized groups of respondents, each by far the strongest supporters of investment for their mode and each offering the least support of all groups toward investments for the other. Whereas pedestrians might walk merely based on proximity to their daily destinations, cyclists and drivers have vehicles requiring personal financial investment, and so they demand infrastructure investments that benefits them directly. Cyclists want more cycling infrastructure investment and less highway investment, and motorists support the opposite (although drivers do on average slightly support some bicycle infrastructure investment – just less so than any other group). This might reflect competition over the same road space. However, drivers aside, highways have the least

investment support among all groups, and uniquely averages less than neutral support from some commuter groups, pedestrians and cyclists.

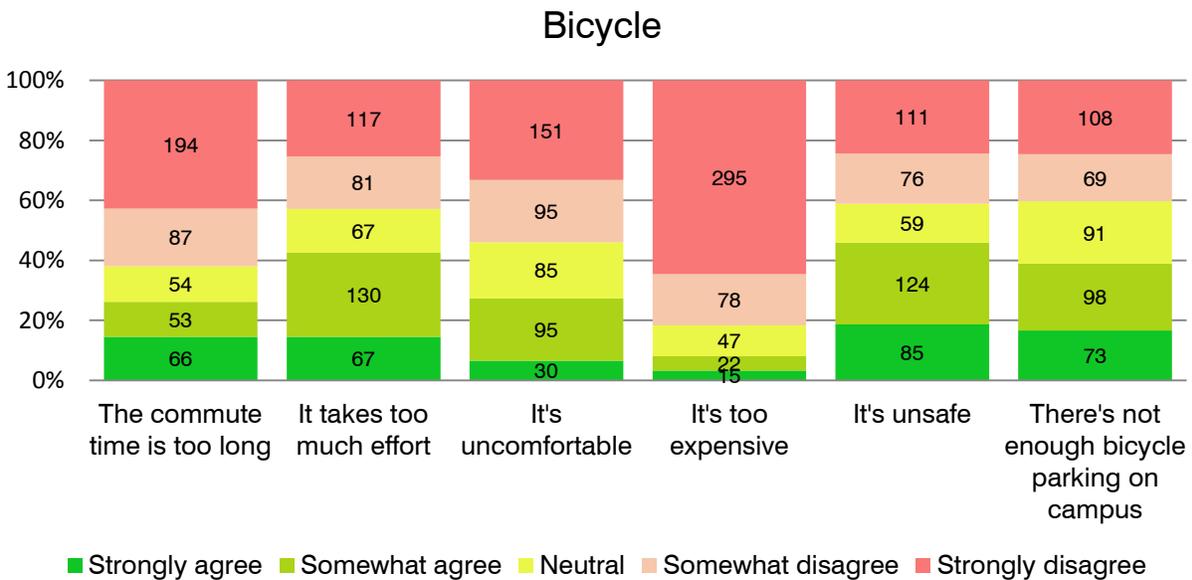
Transit investment has the strongest support from all groups other than from cyclists (although, recalling **Figure 25**, most people do not want to use more of it). Pedestrian infrastructure has moderate support that is fairly consistent across commute mode groups, perhaps because everyone uses it to some extent but it is not as clearly congested or inefficient as other mode infrastructure for some users.



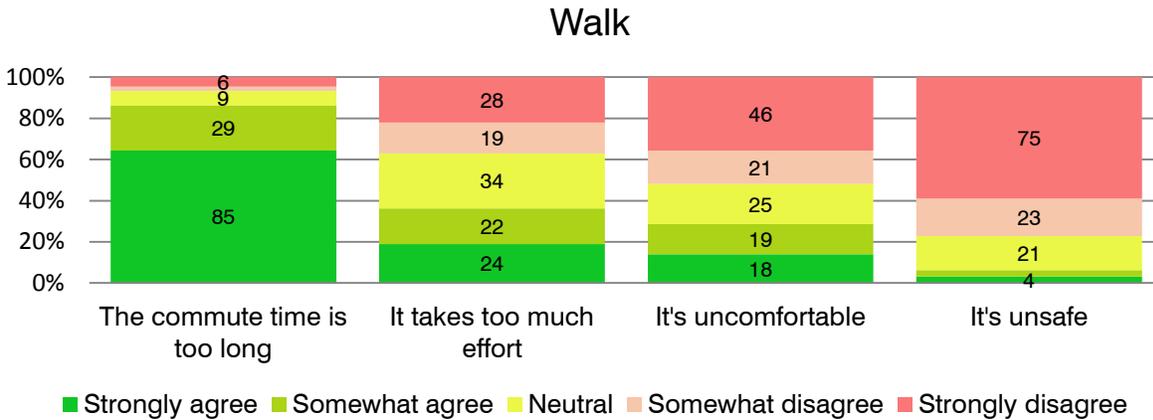
**Figure 28: Mean degree of agreements with statements regarding opinions on allocation of public funds, by main summer commute mode. The horizontal axis labeled with a 0 indicates *Neutral*, with everything above indicating *Agree (1)* or *Strongly Agree (2)* and everything below the horizontal axis indicating *Disagree (-1)* or *Strongly Disagree (-2)***

## BARRIERS

After having responded to detailed questions about their commute, respondents were asked to describe a mode they had tried in the past year, but were very unlikely to continue using for their commute. The reasons for not walking, cycling, driving, taking the bus, metro or commuter train are illustrated in **Figures 29 to 34**. There are several patterns that confirm what was posited in the last section. People choose not to cycle for reasons of safety and due to the bicycle parking situation on campus. Safety concerns regarding traffic are indeed an ongoing concern for cyclists, and this is most noticeable in the opinions of those trying out the mode for the first time (**Figures 18, 29**). The effort required to cycle as well as the length of time required are also a concern for tentative cyclists, though much of this may be due purely to distance. Some of these concerns can be solved with better bicycle infrastructure, reducing first and foremost the danger of traffic, but also reducing the effort, complicated planning, and detours needed to traverse certain perilous infrastructure like highways, viaducts and so on. As for walking, the barriers, mostly having to do with distance, commute time, and commute effort, are expected given the unforgiving influence of distance on this mode (**Figure 29**).



**Figure 29: Factors inhibiting respondents who have cycled to campus in the past year from using a bicycle as their main mode of transportation to McGill**



**Figure 30: Factors inhibiting respondents who have walked to campus in the past year from walking as their main mode of transportation to McGill**

Factors limiting the use of cars are somewhat expected given what was explored in the previous section. The cost of driving is a significant factor, as are inconsistent and long commute times. Respondents also agree that issues external to personal practicality calculations, including exercise and a concern for the environment, also limit their driving habits. However, the parking situation on campus is by far the most important issue keeping people from driving to McGill. Many of these respondents might be taking public transit instead of driving due almost entirely to the difficulty and high cost of parking downtown and on campus on a daily basis.

Factors limiting respondents' use of the various public transit services interestingly divert somewhat from public transit users' concerns. For example, safety is of no concern for those having attempted to use a bus or metro, but is a concern for current users (**Figures 21, 22, 32, 33**). An array of other issues moderately affects the disuse of buses and metros. Inconsistent commute times, long commute times, and concerns about exercise are among these factors and reflect recurring concerns of transit users (**Figures 21, 22, 32, 33**). Discomfort also appears to be an issue for some respondents: this might be especially true for long commutes that could, in some cases, be replaced by driving. Cost comes near last in important barriers for these public transit vehicles. Conversely, it is by far most important issue discouraging commuter train use (**Figure 34**).

## Motorized Vehicle

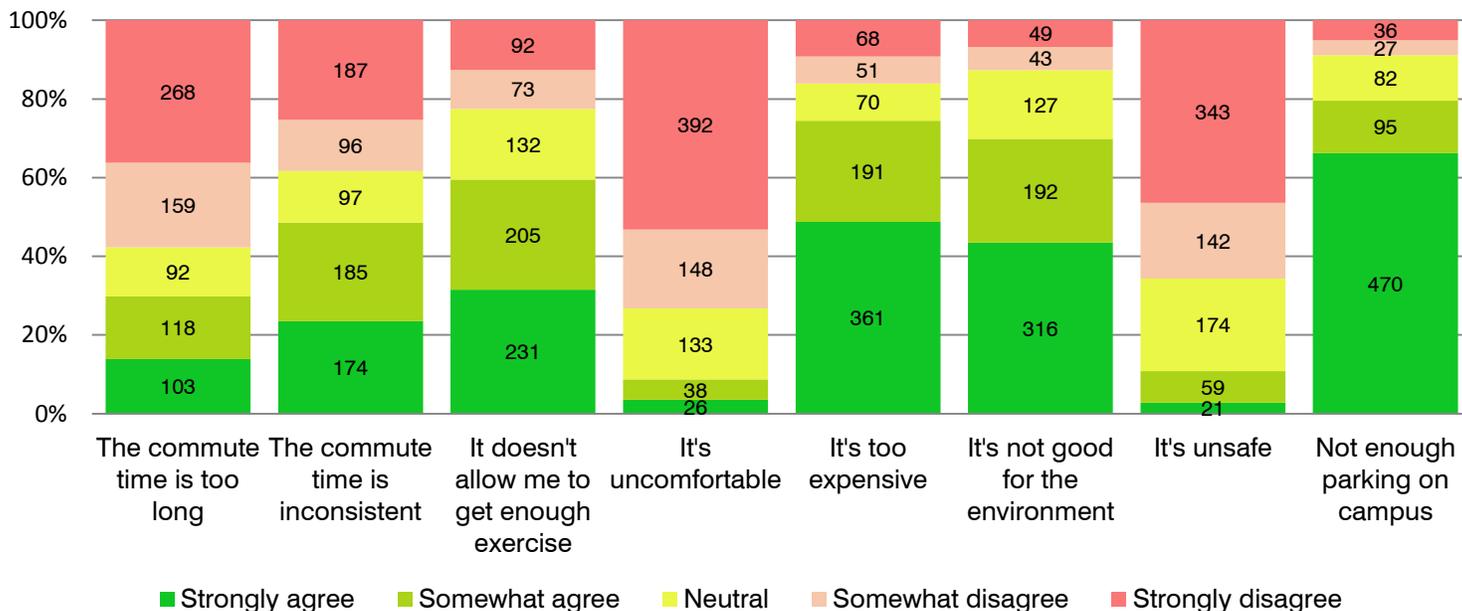


Figure 31: Factors inhibiting respondents who have driven to campus in the past year from using the car as their main mode of transportation to McGill

## Bus

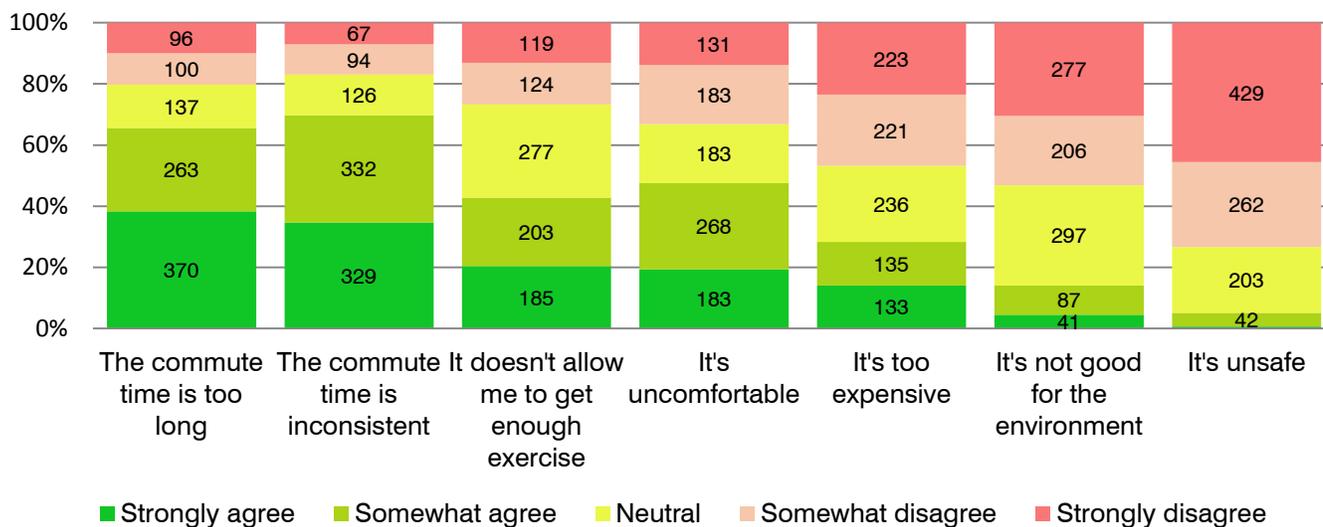
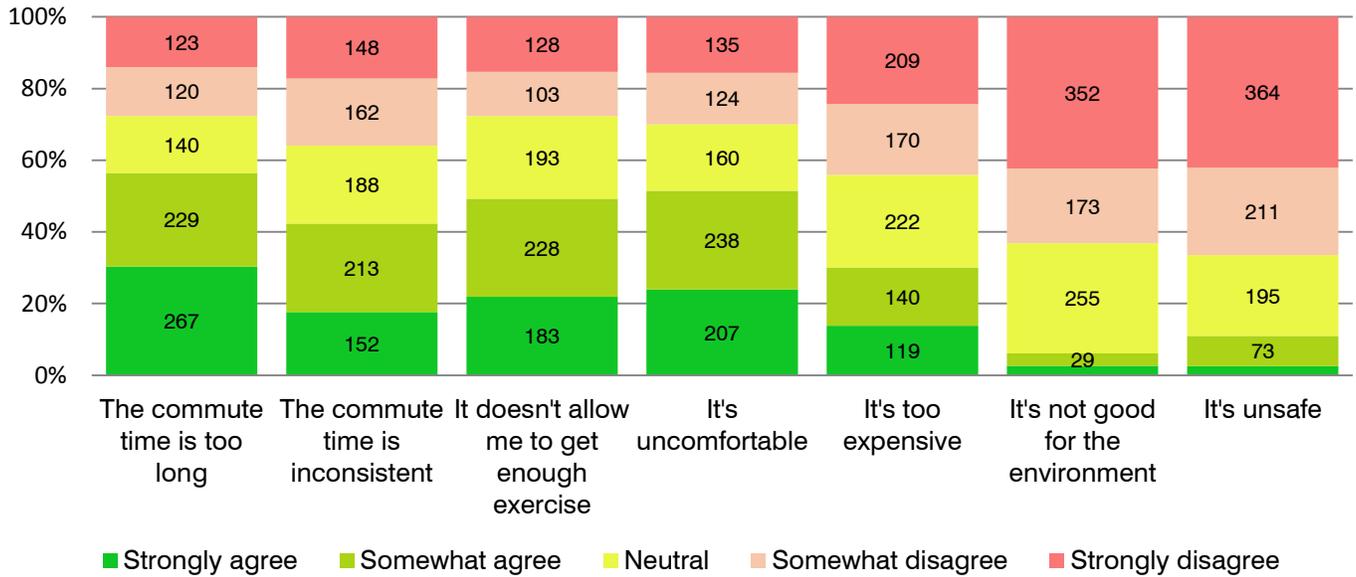


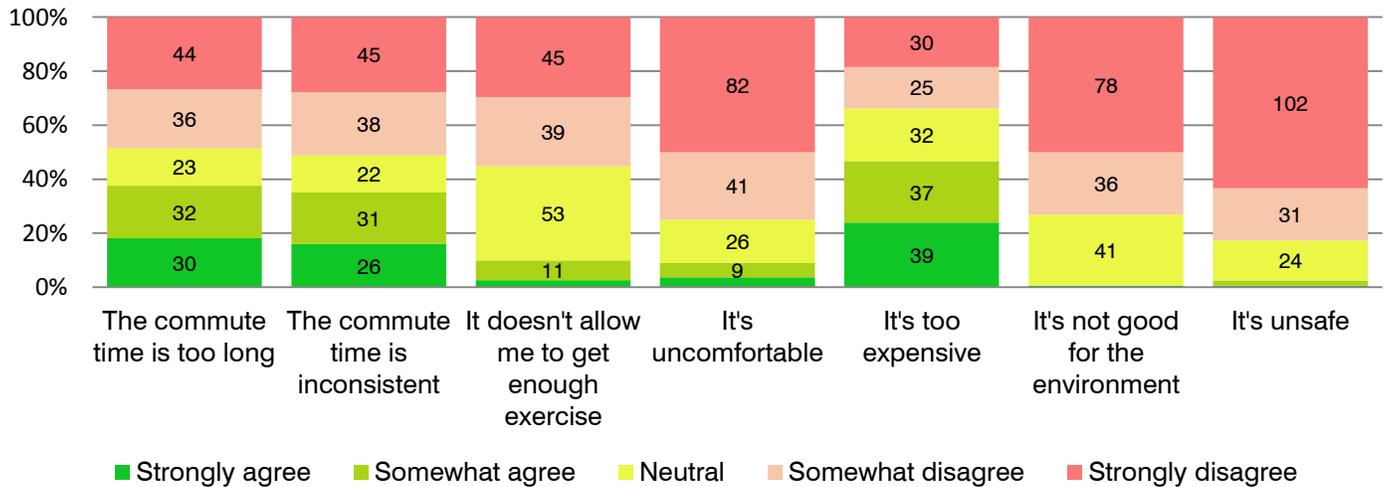
Figure 32: Factors inhibiting respondents who have taken the bus to campus in the past year from continuing to take the bus as their main mode of transportation

## Metro



**Figure 34: Factors inhibiting respondents who have taken the metro to campus in the past year from continuing to use it as their main mode of transportation**

## Commuter Train



**Figure 33: Factors inhibiting respondents who have taken the commuter train in the past year from continuing to use it as their main mode of transportation**

## Section VI – Safety: Traffic, Crime, and Bicycle Theft

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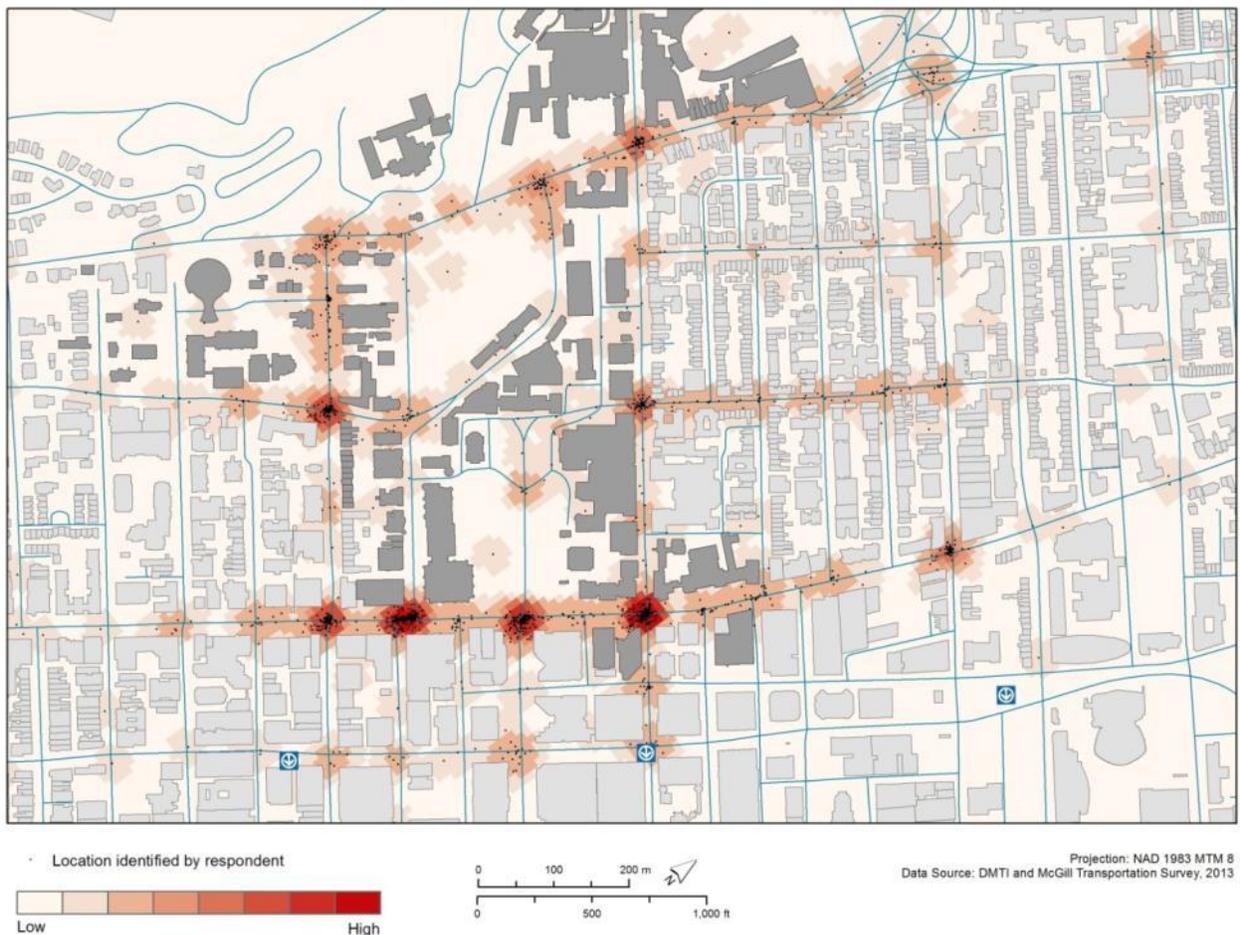
In the 2013 survey, a new section focuses on the McGill community's perceptions of safety around both the downtown and Macdonald campuses. Feeling unsafe during one's commute to, or from, campus can stem from various causes. For this reason, the survey asked separately about perceptions of safety based on traffic and crime. It also asked about people's perceptions of safety from bicycle theft, and about actual bicycle theft on campus. These inquiries are relevant for policy makers within the McGill community and the City of Montreal who wish to decrease the risk of traffic accidents, crime, and theft around campus, as well as increase people's sense of safety and well-being. They are also important because feeling unsafe in certain areas around campus might deter people from using specific modes of transportation or taking certain routes.

Thus, the promotion of safety is an integral part of the promotion of sustainable transportation. In fact, security and safety are often used as performance measures for the achievement of sustainable forms of transportation (Zietsman & Rilett, 2002). Safety from traffic is especially relevant to encourage active modes of transportation, while safety from crime is pertinent to both active and public transportation. Moreover, certain groups of people, such as women and elderly people, might be more influenced by perceptions of safety and security than others (Patterson, 1985; Root, Schintler, & Button, 2000), and might have different transportation infrastructure safety needs that should be addressed.

The survey asked participants whether they ever felt unsafe with regard to potential traffic accidents while walking from McGill to transit or parking. If they answered yes, they were asked to indicate a specific location on a map, and give a reason for why they believed this location to be dangerous. We obtained 1,842 identified locations, and 1,754 comments, for traffic-related issues. It asked the same question for safety with regard to crime or unwanted attention, yielding 683 identified locations and 622 comments. We then conducted a point density analysis of the geographic locations identified by respondents. In the maps (**Figures 35, 36, 38, 39, 41-46**), the colour gradient illustrates a spectrum from low (beige) to high (red) density of locations identified by respondents. Thus, the red and orange areas represent the "hot spots" of people's perceptions of dangerous locations in terms of traffic, crime, or bicycle theft. The black points represent each individual location that was identified by a respondent.

## TRAFFIC

When looking at the McGill community's perceptions of danger from traffic, clear patterns are discernible. The point density map below (**Figure 35**) highlights the problematic areas in red and orange, and the table below (Table 1) lists the top 10 most often identified dangerous locations in terms of traffic. Not surprisingly, points placed by respondents seem to cluster around street intersections. Several key transportation corridors also emerge as problematic in terms of traffic accidents. First, we notice Sherbrooke St, between Stanley St and Du Parc Ave. Indeed, the top 3 most unsafe intersections are along Sherbrooke (each was identified by more than 150 respondents), at the corners of University, McGill College and McTavish streets. Other unsafe corridors are Milton St., between University St. and Du Parc Ave., Des Pins Ave., between Peel St. and Parc Ave. Other points of interest are the intersection of Doctor Penfield Ave. and Peel St., as well as the pedestrian crosswalk on Peel at the level of the McIntyre parking lot entrance.

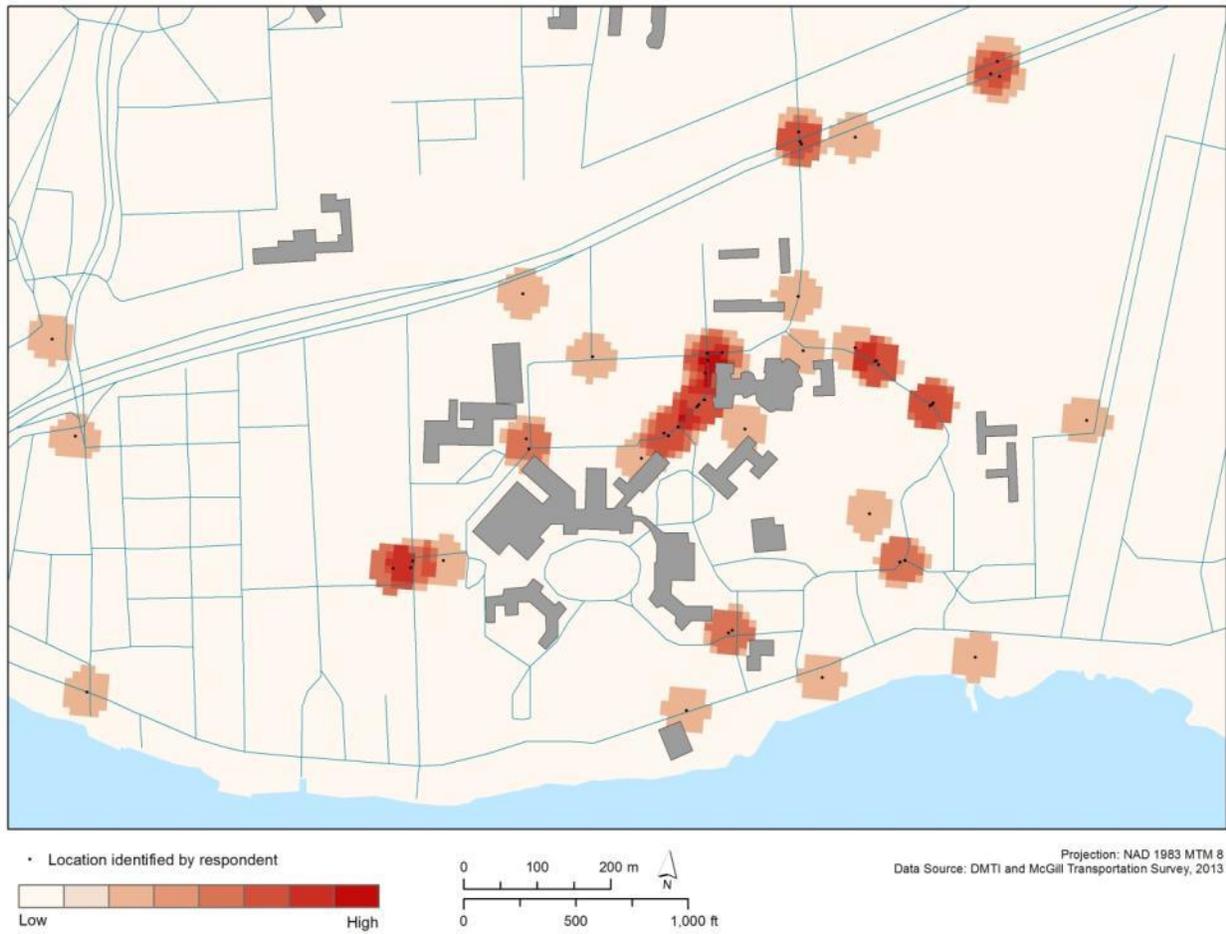


**Figure 35: Point density analysis of the locations where respondents feel unsafe in terms of traffic (downtown campus)**

**Table 1: List of the 10 intersections perceived as least safe in terms of traffic**

<b>Ranking</b>	<b>Intersection</b>	<b>Number of times identified as most unsafe location in terms of traffic</b>
<b>1</b>	University St. – Sherbrooke St.	219
<b>2</b>	McTavish St. – Sherbrooke St.	198
<b>3</b>	McGill College Ave. – Sherbrooke St.	151
<b>4</b>	Peel St. - Doctor Penfield Ave.	113
<b>5</b>	University St. – Des Pins Ave.	75
<b>6</b>	University St. – Milton St.	70
<b>7</b>	Peel St. – Sherbrooke St.	103
<b>8</b>	Parc Ave. – Sherbrooke St.	55
<b>9</b>	Des Pins Ave. – Doctor Penfield Ave.	53
<b>10</b>	Peel St. – McIntyre parking lot entrance (at the level of the crosswalk to the Education building)	37

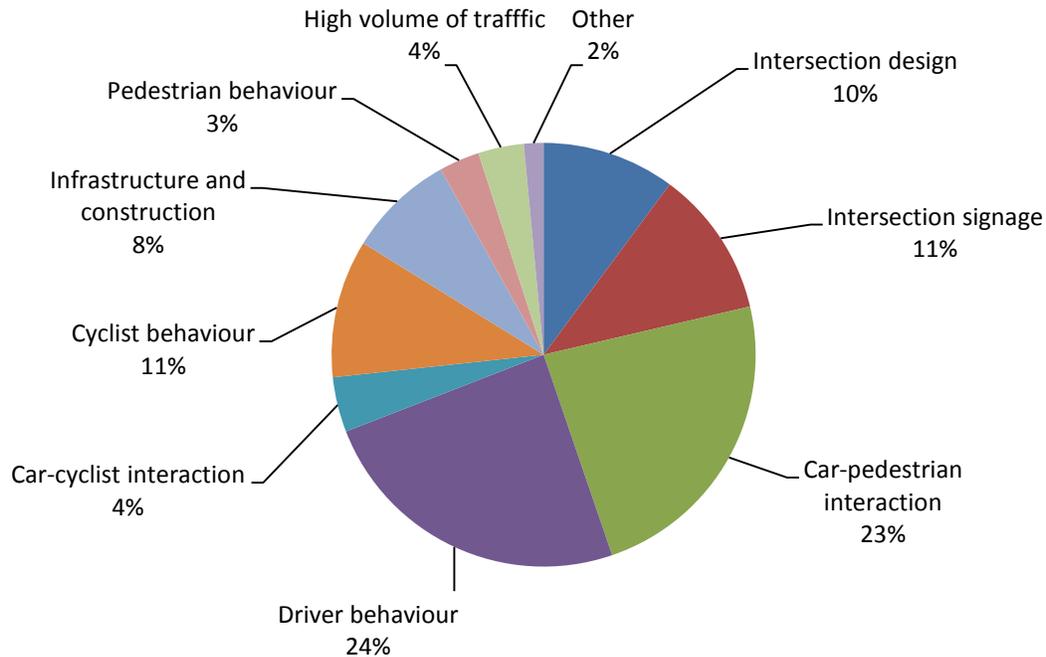
We conducted a similar analysis for the Macdonald campus, as shown on the map below (**Figure 36**). Because the sample is much smaller for Macdonald campus, the analysis is less detailed; nevertheless, certain areas do appear as less safe in terms of traffic than others. In particular, the transportation corridor along the Raymond building, along the greenhouses, and in front of the bus stop appears to be the most frequently identified unsafe location. Other locations, more sparse, also appear in red on the map, such as the intersection of Poultry Cottage St. and Highway 20, the intersection of Maple St. and Saint Georges St. and by the entrance of the large parking lot near the Horticulture services.



**Figure 36: Point density analysis of the locations where respondents feel unsafe in terms of traffic (Macdonald campus)**

## COMMENTS

Having identified these locations, it becomes essential to examine from a qualitative perspective the reasons people gave for why they believe these areas to be dangerous. The comments were classified in 10 categories, highlighting the different causes of traffic problems, and are shown in **Figure 37** below. In the following paragraphs, we explain in greater details this classification and its policy relevance.



**Figure 37: Pie chart of the classification of respondents' comments about unsafe locations related to traffic**

### Street user behaviour and interaction between different street users

A large share of explanations concerned the overall interaction between different street users, and the behaviour of specific street users. The majority of comments concerned private motor vehicles on the road and at intersections. Indeed, 24% of comments identified driver behaviour, 23% identified the problematic interaction between cars and pedestrians, and 4% identified the problematic interaction between cars and cyclists as the cause of traffic danger.

More specifically, the 24% of comments related to driver behaviour mentioned most often are the aggressiveness or recklessness of drivers, their inattentiveness, their frequent habit of running through red lights, speeding, speaking on the phone while driving, and / or disobeying signage. The 23% of comments that spoke more specifically about the interaction between pedestrians and motorists mentioned how drivers often failed to give the right of way to pedestrians, or paid insufficient attention to pedestrians. The 4% of comments about the car-cyclist interaction mention how drivers do not take

cyclists into consideration when driving. Therefore, it seems that cars and drivers are at the root of most people's perceptions of traffic danger. The following quotes convey these common sentiments:

*"The manner in which cars drive frequently in Montreal with no signal lights and while talking on the phone. There is also a lot of manoeuvring around other cars without any forewarning which can be slightly distressing. Also, cars which clearly just do not follow the rules of the road and cut in between pedestrians when it's their right of way."*

*"Vehicles were not respecting the traffic lights. I noticed other pedestrians also double and triple checking vehicles response to changes in lights. There can be little trust that drivers will respond in timely manner to traffic signals."*

*"Cars/taxis very aggressive towards pedestrians & cyclists, don't seem to look for them or don't slow down when turning or crossing this intersection."*

*"Happens in more than one location, but drivers rarely pay attention to cyclists and pedestrians, which leads to close calls. I've nearly slammed into car doors because people open their doors on busy streets without looking, I've had people make right turns across bike paths without looking and numerous other incidents."*

*"Drivers do not pay enough attention to bikers. Often cutting me off on my bike. This is especially dangerous in the snow, as I have fallen many a time due to inconsiderate driving. More so than the snow itself."*

This was also the case on the Macdonald campus, as shown in the quote below:

*"I need to cross the road on the side of Raymond building 2 times a day and students are driving so fast, don't stop at the STOP sign and very rare they stop for you so you can cross the road. Very dangerous, I am surprised nobody was killed there yet!"*

However, survey respondents did not identify driver behaviour as the sole cause of danger and accidents. A fairly large proportion of comments (11%) targeted cyclist behaviour as problematic on the roads. Cyclists were often described as not respecting traffic signalization, as not taking pedestrians or cars into consideration, and / or as riding recklessly through traffic. This caused pedestrians in particular to feel unsafe. Finally, a small portion of respondents (3%) also identified pedestrian behaviour as problematic. Pedestrians were pointed out as not always respecting traffic signage, thus leading to dangerous interactions between street users.

*"Bike riders have total disregard for traffic lights, sidewalks, speed and walkers. I have had numerous [bicycle riders] yell at walkers as they speed straight through intersections."*

*"Bicycle traffic - they never look and ride their bicycles on campus in droves, and ignore pedestrians. They only walk their bikes when security is stationed at the Milton gates. Almost ran me over more than twice last summer."*

*"Because pedestrian doesn't respect traffic light at this intersection. When the light is green for cars on Milton, Pedestrian light are red but pedestrian continue to cross University Street."*

Overall, it seems that people feel unsafe in terms of traffic due to street users' behaviour, and due to particular dynamics between street users. In particular, people seemed frustrated by how frequently motorists, cyclists, and pedestrians disregard road regulations. This is significant when thinking about solutions to make the commute to McGill safer for all street users. Indeed, this implies that policy makers must promote the harmonization of different street users, particularly at busy intersections such as University and Sherbrooke, where drivers, pedestrians, cyclists, and buses all interact. This kind of harmonization can be encouraged through education and awareness campaigns, stricter enforcement, and improvements to the built environment, as we will discuss in the following section.

### Features of the built environment

A large share of explanations concerned the built environment. 11% of comments related to poor intersection design due to signage. This included: the lack of pedestrian walkways; the short duration of traffic lights for pedestrians; the need for separate lights for cyclists, cars and pedestrians; the confusing placement of traffic signage; and the confusion of certain traffic lights (e.g. flashing green). Furthermore, 10% of responses related to poor intersection design due to infrastructure and road elements. This included: excessively narrow sidewalks at intersection curbs; poor bicycle path configuration in relation to the street; blind spots due to cars parked near intersections; and wideness of intersections and difficulty to cross them.

Of course, these comments are only useful from a policy perspective when they are matched to the actual intersection they are referring to. It is interesting to look at particular case studied, and associate a specific intersection to a specific category of comments. Using the example of the corner of Sherbrooke and McTavish, most comments highlight the intersection design and signage. This extensive quote summarizes what most respondents commented about this intersection:

*"The extended size of the intersection directly between Sherbrooke/Metcalf/McTavish is extremely dangerous. The lights are so far spaced apart, and such a short amount in between the distance to the next amount, that it is a daily occurrence that cars are continually driving through the red and yellow lights. They block the pedestrian area. They drive right through and do not allow pedestrians to walk across in spite of having the green walking signal. I highly recommend making the white painted lines for walking space larger as this is a high traffic area. In addition, the interval light time between the directions of the lights needs to be increased. Namely, the time to walk from the south side of Sherbrooke Street (1010) to the north side (Bronfman building), is so short that people can barely make it across within the allotted 'green' time [...]"*

We can also look at comments concerning the intersection of University and Sherbrooke, and McGill College and Sherbrooke, respectively:

*"Delayed green for eastbound traffic is confusing to motorists and pedestrians; speeding through the intersection on yellow and red lights is frequent; left turns on red north on University proceed at peril of pedestrians; corner is badly illuminated at night."*

*"The traffic lights - they should be synchronized so traffic (including bikes) stops in all directions. Pedestrians should also be permitted to cross-diagonally, this would make the flow more efficient."*

Several comments identified similar problems of the built environment on Macdonald campus, as expressed in the quote below:

*"The chemin Saint[e]-Marie street is not accommodated for bikers! The side of the street is not in good shape, and there are trees that block the car's view of a biker during street turns. There is a new bike path which is great, but doesn't cover the whole path (starts only after Morgan)."*

*"Poor road design, there is no pedestrian walkway that takes you from the indicated intersection to the actual front doors of the Raymond Building."*

In addition, 8% of comments mentioned the quality of infrastructure (e.g. poor quality of sidewalks, potholes, icy sidewalks, slow snow removal) and the frequency and mismanagement of construction (bad coordination and signage of construction, detours poorly indicated) as important sources of danger in terms of traffic. With the frequent construction on Doctor Penfield in the last year, several comments highlighted this area as unsafe:

*"The construction at Dr Penfield and Peel causes an extra traffic and frustrated drivers drive fast up peel and those who drive downwards drive too fast. Given the slope, it's asking for an accident to happen."*

## Other

Unrelated to street user behaviour or to the built environment is the high volume of traffic, which represented a problem for 4% of all survey respondents. This refers to traffic congestion and the amount and speed of cars driving on the streets, given the specific street configuration. Though most comments were related to *cars*, a few people also referred to the high volume of cyclist traffic. For example, Sherbrooke, Milton and Doctor Penfield were highlighted as having too much traffic, and having too many speeding cars. The quotes shown below express these ideas and suggest a need for traffic calming measures around the downtown campus area.

*"Dr. Penfield has the appearances of a highway, as cars circulate at high speed for a portion with so many pedestrians."*

*"Too many cars on milton (parked and driving) in a way to narrow street [...]"*

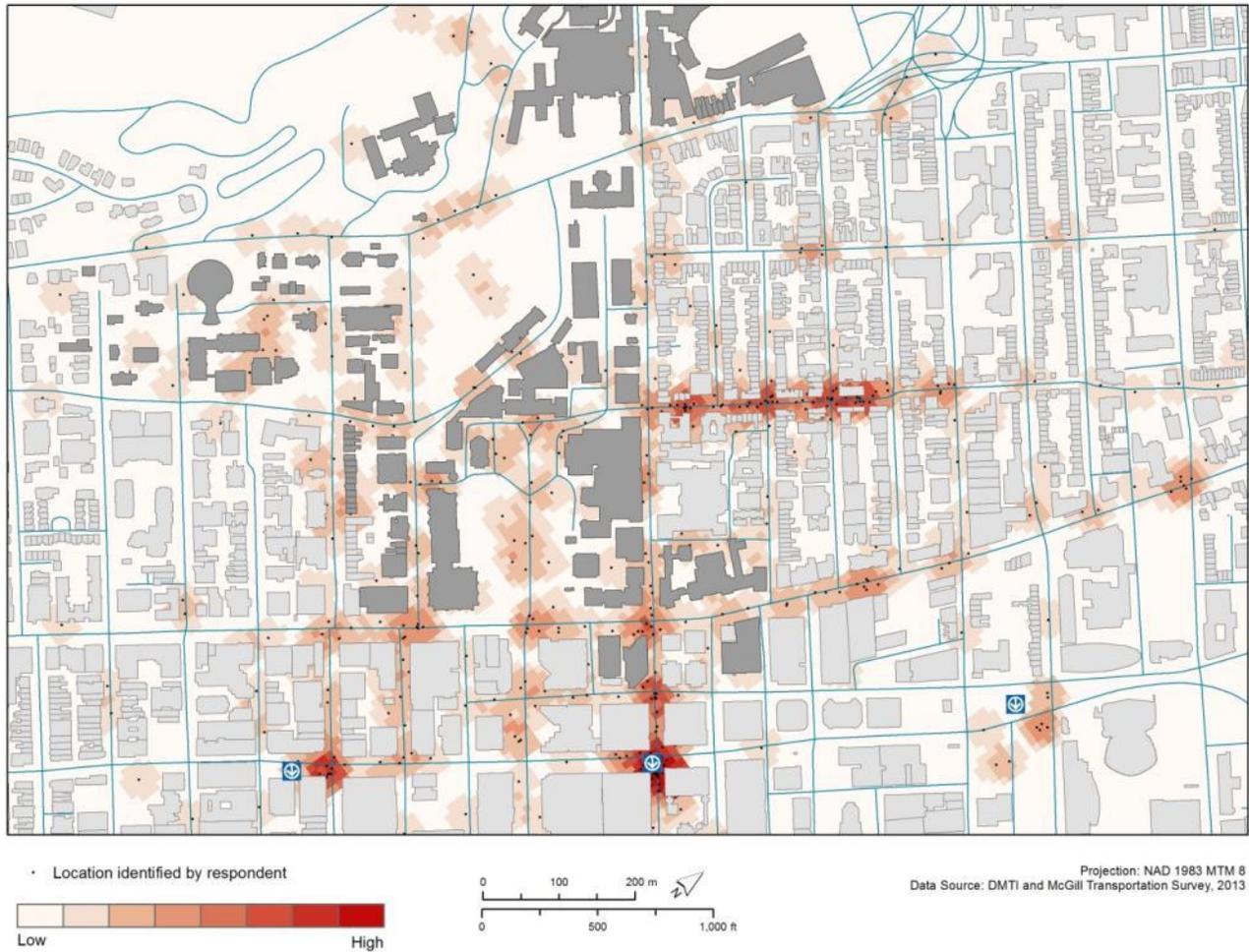
Finally, the “Other” category, which only counts for 2% of comments, includes the danger posed by buses and problematic bus stop placement; the threat of snow ploughs; and cars driving out unexpectedly of alleyways and parking lots.

## CRIME

As shown in **Figure 38**, various locations were identified in and around the downtown campus for being unsafe in terms of crime or unwanted attention, and some clear patterns emerge on these maps as well. To accompany this map, Table 2 lists the top 10 most unsafe intersections as perceived by the respondents to the 2013 survey.

The most noticeable unsafe locations that emerge based on this map and table are areas near metro station entrances. Chosen more than three times as often the second-ranked intersection, University St. and de Maisonneuve Blvd. is clearly perceived as unsafe in this regard. Ranked in 7<sup>th</sup> place is the intersection at the corner of University St. and President Kennedy. Both these intersections are very close to the McGill metro station. In addition, the intersection of Peel St. and de Maisonneuve Blvd., ranked in 3<sup>rd</sup> place, is also right in front of the Peel metro station entrance.

Another problematic area seems to be along Milton St., in the Milton-Park neighborhood. Indeed, the intersections of Milton with Durocher, Lorne and Aylmer are ranked 2<sup>nd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> respectively.

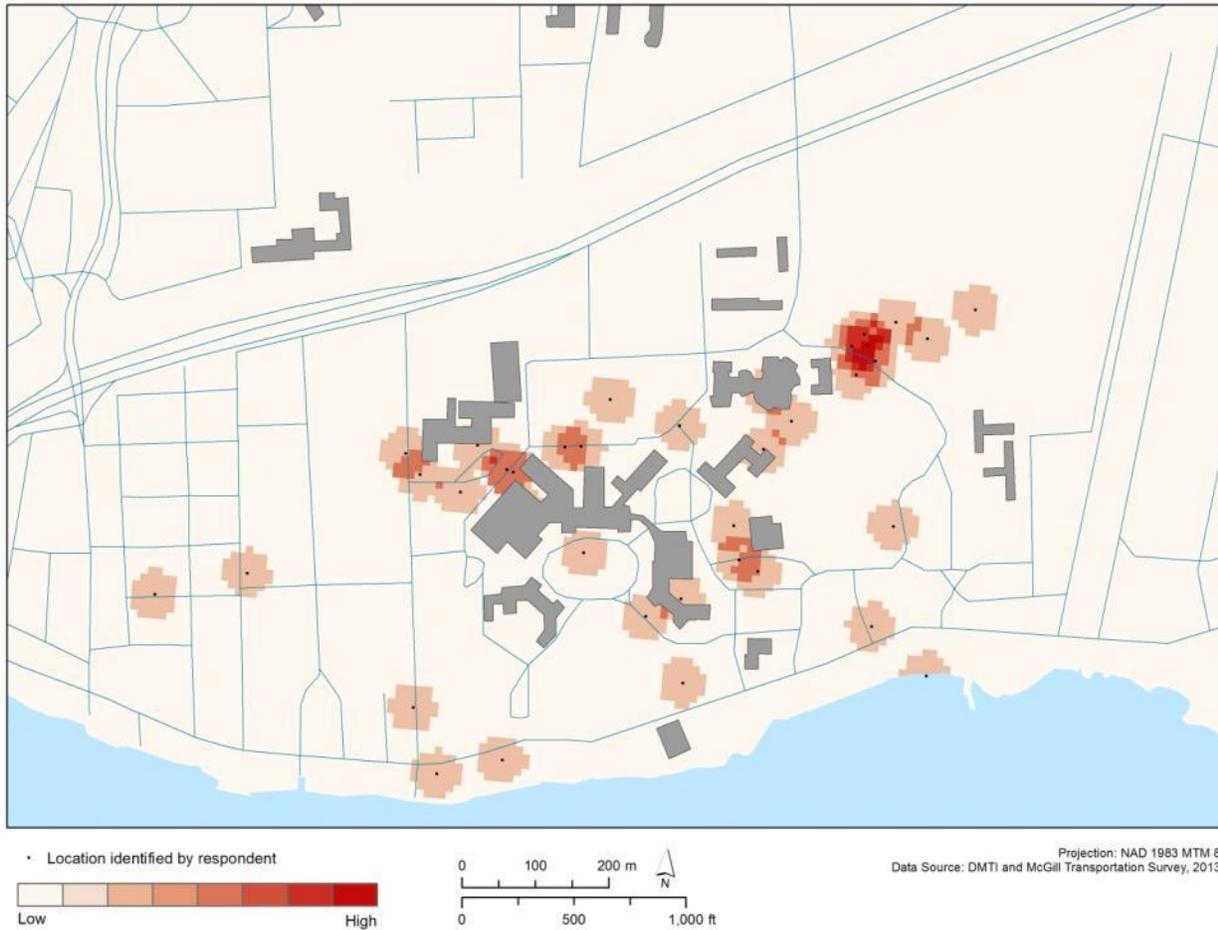


**Figure 38: Point density analysis of the locations where respondents feel unsafe in terms of crime (Downtown campus)**

**Table 1: List of the 10 intersections perceived as least safe in terms of crime**

Ranking	Intersection	Number of times identified as the most dangerous location
1	University St. – De Maisonneuve Blvd.	88
2	Durocher St. – Milton St.	25
3	Peel St. – De Maisonneuve Blvd.	22
4	Lorne Ave. – Milton St.	20
5	Aylmer St. – Milton St.	14
6	University St. – Sherbrooke St.	13
7	University St. – President Kennedy Ave.	12
8	Peel St. – Doctor Penfield Ave.	11
9	University St. – between Sherbrooke and Milton	10
10	University St. – Milton St.	10

We

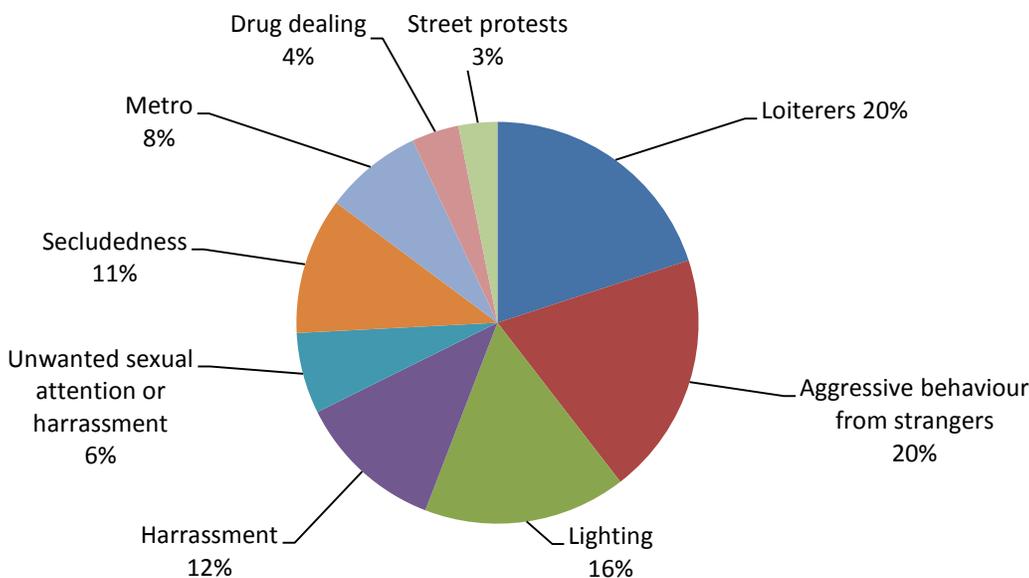


**Figure 39: Point density analysis of the locations where respondents feel unsafe in terms of crime (Macdonald campus)**

conducted a similar analysis for the Macdonald campus, as shown in the map below (**Figure 39**). Clear patterns are more difficult to identify, as the sample is small and the points are spread out. The only area that stands out is by the large parking lot situated next to the Horticulture services.

## COMMENTS

It is also useful to examine from a qualitative standpoint people’s explanations of why they perceive these specific areas as unsafe. It should be noted that in the majority of cases, locations were regarded as unsafe specifically at night. However, beyond this element, we classified people’s comments and concerns in 9 categories, as shown in **Figure 40** below.



**Figure 40: Pie chart of the classification of respondents' comments about unsafe locations related to crime**

A large share of comments concerned the interaction between respondents and people in the streets. About 20% of comments had to do with the presence of loiterers; this refers to respondents who felt uncomfortable or unsafe due to the presence of certain types of people in the streets. This included loiterers generally, rowdy students, people that seemed under the influence of drugs or alcohol, and homeless people.

*"People hanging around, staring at me, seemed to just be waiting around for no reason."*

*"the people that loiter around the metros as well as the homeless people that wait in the entrance and smoke illegal substances [...]"*

*"Sometime I work until late at night and occasionally there are people loitering in the doorways or alleyways getting to the parking lot [...]"*

A similar number of comments concerned receiving unwanted attention or experiencing aggressive behaviours from strangers. This included insistent or aggressive panhandling, being yelled at or spoken to in an aggressive way, or being followed. The purpose of distinguishing these two categories is to emphasize the difference between the simple presence of loiterers or other types of people (passive presence), and the active, aggressive or intruding behaviour of certain people in the street that made respondents feel unsafe. For example, some respondents said:

*"Sometimes the panhandlers on Sherbrooke can get aggressive and when you walk by without acknowledging them or giving them money, they catcall, yell and have at one point actually grabbed me."*

*"Some clearly drunk homeless men started making loud and vulgar comments."*

Similar comments were also made for Macdonald campus. In fact, the following comment highlights the fact that Macdonald campus does not have a Walk-Safe program, as the downtown campus does. This is an interesting suggestion and a way that students and staff could feel more secure when commuting from Macdonald campus.

*"Late at night (9pm-3am) there are empty streets just outside of campus area, sometimes with a few abnormal people wandering around. At Macdonald campus, there's no safe-walk program of any kind, and campus security refuses to accompany students outside of campus area. Also since there are fewer students here, most of the time it's not possible to find someone to walk home together."*

Furthermore, the high number of comments that specifically identified homeless people, or the behaviour of homeless people as the cause of their feeling of insecurity demonstrates the pressing need to support on-going efforts to deal with homelessness in Montreal, especially in and around the downtown area. Possible approaches include support programs through shelters, food kitchens, and health programs concerned with mental illness. Moreover, based on respondents' comments, it appears that homelessness has consequences on several aspects of Montreal's environment; most relevant to us is how it influences the use of public transportation. As shown in the quotes below, supporting the cause of the homeless might encourage a higher uptake of public transit or improve the experience of using public transit. This might be an argument to encourage different groups or institutions within McGill, the City or the region of Montreal to get involved in dealing with this issue.

*"Peel metro always feel unsafe and you never know who you are going to encounter. Lots of homeless."*

*"The homeless population at the McGill Metro who become aggressive when you give them spare change that does not meet their expectations."*

*"Peel metro station there are a lot of homeless people and sometimes they are drunk, it can be stressful."*

*"Vagrants congregated around the bus stop made waiting for the 55 bus uncomfortable (public urination, just hanging out without a purpose, etc.)"*

Additionally, some of these comments highlight a lack of awareness or lack of sensitivity to homelessness and to mental illness. Indeed, there is a need to implement policies and measures to reduce the homeless population, but also to increase education and awareness on the issue. This is particularly relevant at the scale of the university, where such awareness campaigns can be supported and publicized within the McGill community.

Returning to **Figure 40**, 12% of respondents reported feeling unsafe in terms of crime because of a previous lived experience or heard-of experiences of actual physical harassment or theft (as opposed

to the two previous categories, in which no actual confrontation happened). Similarly, 6% of respondents noted feeling unsafe because of unwanted sexual attention or harassment (previous lived experiences or heard-of experiences).

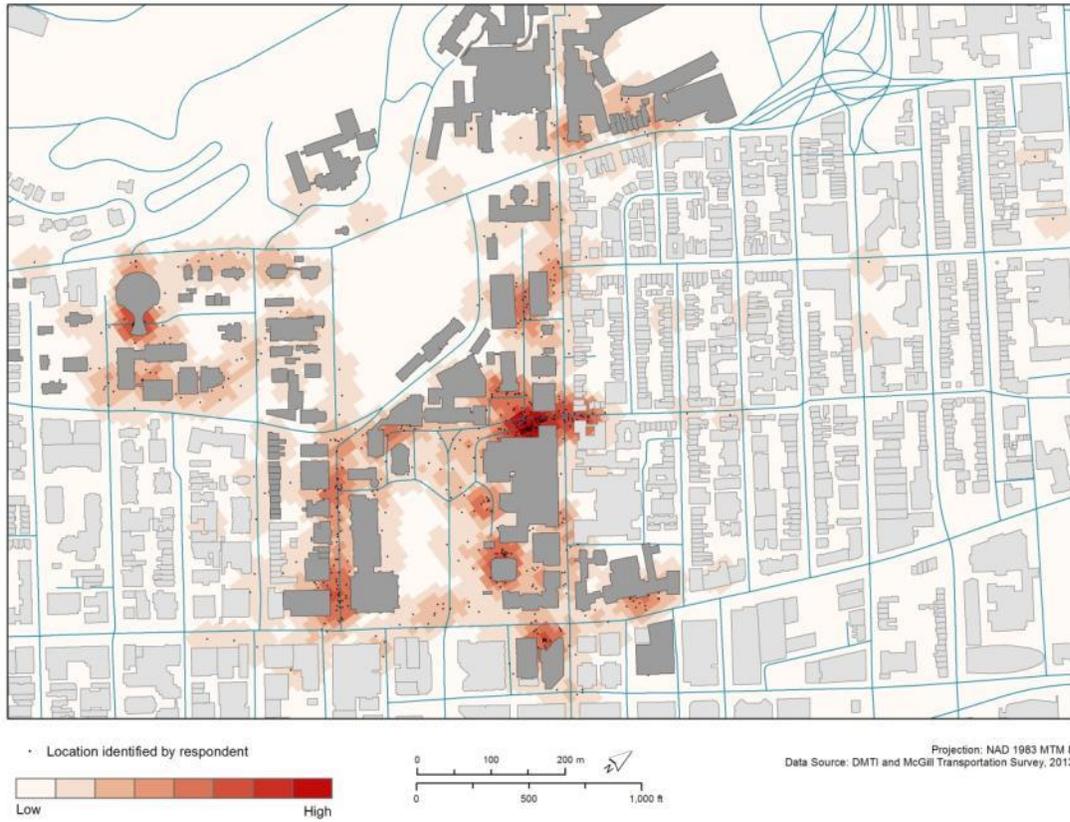
Other responses concerned the built environment itself, instead of interactions with strangers in the streets. One reason for feeling unsafe frequently given by survey participants is the lack of appropriate street and parking lot lighting (16%). Related to this, a substantial number of respondents (11%) perceived a certain location as unsafe because the area felt secluded or deserted, or because it lacked any kind of human activity. Indeed, when there are no “eyes on the streets” (shops are closed, no pedestrians, not many cars), people feel an increased sense of insecurity. Also related to the built environment was the recurrent mention of metro stations (8% of comments), especially metro station entrances, supporting the results shown in **Figure 38**. Metro station safety, real and perceived, should be taken into consideration when thinking about ways to encourage sustainable transportation from the downtown campus.

Finally, the two last categories relate to the threat respondents feel in the presence of drug dealers that approach people (4% of respondents) and in the occurrence of large-scale protests (3% of respondents), such as the frequent student demonstrations that happened in 2012.

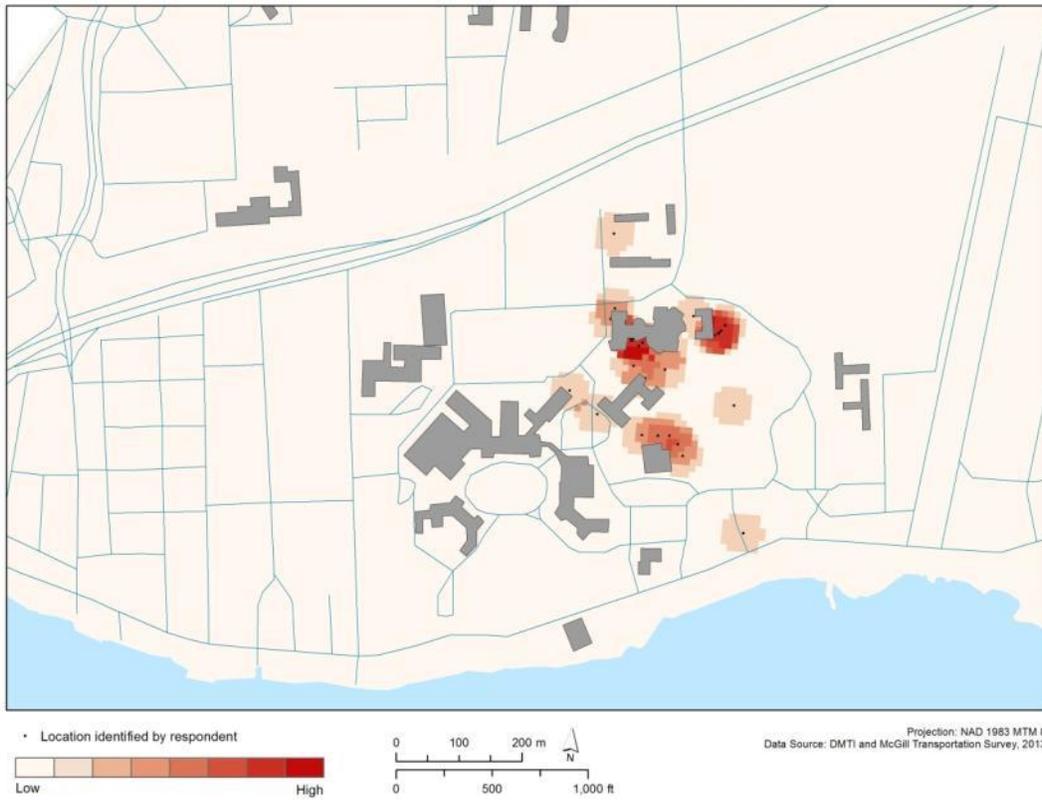
## BICYCLE PARKING

In order to get a better sense of patterns and issues related to bicycle theft, a section of the survey focused on bicycle theft around the downtown and Macdonald campuses. The first step was to ask respondents where they usually park their bicycle, yielding a total of 836 pinned points. **Figure 41** shows the point density analysis of bicycle parking at the downtown campus. The high density areas are fairly diffuse throughout the campus and surrounding areas. However, certain zones do emerge as high parking areas, and they generally coincide with the places on campus where there is a high number of bicycle parking facilities, namely: at the Milton gates entrance in front of the McConnell building; along McTavish in front of the Service Point and in front of the SSMU building; around Burnside Hall; around the McIntyre building; in front of the Music building; and in other areas.

**Figure 42** shows bicycle parking on Macdonald campus. Because of the small sample size for this campus, it is difficult to find clearly recognizable patterns. However, it seems that there is a higher concentration of parking around the Raymond and MacDonald Stewart buildings, and around the Centennial Center and Laird Hall.



**Figure 41: Point density analysis of the locations where respondents park their bicycle (downtown campus)**

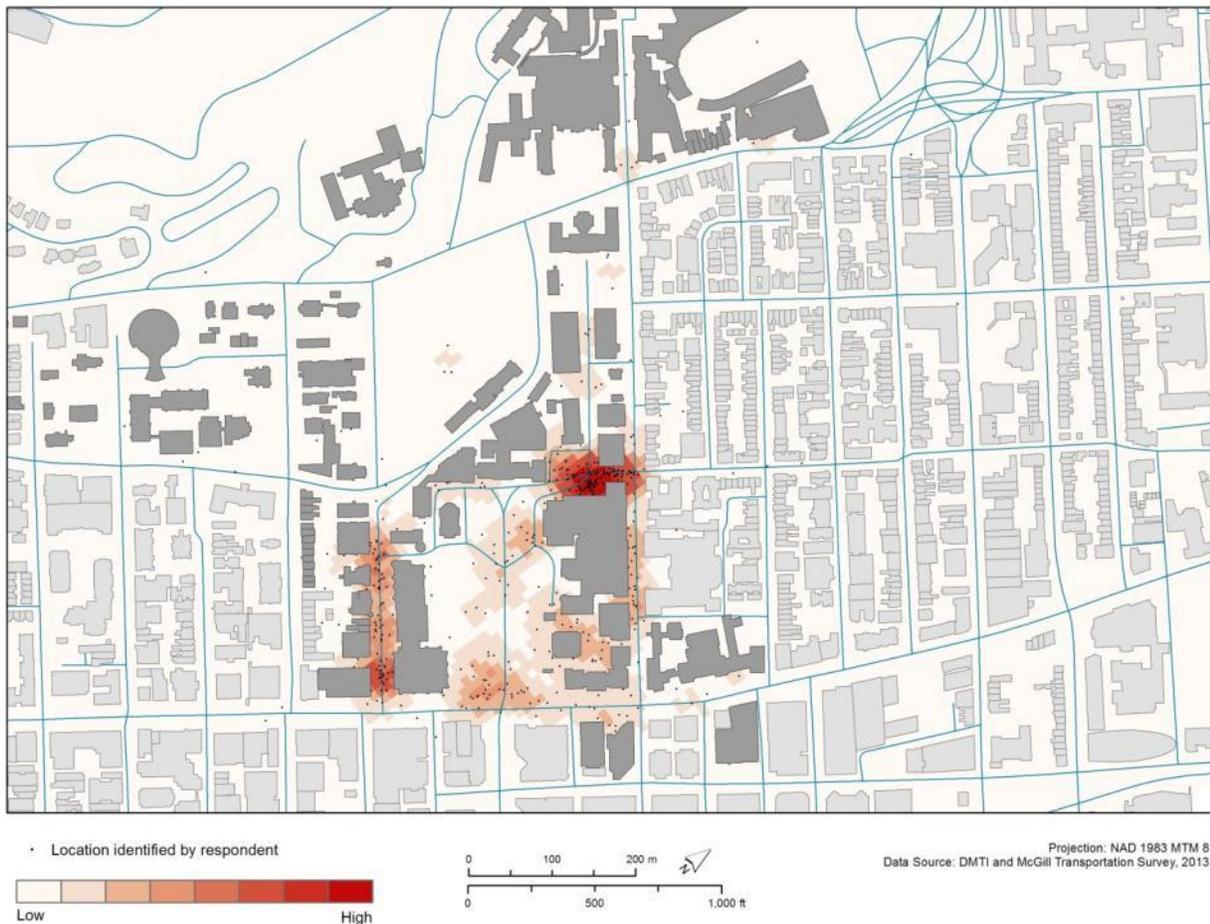


**Figure 42: Point density analysis of the locations where respondents park their bicycle (Macdonald campus)**

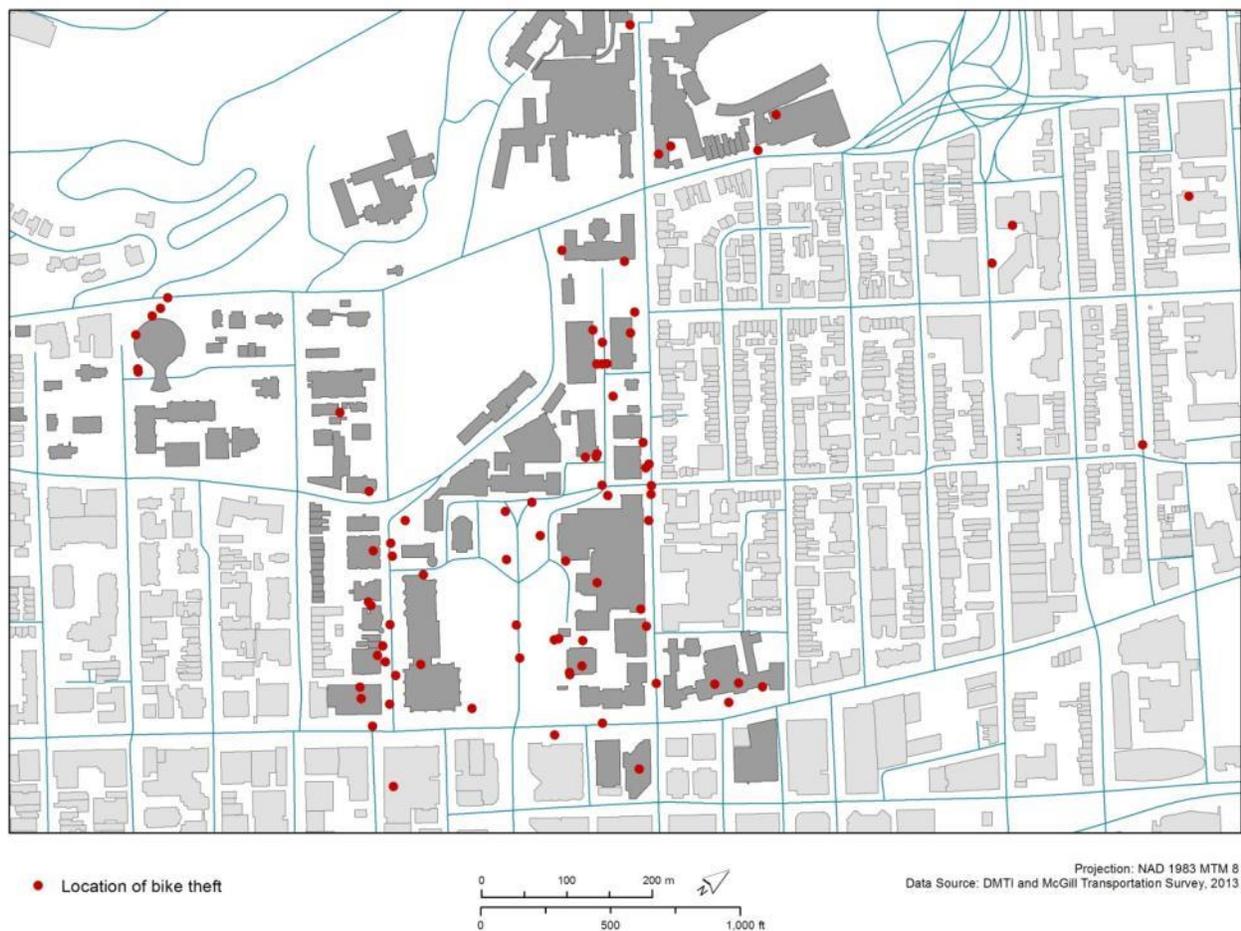
## BICYCLE THEFT

The survey also asked respondents to locate on a map where on campus they believed the most bicycle-related crime occurred. This question obtained a total of 520 identified locations. The survey also asked participants whether they had a bicycle stolen on McGill, and asked them to locate on a map the place where this had occurred. 84 locations of previous bicycle thefts were obtained for the downtown campus.

The results for the downtown campus are shown in **Figures 43** and **44**. The point density map of people's perception of bicycle crime shows dense concentrations around the Milton gates area, and all along McTavish, especially in front of Service Point. It is interesting to note that people believe the parking zone at the corner of McGill College and Sherbrooke (behind the Roddick Gates) to be risky in terms of bicycle crime, but that few people actually park their bicycles there (as seen in **Figure 41**).



**Figure 43: Point density analysis of the locations identified by respondents as having the most bicycle-related crime (downtown campus)**

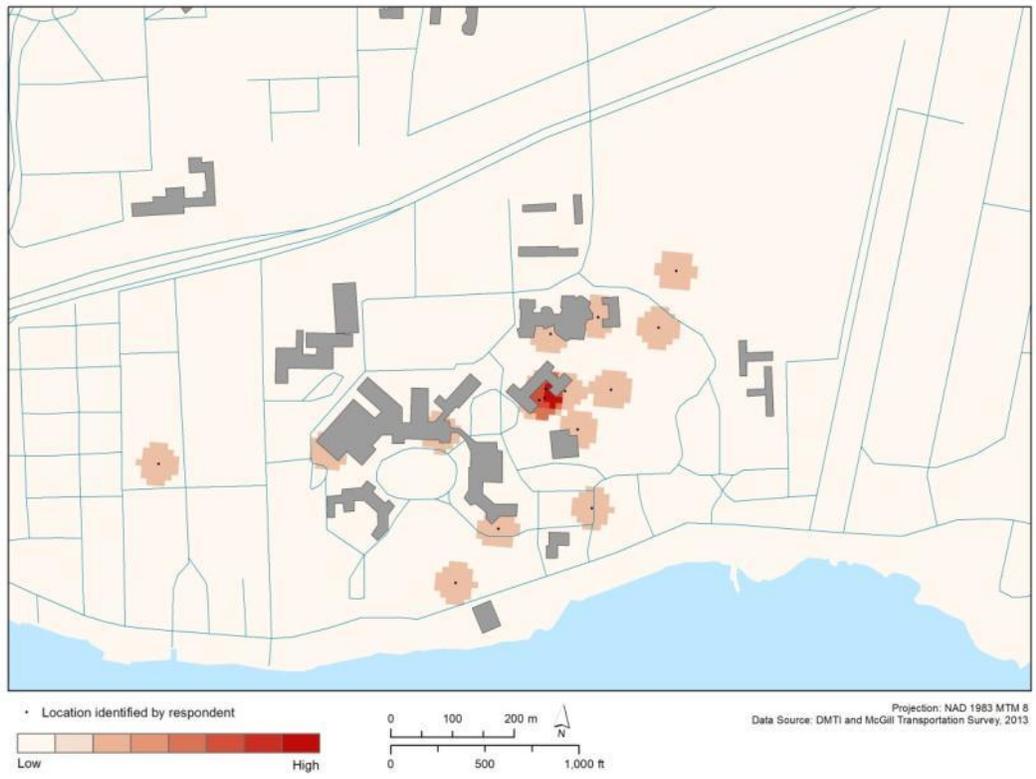


**Figure 44: Location of previous bicycle thefts identified by respondents (downtown campus)**

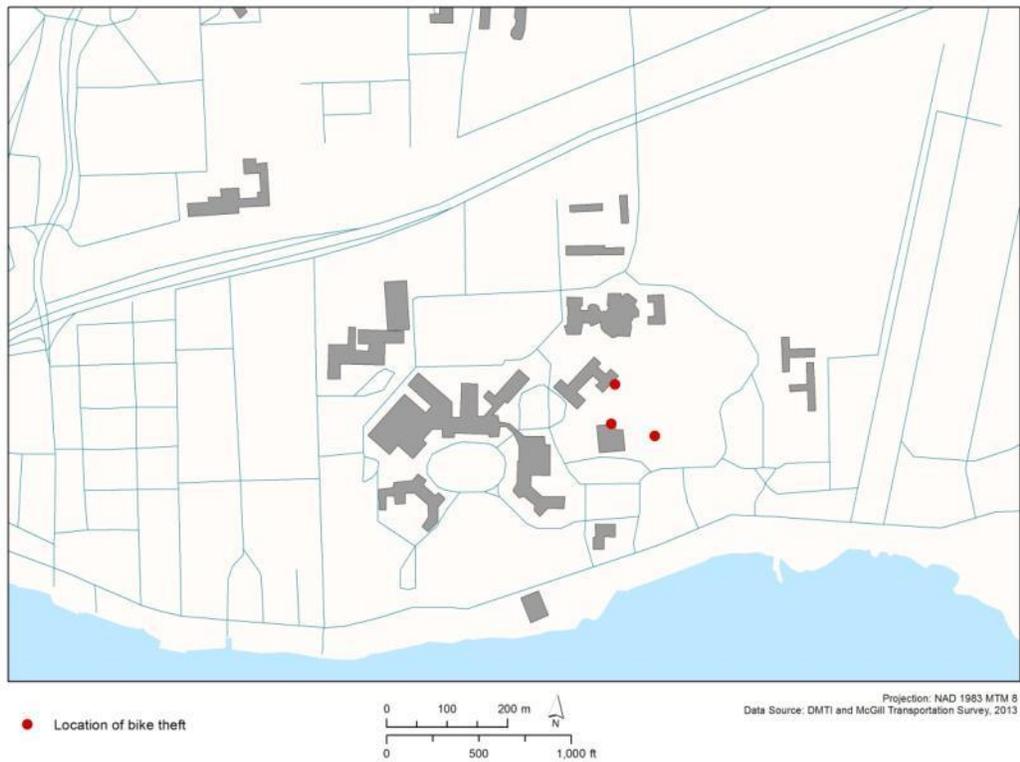
Bicycle thefts were noted at 84 locations around the downtown campus. There is no pattern clearly discernible from these locations. It seems that bicycle theft occurs generally throughout campus, with perhaps a slightly larger occurrence along McTavish and at Milton gates, in areas where bicycle parking is very high.

For the Macdonald campus, no obvious pattern emerges from the point density analysis of perceived bicycle crime areas (**Figure 45**). There is one slightly higher density area near Laird Hall (student residence building). However, this does not overlap with the bicycle parking map (**Figure 42**) in the same way that the downtown bicycle parking and perceived bicycle theft maps overlap.

For the MacDonald campus, only 3 locations of previous bicycle thefts were obtained, as shown in **Figure 46**. This is a positive result, in the sense that little bicycle theft actually occurs at Macdonald campus. However, with only 3 sample points, it is difficult to make any kind of conclusive statement about higher theft areas. It is interesting to note, however, that the three points are located relatively close to Laird Hall.



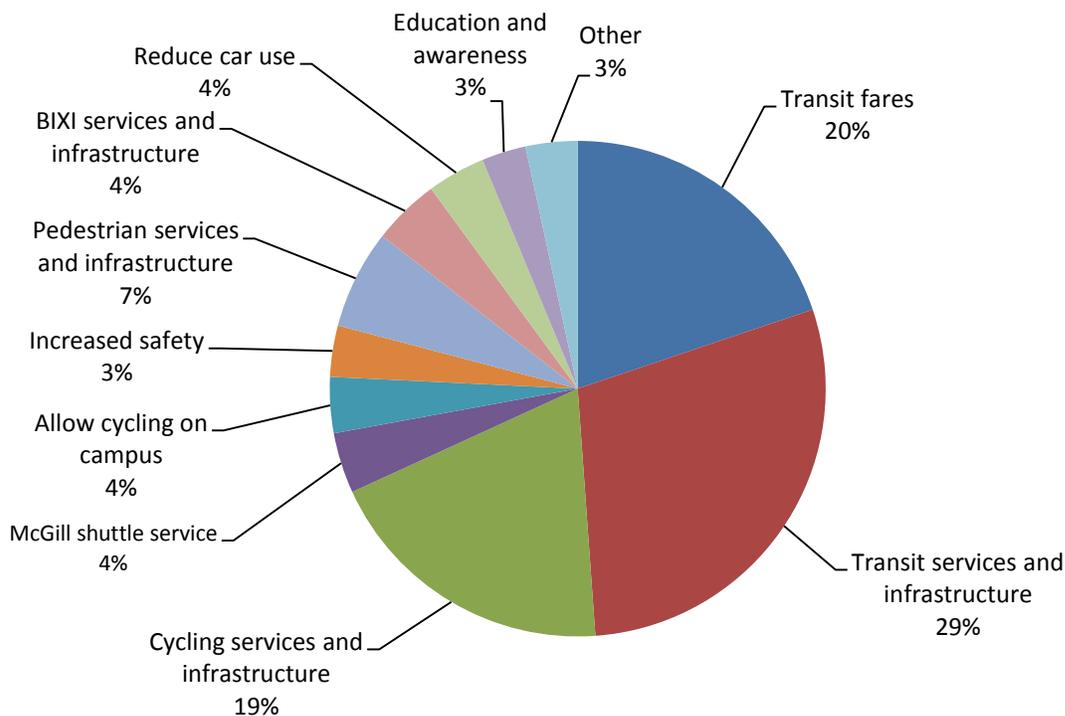
**Figure 45: Point density analysis of the locations identified by respondents as having the most bicycle-related crime (Macdonald campus)**



**Figure 46: Location of previous bike thefts identified by respondents (MacDonald campus)**

## Section VII – General Comments and Concerns

This section summarizes the general comments and suggestions provided by the survey participants to encourage sustainable transportation to and from McGill. The survey included an open-ended question allowing respondents to express their thoughts regarding ways in which the use of sustainable modes of transportation could be further advanced. This generated a great diversity of suggestions pertaining to different modes and different types of strategies, policies or measures. We obtained a total of 2289 suggestions, which were classified in 11 categories to identify the areas seen as being in most need of attention (as shown in **Figure 47**). The comments obtained in 2013 vary only slightly from those offered by respondents in the 2011 McGill Transportation Survey. This observed consistency over time suggests that respondents' concerns, by and large, are not knee-jerk responses to recent events, but reflect ongoing challenges, and possibly that their ideas have not yet inspired sufficient action on addressing key issues for the promotion of sustainable transportation..



**Figure 47: Respondents' suggestions to encourage the use of sustainable transportation to McGill campuses**

To begin, suggestions related to ease of use or accessibility of public transportation make up nearly half of the comments received. These have to do either with transit service and infrastructure improvements (29% of all suggestions), or with transit fare reduction (20% of all suggestions). This is not surprising since public transit is widely used by the McGill community (as demonstrated in Section III), and is the most feasible option of *sustainable* transportation for many participants travelling from many parts of the Montreal CMA. These concerns were also the two most frequent suggestions offered by respondents in 2011 survey (21% for transit improvements, and 19% for reduced transit fares). McGill

commuters still perceive public transit as a key transportation alternative to the private automobile, continuing to identify similar ways this service can be improved, and infrastructure upgrades are perhaps increasing in perceived importance.

## Transit services and infrastructure

The suggested transit improvements vary little from the 2011 McGill Transportation survey. A large portion of comments concerns increasing the frequency of transit services (buses, metros, and commuter trains). People also highlighted the need for extended service hours to meet the needs of students and staff that arrive or leave McGill campuses during non-standard hours. In particular, complaints concerning the AMT commuter rail were numerous: respondents mentioned the problematic timing of rush-hour trains and the lack of trains leaving downtown during irregular hours. Participants also spoke about the need to extend the service hours of certain bus lines, improve their reliability, and better connect different bus routes. For example, people mostly brought up the 144 Des Pins and the 107 Verdun buses, since they offer direct links to the downtown campus. Concerning buses, people also pointed out the need for an expanded bus service to and from the West Island. In general, the overall reliability and efficiency of the transit services were underlined as key aspects to improve if public transportation is to be used regularly and “with confidence”. A few quotes to exemplify these ideas are presented below:

*"The best feasible improvement would be to add many, many, many more available trains on the Vaudreuil/Hudson AMT line; as it is now, it is difficult for me to go to school and get home at realistic hours for my schedule as there are ENORMOUS time gaps in the train schedule and the trains stop running West at 6:30 PM (with an additional train at 9:15 PM and that's it). As for the morning commute to McGill, the train schedule forces me to arrive at school over an hour before my first class due to the unavailability of later trains. Also, the STM buses stop running West at 1:20 AM, which is sometimes still too early [...]"*

*"improving the 107 bus schedule to make it coordinate with the Vaudreuil commuter train has been on my wish list for a long time. Maybe have it wait there for a few minutes so those who want to take it don't feel that they have to run off the train and over to the stop. It was so stressful and frustrating that I walk instead for 25 minutes. Nice walk in good weather but quite a chore in the cold and through the slush lakes."*

*"Please tell the STM to put a bus to the West island somewhere near or between McGill and Concordia (i.e. Sherbrooke street level, so it could go straight onto the highway), or have 2 or 3 buses available (one near UQAM and UdeM too for our friends there too). It's nearly half an hour to get to the 211 bus going Westward at Lionel Groulx, and on bad nights the commute can take over 2 hours for me (and others in my public transit dead-zone of a neighbourhood)."*

*"Public transit needs to be more reliable and efficient so that people use it more often. "*

Other comments about improvements to the transit services and infrastructure have to do with adaptation of the transit system for the mobility-impaired. This could mean more elevators, more working escalators, or adequate disability-addressing facilities in more buses. In addition, respondents mentioned the need for additional parking at metro and train stations (preferably free or low-cost). For more outlying metro stations (such as Angrignon or Longueuil) and for train stations, this could greatly encourage people to drive to transit rather than to McGill, and commute much of the way to campus using public transportation. However, paving the most accessible land for car access, rather than building high-density residences and services near stations, clearly has drawbacks that must also be considered. Finally, some respondents suggested that additional bicycle racks be installed on transit vehicles and at transit stations, and that information accessibility be improved in metro stations (especially for Anglophones). A few such suggestions are quoted below:

*"Metro & buses need to be much more accessible (for persons with reduced or no mobility) - the lack of elevators and other accessibility features is quite appalling [...]"*

*"If this survey is going to transport Quebec, I think they should really do something for people who have children and minor physical problems. Some buses have a ramp for strollers, others don't. Regarding the metro, at most stations there is no escalator or elevators and regarding the train coming from the South Shore, same thing and the first step is pretty high. As much as I always loved public transportation, traveling with elderly or children has totally changed my views on it."*

*"There are constant issues with the parking lot at the Rosemère train station. How can people be encouraged to use transport if they can't get to it? Taking the shuttle bus is not always possible."*

## Transit fares

Reduction in transit fares for students, faculty and staff of McGill University was another major concern among survey respondents. This same issue was identified in 2011. One main preoccupation is the fact that students over the age of 25 have to pay full price for their transit pass, even though they might live on a student income. Thus, some respondents suggested the idea of a type of "U-Pass". This involves a negotiation between the University and the transit service provider to have a transit pass included as part of tuition fees, giving a net savings to student transit users and encouraging other students to use the pre-paid mode. Other universities, such as Université de Montréal and University of British Columbia, have implemented this kind of scheme. Other respondents suggest a school-wide transit pass, which would reduce the cost of transit for faculty and staff as well. McGill, as a major employer, could strike a deal with transit authorities for some sort of discounted rate. However, it is important to remember with these kinds of agreement that many people within the McGill community travel from various parts of the region, so they do not necessarily rely on the STM, but on other transit service providers (for instance, the AMT, or the transit authorities of Longueuil and Laval). Also, attention would have to be given to opt-out procedures, as many students currently walk or cycle and might neither personally benefit from increased transit access nor improve McGill's ecological footprint through increasing their transit use. The following quotes demonstrate some of these ideas:

*"When I was at UBC, all students were automatically enrolled in the Upass program which was a special buspass for students, regardless of age. It was \$90 per term, with the option of opting out. Getting around Montreal can be expensive (\$3 per fare). I think the program also encouraged people to use public transport instead of driving. UBC had a lot of students who commuted and perhaps having all of the students enrolled in the program made it financially feasible. I think it would be great if a similar program can be implemented for McGill. I think it would be similar to the CAMPUS program for UdeM students, but I suppose the logistics would have to be worked out."*

*"McGill should subsidize taking transit for its students & employees as done at other universities such as UBC where I think you can get a special pass rate for being associated with UBC - if not subsidize per se, perhaps make some sort of deal with the transit agencies to promote ridership by those associated with the university by giving them a special deal for 'bulk ridership' [...]"*

## Cycling services and infrastructure, Bixi service, and cycling on campus

A substantial proportion of survey respondents indicated that they feel McGill should provide more cycling-related services and infrastructure to further encourage the use of sustainable transportation to McGill campuses (19%). Improvement and maintenance of cycling infrastructure (especially bicycle paths and lanes) were frequently mentioned. These are key for the safety and the feasibility of commuting to campus by bicycle. Some survey respondents stressed that cycling lanes should be cleared in the winter in the same manner as streets. Another frequently raised issue was that

of additional – and safer – bicycle parking. Survey respondents gave the example of indoor secured parking, at no or low-cost. Finally, special facilities, such as showers in some buildings on campus to allow individuals to freshen up after cycling, could also encourage an uptake in cycling. This suggestion came up quite often in 2013. The following quotes touch on some of these ideas:

*"I would cycle much more if there were safe good quality bike lanes. Cycling at present is very hazardous both because of the lack of cycle lanes and due to the quality of the roads - many pot holes etc."*

*"Bike parking is important at home and at McGill. People carry their bikes up several flights of stairs at home or keep their bike in their office to avoid it being stolen or damaged. Better facilities would be very helpful [...]"*

*"Yes, at the U of Washington in Seattle, WA - they had covered bike parking options. McGill has little or none in comparison. I think it would be very valuable, even if seasonal [...]"*

On the topic of comments and concerns related to cycling, the improvement of Bixi services and infrastructure also came up (4% of all suggestions) as a way to promote sustainable forms of transportation. Comments in relation to Bixi mentioned the need for more Bixi stations and bicycles, and some indicated a perceived high subscription price. For this reason, some respondents suggest the implementation of a type of student Bixi membership. In addition, 4% of suggestions had to do with the ban on cycling through the downtown lower campus. These respondents argued that allowing cycling on the downtown campus would simplify getting around for people who chose to cycle to campus, and not doing so might force cyclists to take unsafe routes or longer detours to get to their destinations.

*"More Bixi spaces, since often the closest stations to McGill are full in the mornings and empty in the evenings."*

*"There needs to be a safe bike path across the campus. Creating pedestrian-only zones with no bicycle lane does not work and encourages highly dangerous behaviour, such as bicycling the wrong way down University. Before campus became a walk-bike zone, I never saw cyclists descending the wrong way down University."*

*"Make a bike path through the downtown campus, bikes are not considered to be automotives and are not a hazard to the environment; they are vehicles of being green. Bikes ignore the signs on campus and continue to bike through campus, especially if their destination on campus is not near the bike area near Milton Gates. I think since bikers will continue to bike on campus, it is best to paint a bike path through campus for bikers, skaters/skateboarders, etc."*

In total, 27% of all suggestions related in some way to cycling.

## Pedestrian services and infrastructure

The next most recurrent suggestion type concerned the improvement of pedestrian services and infrastructure (7% of all suggestions). This included better maintenance of sidewalks, especially snow clearing of pedestrian walkways and facilities in winter, when snow substantially impedes walking. Several people more specifically mentioned snow removal on the upper portion of the McGill downtown campus, north of Doctor Penfield. Survey respondents also brought up the issue of improved signage for pedestrians. Better coordination is needed in areas where cars, cyclists and pedestrians all interact (at busy intersections for example). People also suggested having better pedestrian linkages and specially demarcated crosswalks. This included new paved paths that create connections and allow for better accessibility across campus. Finally, in terms of pedestrian infrastructure and services, survey respondents spoke about improving and expanding the underground pedestrian network, as in 2011. The most often cited addition to the network is an underground tunnel connecting the downtown campus to the McGill or Peel metro station. The following quotes exemplify some of these ideas:

*"If you can get anyone to listen, you should explain to the City (and McGill University) that safe sidewalks are extremely important for the well being of its citizens and employees. I don't believe that the McGill Administration feels any responsibility for keeping the sidewalks on and surrounding the campus safe for pedestrians. Take University Street north of Sherbrooke (which is where I have to walk at least twice every day) as an example. On a typical winter day, the snow is not removed but is left to be trampled down into a sheet of hard, shiny ice. [...] Do I have to take out my car and drive to McGill to avoid falling and perhaps break a few bones???" [...]"*

*"Improve pedestrian crossing at the corner of Stanley and Dr. Penfield. Improve cleaning of the snow and ice on Stanley. It's very steep!!"*

*"Better East/West links on campus. More pedestrian crossings (flashing yellow, for example) on Peel between major intersections. CALM Dr-Penfield (it is extremely dangerous to cross at Dr-Penfield/des Pins for example - you just have to run across when there is a gap in the traffic. And make Peel alleyways more secure - heavy traffic, no traffic calming measures [...]"*

## Reduce car use

Approximately 4% of suggestions pointed to the need to reduce the use and presence of cars in the city and around campus (especially the downtown campus). Some people suggest drastic measures, such as eliminating cars completely from downtown Montreal. However, the majority of comments less drastically propose the implementation of tolls to enter the Island of Montreal or the downtown area, increased prices for parking on campus and elsewhere in the city, or measures to encourage carpooling and car sharing. Several comments about carpooling and car sharing had to do with people commuting to and from the West Island or Macdonald campus. Here are some quotes exemplifying these suggestions:

*"Personally, I'd like to see a system whereby the city implements automatic charging of drivers everytime they drive into the city core and/or onto the island of Montréal--thinking of how London reduced the number of vehicles in its city centre."*

*"Increase cost of parking permit, people will start to consider going to McGill in public transportation. Less cars in the area of McGill would be nice."*

*"Setup a carpool system that would allow employees who live within the same area to travel to and from work together."*

## McGill inter-campus shuttle

In addition, 4% of suggestions identified improvements to the McGill inter-campus shuttle as a viable way to encourage the use of sustainable forms of transportation. Although this came up frequently in the 2011 survey as well, it is important to note that some progress has been made since then. Indeed, respondents in 2011 suggested that access to the shuttle could be simplified by showing their IDs, and this was addressed. However, respondents in 2013 still highlight the inability of some staff and faculty to ride the shuttle (as they must still purchase tickets). In addition, concerns regarding the capacity, frequency and network range of the shuttle are still cited in this survey. People complained about long wait times, overcrowded buses, or anxiety about being punctual for commitments. The quotes below express some of these concerns:

*"Allow faculty to use the shuttle bus to commute from downtown to Mac and vice versa, as we used to be allowed to do, prior to the issuance of these new tickets that need to be paid for with a FOAPAL. Do not limit it solely to those having meetings or business on the two campuses. I would gladly pay myself for the privilege and ease of taking the shuttle bus. I would no longer need to have a car to commute."*

*"make more frequent shuttles available to commute between Mac campus and the downtown campus. OR, create an STM route that goes between the 2 campuses. There are not enough shuttle buses for the amount of commuting students, and the 211 is very painful to take."*

## Increase Safety

Other survey respondents feel that increasing safety in and around campus for both cyclists and pedestrians is most necessary (3%). This issue was discussed more thoroughly in Section VI. Concerns have been raised pertaining to traffic regulation and the need to increase observance of traffic laws, especially at intersections near the downtown campus. People sense a lack of respect for cyclists by drivers, and vice-versa. Some respondents also suggested increased security guard presence to discourage bicycle theft, as well as the promotion of measures such as the Walksafe program.

## Education and awareness

Several survey respondents mentioned a need to educate the population and raise awareness about the advantages of active transportation (3% of all suggestions). For example, people said that active transportation should be more highly publicized for its health and environmental benefits. According to survey respondents, education and awareness initiatives are also essential because they can enhance a respectful dynamic between different street users.

*"Maybe improving these services will provide an incentive for students to use sustainable transportation more often. In addition, creating awareness and informing students about the benefits not only for the environment but their physical health will help motivate students to take sustainable transportation. For example, we could try to organize a university wide Green Day."*

*"Build this into your exercise and general health care programs! We all don't have the time to go to the gym nor is it necessary! Commuting to work is a forced and wonderful form of exercise! ADVERTISE THIS AS THE REASON THAT PEOPLE SHOULD COMMUTE!"*

*"Workshops about biking in Montreal for people who don't currently bike to school!"*

## Other

Finally, several suggestions were classified as "Other" (3%). This includes comments related to aesthetic improvements to the built environment (more trees and flowers) and the need to deal with constant construction around the city, as well as the congestion and confusion it creates. Some survey respondents also brought up the possibility of decreasing the overall demand, or need for transportation, for example by creating more affordable housing close to both McGill campuses.

**General suggestions to encourage sustainable forms of transportation:**

1. Improve the transit system (reliability, efficiency, frequency of service, quality of infrastructure, network range) and reduce transit fares
2. Encourage cycling on both campuses and throughout Montreal: improve and expand cycling infrastructure and services, improve and expand the Bixi system, and find a way to accommodate cyclists on the downtown campus
3. Improve and expand pedestrian services and infrastructure
4. Reduce car use: encourage car-pooling and car-sharing, implement tolls in the downtown area, and increase the cost parking
5. Improve the Macdonald inter-campus shuttle and, more generally, facilitate travel between McGill's different campuses and buildings
6. Increase safety, especially for pedestrians and cyclists, and increase education and awareness to encourage the uptake of sustainable forms of transportation and to foster a more harmonious

It is vital that McGill take into consideration the opinions and suggestions of its thousands of students, faculty and staff. Examining these suggestions is an effective way to target the problems that are most prioritized by the McGill community, and doing so might help find new and creative solutions to transportation problems faced by McGill commuters. Finally, these suggestions provide insights into how to encourage sustainable forms of transportation and promote McGill's mission to be an environmentally conscious and forward-thinking institution. Indeed, the University has already taken several important strides in this direction, and being located in Montreal – a city often recognized for its high liveability and relatively robust transit and bicycle networks – McGill is well positioned to spearhead innovations in the use of sustainable forms of transportation.

## Section VIII – Conclusions

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This report is a comprehensive summary and analysis of the main findings of the 2013 McGill Commuter survey, conducted by the Transportation Research at McGill (TRAM) research group. It is meant as a follow-up to the similar study conducted by the TRAM group in 2011, but also as a source of new information about the commuting patterns and concerns of the McGill population.

Covered in this report were: methodologies employed for survey design and dissemination; mode choice summary statistics by various socio-demographic factors; commute satisfaction; opinions, intentions, and perceived barriers to using various modes of transportation; unsafe areas around the downtown and Macdonald campuses based on perceived traffic, general crime and bicycle theft danger; and suggestions on how to encourage the use of sustainable modes of transportation. These results provide insights into how to improve the safety, comfort, and efficiency of travel to and from McGill, as well as into what might contribute to commuters choosing more sustainable transportation. This should be an integral part of McGill University's efforts to becoming a sustainably minded institution, and to show the example to other such institutions in the Montreal region and throughout North America.

### General findings

Primary findings from the 2013 survey indicate that commuting patterns have not changed dramatically since 2011. The basic mode split is similar between years; however, seasonal variation is pronounced and can now be clearly viewed as a result of the 2013 survey's more precise questions. Overall, sustainable forms of transportation (walking, cycling, public transit, and McGill shuttle service) are used by 86% of respondents in the winter and by 87% in the summer. This represents a slight increase from the 2011 survey, which had determined that 84% of respondents use these transport modes. Cyclists represent an especially interesting group, as their share jumps from 1% to 14% with warmer weather.

Second, the survey allowed detailed examination of motivations, barriers, and satisfaction. We provided a brief overview of some of these results, but this data merits a more in-depth analysis and will provide the basis for several future research projects. Of note, cyclists and motorists tend to have the most pronounced and opposed intentions and opinions on infrastructure issues. Their social patterns are also the most divergent. Pedestrians and cyclists feel less anxious during their commute than other mode users; they also feel more energized and satisfied overall during and after their trip. Moreover, active transportation and transit users were found to feel like their time was being used more productively, and the former often enjoy the commute as an activity in itself. Walking and cycling are also more consistent, predictable and flexible time-wise, which increases satisfaction. All mode-users would like to walk and bicycle more, and there is consensus among all respondents that investment in public transportation is a priority. This suggests that, apart from clear environmental benefits, active transportation and transit also offer social benefits, increased productivity and higher satisfaction rates than motorized transport.

## Recommendations

Based on the results presented in this report, the TRAM research group has generated some recommendations to inform McGill University's continual efforts to encourage the use of sustainable modes of transportation for commuting to and from the different campuses. Of course, some measures are not fully under the university's influence; yet, several achievable recommendations may still be considered to guide McGill in its sustainability endeavours.

On the one hand, several recommendations made in 2011 deserve to be reiterated. One recurrent concern in 2011 for both students and staff was transit fares, and this concern was once again prevalent in 2013. Though this is not something McGill can influence directly, the University should explore certain avenues for implementing a reduced rate for all students, or even for all people affiliated with the University, as suggested by some respondents. Conducting a feasibility study on the opportunities of a potential agreement between the University and local transit service providers might be helpful to assess the viability of such an initiative. Other recommendations made in 2011 regarding particular services, policies and infrastructure on campus have not yet been fully addressed, and still seem to be a considerable concern for McGill's community. For example, the McGill shuttle service could be improved by increasing the service's frequency, and by simplifying access to the shuttle for faculty and staff. In addition, the University might rethink the cycling dismount policy on campus. As in 2011, several respondents expressed discontent about this policy; they suggest the implementation of a bicycle path or lane reserved for cyclists going through campus. Alternatively, this problem might also be solved by more informational campaigns about the rationale behind this policy (adopted in 2010). Finally, it is also recommended that increased attention be paid to the maintenance of pedestrian facilities, particularly during the winter, to ensure that individuals are not discouraged from walking to and on campus.

In addition, insufficient campus bicycle parking inhibits cycling to McGill. About 40% of respondents who had tried commuting by bicycle but are unlikely to do so again cited parking problems as a reason. McGill can easily address this. A sizable portion of respondents also showed they were willing to pay for secured bicycle parking. Similarly, some respondents wish to drive their car to campus but don't due to limitations in availability of on-campus parking. This could indicate that an increase in available parking at McGill would raise the proportion of motorists commuting to McGill and is therefore not advised. On the other hand, some new findings – and associated recommendations – have also arisen, based on the McGill population's perceptions of safety around the downtown and Macdonald campus in terms of traffic and accidents, crime and unwanted attention, and bicycle theft. Indeed, McGill University should work toward fostering an urban environment in which people feel safe getting around as they wish.

First, this study successfully identified key intersections and transport corridors where McGill's community feels unsafe in terms of traffic. Mainly along corridors such as Sherbrooke St., Doctor Penfield St., Des Pins Ave. and Milton St., the most recurrent explanation for the risk of a traffic accident is the interaction with drivers of private motor vehicles. This is to be expected considering that more than 85% of survey respondents are non-motorists. Yet, it is essential to note that driver behaviour, car-

pedestrian interaction, and car-cyclist interaction were seen as very problematic, indicating the need for more awareness or care among drivers for other street users. The built environment was also pointed out as an explanation for the danger felt at these locations. Thus, better infrastructure for active forms of transportation, as well as more appropriate signage, might improve the interaction between street users. McGill University can play a role in improving this situation. It should consider increasing traffic safety awareness, providing increased services for users of active transportation (showers and bicycle services such as The Flat), and maintaining adequate infrastructure for active transportation users. For example, connections between the campus grounds and the City streets could be improved (such as the corners of Sherbrooke and McTavish, Sherbrooke and McGill College, and Milton and University), perhaps with better management of the flow of cyclists wishing to ride through campus, to and from the downtown bicycle lanes.

Second, this study also identified key locations where McGill's community feels unsafe in terms of crime. These locations tended to concentrate around metro stations, as well as along Milton. In this respect, it may be difficult for McGill University to get directly involved in helping people feel safer, since the majority of comments highlighted the presence, behaviour, or actions of strangers in the street as the causes of concern. However, the University could ensure the presence of security guards and adequate lighting around campus grounds and, more importantly, help increase awareness and sensitivity to important issues for the City of Montreal such as homelessness. This is not only important from a social perspective, but it might also support a larger and more positive uptake of public transit and active transportation. For the Macdonald campus, McGill could also consider funding for a Walksafe program similar to the one already implemented for the downtown campus.

Third, in terms of bicycle theft, the University might take actions to improve bicycle parking safety, particularly around key locations identified by respondents, like near the Milton gates and along McTavish Street, where many cyclists park.

## Improvements for future studies

To track of changes in travel behaviour, as influences, policies, and services change at McGill and throughout Montreal, we reiterate the recommendation that a study investigating the commuting patterns of the McGill community be conducted every two to three years. The next survey could expand on issues such as conditions during formative years that encourage certain modes of transportation as adults, or how people feel during or after their commute. This 2013 survey asked people generally about stress level and energy, but this could be carried out in more detail.

To conclude, the 2013 Transportation survey shows that the McGill University community overall travels to and from the campuses in sustainable manners. However, it also identifies shortcomings. Additional efforts to encourage sustainable commuting would greatly benefit the entire University population. Moreover, given McGill's considerable influence in the region, investments that help minimize its environmental impact can contribute substantially to the larger goal of building a sustainable city.

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## Appendix I: 2013 McGill Commuter Survey

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The inter-disciplinary research group, Transportation Research at McGill (TRAM) is currently undertaking research aiming to update and enrich information from a 2011 survey assessing travel to and from McGill University. Your participation is greatly appreciated and gives you the chance to win great prizes, including:

- Two nights accommodation at the Marriott Residence Inn on Rue Peel, Montreal (1 prize; odds of winning 1:2000)
- McGill Bookstore gift certificate (TBD prizes; odds of winning 1:500)
- McGill Athletics 3-month or summer membership (1 prize; odds of winning 1:2000)
- McGill Athletics Redbird Sports Shop \$25 gift certificate (1 prize; odds of winning 1:2000)
  
- One course at McGill's center for Personal and Cultural Enrichment (1 prize; odds of winning 1:2000)
- Faculty Club \$25 gift certificate (1 prize; odds of winning 1:2000)
- One-year Bixi membership (2 prizes; odds of winning 1:500)
- iTunes \$10 gift cards (5 prizes; odds of winning 1:400)
  
- Second Cup \$10 gift certificates (5 prizes; odds of winning 1:400)

With a bit of your time you can help us in making recommendations to improve travel to and from McGill University and to develop recommendations on how to further encourage the use of sustainable transportation for commuting to McGill. This survey is funded by NSERC and is conducted in collaboration with the McGill Office of Sustainability.

The project team includes Dea van Lierop, Colin Stewart, and Kevin Manaugh, graduate students from the McGill School Urban Planning. The research team is working under the supervision of Ahmed El-Geneidy, Associate Professor with the School of Urban Planning.

The above link to the survey has been personalized to your email address and will only work for you. If you want to invite other people to do the survey, please forward them the link at the bottom of this email.

This survey will take approximately 10-15 minutes to complete. Participation is voluntary, and you may exit the survey at any time. Completing the survey indicates consent to participate in this study. All survey responses will remain confidential, stored on password-protected computers, and participants will not be identified in any publications or reports. The data may be kept for future related research purposes.

If you have any questions or concerns regarding this research project, please send an email to [tram.urbanplanning@mcgill.ca](mailto:tram.urbanplanning@mcgill.ca). If you need urgent assistance, you may call TRAM at 514-398-

4058. If you have any questions or concerns regarding your rights or welfare as a participant in this research study please contact the McGill Research Ethics Officer at 514-398-6831 or [lynda.mcneil@mcgill.ca](mailto:lynda.mcneil@mcgill.ca)

Thank you for your participation!

There are 356 questions in this survey

## Part 1: General Information

### Question 1 (Excel question 0)

What is your status at McGill ?

Please choose **only one** of the following:

- Student (undergraduate)
- Student (graduate)
- Student (continuing education)
- Post-doctoral fellow
- Staff (administrative)
- Staff (security, maintenance, etc.)
- Faculty
- Faculty (adjunct)
- Visitor (visiting scholar, etc.)
- Other

### Question 2 (EQ 1)

Are you at McGill... ?

Please choose **only one** of the following:

- Full-time
- Part-time

### Question 3 (EQ 2)

In which year did you start regularly commuting to McGill?

Please choose **only one** of the following: [drop down menu with years]

### Question 4 (EQ 3)

At which campus do you spend most of your time?

Please choose **only one** of the following:

- Downtown Campus
- MacDonald Campus

### Question 5 (EQ 4)

On the following map, please adjust the zoom and drag the pin to where you spend the most time at McGill (Downtown Campus).

Please write your answer here: \_\_\_\_\_

Question 6 (EQ 5)

On the following map, please adjust the zoom and drag the pin to where you spend most of your time at McGill (MacDonald Campus).

Please write your answer here:

\_\_\_\_\_

Question 7 (EQ 6)

How often are you on campus?

Please choose **only one** of the following:

- 7 times per week
- 6 times per week
- 5 times per week
- 4 times per week
- 3 times per week
- 2 times per week
- 1 time per week
- 3 times per month
- 2 times per month
- 1 time per month
- Less than one time per month

Question 8 (EQ 7)

Describe your typical work schedule at campus.

Please choose **all that apply**:

- I'm on campus during regular work day hours from approximately 9am-5pm
- I'm on campus for nonstandard hours

Question 9 (EQ 8)

To provide us with your approximate home location, which of the following would you prefer to do?

- Type my home postal code
- Put a pin on a map

Question 10 (EQ 9)

Please enter your current **home** postal code while at McGill. Please use the format XXX XXX (for example: H3A 0C2)

Please write your answer here: \_\_\_\_\_

Question 11 (EQ 10)

On the following map, please adjust the zoom and drag the pin to your current home location:

Please write your answer here: \_\_\_\_\_

## Part 2: Commuting habits

The following questions ask about the **different parts of your trip to McGill**. For example, you might have a trip with three parts: first, walking to a bus stop; second, riding the bus; and third, walking from the last bus stop to McGill.

You will be asked these questions based on your trips in **two different weather conditions**: *cold snowy days* and *warm dry days*. Please answer the following questions accordingly:

### Part 2a: Commuting to McGill on cold snowy days (Leg 1)

#### Question 12 (EQ 14)

**For the first part of my trip on a typical cold snowy day, I”:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Ride a motorcycle or scooter
- Take a taxi
- Other

#### Question 13 (EQ 15)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

#### Question 14 (EQ 16)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking a taxi, taking the bus or metro, etc.)

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

### Part 2a: Commuting to McGill on cold snowy days (Leg 2)

#### Question 15 (EQ 18)

**For the second part of my trip on a typical cold snowy day, I:**

*Please choose **only one** of the following answers*

- Walk to transit

- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 15 (EQ 19)

**Only answer this question if the following conditions are met:**

**Answer to Question 14 is "Take the bus"**

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 16 (EQ 20)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 17 (EQ 21)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiak
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 18 (EQ 22)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping

- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 19 (EQ 23)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 20 (EQ 24)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 21 (EQ 25)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2a: Commuting to McGill on cold snowy days (Leg 3)

Question 22 (EQ 29)

**For the third part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 23 (EQ 30)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 24 (EQ 31)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 25 (EQ 32)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiach
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 26 (EQ 33)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 27 (EQ 34)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 28 (EQ 35)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 29 (EQ 36)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

**Part 2a: Commuting to McGill on cold snowy days (Leg 4)**

Question 30 (EQ 40)

**For the fourth part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 31 (EQ 41)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 32 (EQ 42)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 33(EQ 43)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiatic
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 34 (EQ 44)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping

- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 35 (EQ 45)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 36 (EQ 46)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 37 (EQ 47)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2a: Commuting to McGill on cold snowy days (Leg 5)

Question 38 (EQ 51)

**For the fifth part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 39 (EQ 52)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 40 (EQ53)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 41 (EQ 54)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiak
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 42 (EQ 55)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 43 (EQ 56)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 44 (EQ 57)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 45 (EQ 58)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2a: Commuting to McGill on cold snowy days (Leg 6)**

Question 46 (EQ 62)

**For the sixth part of my trip on a typical snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 47 (EQ 63)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 48 (EQ 64)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 49 (EQ 65)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 50 (EQ 66)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping

- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 51 (EQ 67)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 52 (EQ 68)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 53 (EQ 69)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2a: Commuting to McGill on cold snowy days (Leg 7)

Question 54 (EQ 73)

**For the seventh part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 55 (EQ 74)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 56 (EQ 75)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 57 (EQ 76)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiak
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 58 (EQ 77)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 59 (EQ 78)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 60 (EQ 79)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 61 (EQ 80)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

**Part 2a: Commuting to McGill on cold snowy days (Leg 8)**

Question 62 (EQ 84)

**For the eight part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 63 (EQ 85)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 64 (EQ 86)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 65 (EQ 87)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiatic
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 66 (EQ 88)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping

- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 67 (EQ 89)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 68 (EQ 90)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 69 (EQ 91)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2a: Commuting to McGill on cold snowy days (Leg 9)

Question 70 (EQ 95)

**For the ninth part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 71 (EQ 96)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 72 (EQ 97)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 73(EQ 98)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 74 (EQ 99)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 75 (EQ 100)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 76 (EQ 101)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 77(EQ 102)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2a: Commuting to McGill on cold snowy days (Leg 10)**

Question 78 (EQ 106)

**For the tenth part of my trip on a typical cold snowy day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 79 (EQ 107)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 80 (EQ 108)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 81 (EQ 109)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiak
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 82 (EQ 110)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal

- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 83 (EQ 111)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 84 (EQ 112)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 85 (EQ 113)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Yes
- No

## Part 2a: Commuting to McGill on cold snowy days (Satisfaction)

Question 86 (EQ 121)

For the walking portion(s) of your trip on typical cold snowy days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I am satisfied with the length of time I spend walking					
I am comfortable when I walk					
I feel safe from traffic when I walk					
I feel safe from crime and unwanted attention when I walk					

Question 87 (EQ 122)

For the cycling portion(s) of your trip on typical cold snowy days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I am satisfied with the length of time I spend cycling					
The amount of time I spend cycling is usually consistent					
I am comfortable when I cycle					

I feel safe from traffic when I cycle					
I feel safe from crime and unwanted attention when I cycle					
The cost of taking the commuter train is reasonable					
The quality of the bicycle paths I use is good					

Question 88 (EQ 123)

For the driving portion(s) of your trip on typical cold snowy days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I am satisfied with the length of time I spend driving					
The amount of time I spend driving is usually consistent					
I am comfortable when I drive					
I feel safe from traffic when I drive					
I feel safe from crime and unwanted attention when I drive					
The cost of driving is reasonable					

Question 89 (EQ 124)

For the bus portion(s) of your trip on typical cold snowy days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I am satisfied with the length of time I spend on the bus					
My bus ride takes a consistent amount of time					
I am comfortable when I am on the bus					
I feel safe from crime and unwanted attention when I am on the bus					
The cost of taking the bus is reasonable					
I am satisfied with how long it takes me to reach my bus stop					
The waiting time for the bus is reasonable					

Question 90 (EQ 125)

For the metro portion(s) of your trip on typical cold snowy days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree

I am satisfied with the length of time I spend on the metro					
My ride on the metro takes a consistent amount of time					
I am comfortable when I am on the metro					
I feel safe from crime and unwanted attention when I am on the metro					
The cost of taking the metro is reasonable					
I am satisfied with how long it takes me to get to the metro					
The waiting time for the metro is reasonable					

Question 91 (EQ 126)

For the commuter train portion(s) of your trip on typical cold snowy days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
I am satisfied with the length of time I spend on the commuter train					
My ride on the commuter train takes a consistent amount of time					
I am comfortable when I am on the commuter train					
I feel safe from crime and unwanted attention when I am on the commuter train					
The cost of taking the commuter train is reasonable					
I am satisfied with how long it takes me to get to the commuter train					
The waiting time for the commuter train is reasonable					

Question 92 (EQ 127)

For the McGill intercampus shuttle portion of your trip on typical cold snowy days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
I am satisfied with the length of time I spend on the intercampus shuttle					
My ride on the intercampus shuttle takes a consistent amount of time					
I am comfortable when I am on the					

<b>intercampus shuttle</b>					
<b>I feel safe from crime and unwanted attention when I am on the intercampus shuttle</b>					
<b>I am satisfied with how long it takes to walk to the intercampus shuttle</b>					
<b>The waiting time for the intercampus shuttle is reasonable</b>					

Question 93 (EQ 128)

On a typical cold snowy day, how much additional time (in minutes) do you budget to ensure that you get to McGill on time?

Please write your answer here: \_\_\_\_\_ [1-200 minutes dropdown]

Question 94 (EQ 129)

How much do you agree with the following statements?

*Please choose the appropriate response for each item:*

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>On typical cold snowy days, I feel stressed during my trips to McGill</b>					
<b>On typical cold snowy days, my commute to McGill negatively impacts my punctuality / attendance / working hours</b>					
<b>On typical cold snowy days, I feel energized when I arrive at McGill</b>					

## Part 2b: Commuting to McGill on a warm dry day

Question 95 (EQ 130)

Would your commute to McGill on a typical warm dry day be the same as on a typical cold snowy day?

*Please choose **only one** of the following:*

- Yes
- No

Question 96 (EQ 131)

Would your opinions about your commute on a typical hot humid day be the same as on a typical cold snowy day?

*Please choose **only one** of the following*

- Yes
- No

## Part 2b: Commuting to McGill on warm dry days (Leg 1)

### Question 97 (EQ 134)

**For the first part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Ride a motorcycle or scooter
- Take a taxi
- Other

### Question 98 (EQ 135)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

### Question 99 (EQ 136)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking a taxi, taking the bus or metro, etc.)

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2b: Commuting to McGill on warm dry days (Leg 2)

### Question 100 (EQ 138)

**For the second part of my trip on a typical warm dry day, I:**

*Please choose **only one** of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train

- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 101 (EQ 139)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 102 (EQ 140)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 103 (EQ 141)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 104 (EQ 142)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 105 (EQ 143)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 106 (EQ 144)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 107 (EQ 145)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2b: Commuting to McGill on warm dry days (Leg 3)**

Question 108 (EQ 149)

**For the third part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 109 (EQ 150)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 110 (EQ 151)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 111 (EQ 152)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 112 (EQ 153)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 113 (EQ 154)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 114 (EQ 155)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 115 (EQ 156)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2b: Commuting to McGill on warm dry days (Leg 4)**

Question 116 (EQ 160)

**For the fourth part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro

- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 117 (EQ 161)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 118 (EQ 162)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 119 (EQ 163)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 120 (EQ 164)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 121 (EQ 165)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 122 (EQ 166)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 123 (EQ 167)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2b: Commuting to McGill on warm dry days (Leg 5)

Question 124 (EQ 171)

**For the fifth part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 125 (EQ 172)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 126 (EQ 173)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 127 (EQ 174)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 128 (EQ 175)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 129 (EQ 176)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 130 (EQ 177)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 131 (EQ 178)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2b: Commuting to McGill on warm dry days (Leg 6)**

Question 132 (EQ 182)

**For the sixth part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro

- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 133 (EQ 183)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 134 (EQ 184)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 135 (EQ 185)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 136 (EQ 186)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 137 (EQ 187)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 138 (EQ 188)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 139 (EQ 189)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## Part 2b: Commuting to McGill on warm dry days (Leg 7)

Question 140 (EQ 193)

**For the seventh part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 141 (EQ 194)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 142 (EQ 195)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 143 (EQ 196)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 144 (EQ 197)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 145 (EQ 198)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 146 (EQ 199)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 147 (EQ 200)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2b: Commuting to McGill on warm dry days (Leg 8)**

Question 148 (EQ 204)

**For the eight part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro

- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 149 (EQ 205)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 150 (EQ 206)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 151 (EQ 207)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 152 (EQ 208)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 153 (EQ 209)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 154 (EQ 210)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 155 (EQ 211)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2b: Commuting to McGill on warm dry days (Leg 9)**

Question 156 (EQ 215)

**For the ninth part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro
- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 157 (EQ 216)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 158 (EQ 217)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 159 (EQ 218)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 160 (EQ 219)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 161 (EQ 220)

How many minutes does this stop take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 162 (EQ 221)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_[drop down 1-200 minutes]

Question 163 (EQ 222)

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Reach campus
- Transfer to another mode

## **Part 2b: Commuting to McGill on warm dry days (Leg 10)**

Question 164 (EQ 226)

**For the tenth part of my trip on a typical warm dry day, I:**

*Please choose one of the following answers*

- Walk to transit
- Walk
- Ride a bicycle
- Carpool
- Drive
- Take the bus
- Take the metro

- Take the commuter train
- Take the McGill intercampus shuttle
- Ride a motorcycle / scooter
- Take a taxi
- Make a stop
- Other

Question 165 (EQ 227)

Which bus route do you take?

Please choose **only one** of the following: [drop down menu with stops]

Question 166 (EQ 228)

Which metro line(s) do you take?

Please choose **all** that apply:

- Green Line
- Orange Line
- Blue Line
- Yellow Line

Question 167 (EQ 229)

Which commuter train line do you take?

Please choose **only one** of the following:

- Blainville-Saint-Jérôme
- Deux-Montagnes
- Candiac
- Mont-Saint-Hilaire
- Vaudreuil-Hudson

Question 168 (EQ 230)

What is the purpose of the stop? Please select all that apply.

Please choose **all** that apply:

- Drop children off at school/daycare/etc.
- Shopping
- Buy coffee/meal
- Stop at the gym
- Stop at the bank/post office/etc.
- Other:

Question 169 (EQ 231)

How many minutes does this stop take?

Please write you answer here: \_\_\_\_\_ [drop down 1-200 minutes]

Question 170 (EQ 232)

How many minutes does this part of your trip take?

Please write your answer here: \_\_\_\_\_ [drop down 1-200 minutes]

**Question 171 (EQ 233)**

Do you then reach campus or do you transfer to another mode (walking, cycling, driving, taking the bus or metro, etc.)?

Please choose **only one** of the following:

- Yes
- No

**Part 2b: Commuting to McGill on warm dry days (Satisfaction)**

**Question 172 (EQ 242)**

For the walking portion(s) of your trip on typical warm dry days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>I am satisfied with the length of time I spend walking</b>					
<b>I am comfortable when I walk</b>					
<b>I feel safe from traffic when I walk</b>					
<b>I feel safe from crime and unwanted attention when I walk</b>					

**Question 173 (EQ 243)**

For the cycling portion(s) of your trip on typical warm dry days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>I am satisfied with the length of time I spend cycling</b>					
<b>The amount of time I spend cycling is usually consistent</b>					
<b>I am comfortable when I cycle</b>					
<b>I feel safe from traffic when I cycle</b>					
<b>I feel safe from crime and unwanted attention when I cycle</b>					
<b>The cost of taking the commuter train is reasonable</b>					
<b>The quality of the bicycle paths I use is good</b>					

**Question 174 (EQ 244)**

For the driving portion(s) of your trip on typical warm dry days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly</b>	<b>Somewhat</b>	<b>Neutral</b>	<b>Somewhat</b>	<b>Strongly</b>

	disagree	disagree		agree	agree
I am satisfied with the length of time I spend driving					
The amount of time I spend driving is usually consistent					
I am comfortable when I drive					
I feel safe from traffic when I drive					
I feel safe from crime and unwanted attention when I drive					
The cost of driving is reasonable					

Question 175 (EQ 245)

For the bus portion(s) of your trip on typical warm dry days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I am satisfied with the length of time I spend on the bus					
My bus ride takes a consistent amount of time					
I am comfortable when I am on the bus					
I feel safe from crime and unwanted attention when I am on the bus					
The cost of taking the bus is reasonable					
I am satisfied with how long it takes me to reach my bus stop					
The waiting time for the bus is reasonable					

Question 176 (EQ 246)

For the metro portion(s) of your trip on typical warm dry days, please rate your satisfaction with the following:  
Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I am satisfied with the length of time I spend on the metro					
My ride on the metro takes a consistent amount of time					
I am comfortable when I am on the metro					
I feel safe from crime and unwanted attention when I am on the metro					
The cost of taking the metro is reasonable					
I am satisfied with how long it takes me to get to the metro					

<b>The waiting time for the metro is reasonable</b>					
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Question 177 (EQ 247)

For the commuter train portion(s) of your trip on typical warm dry days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>I am satisfied with the length of time I spend on the commuter train</b>					
<b>My ride on the commuter train takes a consistent amount of time</b>					
<b>I am comfortable when I am on the commuter train</b>					
<b>I feel safe from crime and unwanted attention when I am on the commuter train</b>					
<b>The cost of taking the commuter train is reasonable</b>					
<b>I am satisfied with how long it takes me to get to the commuter train</b>					
<b>The waiting time for the commuter train is reasonable</b>					

Question 178 (EQ248)

For the McGill intercampus shuttle portion of your trip on typical warm dry days, please rate your satisfaction with the following:

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>I am satisfied with the length of time I spend on the intercampus shuttle</b>					
<b>My ride on the intercampus shuttle takes a consistent amount of time</b>					
<b>I am comfortable when I am on the intercampus shuttle</b>					
<b>I feel safe from crime and unwanted attention when I am on the intercampus shuttle</b>					
<b>I am satisfied with how long it takes to walk to the intercampus shuttle</b>					
<b>The waiting time for the intercampus shuttle is reasonable</b>					

Question 179 (EQ 249)

On a typical warm dry day, how much additional time (in minutes) do you budget to ensure that you get to McGill on time?

Please write your answer here: \_\_\_\_\_ [1-200 minutes dropdown]

Question 180 (EQ 250)

How much do you agree with the following statements?

*Please choose the appropriate response for each item:*

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>On typical warm dry days, I feel stressed during my trips to McGill</b>					
<b>On typical warm dry days, my commute to McGill negatively impacts my punctuality / attendance / working hours</b>					
<b>On typical warm dry days, I feel energized when I arrive at McGill</b>					

**Part 2c: Commuting to McGill (Wrap-up, part 1 of 4)**

Question 181 (EQ 260)

Have you used any of the following modes in the last year to commute to McGill?

*Please choose **all** that apply:*

- Walking
- Bicycling
- Driving
- Taking the bus
- Taking the metro
- Taking the commuter train
- None of the above

**Part 2c: Commuting to McGill (Wrap-up, part 2 of 4)**

Question 182 (EQ 270)

Of the modes that you don't typically use to commute to McGill, which are you least likely to use?

*Please choose **only one** of the following:*

- Walking
- Bicycling
- Driving
- Taking the bus
- Taking the metro
- Taking the commuter train

Question 183 (EQ 274)

Please specify why you don't walk more often during your commute to McGill?

Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
It takes too much effort					
It's uncomfortable					
It's unsafe					

Question 184 (EQ 275)

Please specify why you don't cycle more often during your commute to McGill.

Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
It takes too much effort					
It's uncomfortable					
It's too expensive					
It's unsafe					
There's not enough parking on campus					

Question 185 (EQ 276)

Please specify why you don't drive more often during your commute to McGill.

Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					
It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					
Not enough parking on campus					

Question 186 (EQ 277)

Please specify why you don't take the bus more often during your commute to McGill.

Please choose the appropriate response.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					

It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					

Question 187 (EQ 278)

Please specify why you don't take the metro more often during your commute to McGill.

*Please choose the appropriate response for each item.*

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					
It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					

Question 188 (EQ 279)

Please specify why you don't take the commuter train more often during your commute to McGill.

*Please choose the appropriate response for each item.*

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					
It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					

Question 189 (EQ 280)

Please specify why you don't walk more often during your commute to McGill.

*Please choose the appropriate response for each item:*

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
It takes too much effort					
It's uncomfortable					
It's unsafe					

Question 190 (EQ281)

Please specify why you don't cycle more often during your commute to McGill.

Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
It takes too much effort					
It's uncomfortable					
It's too expensive					
It's unsafe					
There's not enough bicycle parking on campus					

Question 191 (EQ 282)

Please specify why you don't drive more often during your commute to McGill.

Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					
It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					
Not enough parking on campus					

Question 192 (EQ 283)

Please specify why you don't take the bus more often during your commute to McGill.

Please choose the appropriate response.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					
It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					

Question 193 (EQ 284)

Please specify why you don't take the metro more often during your commute to McGill.

Please choose the appropriate response for each item.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					

It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					

Question 194 (EQ 285)

Please specify why you don't take the commuter train more often during your commute to McGill.

*Please choose the appropriate response for each item.*

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The commute time is too long					
The commute time is inconsistent					
It doesn't allow me to get enough exercise					
It's uncomfortable					
It's too expensive					
It's not good for the environment					
It's unsafe					

## Part 2c: Commuting to McGill (Wrap-up, part 3 of 4)

Question 195 (EQ 286)

How much do you agree with the following statements?

*Please choose the appropriate response for each item:*

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I like travelling alone					
My family members and I have similar travel habits					
My friends and I have similar travel habits					

Question 196 (EQ 287)

How much do you agree with the following statements?

*Please choose the appropriate response for each item:*

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I would like to walk more than I currently do					
I would like to cycle more than I currently do					
I would like to transit more than I currently do					
I would like to drive more than I currently do					

Question 197 (EQ 288)

How much do you agree with the following statements?  
 Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
We need to use taxes to improve and expand pedestrian areas and sidewalks					
We need to use taxes to improve and expand the bicycle network					
We need to use taxes to improve and expand public transportation					
We need to use taxes to improve and expand the highway network					

Question 198 (EQ 289)

How much do you agree with the following statements?  
 Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I prefer to organize my errands so that I make as few trips as possible					
The only good thing about traveling is arriving at my destination					
I use my commute time productively					
I need a car to do many of the things I like to do					
Parking price and availability affect the choices I make about my commute					

**Part 2c: Commuting to McGill (Wrap-up, part 4 of 4)**

Question 199 (EQ 290)

How much do you agree with the following statements?  
 Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Information about the bus (schedules, on-board announcements, web site, etc.) is easy to understand					
Information about the metro (schedules, on-board announcements, web site, etc.) is easy to understand					
Information about the commuter train (schedules, on-board announcements, web site, etc.) is easy to understand					

Question 200 (EQ 291)

Have you ever felt unsafe with regard to **crime** or unwanted attention while walking from McGill to transit or parking?

Please choose **only one** of the following:

- Yes
- No

Question 201 (EQ 292)

Where did you feel unsafe with regard to crime or unwanted attention?

Please write your answer here: \_\_\_\_\_

Question 202 (EQ 293)

Where did you feel unsafe with regard to crime or unwanted attention?

Please write your answer here: \_\_\_\_\_

Question 203 (EQ 294)

What caused you to feel unsafe with regard to crime or unwanted attention?

Please write your answer here:

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Question 204 (EQ295)

Have you ever felt unsafe with regard to potential **traffic accidents** while walking from McGill to transit or parking?

Please choose **only one** of the following?

- Yes
- No

Question 205 (EQ 296)

Where did you feel unsafe with regard to traffic accidents?

Please write your answer here \_\_\_\_\_.

Question 206 (EQ 297)

Where did you feel unsafe with regard to traffic accidents?

Please write your answer here \_\_\_\_\_.

Question 207 (EQ 298)

What caused you to feel unsafe with regard to traffic accidents?

Please write your answer here:

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## Part 3: Parking

Question 112 (EQ 302)

Have you driven or been driven to campus in the past month?

Please choose only one of the following:

- Yes
- No

Question 113 (EQ 304)

When you drive to campus, where do you typically park?

Choose one of the following answers

- I don't park; I am dropped off at campus
- On-campus parking (Downtown campus)
- On-campus parking (Macdonald campus)
- On-street parking
- Public parking lot (Ste. Anne de Bellevue)
- Other non-McGill parking garage/lot
- Other: \_\_\_\_\_

Question 214 (EQ 305)

How often do you pay for parking at this location?

Please choose **only one** of the following:

- I don't pay for parking
- Every day
- Every week
- Every month
- Every year
- Other: \_\_\_\_\_

Question 215 (EQ 306)

How much do you pay for parking at this location each day/week/month/etc.? For example: \$0.50, \$2.75, \$5, \$17, \$100, etc.

Please write your answer here : \$\_\_\_\_\_ per day / week / month

## Part 4: Bicycle Usage

Question 216 (EQ 309)

What type of bicycle(s), if any, do you have access to?

Please choose only one of the following:

- I do not have access to a bicycle
- Personal bicycle
- Bixi (seasonal access)

- Personal bicycle & Bixi
- Other: \_\_\_\_\_

Question 217 (EQ 310)

During which months do you commute to McGill by bicycle?

Please choose all that apply:

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

Question 218 (EQ 311)

Where do you typically park when cycling to campus?

Please write your answer here \_\_\_\_\_:

Question 219 (EQ 312)

Where do you typically park when cycling to campus?

Please write your answer here \_\_\_\_\_:

Question 220 (EQ 313)

Do you have difficulty finding bicycle parking on campus?

*Choose one of the following answers*

- Never
- Rarely
- Sometimes
- Often
- Always

Question 221 (EQ314)

When was the last time you had a bicycle stolen at McGill?

Please choose only one of the following:

- I have never had a bike stolen at McGill
- 2013
- 2012

- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- Before 2000

Question 222 (EQ 315)

The last time your bike was stolen, on which campus did it occur?  
Please choose only one of the following:

- Downtown campus
- MacDonald campus

Question 223 (EQ 316)

Where was your last bicycle stolen on the Downtown Campus?  
Please write your answer here: \_\_\_\_\_

Question 224 (EQ 317)

Where was your last bicycle stolen on the MacDonald Campus?  
Please write your answer here: \_\_\_\_\_

Question 225 (EQ318)

How many bicycles, if any, have you had stolen at campus within the past year?  
Please choose only one of the following:

- 0
- 1
- 2
- 3
- 4+

Question 226 (EQ 319)

There are several different types of bicycle racks on campus. Please rate the following racks in terms of security and ease of use.



Please choose the appropriate response for each item:

	Very low	Somewhat low	Neutral	Somewhat high	Very high	No opinion
<b>Security</b>						
<b>Ease of use</b>						

Question 227 (EQ 320)



Please choose the appropriate response for each item:

	Very low	Somewhat low	Neutral	Somewhat high	Very high	No opinion
<b>Security</b>						
<b>Ease of use</b>						

Question 228 (EQ 321)



Please choose the appropriate response for each item:

	Very low	Somewhat low	Neutral	Somewhat high	Very high	No opinion
<b>Security</b>						
<b>Ease of use</b>						

Question 229 (EQ 322)



Please choose the appropriate response for each item:

	Very low	Somewhat low	Neutral	Somewhat high	Very high	No opinion
<b>Security</b>						
<b>Ease of use</b>						

Question 230 (EQ323)

Would you pay for secured indoor bicycle parking on campus?

Please choose one of the following:

- Yes
- No

Question 231 (EQ 324)

How much would you be willing to pay per day? For example: \$0.50, \$2.75, \$5, etc.

Please write your answer here: \_\_\_\_\_

Question 232 (EQ 325)

Why not?

Please write your answer here: \_\_\_\_\_ [long text box]

Question 233 (EQ 326)

Where do you think there is the most bicycle-related crime on campus? (e.g bicycle theft)

Please write your answer here: \_\_\_\_\_

Question 234 (EQ 327)

Where do you think there is the most bicycle-related crime on campus? (e.g bicycle theft)

Please write your answer here: \_\_\_\_\_

Question 235 (EQ 328)

Do you use any bicycle paths on your way to McGill?

Please choose only one of the following:

- Yes
- No

Question 236 (EQ 329)

On which bicycle paths do you spend the most time travelling?

Please choose only one of the following: [drop down selection]

Question 237 (EQ330)

Put a pin on the following map where you usually begin using this bicycle path.

Please write your answer here: \_\_\_\_\_

Question 238 (EQ 331)

Put a pin on the following map where you usually stop using this bicycle path.

Please write your answer here: \_\_\_\_\_

Question 239 (EQ 332)

Why do you not use a bicycle path?

Please choose the appropriate response for each item:

	<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>
<b>The average speed of other cyclists is too fast</b>					
<b>The average speed of other cyclists is too slow</b>					
<b>I do not like cycling with beginner cyclists</b>					

There are no bicycle paths on my way					
The pavement quality is not good					
There are too many cyclists (bicycle congestion)					
I don't feel safe on a bicycle path					
I prefer to cycle in traffic					
I would have to divert too far from the most direct path					
I don't like the design of the bicycle path					

Question 240 (EQ 333)

In terms of safety and comfort, how desirable are the following types of bicycle lanes and streets for cycling?

Please choose the appropriate response for each item:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Bi-directional bicycle lane that is physically separated from traffic by a curb					
Bi-directional bicycle lane that is physically separated from traffic by parked cars					
Painted bicycle lane going with the flow of traffic					
Painted bicycle lane going against the flow of traffic					
Calm residential streets					
Non-residential streets with no bicycle lanes					

Question 241 (EQ 334)

How could McGill make it easier to commute by bicycle to campus?

Please write your answer here:

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## Part 5: Transit Passes

### Question 242 (EQ 335)

Do you have a monthly transit pass?

Please choose only one of the following:

- Yes
- No

### Question 243 (EQ 336)

What type of monthly transit pass do you have?

Please choose **ALL** that apply:

- TRAM monthly pass from the AMT
- STM monthly pass (reduced fare)
- STM monthly pass (regular fare)
- Other: \_\_\_\_\_

### Question 244 (EQ337)

Are you eligible for reduced transit fares?

Choose one of the following answers:

- Yes
- No
- Don't know

### Question 245 (EQ 338)

How important is your (in)eligibility for reduced transit fares in your choice of whether to commute by transit or not?

Please choose only one of the following:

- Extremely unimportant
- Somewhat unimportant
- Neutral
- Somewhat important
- Extremely important

## Part 6: Personal Profile

### Question 246 (EQ 339)

Select **all** the following that apply to you:

Please choose **all** that apply:

- I have a driver's license
- I have a Communauto membership
- I have had a Bixi membership/subscription in the past year
- I have used the Allego carpooling service in the past year
- None of the above

### Question 247 (EQ 340)

How many automobiles are owned by your household?

Please choose **only one** of the following:

- None
- 1 automobile
- 2 automobiles
- 3 automobiles
- 4 automobiles
- 5 automobiles
- 6 automobiles
- 7 automobiles
- 8 automobiles
- 9 automobiles
- 10 automobiles
- More than 10 automobiles
- Prefer not to answer

### Question 248 (EQ 341)

How many licensed drivers are in your household, including yourself?

Please choose **only one** of the following:

- None
- 1
- 2
- 3
- 4
- 5
- 6
- 7

- 8
- 9
- 10
- More than 10
- Prefer not to answer

Question 249 (EQ 342)

How many people are in your household, including yourself?

Please choose **only one** of the following:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- More than 10
- Prefer not to answer

Question 250 (EQ 343)

How many children under the age of 16 are in your household?

Please choose **only one** of the following:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- More than 10
- Prefer not to answer

Question 251 (EQ 344)

In what year did you start living in your current residence?

Please choose **only one** of the following: [drop-down menu with years]

Question 252 (EQ 345)

What language(s) are typically spoken in your household?

Please choose **all** that apply:

- English
- French
- Prefer not to answer
- Other: \_\_\_\_\_

Question 253 (EQ 346)

When you moved into your current residence, how important were the following factors in your decision?

Please choose the appropriate response for each item:

	<b>Extremely unimportant</b>	<b>Somewhat unimportant</b>	<b>Neutral</b>	<b>Somewhat important</b>	<b>Extremely important</b>	<b>No opinion</b>
<b>Proximity to McGill</b>						
<b>Proximity to public transportation</b>						
<b>Cost of commuting (excluding the cost of parking)</b>						
<b>Being in a location where I wouldn't have to drive</b>						
<b>The parking situation at McGill</b>						

Question 254 (EQ 347)

Please list any other factors that were important in your decision to move into your current residence.

Please write your answer here: \_\_\_\_\_

Question 255 (EQ 348)

Imagine that you were moving the next 6 months. Please rate the importance of the following factors in deciding where you would move:

	<b>Extremely unimportant</b>	<b>Somewhat unimportant</b>	<b>Neutral</b>	<b>Somewhat important</b>	<b>Extremely important</b>	<b>No opinion</b>
<b>Proximity to McGill</b>						
<b>Proximity to public transportation</b>						
<b>Cost of commuting (excluding the cost of parking)</b>						
<b>Being in a location</b>						

<b>where I wouldn't have to drive</b>						
<b>The parking situation at McGill</b>						

Question 256 (EQ 349)

Please list any other factors that would be important in deciding where you would move.  
Please write your answer here: \_\_\_\_\_

Question 257 (EQ 350)

Are you:

Please choose **only one** of the following:

- Male
- Female
- Prefer not to answer

Question 258 (EQ 351)

What city and country did you grow up in? If you grew up in more than one place, please indicate the city and country in which you spent the most time (e.g. Ottawa, Canada).

Please write your answer here: \_\_\_\_\_

Question 259 (EQ 352)

What year were you born in?  
[dropdown menu with years]

Question 260 (EQ 353)

What is your yearly personal income?  
Please choose **only one** of the following:

- \$0 to \$19,999
- \$20,000 to \$39,999
- \$40,000 to \$59,999
- \$60,000 to \$79,999
- \$80,000 to \$99,999
- \$100,000 to \$119,000
- \$120,000 to \$139,999
- \$140,000 to \$159,999
- \$160,000 to \$179,999
- \$180,000 to \$199,999
- Above \$200,000

- Prefer not to answer

Question 261 (EQ 354)

Taking all things into account, how satisfied are you with your life these days? (1 = extremely dissatisfied, 10 = extremely satisfied)

Please choose **only one** of the following:

- 1 (extremely dissatisfied)
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 (extremely satisfied)
- Prefer not to answer

## Part 7: Further Thoughts

Question 262 (EQ 355)

Do you have any suggestions to encourage the use of sustainable transportation (cycling, walking, and public transit) to McGill?

Please write your answer here:

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Question 263 (EQ 356)

Do you have any other comments or concerns about traveling to McGill?

Please write your answer here:

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Question 264 (EQ 357)

In order to part of our draw for the various prizes please enter your email address.

Please write your answer here: \_\_\_\_\_

## **THANK YOU!**

Thank you for your participation in the 2013 McGill Transportation Survey! Your name will automatically be included in a drawing for various exciting prizes. Transportation Research at McGill (TRAM), in collaboration with the McGill Office of Sustainability, will use the results of this survey to improve travel to and from McGill University and to develop recommendations on how to further encourage the use of sustainable transportation for commuting to McGill.