UNIVERSITY OF
TORONTO
Department of Civil and Mineral Engineering

A Comprehensive Report of the Design and Implementation of THATS Survey

Lead Researcher: Mohammad Haghighi

Project PI: Prof. Eric J. Miller

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1 Acknowledgement

This survey has been designed and implemented by Prof. Eric Miller's research group at the University of Toronto, Department of Civil and Mineral Engineering. The study is supported by Prof. Miller's reserved funding. The project team comprises four Ph.D. candidates. Mohammad Haghighi (Ph.D. candidate) is the lead researcher and survey designer. Ladan Berahman, Davia Dong, and Shuoyan Xu are the other team members who designed specific parts of the survey the results of which will be used in their Ph.D. theses. The application used in this project is called Ma Mobilité and is designed by Fabrique des Mobilités Québec.

2 Introduction

Travel demand modeling plays a crucial role in managing transportation networks. In addition to its conventional use for future forecasting, travel demand models also serve as tools for analyzing the travel behavior of individuals and households, as well as evaluating various transportation policies. Over the past few decades, activity-based models (ABMs) have garnered significant attention from researchers in the field of travel demand modeling. In contrast with trip-base models, ABMs operate on the premise that travel demand stems from people's need to engage in various activities. Consequently, these models simulate the activity schedules of individuals or households based on their attributes. The required trips to reach each activity location are then aggregated to determine the overall travel demand within a given region.

In the majority of current ABMs, the time unit used for modeling is a typical weekday. However, in reality, it is challenging to precisely define a "typical day," and single-day ABMs are fundamentally artificial constructs that involve significant temporal aggregation. By focusing on a single day, these models overlook important aspects of scheduling, including memory, experience, past behavior, future plans, and expectations. Consequently, modeling adaptation and learning become challenging within such models. Additionally, single-day ABMs tend to neglect the dynamics, variations, and weekend travels that occur on a day-to-day basis (1-3).

Recent studies have addressed the limitations of single-day models by extending the time frame of ABMs to a week or longer. Considering a week as a natural planning period offers several advantages in representing the activity scheduling process comprehensively:

- A week-long ABM can capture the interconnections between activities that serve the same purpose but occur on different days throughout the week (1).
- Policies influencing weekly activity patterns can only be accurately reflected in a week-long model (1).
- The hybrid work environment emerging after the pandemic, where individuals alternate between working from home and going to the office on specific weekdays, can be better represented in a week-long ABM. Similarly, infrequent yet systematic activities like major shopping or doctor's appointments can be more effectively explained in such models (4).
- Week-long models can better handle conflicts and interactions between in-home and out-of-home activities (4).
- By incorporating weekend travel and activities, a week-long model becomes more representative due to the distinct nature of weekend activities and trips, as well as the interactions between weekends and weekdays (4).
- Research has demonstrated that the rhythms of activity-travel behavior can be adequately captured within a single week, suggesting that longer periods are not necessarily required (5).

Haghighi and Miller 2023 (1) have provided a concise review of the available week-long ABMs and identified the key elements that should be considered in a comprehensive model. Figure 1 presents a systematic representation of these elements. Table 1 provides an overview of the existing week-long ABMs, indicating whether or not each model incorporates the identified elements. Finally, in their work, Haghighi and Miller 2023 (1) have endeavored to develop a comprehensive conceptual week-long ABM framework, illustrated in Figure 2. This framework served as the foundation for conducting a survey, the design and implementation of which form the focal point of the present study. More information about the existing models, their elements and the conceptual framework in Figure 2 can be found in Haghighi and Miller 2023 (1).

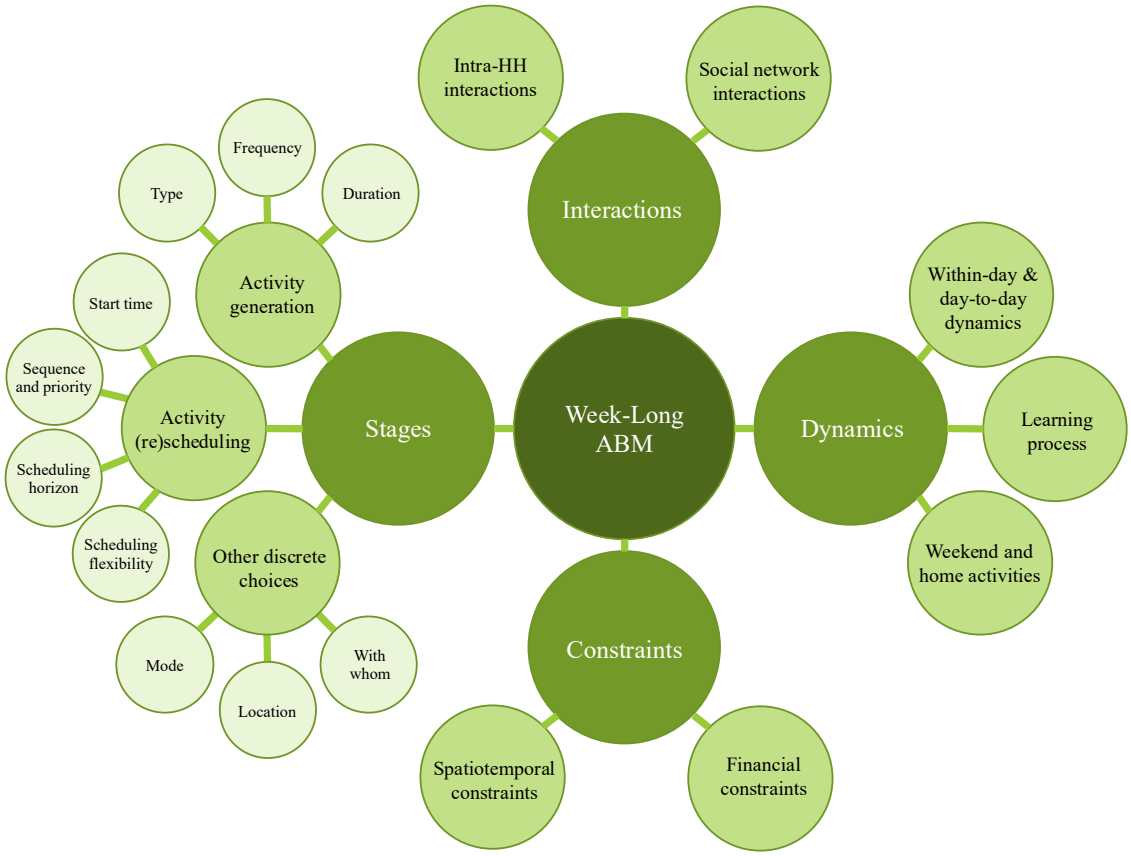

Figure 1. Elements of week-long activity-based modelling (1).

The primary obstacle in week-long activity-based modeling is the collection of data and the significant burden it places on respondents to maintain an activity-travel diary for an entire week. However, in the past two decades, various innovative methods have been employed to gather comprehensive week-long activity scheduling datasets. Examples include computer-based surveys like CHASE (6) and REACT! (7), GPS devices such as in UTRACS (8), and smartphone applications like in the Puget Sound regional travel study (9). While week-long data collection is

ultimately feasible, a challenge remains in obtaining detailed modeling inputs such as scheduling horizons, activity priorities, and flexibilities.

This study focuses on the design and implementation of THATS (Toronto Household Activity Travel Survey) to meet the demand for comprehensive week-long activity-travel diary data for a maximum number of household members. The ultimate goal has been to gather information in a manner that minimizes the burden on participants with passive data collection while allowing flexibility in the collection of various types of data based on the survey's specific focus. This is accomplished using a combination of a Smartphone GPS tracking application and a web-based survey platform.

The remainder of this report is organized as follows. Firstly, the existing multiday datasets and data collection methods are reviewed. Next, the design and implementation of the study is discussed, and its results are presented. The report concludes with an overview of the lessons learned, conclusions and directions for future research using the collected data.

After a comprehensive review of existing applications, meeting with the developers, discussing the opportunities and limitations and striking a balance between the cost and advantages/disadvantages of different options, the **Ma Mobilité** application developed by Fabrique des Mobilités Québec was selected for this project. This is a simple but flexible application which is going to be used in combination with a number of web-based surveys, all reviewed in the following sections.

3 Literature Review and Existing Practice

As previously discussed, the development of week-long activity-based models (ABMs) faces a significant challenge in data collection. This challenge encompasses three main aspects. Firstly, there is limited understanding of the intricate process by which a household's weekly schedule is formulated. Secondly, certain attributes of agents and activities that influence the scheduling process, such as flexibilities, priorities, and scheduling horizons, are conceptual and subjective, making them difficult to directly observe (10). Thirdly, conducting a week-long activity diary survey can place a heavy burden on respondents, particularly when using traditional surveying methods/tools (1).

To address these issues, studies on multiday activity-travel data collection have explored two primary solutions. The first approach involves developing detailed surveys with diverse perspectives on the activity scheduling process. These surveys incorporate carefully designed questions that are both easy for respondents to answer and informative. The second approach revolves around leveraging innovative methods and technological advancements to enable passive activity-travel tracking. This entails obtaining simple confirmations and additional details from respondents to minimize their active involvement. The subsequent paragraphs will delve into the existing multi-day surveys and the methodologies employed in their execution.

Model name	Data	Model type	Activity scheduling horizon	Activity scheduling flexibility	Mode, location, company, start time, and duration decision making order	Intra-household interactions	Social network effect on activity scheduling	Within-day and day-to-day scheduling dynamics	Learning process	Distinctive home activities	Financial constraints
Hirsh et al. 1986 (2)	Weekly diaries, 1983 (Israel)	MNL (Only activity patterns)	No	No	N/A	No	No	Yes	No	No	No
Doherty et al. 2002 (10)	*CHASE*, 1997 (Hamilton)	Conceptual	Yes	No	Fixed	Yes	No	Yes	No	Yes	No
Kuhnimhof and Gringmuth 2009 (3)	*MOP*, 1994-2005 (Germany)	Use of observations and a greedy algorithm	No	No	Fixed	No	No	Yes	No	No	No
ADAPTS (11)	*CHASE*, 2002-3 (Toronto) *OPFAST*, 2005 (Quebec) *UTRACS*, 2009 (Chicago)	Computational process with probit models	Yes	Yes	Stochastic	No	No	Yes	No	No	No
MATSim (12-13)	*Mobidrive*, 2003 (Thurgau, Switzerland)	Gap-based with utility maximization	No	No	Fixed	No	No	Yes	No	No	No
C-TAP (14)	*Mobidrive*, 1999 (Germany)	Planning heuristics	No	No	Fixed	No	No	Yes	No	No	No
mobiTopp (15-16)	Stuttgart travel survey, 2009-10 (Stuttgart, Germany)	Rule-based and MNL	No	No	Fixed	Yes	No	Yes	No	No	No
actiTopp (17)	*MOP*, 1994-2005 (Germany)	Stepwise logistic regression (MNL) (Only scheduling)	No	No	N/A	No	No	Yes	No	No	No

Table 1. Characteristics of the existing week-long ABMs.

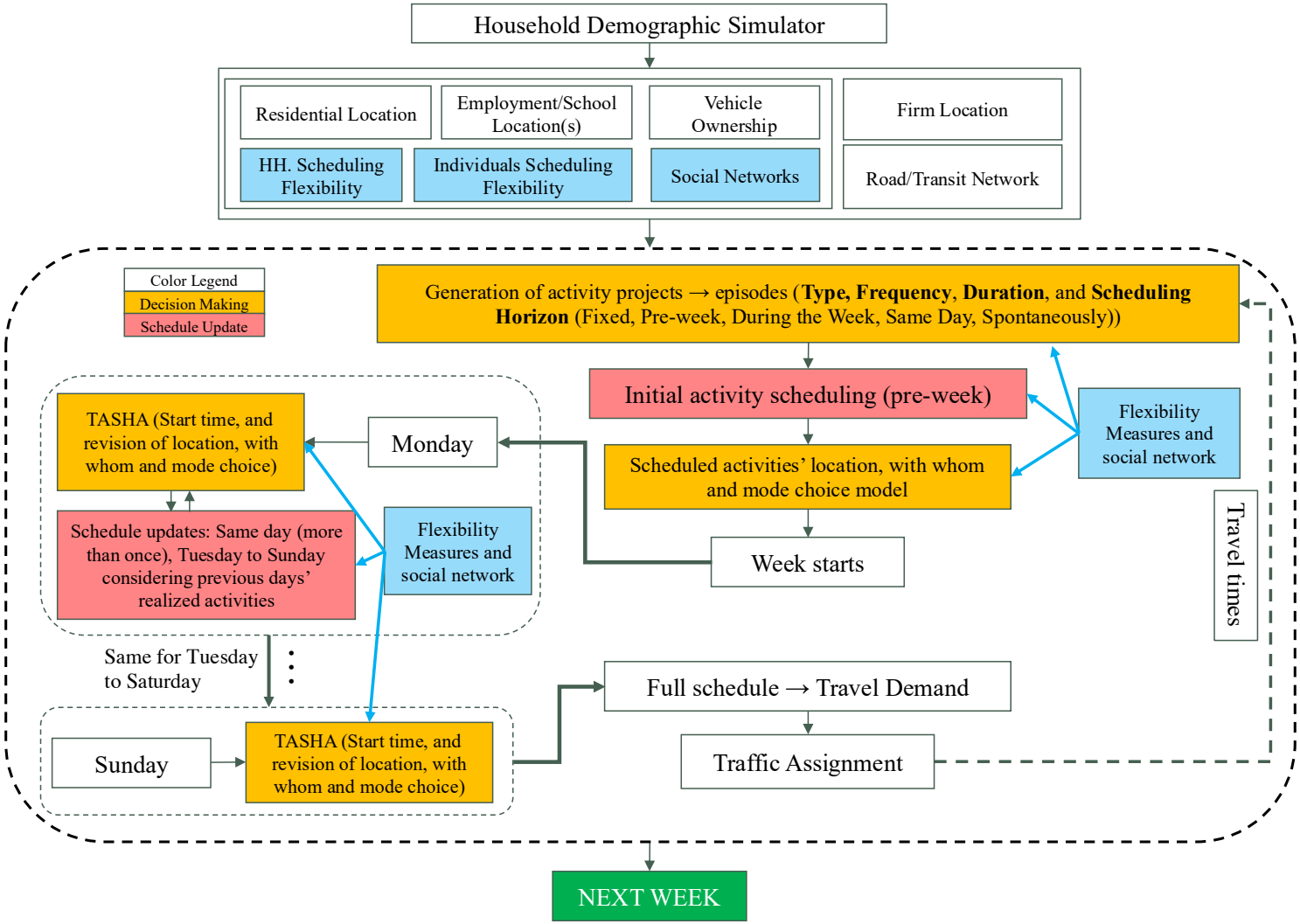

Figure 2. A comprehensive conceptual framework for week-long activity-based modelling (1).

In 1971, a pioneering multiday activity diary data collection involved 296 households in Uppsala, Sweden, who recorded their activities over a span of five weeks using paper-based diaries. The survey focused on journeys, with respondents recording activity details at each stop, including type, location, expenditures, timing, and mode of transportation (18). Paper-based data collection, along with in-person and telephone interviews, was a common approach for multiday activity-travel surveys before the 21st century. Examples include weekly diaries in Israel in 1983 (2), Mobidrive survey in Germany and Thurgau, Switzerland in 1999 and 2003 (18-19) and Mobility Panel survey (MOP) in Germany conducted annually since 1994 (20-21). These surveys primarily focused on travel data, without specific emphasis on the activity scheduling process.

Doherty (2001) (22) developed CHASE (Computerized Household Activity SchEduling) to capture activity scheduling details more effectively. CHASE is a software application with weekly activity diaries for all household members, allowing additions, modifications, and deletions. It has been used in surveys conducted in different cities, including Hamilton (23), Quebec City (24) Irvine (REACT!) (7), and Toronto (6) Surveys began with in-person interviews and training on software use. Participants used laptops for a week, scheduling preplanned activities before each week and updating schedules daily. All changes were recorded for activity scheduling modeling. However, CHASE's complex process and respondent burden make it unsuitable for large-scale surveys. Another example of automated surveying is CATI (Computer Assisted Telephone Interviewing), used in the OPFAST survey (8).

More recently, GPS devices have facilitated passive activity-travel tracking. The UTRACS survey is an example where respondents carried GPS devices during the day, later adding journey details tracked by the devices (8). Web-based surveys are another useful tool for multiday studies, often used in conjunction with paper-based diaries or smartphone applications (16, 25). Another unique approach involves transforming daily observations into individual-weeks, creating "twins" for Saturday and Sunday based on observed weekend individuals, with attributes close to workday individuals (26).

Most recently, smartphone applications have emerged for activity-travel surveys, reducing respondent burden by integrating demographic surveys, passive tracking, and diary surveys on the same device. Examples include the Future Mobility Survey (27), Puget Sound regional travel study (9), and TimeUse+ application test results (28). However, concerns remain regarding their use as full-fledged survey tools, such as accuracy in mode/purpose auto-detection, data quality control, and battery drainage due to GPS tracking (29-32). Nonetheless, with advancements in smartphone hardware and software, their widespread adoption among diverse demographics could enable high-quality multiday activity-travel diary data collection (32). See Table 2 for existing multiday activity-travel datasets, including their scale, time frame, and data collection methods.

Dataset/Location	Scale	Time frame	Data collection method
Activity diaries, 1971 (Uppsala, Sweden)	296 HH	Five weeks	Paper-based + in-person and phone call interviews
Weekly diaries, 1983 (Israel)	288 HH 576 Ind.	One week	Paper-based
CHASE, 1997 (Hamilton, Canada)	40 HH 55 Ind.	One week	Computer-based + in-person interviews
CHASE, 1999 (Quebec City, Canada)	36 HH 76 Ind.	One week	Computer-based + in-person interviews
Mobidrive, 1999 (Germany)	160 HH 360 Ind.	Six weeks	Paper-based + phone calls
Mobidrive, 2003 (Thurgau, Switzerland)	99 HH 230 Ind.	Six weeks	Paper-based + phone calls
REACT!, 2000 (Irvine, USA)	72 Ind.	One week	Computer-based + in-person interviews
CHASE, 2002-3 (Toronto, Canada)	271 HH 453 Ind.	One week	Computer-based + in-person interviews
MOP, Every year since 1994 (Germany)	1000-1500 HH	One week	Paper-based
OPFAST, 2005 (Quebec, Canada)	250 HH 381 Ind.	One week	Paper-based + in-person interviews + CATI
7-day Mobility Survey, 2008 (Ghent, Belgium)	717 Ind.	One week	Paper and web survey followed by phone support
UTRACS, 2009 (Chicago, USA)	100 HH	Up to two weeks (GPS)	GPS device + activity diaries
Stuttgart travel survey, 2009-10 (Stuttgart, Germany)	5581 HH 13731 Ind.	One week	Paper, web, and telephone-based
FMS test, 2012 (Singapore)	74 Ind.	5 days to 2 weeks	Web/Smartphone app-based
Puget sound regional travel study, 2017 (Seattle, USA)	697 HH	One week	Smartphone app-based
TimeUse+ test, 2021 (Switzerland)	621 Ind.	2-4 weeks	Web/Smartphone app-based

Table 2. Existing multiday activity-travel datasets.

4 Survey Tool Selection

The results of this survey are going to be directly used as the base of four ongoing Ph.D. theses focused on different topics, including week-long activity-based travel demand modelling, parking demand modelling, leisure activities modelling and mobility as a service (MaaS). The data will remain an excellent resource for further studies in the future as well for at least 10-15 years.
The surveying tool must be able to collect the demographic information and activity-travel diaries of as many household members as possible. Table 3 compares the options in this regard.
Therefore, **Ma Mobilité** is the best option, providing almost all the features we are looking for and offering the service at the lowest cost among the existing options. Our team had to be innovative in the design of the survey and use links to web-based surveys implemented in the application. The software development team from Ma Mobilité was cooperative enough to help us with this as a part of the quotation.
The quotation from Ma Mobilité, TimeUse+, rMove, and TravelVU can be found in Appendix A. The final cost of each application is as follows:

- **Ma Mobilité:** All costs are included in the attached quotation: Final cost = **$28,020**
- **TimeUse+:** This app is developed by ETH University for doing surveys in Switzerland. The app uses the MOTIONTAG company technology, and the costs brought in the quotation from MOTIONTAG are associated with this technology. In addition to the costs mentioned in the quotation, we needed to pay a software developer to modify the app to fit our project here in the GTHA (changing the language, transportation modes, and currency) and also set up some servers. The final cost: 33,000 Euro (for MOTIONTAG Technology) + $10,000 (for software development) + $4,000 (for server set up) = **$62,000**
- **rMove:** As can be seen in the email received from the developers (Appendix A), the minimum cost is 85,000 USD. Therefore, the final cost = **$117,350 or more**.
- **TravelVU:** As can be seen in the email received from the developers (Appendix A), the minimum cost for software development and server setup is 450,000 SEK. Therefore, the final cost = **$60,000 or more**.

Application	Developer	Currently Operating	Android and IOS	Week -long	Demographic Survey	Trip Survey	Daily/ Activity Survey	Mode /Purpose Auto-Detect	Level of Accuracy	Data inside CA?	Cost (CAD)
Ma Mobilité	FabMob, Quebec	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Medium	Yes	28k
TimeUse+	ETH Uni., Switzerland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	No	62k
rMove	RSG, US	Yes	Yes	Yes	Yes	Yes	Yes	No	High	No	Min 117k
TravelVU	Trivector, Sweden	Yes	Yes	Yes	Yes	No	No	Yes	Medium	No	Min 60k
Motiontag	Motiontag, Germany	Yes	Yes	Yes	Yes	No	No	Yes	High	No	90k
OpenPATH	NREL, US	Yes	Yes	Yes	Yes	Yes	No	No	Low	No	?
Fourstep	UNSW, Australia	Yes	Yes	Yes	Yes	Yes	No	No	Low	No	?
FMsurvey	MIT, US	?	Yes	Yes	Yes	Yes	No	?	?	No	?
RouteScoute / PaceLogger	NUstats, US	?	Yes	Yes	Yes	Yes	No	?	?	No	?
CycleTracks	SFCTA, US	Bike trips only	-	-	-	-	-	-	-	-	-
HexMap	HexMap., CA	No	-	-	-	-	-	-	-	-	-
Itinerum	Concordia Uni., CA	No	-	-	-	-	-	-	-	-	-
Malatest	Malatest, CA	No	-	-	-	-	-	-	-	-	-

Table 3. Comparison of the available smartphone applications

5 Sample Population

The email addresses of the sample population are provided by the Ministry of Transportation, Ontario (MTO) from the Transportation Tomorrow Survey (TTS) filtered for the respondents who stated they are willing to participate in further studies conducted by the University of Toronto. The TTS was conducted in the Fall of 2022. The provided sample is distributed over the entire GTHA and consists of a variety of household structures, workers groups (number of workers in the household) and vehicle groups (number of vehicles in the household). A total of 31,700 email addresses were provided, which were used in two stages of the project, as discussed in the following sections.

6 Survey Timing

After the application was delivered in mid-April, the project started with a test survey of our research group members and friends to get feedback on the technical side and design of the questions. A feedback sheet was provided to the participants of the test survey to comment on the different stages of the study. The feedback sheet can be seen in Appendix B. Next, a pilot survey was conducted in two stages. In the first stage, four groups of 500 contacts from the TTS respondents were contacted to evaluate the general response rates and test different incentive settings, namely, (1) 1/50 and (2) 1/100 chance of winning an iPad, (3) $20 gift cards for each respondent and (4) $20 gift cards for the primary members and $15 gift cards for invited members. The random draw incentives were found insufficient, and in the second stage, three groups of 617 contacts from the TTS respondents were contacted to compare the response rates of the two gift card settings with a more tempting one which is $30 gift cards for the primary members and $20 gift cards for invited members. The response rates of the two stages of the pilot survey can be seen in section 8. Finally, the main survey was conducted using the rest of the contacts (28,000) over Six weeks from May 28 to July 9. The results of the survey can be seen in section 8. The timeline of the different stages of the survey can be seen in Figure 3. As can be seen, a similar survey is going to be done on the UofT community in Fall 2023 as a part of another project.

7 Survey Workflow

This survey consists of two main stages. A web-based sign-up survey where the contacted household member A.K.A. the *primary household member,* provides household sociodemographic and mobility information. Before submitting, he/she provides the email address of his/hers and any household adult(s) he/she decides to invite. Then, the instructions are sent to all of them to take part in the second stage. A summary of the workflow can be seen in Figure 4. Details of each stage and commutations with the respondents are discussed in the following sections.

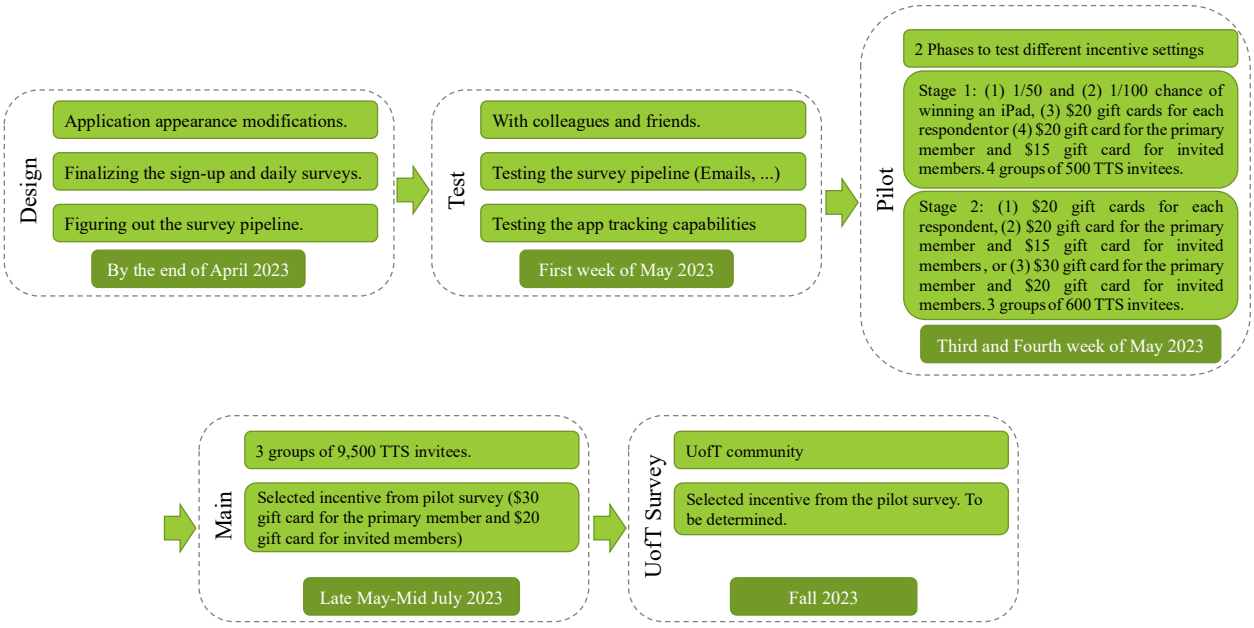

Figure 3. Survey Timeline.

7.1 Sign-Up Survey

The first stage of the survey involves completing the web-based sign-up survey by primary household members. The link to the sign-up survey is sent by invitation emails to the contacted household members. This stage of the survey is designed using Qualtrics platform. Qualtrics offers different question types, the ability to link questions based on respondents' answers, the option to make questions mandatory or optional, and the flexibility to allow respondents to select multiple choices for a question to get sociodemographic and mobility information about both main and other household members. The designing of questions has been divided into several parts, including the introduction of the survey, participant eligibility, household, individual and mobility information, and the closing part. A summary of the sign-up survey parts and questions can be seen in Figure 5. Details of each part are discussed in the following section. A sample answer to the sign-up survey can be seen in Appendix C.

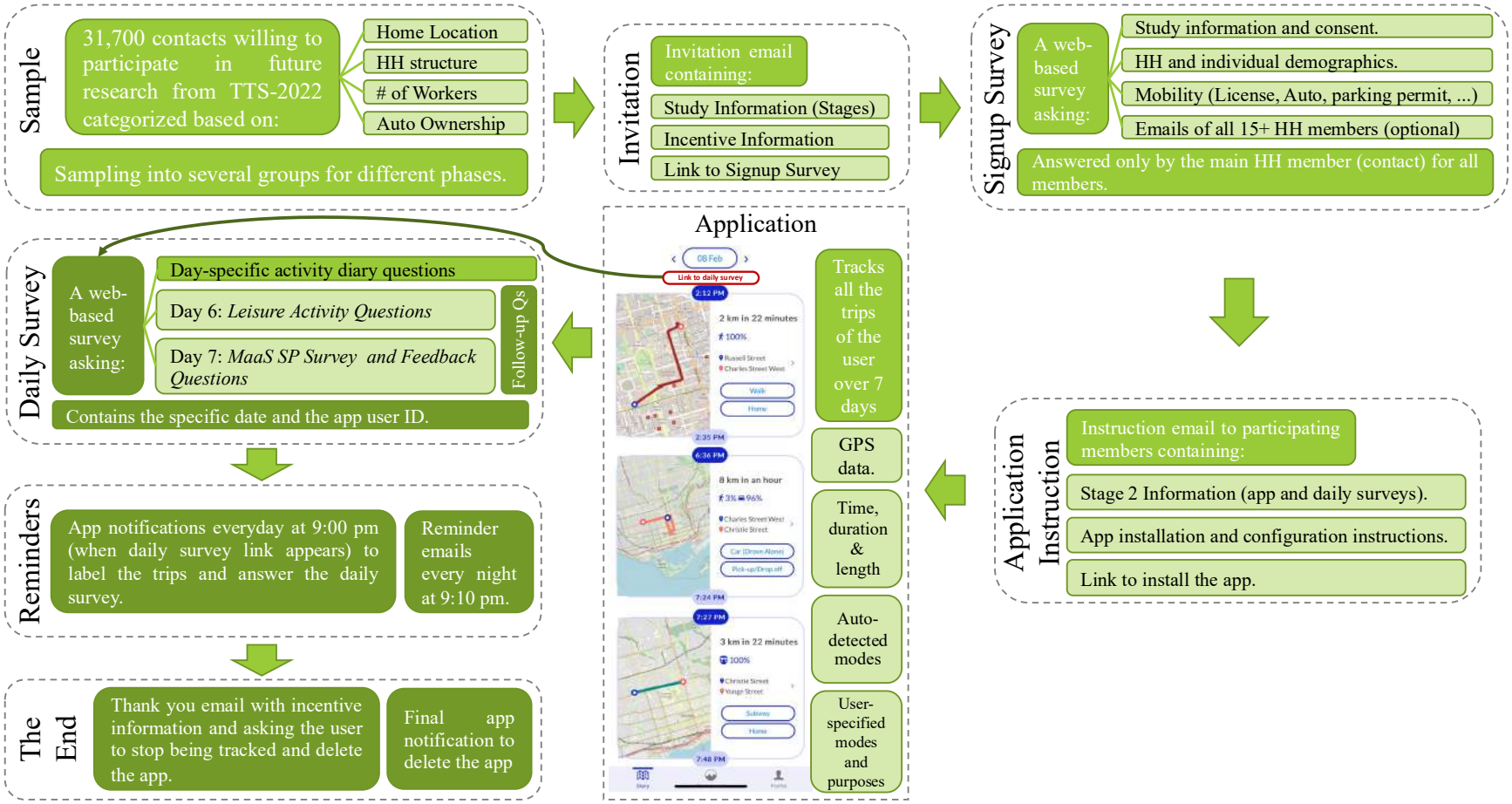

Figure 4. Survey Workflow.

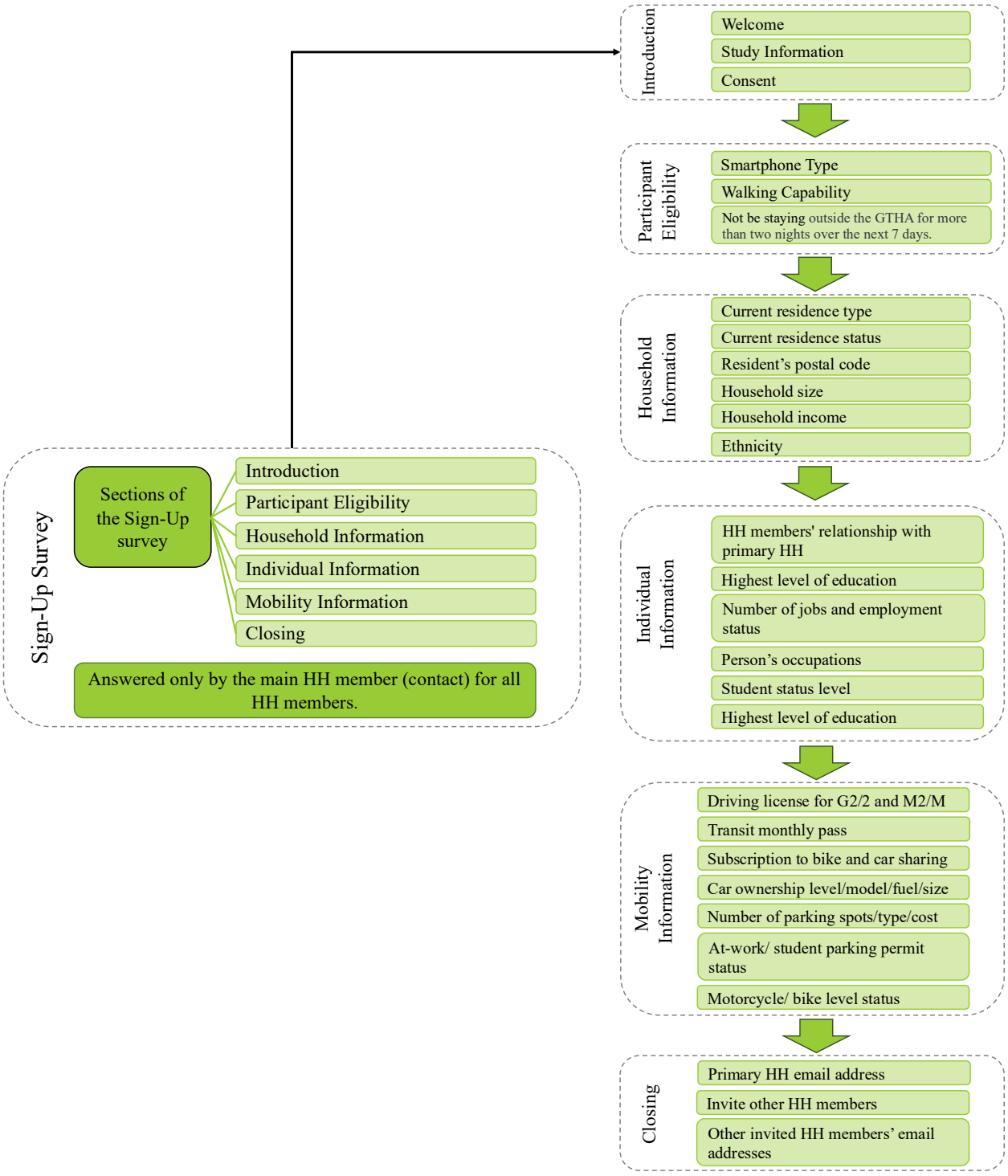

Figure 5. Sign-up survey parts and questions.

7.1.1 Different Sections of the Sign-Up Survey

The sign-up survey consists of multiple-choice and text-entry questions. The sign-up survey consists of six sections as follows:

1) Introduction to the survey:
    - Participants are welcome to the survey.
    - Brief information on the two stages of the study is given to participants.
    - The primary household member should place a checkmark on the consent form to continue to the next parts.
2) Participants' eligibility:
    - Check if participants have Android or IOS smartphones to participate in the study.
    - Check if participants are capable of walking more than 200m without assistance.
    - Check if the participants will be spending at least five nights in the GTHA over the next seven days.
3) Household information:
    - Residence type and status.
    - Postal code.
    - Household size and a nickname for each member to be referred to by in the following questions.
    - Household total income and ethnicity.
4) Individual information:
    - Relationship with the primary member.
    - Age and gender of each household member.
    - The highest level of education, student status, grade, and school type of each household member.
    - Employment status, number of jobs, occupations, work location, and number of working hours per week for each household member.
5) Mobility information:
    - Asks whether each household member has G2/G and M2/M licenses.
    - Asks whether each household member has a transit pass or a bike- or car-sharing service subscription.
    - Household car ownership level.
    - Model, fuel type, and size of each car in the household.
    - The number of parking spaces. Asks to include on-street parking and parking spots that they do not use (this number should be equal to or more than the number of cars in the household).
    - Type, location, and cost of each parking spot.
    - Type of parking they use overnight for each car.

- Asks whether they have at-work or student parking permits (These questions are asked from those who have a job or are students) and the monthly cost of each permit.
- Number of motorcycles and bicycles in the household.

6) Closing:
   - Email address of the primary household member for information on the next steps.
   - Invite other household members to participate and be included in the incentive.
   - Email addresses of the invited household members.
   - Thank you message.

7.2 Application

The application used is Ma Mobilité and developed by FABRIQUE DES MOBILITÉS QUÉBEC. Ma Mobilité is developed based on e-mission, an open source, extensible framework for instrumenting human travel data (33). Originally, it was a simple tracking application which detects the trips of the respondent (smartphone owner) during the day and autodetects their modes (Figure 6). To collect data about the daily activities of the respondent, a feature called *daily survey* (see section 5.3) was added to the diary page specifically for the THATS project. The respondent receives a notification every day at 9 pm (and a reminder email every day at 9:10 pm) (see section 7) reminding them to label their trips by mode and purpose and complete daily surveys. Daily surveys are web-based questionnaires designed in Qualtrics but shown as a window within the applications. The app and daily surveys are linked in a way that the corresponding date will appear on the screen of each of the seven daily surveys for the respondent to answer the related activity diary questions more easily and also records the email address the respondent enters the first time they open the app in the daily survey to later, link the data collected in the app and the daily surveys.

7.3 Daily Surveys

A total of seven daily surveys are completed by each of the respondents on day 1 to day 7 of tracking (day 1 is the day after the application installation day) (see section 7). Each survey starts with a day-specific activity diary survey (see section 5.3.1) and may have a theme-based follow-up survey asking for additional and more detailed demographic and activity-travel behaviour/attitude information (see section 5.3.2 - 5.3.3).

7.3.1 Day-Specific Activity Diary Survey

The following data will be collected regarding the activities executed by the respondent on each day, respectively. A sample answer to the Day-Specific Activity Diary Survey can be seen in Appendix D.

- The hours spent outside the home in four periods of before morning, morning, afternoon, and night. They can also select that they have been at home for an entire period.

- The activities they have done at home (only if they haven't been outside the entire day). (11 + 2 others) (Table 4)
- When they have been doing each of the activities selected previously with only at-home hours as choices.
- The activities they have done outside the home (only if they haven't been at home the entire day). Four questions for four categories of Work/School, Entertainment (11 + 2 others), Shopping (6 + 1 other), and Other (5 + 1 other). (Table 4)
- When they have been doing each of the activities selected in the four previous questions with only out-of-home hours as choices.
- "With Whom", "Expenditure", and "Scheduling Horizon" for each of the out-of-home activities selected in the previous questions (other than work/school). Expenditure and scheduling horizon are only asked for the activities they make sense to be asked.

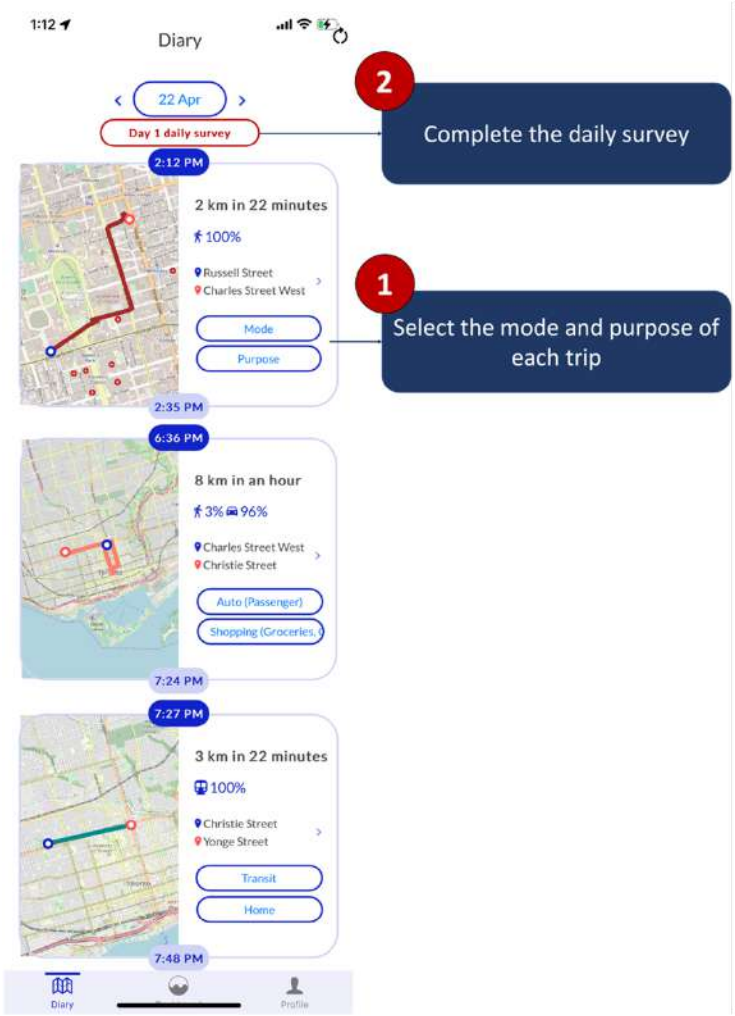

Figure 6. The appearance of the application.

- Activities they have been doing at the hours to which no activities are assigned in the previous questions (unspecified hours).
- "With Whom", "Expenditure", and "Scheduling Horizon" for each of the activities assigned to the unspecified hours.
- Whether or not they have done any online shopping on that day.
- The number of times they have paid for parking on that day.
- When they parked at each parking spot, they paid for.
- "Type", "Duration", and "Cost" of each parking spot they have paid for. In this question, the time is piped from the answer to the previous question for more convenience in remembering the type, duration, and cost of each parking. For example, the type, duration, and cost of parking spot you parked in at 1-2 pm.

7.3.2 Day-6 Theme-Based Questionnaire, Leisure Resources and Activities

The leisure-themed daily survey collects individuals' leisure and recreational resources, leisure activity participation frequency, and details of the latest five overnight leisure trips. A sample answer to the Day 6 Theme-Based Daily Survey can be seen in Appendix E. The details are as follows.

- Ownership of leisure-related memberships and passes and their types and costs.
- Ownership of pets.
- Leisure amenities in residential real estate and use frequency.
- The rank of resources for finding leisure activities or events information.
- Activity participation frequency of listed leisure activities by same-day trips.
- Activity participation frequency of listed leisure activities by overnight trips.
- Number of overnight leisure travels since 2022
- If zero, reasons of not making any overnight leisure travels
- If not zero, detailed information about the latest five (or all, if less than five in total) overnight leisure travels since 2022.
    - Departure month, year, and day of week
    - Duration
    - Travel group size
    - The total cost of trips
    - Destination (country, states in the US or province in Canada, tourism regions in Ontario)
    - Mode of transportation for the longest distance
- If there are more than five overnight leisure trips, ask about the types of other overnight leisure travels apart from the five reported: intra-provincial, inter-provincial, or international.

Category	Activities
Home	Sleeping/Resting
	Self-care (Shower, Makeup, ...)
	Eating
	Working from Home
	Hobby/Leisure (Playing a Board Game, Reading a Book, ...)
	Digital Entertainment (TV, Smartphone, Video Games, ...)
	Housekeeping (Cooking, Home Cleaning, Doing the Dishes, Doing the Laundry, Gardening, ...)
	Caretaking (Children, Elderly, ...)
	Studying (For School or Work)
	Exercising
	Socializing (Having guests, Making calls, ...)
	Other 1
	Other 2
Work/School	Work
	School
	None
Entertainment	Eating out (Restaurant, Bar, Coffee, ...)
	Visit friends/relatives at their residence
	Leisure/entertainment (e.g., night club, movies, amusement park, sports event as a spectator)
	Jog or Bike
	Walk a dog
	Go to the gym
	Library, hobby class or club (e.g., quilting, music, painting class/club)
	Nature (e.g., hiking trails, provincial parks)
	Art, Historical, and Cultural (e.g., museum, historic site, performance such as a play or concert, festival or fair)
	Play individual or team sports
	Family activities with kids
	Other 1
	Other 2
	None
Shopping	Grocery Shopping
	Other routine shopping (e.g., convenience store)
	Window shopping or browsing
	Shopping for specialty items (e.g., clothing, jewelry)
	Shopping appliances or major items (e.g., new car)
	Got gas
	Other
	None
Other	Appointment (Visiting a Doctor, a Lawyer, an Accountant, Barber, Hairdresser)
	Personal (Bank, Government Services, Dry Cleaning)
	Religious, Volunteering, or Civic
	Package/mail pick up/drop off
	Staying at a residence other than home (second home, or hotel)
	Other
	None

Table 4. List of different activities used in daily survey activity diary questions.

7.3.3 Day-7 Theme-Based Questionnaire, MaaS SP, and Feedback

The Mobility as a Service (MaaS) Stated Preference-themed daily survey collects individuals' stated preferences for mobility as a system regarding mode choice, mobility bundles, and their current travel habits**.** A sample answer to the Day 6 Theme-Based Daily Survey can be seen in Appendix F. This daily survey will focus on the following aspects:

- Typical travel habits and usage of navigation apps.
- Historical records of travel purposes and related trip attributes.
- Trip distance for working trips.
- Trip distance for shopping trips.
- Availability and willingness to use different travel modes.
- A Stated Preference Survey for travel options within the MaaS platform based on the respondent's travel purpose and trip attributes. The survey will be generated using revealed Preference data from historic trip records, offering a wider range of inter-modal mobility solutions.
- A Stated Preference Survey for mobility bundles within the Mobility as a Service system. MaaS bundles are designed to offer users a variety of travel options at discounted rates, making it more convenient and cost-effective to use multiple modes of transportation. If no options are chosen, respondents will provide reasons for not selecting any MaaS bundles.

The Day 7 daily survey also includes a number of simple feedback questions, which can be seen in Appendix F.

8 Outputs

The data collected in this survey can be classified into four categories.

1. The household demographics and mobility information which is recorded in the sign-up survey by the primary household member about all the individuals living in the household.
2. The activity-travel diaries which consist of GPS-tracked trips labelled by the respondent with mode and purpose and detailed activity diaries of each day.
3. The follow-up questionnaires which can be flexible and be asked as a part of each day's daily survey. In the first round of THATS, only days 6 and 7 had follow-up surveys focusing on Leisure Activities, Mobility as a Service (MaaS), and Feedback.
4. GPS data which are collected in the application background and consist of 30-second GPS records when the device has been on the move and auto-detected transportation modes.

An illustration of the outputs of this survey can be seen in Figure 7. The results of this survey can be used in numerous projects focusing on a wide variety of topics. The results can also be mixed with the results of the TTS (Transportation Tomorrow Survey), which is a single-day travel survey conducted in the GTHA in the Fall of 2022, and its results are available for all the participants of THATS.

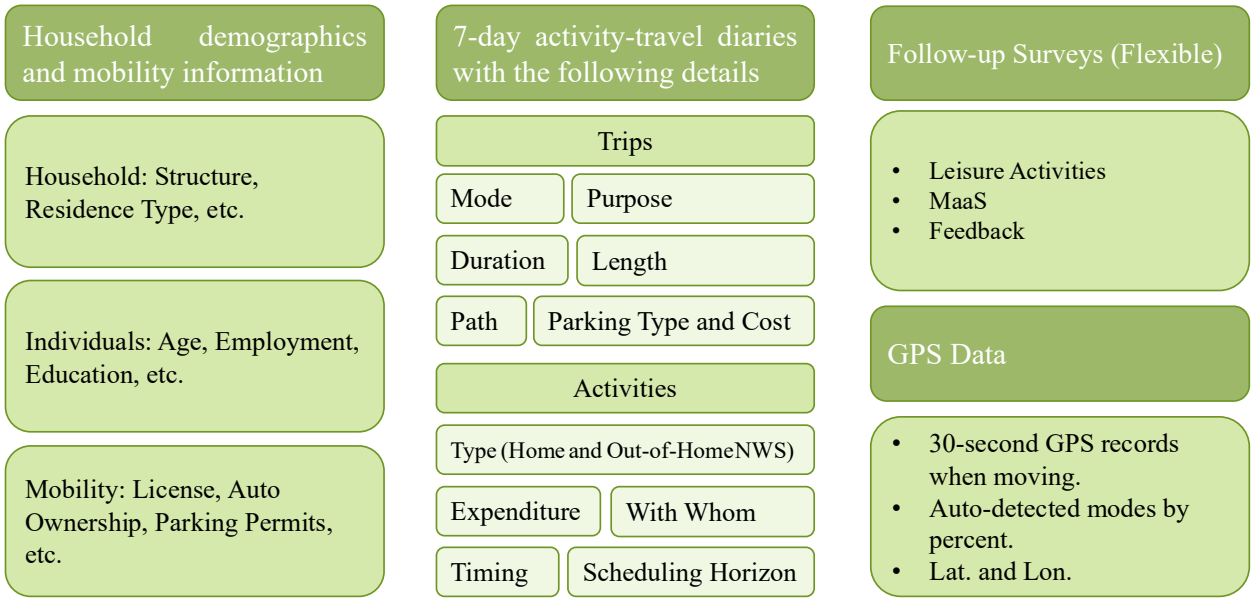

Figure 7. Survey outputs classification.

9 Documentation and Communications

9.1 Survey Webpage

To direct participants to access more information on the study, a webpage has been added to the TMG website with the following address: https://tmg.utoronto.ca/thats. Any notes or updates were added to the webpage over the study period. While all the necessary information is provided to participants in each step, they are also asked to refer to the webpage for additional information or updates. The webpage address is provided in the invitation emails, reminders, application installation instructions, incentive information emails, and the sign-up survey.

THATS webpage contains the following information, which could be regularly updated over the study period:

- THATS' logo
- A short description of the study as a note.
- Links to videos demonstrating the instructions for the installation of the application on iOS and Android smartphones.
- Relevant documents such as the study information sheet, study data privacy policy, study consent form, and Frequently Asked Questions (FAQ) (See section 7.2).
- THATS email address (thats@utoronto.ca) for any further questions.
- Any news or updates related to the study can be found on the webpage.

9.2 Documents

The following PDF documents are uploaded on the webpage to provide more information to the participants. All the documents can be found in Appendix G.

9.2.1 Study Consent Form

In the consent form, the participants agree to the terms and conditions of the study before starting the survey.

9.2.2 Study Information Sheet

The study information sheet includes details on the goal of the study, how the survey will be conducted, the study timeline, participant eligibility requirements, requirements for receiving the incentive, the right to withdraw from the survey, and instructions on how to delete personal data. The participants are asked to read the study information sheet before confirming the consent form.

9.2.3 Study Data Privacy Policy

The study data privacy policy includes details on the purpose and methods of data collection, data classification, data processing, data storage, data dissemination, data subject rights, data deletion, and contact with participants. The participants are asked to read the study data privacy policy before confirming the consent form.

9.2.4 Frequently Asked Questions (FAQ)

A general overview of the study and any remaining information is provided as FAQ. This file is divided into three parts, including general inquiries, the sign-up survey, and application usage. Each section includes the most important questions and information that participants may need to know.

9.3 Communications with the Respondents

An overview of the communications workflow can be seen in Figure 4. It starts with the invitation email and ends with the receipt of the incentive. Each stage of the communication workflow is discussed in the following sections. The emails and notifications can be seen in Appendix H.

9.3.1 Invitation Email

Survey invitations are sent to the sampled population by emails, including registration codes. If they choose to participate in the survey, they need to complete the sign-up survey, the link of which is provided in the invitation email, using their registration codes. Invitation emails are sent every Sunday at 9:00 am to have as many respondents as possible starting their experiment on Monday and be tracked over a full Mon-Sun week which is ideal for this study. A reminder email is sent to those who haven't completed the sign-up survey a week later.

In the sign-up survey, they will be asked to provide their email addresses and the email addresses of their invited household members. Once the respondent submits the sign-up survey, their

individual and household (if provided) contact information (name and email address) will be added to the Qualtrics directory, and then an application instruction email with be sent to each contact.

9.3.2 App installation Instructions

As discussed in the previous section, the primary and invited household members automatically receive an email containing instructions for the second stage of the survey. This email consists of explanations of the second stage, instructions on how to install and configure the app and how to complete the survey and links to the instruction videos as well as the application on the Apple App Store and the Google Play Store. An app installation reminder email is sent to people who have been invited to the second stage of the study but have yet to install the app two days and four days after being invited.

9.3.3 Application Communications

The application communicates with the respondents through notifications and emails. Table 5 shows the list of notifications each respondent receives with the time of receipt. They also receive reminder emails every night, the titles of which can be seen in Table 6. The text of these emails can be seen in Appendix H.

Title	Message	Day	Hour	Daily Survey
There you are (Day 0)	Congratulations, you're now participating in the THATS survey. Your seven-day experiment starts from tomorrow.	Day 0 **(Installation day)**	15 minutes after installation	NO Daily Survey
Day 1	Choose the mode and the purpose of your trips and complete the daily survey availabile on the diary page.	Day 1 **(The day after installation day)**	9:00 PM	Day 1 Daily Survey
Day 2	Choose the mode and the purpose of your trips and complete the daily survey availabile on the diary page.	Day 2	9:00 PM	Day 2 Daily Survey
Day 3	Choose the mode and the purpose of your trips and complete the daily survey availabile on the diary page.	Day 3	9:00 PM	Day 3 Daily Survey
Day 4	Choose the mode and the purpose of your trips and complete the daily survey availabile on the diary page.	Day 4	9:00 PM	Day 4 Daily Survey
Day 5	Choose the mode and the purpose of your trips and complete the daily survey availabile on the diary page.	Day 5	9:00 PM	Day 5 Daily Survey
Day 6	Choose the mode and the purpose of your trips and complete the daily survey availabile on the diary page.	Day 6	9:00 PM	Day 6 Daily Survey
Last Day	It's your last day of experiment. Don't forget to select the mode and purpose of all your trips and complete the daily surveys.	Day 7	9:00 PM	Day 7 Daily Survey
End of the Experiment	Thank you for participating in THATS! make sure you have validated the mode and purposes of all your trips and completed the seven daily surveys and then delete the app.	Day 8	9:00 PM	NO Daily Survey

Table 5. Application Notifications.

Title	Subject	Day Sent (Note that day of installation is day 0, first day of tracking is day 1 (the day after installation) , and so on.	Hour
Reminder email	THATS Survey Reminder	Day 1, 2, 3, 4, 5, 6, 7	9:10 PM
Reminder email for day 1 to 7, end of the survey and deleting the app sent on day 8	THATS Survey Completion	Day 8 (The day after the last day of study)	9:00 PM
Reminder email for deleting the app sent on day 10.	THATS Application Deletion Reminder	Day 10 (Three day3 after the last day of study)	9:00 PM

Table 6. Application Reminder Emails.

9.3.4 Incentive

After a participant submits the day seven daily survey, his/her collected data from the application and the daily surveys are validated to see if they qualify for the incentive or not. If they do qualify, an Amazon Gift card is sent to their email address using the original Amazon website.

10 Results of the Survey

In this section, a summary of the survey results will be reviewed. As mentioned in the previous sections, the survey is conducted in three stages, including the test, pilot and main survey. The test survey is done by Prof. Eric Miller's research group members and their families over the first week of May 2023 to detect technical and content errors and problems. After getting feedback from the test survey respondents and applying them to the design of the survey over the second week of May 2023, a pilot survey was done using 3,700 contacts from the list provided by the TTS 2022 over the third and fourth week of May 2023. The main objective of the pilot survey was to select the sufficient incentive out of five different options, including iPad random draws and $15-$30 Amazon gift cards. The participation rates in response to each incentive type can be seen in the following section. Finally, after selecting the incentive, the main survey using the remaining 28,000 contacts was done from late May to mid-July 2023. The following two sections are dedicated to a summary of participation rates and a general view of the collected data, respectively.

10.1 Participation Summary

The participation rates for the three stages of the survey can be seen in Table 7 and the total results in Table 8. Table 7 contains the rates of contacted people who completed the survey up to each stage. The considered stages include:

- Starting the experiment, which is equivalent to submitting the sign-up survey.
- Installing the application.
- Submitting each of the seven daily surveys.
- Labeling at least 70% of the trips.
- Satisfactorily completing the survey (completing at least five daily surveys and labeling at least 40% of the trips OR completing all seven daily surveys regardless of the trip label percentage).
- Completing the survey (completing all seven daily surveys and labeling at least 70% of the trips and qualifying for the incentive);

It must be noted that in Table 7, two different rates can be seen for most of the stages. One is the rate of individuals reaching that specific stage out of all participating adults (primary and invited household members), and the other is the total rate of households with at least one member reaching that stage out of all the contacted households (emails sent). The table also contains information about the average income of participants starting the survey, the average age of participants starting and completing the survey, and the total number of trips recorded and labeled

for all the people who installed the application. These numbers of trips include only the ones recorded over the 7-day experiment of each user. As some respondents kept the app installed for longer, a total of 91,977 trips with 5,295,420 30-second GPS traces were recorded.

The analysis of response rates during the initial phase of the pilot survey revealed that a random draw incentive was insufficient in motivating individuals to initiate and complete the survey. Subsequently, in the second stage, a higher value of gift cards was introduced. While this adjustment did not significantly impact the survey initiation rate, it notably enhanced the overall

Rates	Test Survey	Pilot Survey (Phase 1)				Pilot Survey (Phase 2)		
		20&20-1	20&15-1	1/50 iPad-1	1/100 iPad-1	20&20-2	20&15-2	30&20-2
# Of Emails Sent	19	500	500	426	426	617	617	617
# Of Experiment Started (Signup Surveys Completed)	16	56	59	21	17	53	42	47
# Of Experiment Started (Signup Surveys Completed) after Reminder	1	17	21	13	12	22	21	15
Rate of Start %	84.2	11.2	11.8	4.9	4.0	8.6	6.8	7.6
Avg Age of Primary Member Starting the survey	31.9	46.8	46.7	45.0	42.6	48.0	44.0	41.3
Avg Income of Households Starting the survey	79062.5	106964.3	119576.3	162857.1	128382.4	143113.2	133154.8	124042.6
# Of Eligible Adults	31	94	111	44	38	126	83	97
# Of Adults Participating	26	78	88	28	20	88	67	78
Rate of Invitation %	66.7	57.9	55.8	30.4	14.3	47.9	61.0	62.0
# Installed the app	22	43	50	19	10	38	36	42
Rate of App Install (Individual out of Participating) %	84.6	55.1	56.8	67.9	50.0	43.2	53.7	53.8
Total Rate of App Install (Household out of Email Sent) %	78.9	7.2	7.8	3.1	1.9	5.5	4.5	4.5
# Of Invited Members Installed the app	7	7	11	6	2	4	8	14
Rate of Invited Members App Install %	70.0	31.8	37.9	85.7	66.7	11.4	32.0	45.2
# Of Adults Completed D1DS	20	32	34	11	4	23	26	30
Rate of D1DS (Individual out of Participating) %	76.9	41.0	38.6	39.3	20.0	26.1	38.8	38.5
Total Rate of D1DS (Household out of Email Sent) %	78.9	5.6	5.0	1.6	0.9	3.4	2.9	3.1
# Of Adults Completed D2DS	18	32	32	10	4	22	26	28
Rate of D2DS (Individual out of Participating) %	69.2	41.0	36.4	35.7	20.0	25.0	38.8	35.9
Total Rate of D2DS (Household out of Email Sent) %	68.4	5.6	4.6	1.6	0.9	3.2	2.9	3.1
# Of Adults Completed D3DS	17	31	32	8	5	23	24	28
Rate of D3DS (Individual out of Participating) %	65.4	39.7	36.4	28.6	25.0	26.1	35.8	35.9
Total Rate of D3DS (Household out of Email Sent) %	63.2	5.6	4.6	1.2	0.9	3.2	2.9	3.1
# Of Adults Completed D4DS	15	30	31	8	4	24	22	28
Rate of D4DS (Individual out of Participating) %	57.7	38.5	35.2	28.6	20.0	27.3	32.8	35.9
Total Rate of D4DS (Household out of Email Sent) %	63.2	5.2	4.4	1.2	0.9	3.4	2.6	3.1
# Of Adults Completed D5DS	16	32	29	7	4	24	25	26
Rate of D5DS (Individual out of Participating) %	61.5	41.0	33.0	25.0	20.0	27.3	37.3	33.3
Total Rate of D5DS (Household out of Email Sent) %	68.4	5.6	4.0	1.2	0.9	3.4	3.1	2.8
# Of Adults Completed D6DS	13	30	27	6	3	20	22	25
Rate of D6DS (Individual out of Participating) %	50.0	38.5	30.7	21.4	15.0	22.7	32.8	32.1
Total Rate of D6DS (Household out of Email Sent) %	52.6	5.2	3.8	0.7	0.7	2.9	2.6	2.6
# Of Adults Completed D7DS	15	30	29	5	4	25	24	27
Rate of D7DS (Individual out of Participating) %	57.7	38.5	33.0	17.9	20.0	28.4	35.8	34.6
Total Rate of D7DS (Household out of Email Sent) %	57.9	5.2	4.0	0.9	0.9	3.6	2.9	2.9
Total # of Trips	577	1255	1262	545	315	1152	929	1078
Average Trip Per Person Per Day	3.7	4.2	3.6	4.1	4.5	4.3	3.7	3.7
Total # of Labelled Trips	248	983	967	321	217	797	729	799
Percentage of Labelled Trips	43.0	78.3	76.6	58.9	68.9	69.2	78.5	74.1
# Of Adults Labelled 70% of Trips	8	30	36	9	6	24	26	31
Rate of Labelled 70% (Individual out of Participating) %	30.8	38.5	40.9	32.1	30.0	27.3	38.8	39.7
Total Rate of Labelled 70% (Household out of Email Sent) %	31.6	5.2	5.4	1.9	1.2	3.4	3.1	3.6
# Satisfactorily Completed the Experiment (5 Daily Surveys-&-40% Trip Label OR 7 Daily Survey Regardless of Trip Label Percentage)	13	31	29	6	4	21	24	28
Rate of Satisfactory Completion (Individual out of Participating) %	50.0	39.7	33.0	21.4	20.0	23.9	35.8	35.9
Total Rate of Satisfactory Completion (Household out of Email Sent) %	52.6	5.4	4.0	0.7	0.9	3.1	2.9	3.1
# Completed the Experiment	8	24	22	3	2	15	14	19
Rate of Completion (Individual out of Participating) %	30.8	30.8	25.0	10.7	10.0	17.0	20.9	24.4
Total Rate of Completion (Household out of Email Sent) %	31.6	4.2	3.0	0.5	0.5	2.1	1.3	1.8
Avg age of Completing the Survey in Total	31.3	39.7	38.5	42.0	49.5	40.3	47.1	38.1

Table 7. Participation summary (test and pilot surveys)

Rates	Main Survey					TOTAL (Test Excluded)
	M30&20-1	M30&20-2	M30&20-3	M30&20-4	M30&20-5	
# Of Emails Sent	9617	9609	2599	3120	3121	31769
# Of Experiment Started (Signup Surveys Completed)	834	985	256	326	326	3022
# Of Experiment Started (Signup Surveys Completed) after Reminder	335	373	82	123	99	1133
Rate of Start %	8.7	10.3	9.8	10.4	10.4	9.5
Avg Age of Primary Member Starting the survey	46.2	46.3	45.5	45.8	46.8	46.1
Avg Income of Households Starting the survey	131612.7	132530.5	135058.6	135406.4	132730.1	132346.1
# Of Eligible Adults	1697	1969	498	667	682	6106
# Of Adults Participating	1277	1427	377	475	493	4496
Rate of Invitation %	51.3	44.9	50.0	43.7	46.9	47.8
# Installed the app	730	761	191	234	261	2415
Rate of App Install (Individual out of Participating) %	57.2	53.3	50.7	49.3	52.9	53.7
Total Rate of App Install (Household out of Email Sent) %	6.1	6.7	6.1	6.6	7.0	6.3
# Of Invited Members Installed the app	145	120	32	27	43	419
Rate of Invited Members App Install %	32.7	27.1	26.4	18.1	25.7	28.4
# Of Adults Completed D1DS	461	470	137	184	222	1634
Rate of D1DS (Individual out of Participating) %	36.1	32.9	36.3	38.7	45.0	36.3
Total Rate of D1DS (Household out of Email Sent) %	4.0	4.1	4.4	5.2	6.0	4.3
# Of Adults Completed D2DS	456	447	125	176	202	1560
Rate of D2DS (Individual out of Participating) %	35.7	31.3	33.2	37.1	41.0	34.7
Total Rate of D2DS (Household out of Email Sent) %	3.9	3.9	4.0	5.0	5.6	4.1
# Of Adults Completed D3DS	448	433	127	171	206	1536
Rate of D3DS (Individual out of Participating) %	35.1	30.3	33.7	36.0	41.8	34.2
Total Rate of D3DS (Household out of Email Sent) %	3.9	3.7	4.2	4.8	5.6	4.0
# Of Adults Completed D4DS	431	440	122	174	199	1513
Rate of D4DS (Individual out of Participating) %	33.8	30.8	32.4	36.6	40.4	33.7
Total Rate of D4DS (Household out of Email Sent) %	3.8	3.8	4.0	5.0	5.4	4.0
# Of Adults Completed D5DS	427	431	121	169	200	1495
Rate of D5DS (Individual out of Participating) %	33.4	30.2	32.1	35.6	40.6	33.3
Total Rate of D5DS (Household out of Email Sent) %	3.7	3.8	4.0	4.8	5.5	4.0
# Of Adults Completed D6DS	399	399	119	161	189	1400
Rate of D6DS (Individual out of Participating) %	31.2	28.0	31.6	33.9	38.3	31.1
Total Rate of D6DS (Household out of Email Sent) %	3.5	3.5	3.9	4.6	5.2	3.7
# Of Adults Completed D7DS	426	433	120	165	200	1488
Rate of D7DS (Individual out of Participating) %	33.4	30.3	31.8	34.7	40.6	33.1
Total Rate of D7DS (Household out of Email Sent) %	3.7	3.8	3.9	4.7	5.4	3.9
Total # of Trips	19170	19288	4871	6623	6895	63383
Average Trip Per Person Per Day	3.8	3.6	3.6	4.0	3.8	3.7
Total # of Labelled Trips	13033	12080	3254	4736	5190	43106
Percentage of Labelled Trips	68.0	62.6	66.8	71.5	75.3	68.0
# Of Adults Labelled 70% of Trips	411	366	113	149	184	1385
Rate of Labelled 70% (Individual out of Participating) %	32.2	25.6	30.0	31.4	37.3	30.8
Total Rate of Labelled 70% (Household out of Email Sent) %	3.5	3.3	3.8	4.2	5.1	3.7
# Satisfactorily Completed the Experiment (5 Daily Surveys-&-40% Trip Label OR 7 Daily Survey Regardless of Trip Label Percentage)	409	401	118	156	194	1421
Rate of Satisfactory Completion (Individual out of Participating) %	32.0	28.1	31.3	32.8	39.4	31.6
Total Rate of Satisfactory Completion (Household out of Email Sent) %	3.6	3.5	3.9	4.4	5.3	3.8
# Completed the Experiment	249	220	78	108	137	891
Rate of Completion (Individual out of Participating) %	19.5	15.4	20.7	22.7	27.8	19.8
Total Rate of Completion (Household out of Email Sent) %	2.1	2.0	2.5	3.0	3.7	2.3
Avg age of Completing the Survey in Total	42.0	41.5	42.8	39.9	43.5	41.8

Table 7. Participation summary (cont'd) (main survey and totals)

Stage	Discrete Individual Count	Cumulative Individual Count	Cumulative Household Count
Qualified for the incentive (7 daily surveys completed and at least 70% of trips labeled)	891	891	761 (264 Full HH)
7 daily surveys completed and less than 70% of trips labeled	326	1217	1061 (352 Full HH)
6 daily surveys completed	187	1404	1246 (397 Full HH)
5 daily surveys completed	71	1475	1317 (415 Full HH)
4 daily surveys completed	36	1511	1353 (420 Full HH)
3 daily surveys completed	60	1571	1411 (429 Full HH)
2 daily surveys completed	66	1637	1475 (442 Full HH)
1 daily survey completed	174	1811	1644 (478 Full HH)
Application installed	604	2415 (1368 labeled at least 70% of their trips): 1322 iOS Users 1093 Android Users	2007 (783 Full HH)
Invited Individuals	2081	4496	3022 (1852 Full HH)
Eligible Individuals (Households starting the survey)	1610	6106	3022
Households Invited	-	-	31769

Table 8. Number of participants completing the survey to different extents.

consistency of participants, the rate of household member invitations, and the survey completion rate. Consequently, the incentive offering of "$30 gift card for the primary household member and $20 gift card for each invited household member" was chosen for the main survey.

Upon survey conclusion, the overall survey start rate was 9.5%, the survey completion rate was 2.3%, and the rate of satisfactory completion stood at 3.8%. While the rates of start and completion are deemed acceptable for the initial round of the survey, a prominent challenge that persists in such studies lies in the recruitment of complete households. The following section examines the survey results concerning households with at least one individual who completed the survey, and potential strategies to address the issue of collecting full household data are deliberated in the final part of the report.

10.2 Collected Data

This section provides an overview of the participants who successfully completed the survey and the data collected. A total of 899 participants, including the test survey, from 767 households successfully completed the entire survey and qualified for the incentive. Table 9 displays the number of individuals who completed the survey at various stages within households where at least one member successfully completed the survey. As previously discussed, inviting additional household members to participate was not compulsory, but rather encouraged through the offer of a higher incentive.

Collecting week-long data from all household members using a smartphone application can be challenging due to the need for active involvement from each member. However, Table 9 illustrates that a more streamlined survey design for non-primary household members, such as passive GPS tracking combined with more detailed data from the main household member, can result in a higher response rate from all household members. Notably, there are 1012 individuals who have at least installed the app, and their tracking data can be combined with their respective household members' data to generate comprehensive household-level data. Another option would be mandating the participation of all household members which may adversely affect the response rate.

Figures 8 and 9 present histograms displaying the household characteristics of households with at least one qualified participant and individual characteristics of the qualified participants, respectively. For comparison purposes, corresponding histograms from the TTS-2022 sample, utilized as the contact list for THATS, and data from the residents of the GTHA based on the 2021 census have been provided, wherever the data was available at the time. It is important to note that the under 15 age group has been excluded from the TTS-2022 and census individual data to align with THATS, which only includes individuals aged 15 and above.

Two main observations can be derived from Figures 8 and 9. First, the income group histogram is skewed towards higher income groups, likely due to the higher participation of the educated class in such studies. Second, the household primary member age group histogram is skewed towards lower age groups, which can be attributed to the higher rate of smartphone usage among the younger generation. However, it is worth noting that the average age of qualified participants, 41.8 years (Table 9), indicates positive progress in the popularity of smartphone applications as tools for travel surveys among all generations compared to previous studies.

Furthermore, these trends have contributed to a higher number of workers and a lower rate of vehicle ownership among the qualified participants in THATS compared to the TTS. Lastly, the distribution of home locations across planning districts and household structures (in which “A” means Adult and “C” means Children) in THATS is found to be similar to that of the TTS.

Figures 10 to 12 illustrate the distribution of home, workplace, and school locations of individuals in households with at least one participant who completed the survey. The visual representation

shows that both home and workplace locations are well-distributed across the entire GTHA, with a higher density observed in the downtown core. This distribution aligns proportionally with the original distribution of population and job locations in the region.

Ultimately, the observed differences in participants' demographic and geographic distributions between THATS, TTS, and the census don't pose a major problem for ABMs, as they focus on individual behaviors microsimulation, not aggregate trip numbers.

# Of households with at least one member who completed the survey.	#Of eligible (15+) individuals	#Of participating (primary or invited) individuals	#Of individuals who installed the app
767	1568	1260 (535 Full HH)	1012 (351 Full HH)
→			

#Of adults who completed the Day1 daily survey	#Of adults who completed the Day2 daily survey	#Of adults who completed the Day3 daily survey	#Of adults who completed the Day4 daily survey	#Of adults who completed the Day5 daily survey	#Of adults who completed the Day6 daily survey	#Of adults who completed the Day7 daily survey
968 (315 Full HH)	956 (306 Full HH)	954 (302 Full HH)	952 (303 Full HH)	947 (299 Full HH)	943 (297 Full HH)	953 (305 Full HH)
→						

#Of adults who labelled at least 70% of their trips	#Of adults who satisfactorily completed the survey (at least 5 daily surveys and labelled at least 40% of trips OR 7 daily surveys regardless of trip label percentage)	#Of adults who completed the survey (7 daily surveys and labelled at least 70% of trips)
923 (285 Full HH)	943 (298 Full HH)	899 (266 Full HH)
→		

Table 9. Survey progress of individuals in households with at least one member who completed the survey.

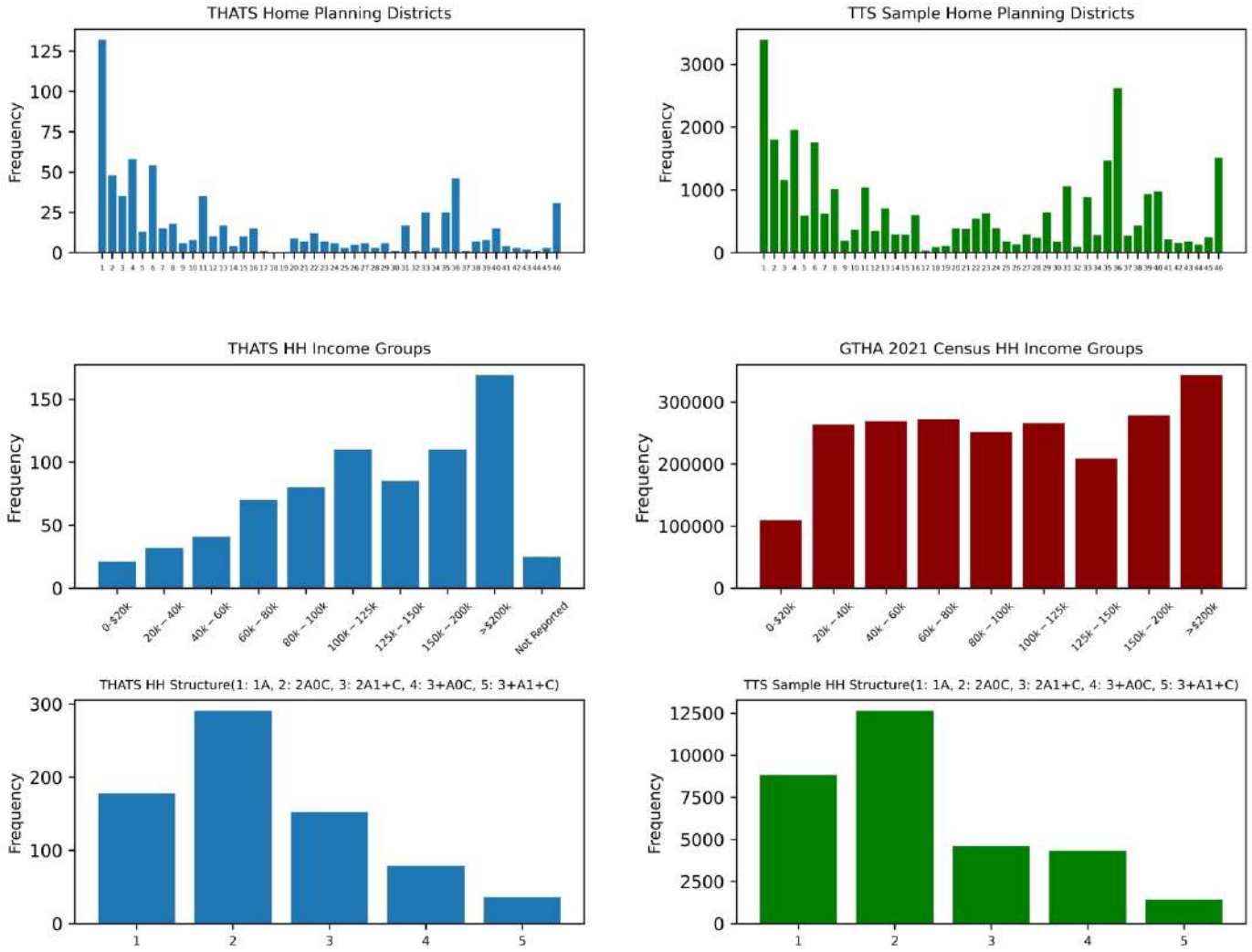

Figure 8. Histograms of household characteristics for households with at least one member who completed the survey.

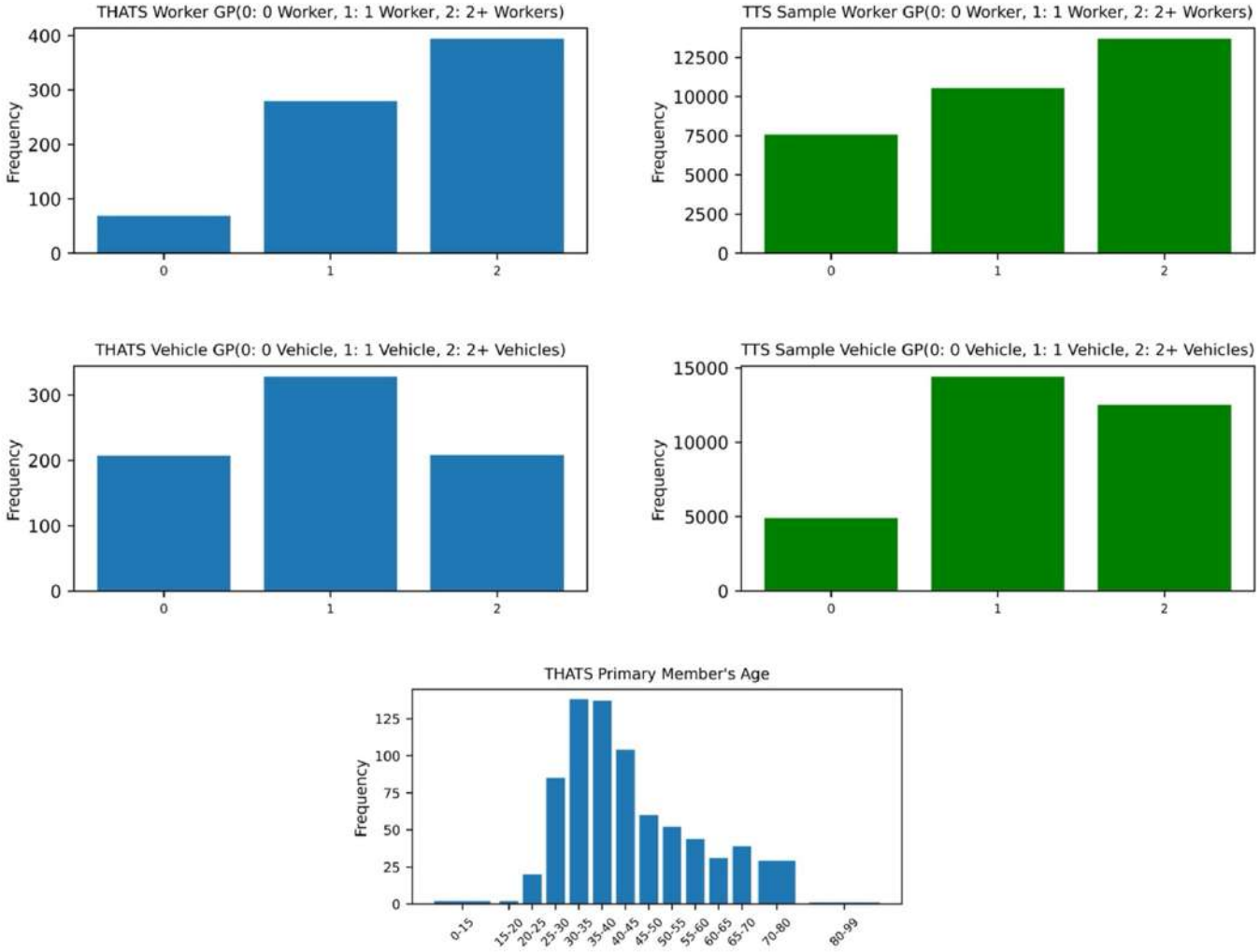

Figure 8. Histograms of household characteristics for households with at least one member who completed the survey. (Cont'd)

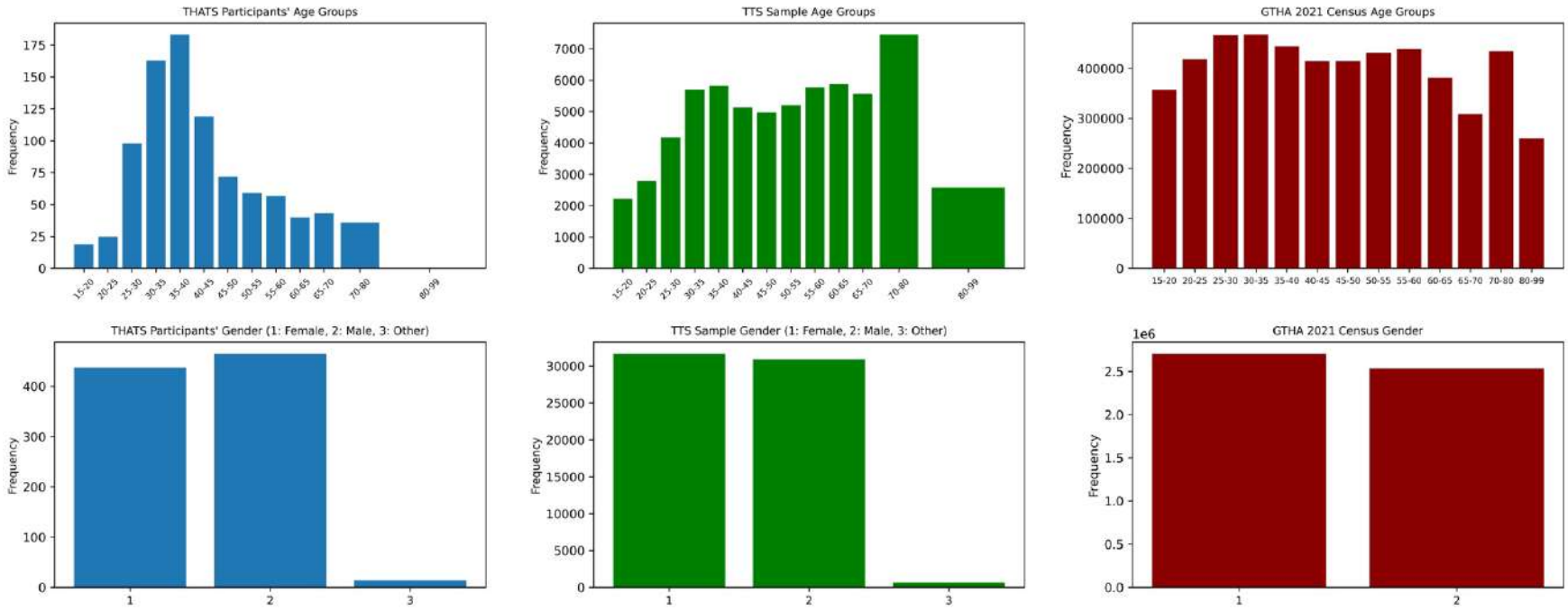

Figure 9. Histograms of individual characteristics for participants who completed the survey.

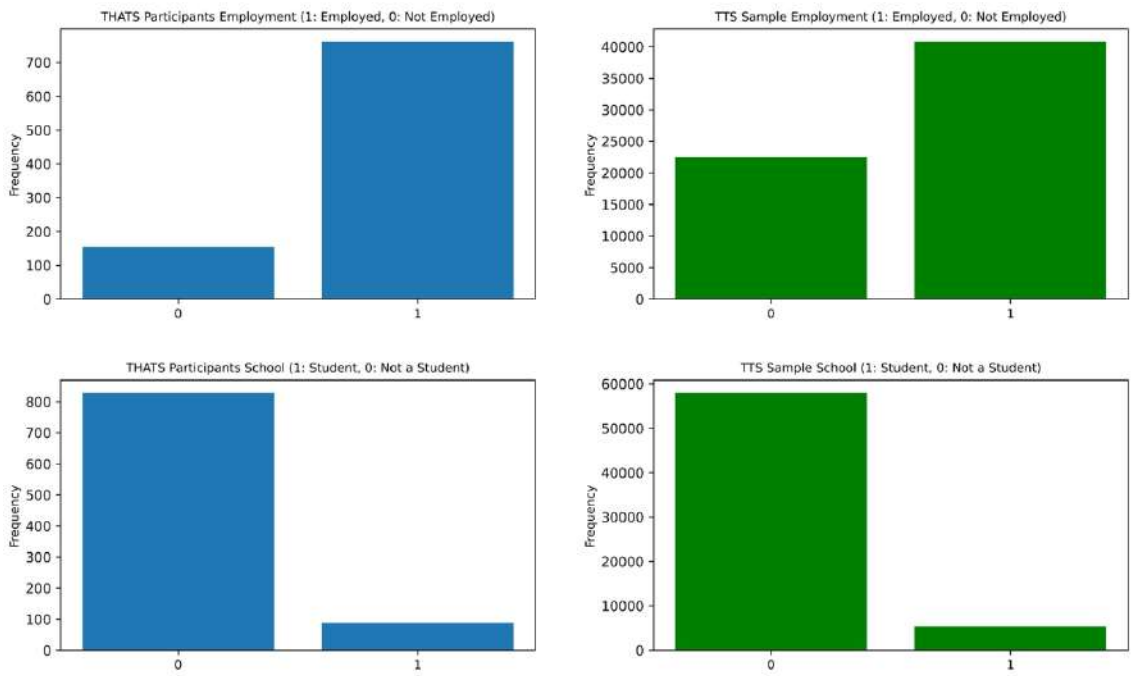

Figure 9. Histograms of individual characteristics for participants who completed the survey. (Cont'd)

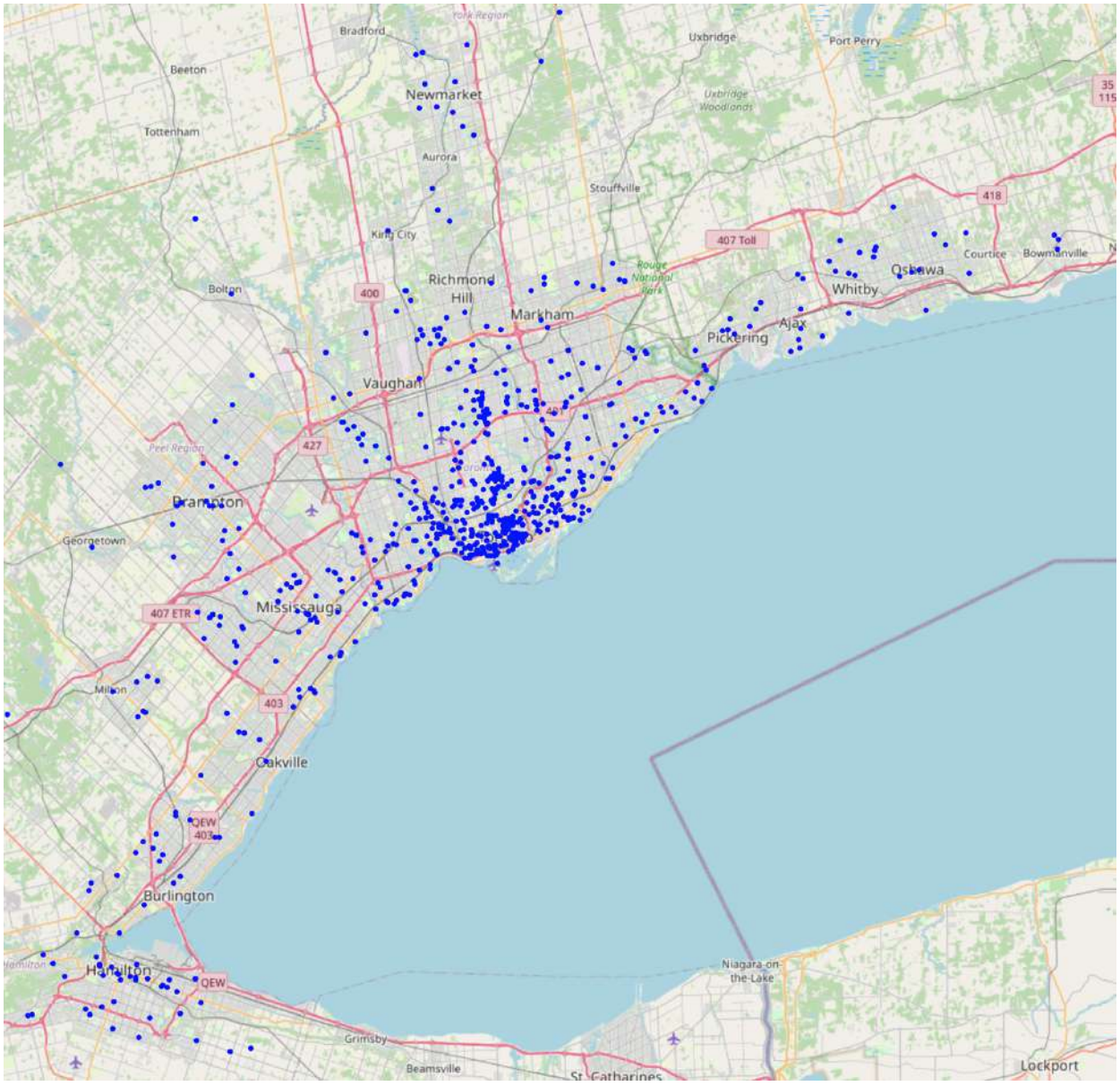

Figure 10. Home locations of households with at least one person who completed the survey.

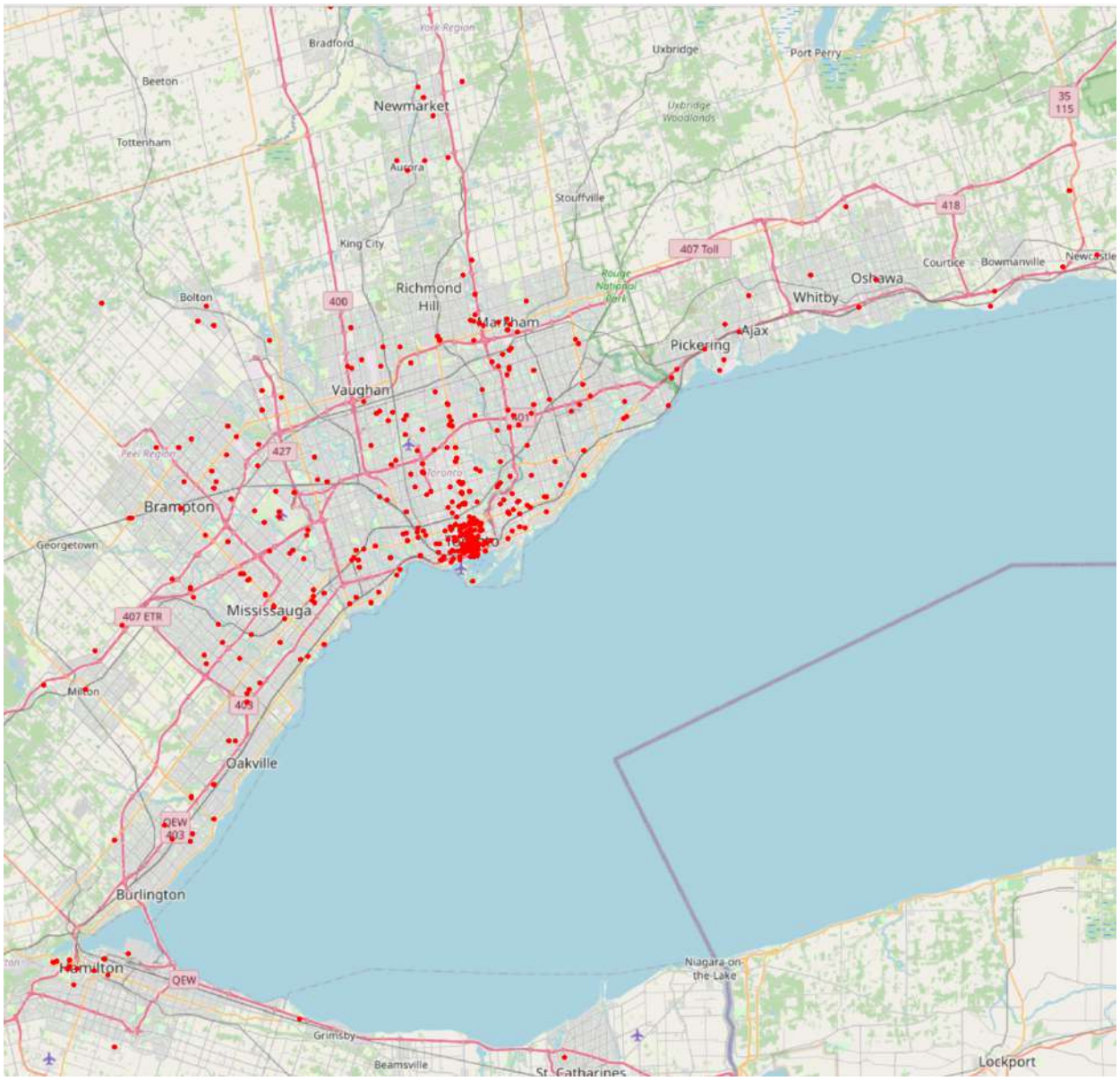

Figure 11. Workplace locations of individuals in households with at least one person who completed the survey.

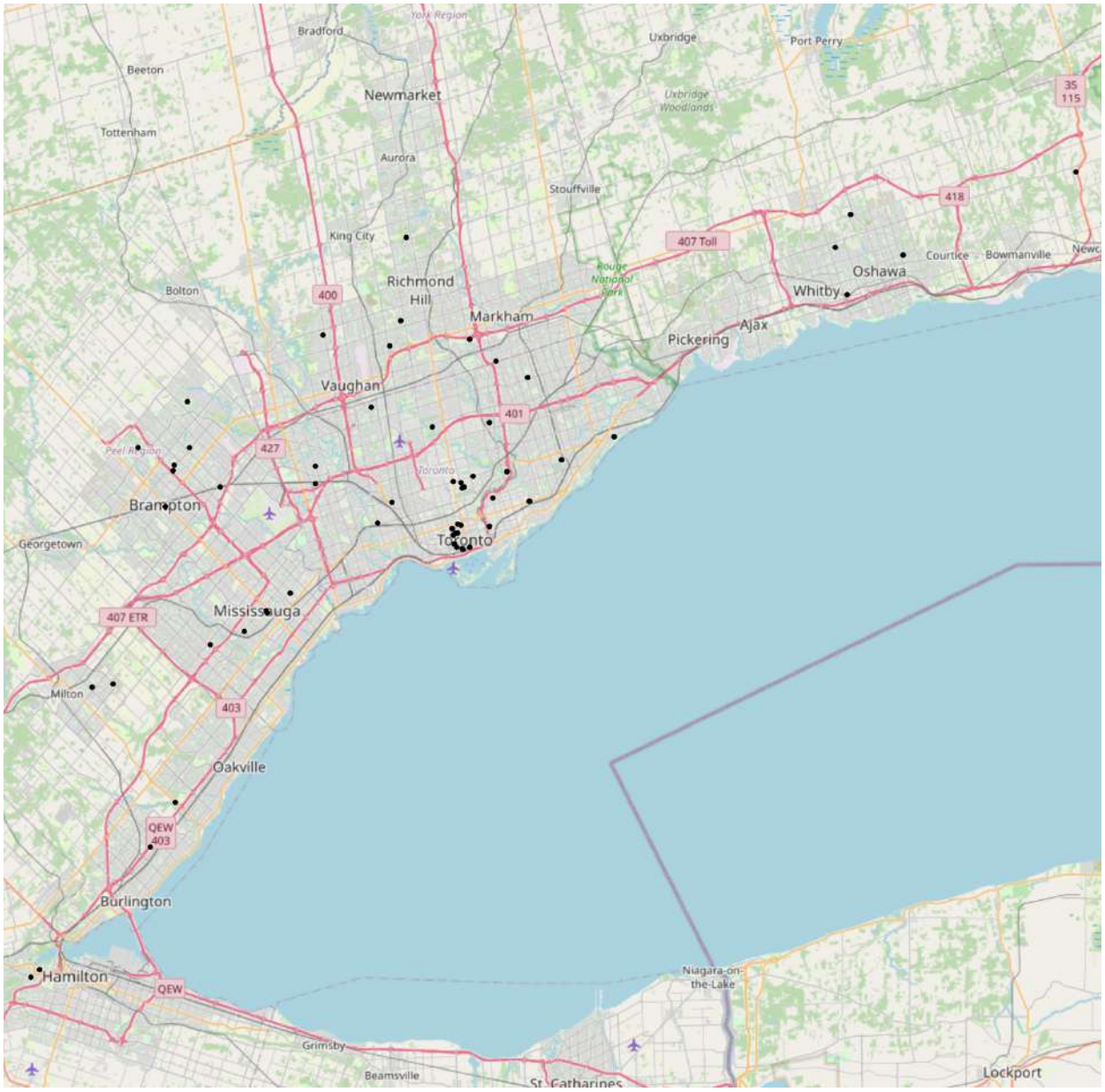

Figure 12. School locations of individuals in households with at least one person who completed the survey.

The rest of this section entails a brief descriptive analysis of the collected data for each qualified respondent in THATS. Table 10 categorizes the attributes of this data into 5 classes, and Figures 13 and 14 display the histograms of each attribute.

On average, the qualified respondents recorded 29.3 trips over the week of the study, with 85.5% of these trips labeled with mode and purpose. This translates to an average of 4.2 trips per day, which surpasses the average number of trips recorded for a typical workday by the same respondents in the TTS (3.0) and significantly exceeds the average number of trips recorded by all 15+ participants of the TTS sample used in THATS as the contact list (2.4). Figure 15 illustrates a comparison of the distribution of the number of trips among respondents of THATS (total, weekdays, and weekends), the same respondents from TTS-2022, and all respondents of the TTS sample. Notably, the number of daily trips in THATS, where trips are passively recorded without relying on respondents' memory, demonstrates a more normal distribution compared to the TTS-2022 data.

The second class of characteristics pertains to the alignment of specified activities in daily surveys and the recorded trips by the application. Two parameters are defined: the percentage of recorded trips occurring in specified out-of-home periods (which decreases if a recorded trip falls in an hour selected by the respondent to be at home) and the percentage of specified home period ends with a corresponding recorded trip (which decreases if a specified home period lacks a trip starting at its end or a trip ending at its beginning). Both parameters exhibit an average above 80%, which is promising, but there is potential for improvement through better linkage between the application data and the daily surveys. Creating a clearer association between respondents' recorded trips and their designated home and out-of-home periods in the daily surveys may enhance these percentages.

As previously mentioned, each daily survey begins by inquiring about the various activities that respondents have engaged in at home and out of home (categorized into four groups), followed by recording the timing of each activity. The average number of different activities undertaken by the respondents in each category is presented in Table 10, while Figures 13 and 14 illustrate their corresponding histograms. Figure 14 reveals a significant observation pertaining to the distribution of the number of out-of-home workdays among participants. This finding underscores the crucial significance of week-long modeling while highlighting the limitations of single-day models. A more comprehensive analysis of these activities, their detailed attributes including with whom, scheduling horizon, and expenditure and their potential utilization in activity-based travel demand modeling will be expounded in forthcoming publications.

Lastly, Figure 16 presents a comparison of transportation mode shares recorded for the trips of THATS participants (only the labeled ones), the same respondents from the TTS sample, and all participants in the TTS sample. The most notable difference lies in the number of recorded walk trips between the two datasets. It is essential to acknowledge that THATS was conducted during the spring and summer, while TTS was carried out in the fall and winter. This seasonal variation

is likely the primary factor contributing to the differences in mode shares between the two datasets. It can be interpreted that some walk trips might have been missed by respondents when reporting them based on their memory. Furthermore, the lower rate of vehicle ownership among THATS participants compared to the TTS participants is evident, with lower rates of auto trips and higher rates of walk and bike trips.

# Of Trips							
Avg # of trips	Avg # of labelled trips	Avg trip label percentage	THATS avg # of trips per day	THATS avg # of weekday trips per day	THATS avg # of weekend trips per day	TTS avg # of trips per day (same respondents)	TTS avg # of trips per day (15+ respondents)
29.3	25.0	85.5	4.2	4.0	4.5	3.0	2.4

Recorded Trips and Specified Activities Alignment	
Avg percentage of recorded trips occurring in specified out-of-home periods	Avg percentage of specified home period ends with a corresponding recorded trip
91.7	81.0

# Of Activities			
Avg # of home activities per day	Avg # of out-of-home activities per day	Avg rate of days with out-of-home Work/School activity (employed/students only)	Avg # of out-of-home Non-Work/School activities per day
4.7	2.0	2.1 in 7 days	1.6

# Of Detailed Activities				
Avg rate of out-of-home work days (employed only)	Avg rate of out-of-home school days (students only)	Avg # of entertainment activities per day	Avg # of shopping activities per day	Avg # of other activities per day
2.2 in 7 days	1.0 in 7 days	0.78	0.53	0.26

Starting Day						
% Started on Monday	% Started on Tuesday	% Started on Wednesday	% Started on Thursday	% Started on Friday	% Started on Saturday	% Started on Sunday
32.6	29.8	16.6	10.2	5.0	2.9	3.0

Table 10. Characteristics of the collected data for participants who completed the survey.

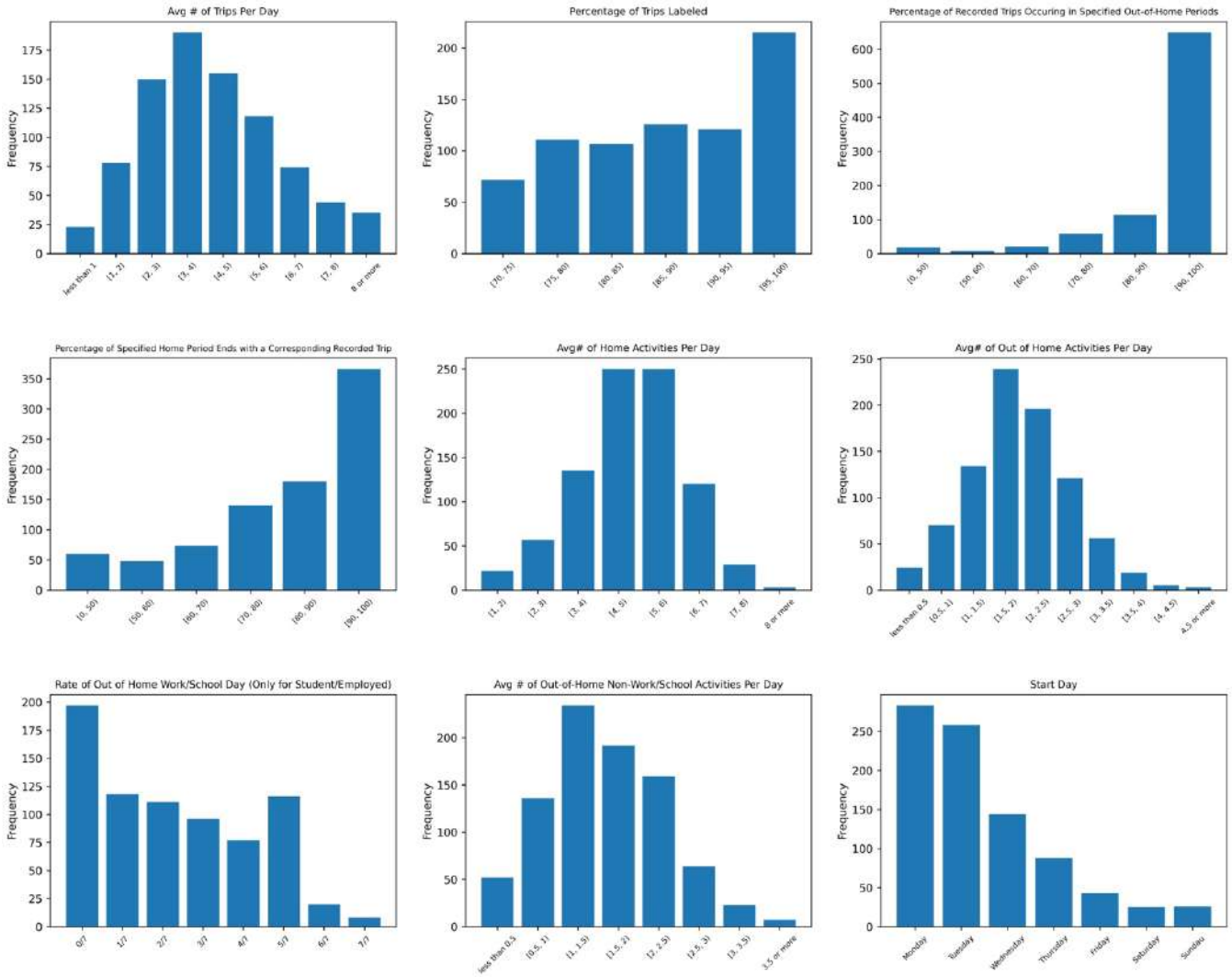

Figure 13. Histograms of the collected data characteristics for participants who completed the survey.

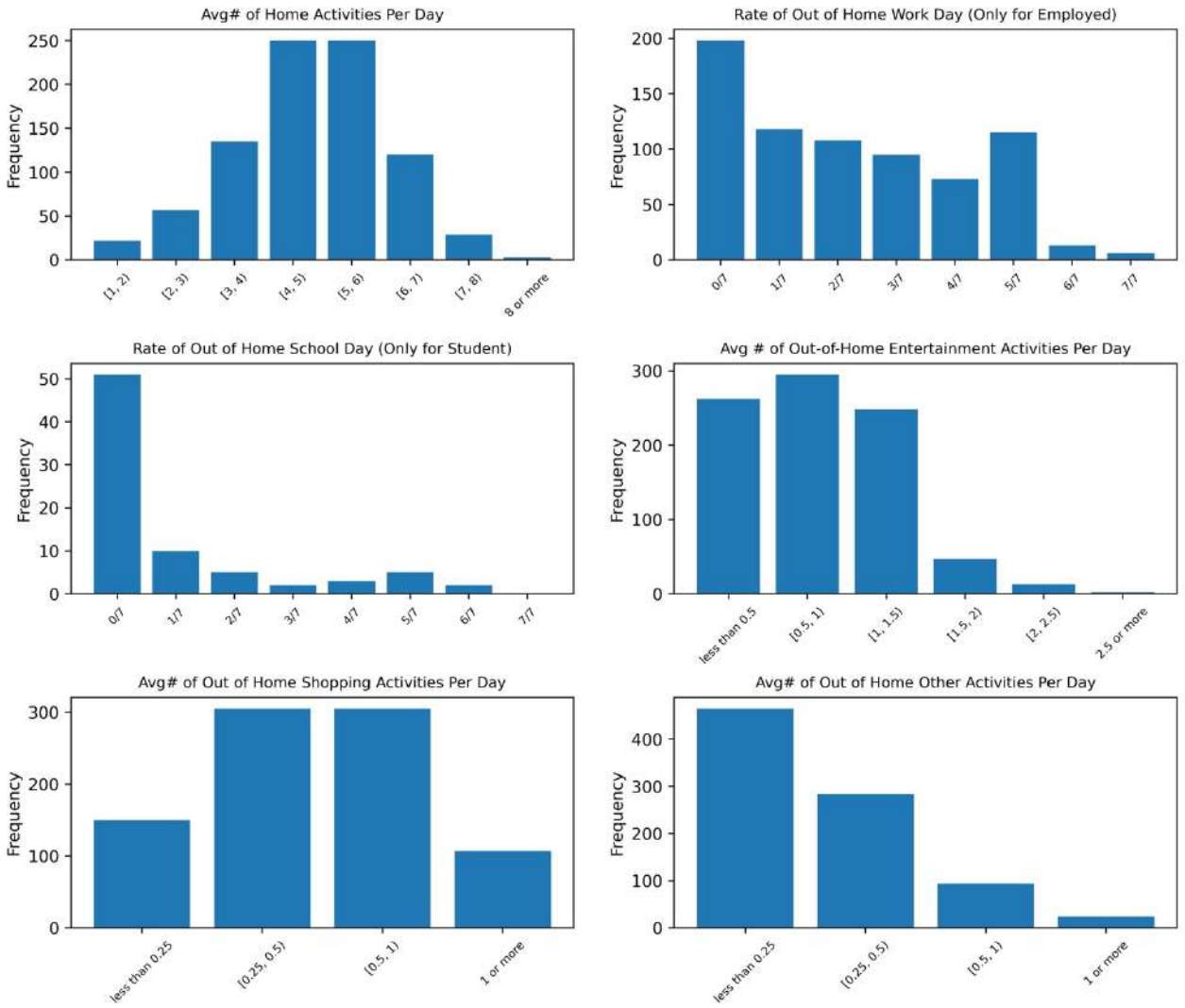

Figure 14. Histograms of the number of different activities per day for participants who completed the survey.

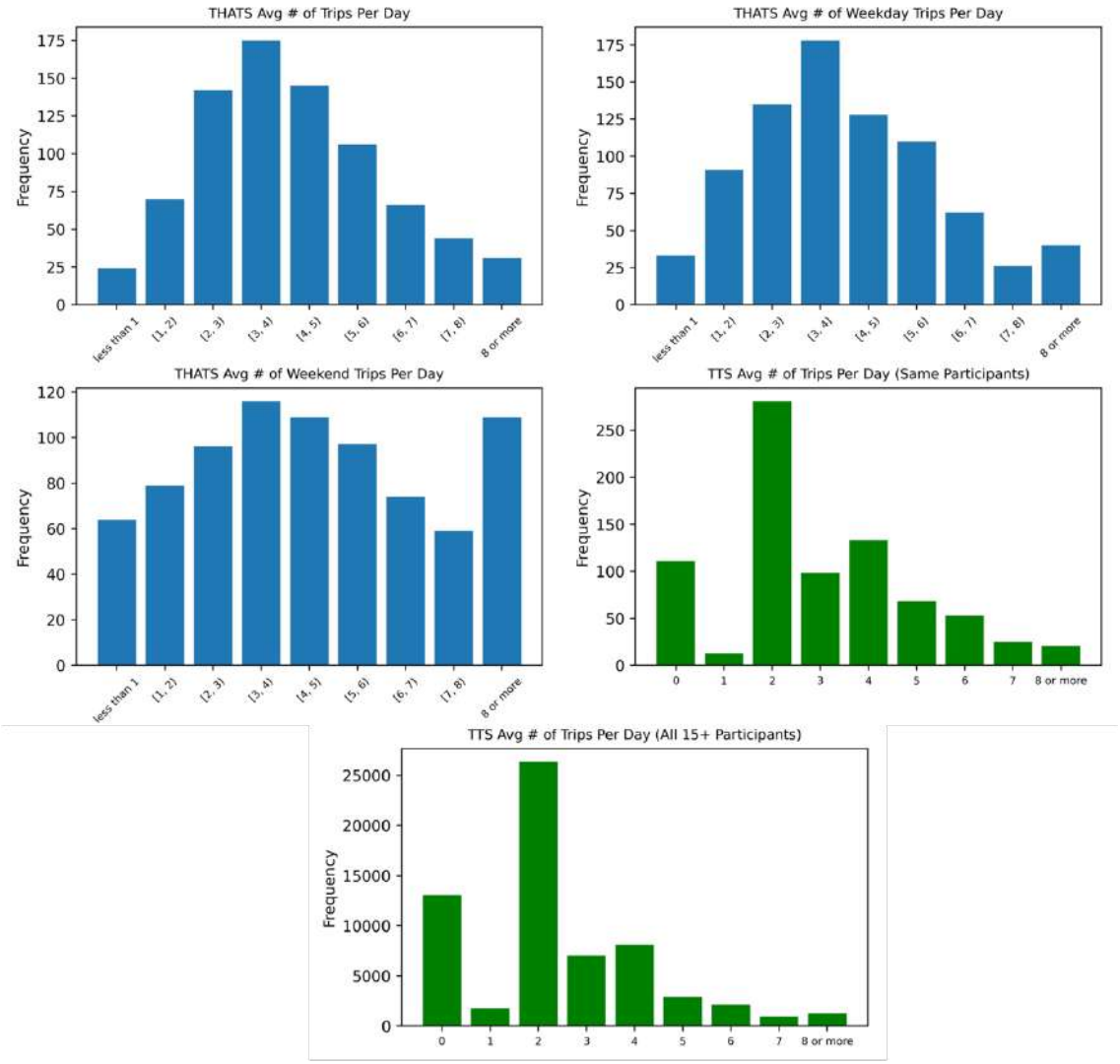

Figure 15. Histograms of the number of trips per day for participants who completed the survey and the TTS sample participant.

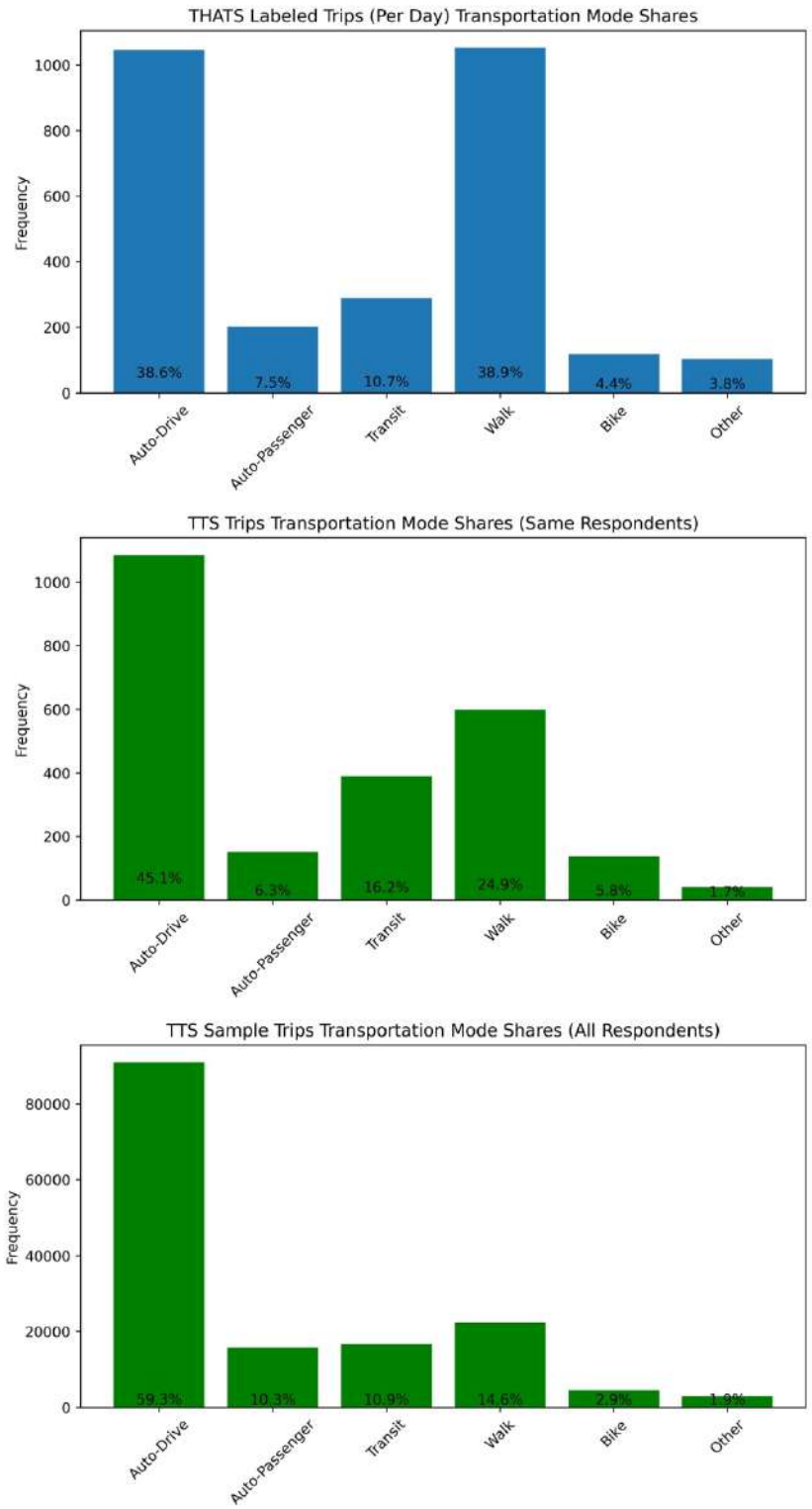

Figure 16. Transportation mode shares for participants who completed the survey and the TTS sample participants.

11 Design and Implementation Challenges and Lessons Learned

During the implementation of the survey, various challenges were encountered, and corresponding strategies were devised to address them, aiming for improved participation rates and more accurate data collection in future rounds of the survey.

- Handling Server Load:
  - Increased server size to accommodate higher respondent numbers during peak use (9 pm to 11 pm).
  - Adjusted Android notification time to 8 pm to distribute server pressure more evenly.
  - Included links to daily surveys in reminder emails to ease server congestion and reduce complaints.
  - Implemented data deletion for entries older than two weeks to free up server space, resulting in successful resolution.
- Technical Issues:
  - ✓ Addressed scrolling limitations among modes and purposes for some Android users.
  - ✓ Assisted iOS users in granting the required permissions in their smartphone settings.
  - ✓ Devised a method to prevent data loss when reinstalling the app.
  - ✓ Implemented a system to enable data restoration through registration with the same email address.
  - ✓ Introduced an option to modify the initially entered email address.
  - ✓ Planned a transition to a registration code system to mitigate email-related problems and ensure data integrity.
  - ✓ Enhanced user interface by changing "daily survey button" to "Click for the day 1 daily survey" to prevent confusion.

By proactively resolving these issues and implementing improvements, we anticipate an enhanced survey experience, increased participation rates, and the acquisition of more accurate datasets for future iterations of the survey.

12 Conclusion and Future Steps

In this study, we successfully designed and implemented a week-long activity-travel diary survey using a smartphone application, providing valuable insights into the travel behavior of participants. The surveyed sample exhibited a well-distributed demographic and geographic representation, albeit with a skewness towards higher income households and the younger generation due to their higher smartphone usage and greater participation in such studies.

Throughout the survey, we encountered technical challenges that required innovative solutions. The app servers faced peak usage during specific hours, prompting us to increase server size and distribute notification times. Including survey links in reminder emails proved effective in mitigating complaints. Deleting older data from servers also helped address the issue. Additionally, we faced technical issues with Android and iOS users, which we aim to resolve by switching to a registration code system to avoid data loss and email-related problems.

The collection of full household data emerged as a crucial challenge, as it necessitated the involvement of all household members. To address this, we seek to explore more efficient methods, combining GPS data with detailed information from one household member.

As we move forward, several future research directions emerge from this study. Firstly, we aim to develop week-long activity-based models (ABM) to further enhance our understanding of travel behavior over extended periods.

Furthermore, we recognize the potential of big data analysis, utilizing the vast amount of trips and GPS track data collected in this study, to gain deeper insights into travel patterns and behavior.

Exploring leisure resources, attitudes towards Mobility as a Service (MaaS), and parking behavior through weeklong household activity-trip diaries offers a promising avenue for future investigation that the survey was designed to support.

Conducting longitudinal and comparative analyses between our dataset (THATS) and other datasets like TTS and CHASE can provide valuable insights into the effectiveness of conventional single-day surveys versus our week-long approach.

Lastly, we aim to address the challenge of creating full household data using limited information from household members, exploring novel methodologies that combine GPS data and additional details to achieve comprehensive household-level insights.

In conclusion, this week-long activity-travel diary survey using a smartphone application has provided valuable data and shed light on travel behavior patterns. However, we recognize the importance of overcoming technical challenges and the need for further research in exploring diverse aspects of travel behavior and data collection methods. Our findings contribute to the field of travel research and open avenues for future investigations into more comprehensive and sophisticated data collection techniques.

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14 Appendices

14.1 Appendix A (Different Survey Tools Quotation)

Appendix A:

Different Survey Tools Quotation

Appendix A: Different Survey Tools Quotations

rMove:

RE: rMove Test Opportunity

Michelle Lee <Michelle.Lee@rsginc.com>
Mon 7/18/2022 12:23 PM
To:

- Mohammad Haghighi <mohammad.haghighi@mail.utoronto.ca>;
- Abigail Rosenson <abigail.rosenson@rsginc.com>

Cc:

- Eric Miller <eric.miller@utoronto.ca>

Hi Eric (and Mohammad),

I apologize for the delay getting back to you. We are quite busy. Before we go further into the details, we should talk about how much funding if available to do this work. Regardless of sample size, the base cost for an rMove survey is **$85,000** USD, with only minor modifications to our standard questionnaire (e.g., travel modes). This includes setting up the database(s), minor modifications to the survey instruments, internal survey testing, minimal consulting on participant invitation materials / frequently asked questions, data monitoring while in field (up to six weeks), and a standard unweighted data deliverable and a codebook (i.e., data dictionary). It excludes sample planning, recruitment, participant support, incentives and data weighting – and includes up to 500 delivered households.

There are obviously some economies of scale for larger sample sizes, but there is a minimum to launch one of these, and I want to make sure we are in the ballpark for funding availability.

Thanks.
Michelle

From: Mohammad Haghighi <mohammad.haghighi@mail.utoronto.ca>
Sent: Monday, July 18, 2022, 10:40 AM
To: Abigail Rosenson <abigail.rosenson@rsginc.com>; Michelle Lee <Michelle.Lee@rsginc.com>
Cc: Eric Miller <eric.miller@utoronto.ca>
Subject: Re: rMove Test Opportunity

TravelVU:

Sv: Travel Survey Using TravelVu

Emeli Adell <emeli.adell@trivector.se>
Thu 4/7/2022 6:20 AM
To:

- Mohammad Haghighi <mohammad.haghighi@mail.utoronto.ca>;
- Kristen Koehler <kristen.koehler@trivector.se>

Dear Mohammad,

Thank you for the meeting and the information below. We've been discussing with our development team and calculating the costs.

We are quite fully booked with work until the summer, so we could start working with this by mid-August. Data collection start in September is thus too early according to our experience. The cost of data collection according to your description (1-3) below is about **350 000 SEK (about 46 400 CAD)**. However, if development is needed to fit your need of respondent's schedule, cost for this will need to be added. I'm not sure whether the options in the questionnaire will be enough for you or if there is some new type of question needed.

1) Survey set up by you:
Our questionnaire and travel diary tracking are not much different from what you have in your "Donate Data" survey. The only additions are a few parts on the "Survey" module for the respondent's schedule on days of the week and a pop-up message (like the one you mentioned for online shopping) for editing the schedule at the end of each day.

2) Number of subjects:
We are going to contact the people who will participate in Toronto's main travel survey and show willingness to cooperate in follow-up surveys and hope to receive approximately 1500 responses.

3) Length of survey:
We are planning to conduct the whole survey over one to two months (depending on the response rate) in Fall 2022 (Sep-Dec). However, each respondent will be tracked for one week only.

About the data collection lake set up in Canada: An estimate is **100 000 SEK (about 13 250 CAD)**. However, the easiest, safest, and cost-effective way to do this is if we make a copy of the analysing server in Canada, then data never has to leave Canada, thus eliminating any problems with moving data in and ***out*** of EU. To make this work, we will realise a separate TravelVu-app for Canada. As such, we will need to do this since it will contain our intellectual property.

Best regards
Emeli

Emeli Adell, PhD
Head of business area Future Transport Systems

Trivector | Lund | Stockholm | Göteborg | Luleå
Vävaregatan 21, SE-222 36 Lund/Sweden
Direct +46 (0)10-456 56 22
www.trivector.se

Fabrique des mobilités Québec

7275, rue Saint-Urbain
Bureau 200
Montréal, QC H2R 2Y5
Canada

Using Ma Mobilité for THATS project University of Toronto

Final Quotation

March 07, 2023

Task	Task description	Estimate in hours	Total in CAD
How to install the app	Create a video of how to install and configure the app for both android and IOS in English	10	
Update the privacy policy and terms of use	Integrate THATS project in the terms of use and the privacy policy to indicate how the data are shared	10	
Project management	Preparation of the agreement, coordination meetings, testing the integrations, weekly experiment monitoring and validate the data is exported correctly	45	
Customize the sign up application	Integrate a questionnaire in the app in order to fill the Email and the project associated, associate the data of THATS to a specific server	40	
Daily notifications	Daily notification to remember users to complete surveys and labellisation. Home activities, begin and end of the day location, online shopping and delivery, feedback, and further sociodemographic information.	15	

	Add email configuration with email service to send emails with a custom text	10	
Link to daily survey in dairy tab	Display daily survey and insert date and user id. Same as subscription page	20	
Customize the app	Add more elements in the dropdown labellisation in the trip component in the diary.	20	
Access to FTP	Give access to FTP folder containing exports	1	
Quality assurance	Project quality assurance (20% of technical tasks)	21	
Total hours		**192**	**$25 920,00**
Server cost for 1000 users	Based on our usage a 2 CPU / 4 GBserver is enough for 100 users (having their data analyzed). A estimate for 1000 users would be a 20 CPU-Optimized, Dedicated CPU, 32 vCPUs 64 GB 60 GB 9 TB $700/a month	700*3	$2 100,00
Total			**$28 020,00**

MOTIONTAG Record for University of Toronto

from	MOTIONTAG GmbH Rudolf-Breitscheid-Str. 162 14482 Potsdam Germany (hereinafter referred to as "MOTIONTAG")
to	University of Toronto 27 King's College Cir Toronto, ON M5S Canada (hereinafter referred to as "Client“)

Offer number	2022-Toronto-001
Author(s)	Jennifer Kunz (MOTIONTAG) | jennifer.kunz@motion-tag.com
Version	0.1
Offer valid until	31 Nov 2022
Last change	4 Nov 2022
Last change by	Jennifer Kunz (MOTIONTAG)

The general terms and conditions in the version valid at the time of the order shall apply.

Background

MOTIONTAG provides a software solution as an SDK (hereafter "MOTIONTAG Record") that will be used to detect people's mobility behaviors to support features inside the client's app. The software detects tracks and locations of the app users and automatically recognizes the mode of transport used.

The client will use the existing ETH TimeUse+ application, which uses MOTIONTAG Record.

Offer Overview

1. Contract period	
Contract term	One year after the start of term
2. Booked functionalities: out of all modules presented in Annex 1: General product modules	
2.1. Input module	MOTIONTAG Record
2.2. Detection modules	Tracks with transport mode
2.3. Output modules	Sync API - to access data of all users and maintain a copy of all users' storyline data on the customer backend

Fee overview

Booked Services	Unit	Quantity / Duration	Price per Unit	Total (net)
Service fee Monthly fee for the use of the MOTIONTAG services (SDK usage with detection modules and selected output modules)	Month	3	5,000 €	15,000 €
Volume package fee XXS (180.000 User-days) Mobility detection service incl. Support according to the SLA	Package	1	18,000 €	18,000 €
Total (net)				**33,000 €**

The daily rate for additional development and other services amounts to 900 EUR. All amounts are without VAT.

The contract shall initially be effective for a fixed period as specified in the table above. After the expiry of such initial term, the contract shall be effective for an indefinite period unless it is terminated upon six weeks' notice at the end of the initial term or, thereafter, at the end of a calendar quarter.

The Client is aware that MOTIONTAG also uses the SDK Data for its own purposes and is to this extent solely responsible to the end users. The Client undertakes to support MOTIONTAG in this respect by providing the end users with the relevant documents and information (see Annex 3) in a form as requested by MOTIONTAG.

Payment plan

The total amount shall be split into two tranches:

- 50% of the total amount upon signature of the offer;
- 50% of the total amount once the tracking starts.

Overview of standard pricing elements

This overview shows the pricing for the booked services. Additional modules shall be booked separately.

Volume Package

XS	S	M	L	XL
User Days **360,000**	User Days **1,000,000**	User Days **3,600,000**	User Days **10,800,000**	User Days **36,000,000**
€30,000	**€60,000**	**€80,000**	**€150,000**	**€300,000**
€0.083 per user day*	€0.060 per user day*	€0.022 per user day*	€0.014 per user day*	€0.008 per user day*

+

Service Fee per month

Service Fee
+ €5,000
For every month you have used our services

*1 user day corresponds to 1 day during which 1 user is tracked (Tracked = Delivered at least one data point) Eg. Tracking 1,000 users for 30 days corresponds to 30,000 user-days. Tracking 500 users for 60 days corresponds to 30,000 user-days as well. 1,000 users tracked everyday for 360 days makes 360,000 user-days

Overview of the use of data

1. Use of data on behalf of Client:

In order to provide our services and do technical support we are processing the data collected by the SDK on behalf of the Client. For this purpose, the Parties shall conclude a Data Processing Agreement, in which the Data Processing on behalf of the Client is regulated in more detail.

2. Use of data through Client:

The Client is obliged to comply with the applicable laws vis-à-vis the end users of the Apps and, in particular, to provide the required data protection information.

License for Interactive API (Storyline, Calendar): These API endpoints allow to retrieve a part of the storyline of a single user. It is meant for interactive use, such as displaying a list of tracks and stays on a map in a mobile app. The license does not allow for batch API calls and batch processing of data across multiple end users, not for caching or storing user data outside the end user's device.

License for Sync API: The Synchronization API is designed for full synchronization of the complete storyline of all users. Meant to be implemented by customers that run their own backend service and want to maintain a full copy of all their user's storyline on their backend service for CLIENT's own purposes.

Further agreements and annexes

The Annexes to this offer form an integral part of the contract. In the event of any conflict between the following documents, the following order of precedence shall apply between them:

1. This offer
2. Annex 1: DPA
3. Annex 2: General Terms and Conditions

Client	**MOTIONTAG**
_____	_____
Place, date	Place, date
_____	_____
Signature	Signature
_____	_____
Name of signatory	Name of signatory

14.2 Appendix B (THATS Test Survey Feedback Sheet)

Appendix B:

THATS Test Survey Feedback Sheet

Appendix B: *THATS* Test Survey Feedback Sheet

Your full name:
Your Email:
Smartphone used: iPhone ☐ Android ☐

*Note that Day 0 is the day you receive the invitation and install the app. Day 1 is the day after installation.

The table below contains the different stages of the survey with four columns.

- **Columns 1&2:** The stage and its description.
- **Column 3:** Timing. **Write day & date + state if the stage (Email, Notification, Link, Trips) has been delivered on time or not.**
- **Column 4: For your feedback comments** on the questions being asked: Whether or not they are too detailed, time-consuming, repetitive, or frustrating. Please be honest (not kind) in your comments and have in mind that in the main survey, a $20 gift card will be provided to each respondent (each household member) upon completion of the survey.

Stage	Description	Timing				Feedback
		Day#	Day & Date	Time	Delivered On time? (If not, explain)	
Invitation email	Inviting you to participate with a registration code	0*	....., ...	*TBA*		
Sign-up survey	Sociodemographics and Mobility tools of the household	Please Complete the signup survey right after receiving the invitation email				
Instruction email	How to install and configure the application	You'll receive this email right after submitting the sign-up survey				
Application Installation	Install and configure the app based on the instruction email and receive a thank you email	Please install the app right after receiving the instruction email		After installing the app		
Day 1	App notification asking to label trips and complete daily survey	1	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page			9:00 PM		
	Reminder email asking to label trips and complete daily survey			9:10-30 PM		
	Trips of the day should have been tracked	Give us feedback				
	The content of the daily survey (Activity Diary)					

Stage	Description	Timing				Feedback
		Day#	Day & Date	Time	Delivered On time? (If not, explain)	
Day 2	App notification asking to label trips and complete daily survey 	2	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page 			9:00 PM		
	Reminder email asking to label trips and complete daily survey 			9:10-30 PM		
	Trips of the day should have been tracked 	Give us feedback				
	The content of the daily survey (Activity Diary) 					
Day 3	App notification asking to label trips and complete daily survey 	3	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page 			9:00 PM		
	Reminder email asking to label trips and complete daily survey 			9:10-30 PM		
	Trips of the day should have been tracked 	Give us feedback				
	The content of the daily survey (Activity Diary) 					

Stage	Description	Timing				Feedback
		Day#	Day & Date	Time	Delivered On time? (If not, explain)	
Day 4	App notification asking to label trips and complete daily survey	4	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page			9:00 PM		
	Reminder email asking to label trips and complete daily survey			9:10-30 PM		
	Trips of the day should have been tracked	Give us feedback				
	The content of the daily survey (Activity Diary)					
	The content of the daily survey (*Leisure Resources Questions*)					
Day 5	App notification asking to label trips and complete daily survey	5	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page			9:00 PM		
	Reminder email asking to label trips and complete daily survey			9:10-30 PM		
	Trips of the day should have been tracked	Give us feedback				
	The content of the daily survey (Activity Diary)					
	The content of the daily survey (*Scheduling and Expenses*)					

Stage	Description	Timing				Feedback
		Day#	Day & Date	Time	Delivered On time? (If not, explain)	
Day 6	App notification asking to label trips and complete daily survey 	6	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page 			9:00 PM		
	Reminder email asking to label trips and complete daily survey 			9:10-30 PM		
	Trips of the day should have been tracked 	Give us feedback				
	The content of the daily survey (Activity Diary) 					
	The content of the daily survey (*MaaS SP*) 					
Day 7	App notification asking to label trips and complete daily survey 	7	....., ...	9:00 PM		
	Link to daily survey should appear on the diary page 			9:00 PM		
	Reminder email asking to label trips and complete daily survey 			9:10-30 PM		
	Trips of the day should have been tracked 	Give us feedback				
	The content of the daily survey (Activity Diary) 					
	The content of the daily survey (*Feedback*) 					

Stage	Description	Timing				Feedback
		Day#	Day & Date	Time	Delivered On time? (If not, explain)	
The end	A notification from the app asking to label all trips and complete all daily surveys and then delete the app 	8	....., ...	9:00 PM		
	An email asking to label all trips and complete all daily surveys and then delete the app 			9:00 PM		
Delete reminder	An email asking to delete the app after making sure all trips are labeled and all daily surveys are completed 	10	....., ...	9:00 PM		

If you have any other comments about the entire survey or any part of that, please leave that in the box below.

14.3 Appendix C (Sample Answer to Sign-Up Survey)

Appendix C:

Sample Answer to the Sign-Up Survey

Time. Timing

This question was not displayed to the respondent.

Meta. Click to write the question text

This question was not displayed to the respondent.

Q1. Welcome to our study!
We highly appreciate your interest in participating in this survey.

Before you start filling out the questionnaire, we would like to ask you to read the information about the study carefully and then accept the consent form. For further questions, please contact thats@utoronto.ca.

Click on the arrow to continue.

Q2. **Study information**

The *THATS* (Toronto Household Activity-Travel Survey) project consists of two parts:
1. This survey. We will ask you to provide some background information regarding yourself and your household and what kind of mobility tools you own and use.
2. The second part is done using a smartphone application, which will track your mobility and ask you to validate your trips and answer a few questions about your activities in a daily survey at the end of each day. You will be required to use the application for **7 days total**. Instructions on how to get started with the mobile application will be provided at the end of this survey and supplementary materials can be found on our website.

As a sign of gratitude for completing this study, you will be considered for the incentive you received the information about in the invitation email.

Are you interested in participating in the *THATS* smartphone study?

- (●) Yes, I would like to participate in THATS.

Q3. **Consent form**

1. I have read the Participant Information Sheet and Data Privacy Policy.
2. Questions related to my participation in this study, if any, have been answered in a satisfactory manner.
3. I am aware of the objectives, the timeframe of the study, and the type of data to be collected.
4. I choose to voluntarily participate in this study.
5. I can revoke my consent to participate at any time without stating any reason and without incurring any penalty.
6. I have read and understood the minimum requirements to qualify for the incentive.

7. I had enough time to make my decision.
8. I agree that the responsible investigators and/or members of the Research Ethics Program at the University of Toronto may have confidential access to my data to help ensure participants' protection procedures are followed.

- (●) I consent and would like to continue.

Q4. Thanks for your interest in the *THATS* smartphone study!
Click on the arrow to start the survey

Q1. We first need to ask you a couple of questions to make sure you are eligible for participation.

Q2. In order to participate in this study you need to have an **iOS (iPhone) or Android smartphone**.

- (●) I have an iOS (iPhone) or Android smartphone

Q3. In order to participate in this study, you must be capable of walking 200m without assistance.

- (●) I am capable of walking 200m without assistance

Q4. In order to participate in this study, you must **not** be staying outside the GTHA for **more than three nights over the next 7 days**.

- (●) I will not be staying outside the GTHA for more than two nights over the next 7 days

Q4. Great, you're eligible to participate in our study! The following questions allow you to provide some information about yourself. Click on the arrow to continue.

Q1. In this section, we will ask you a few questions about your place of residence and your household.

What type of place is your current residence?

- ( ) Single-family detached house
- ( ) Secondary suite (e.g., basement suite, garage apartment)
- ( ) Duplex, triplex, or fourplex
- ( ) Townhouse
- ( ) Apartment/Condo building that has up to 4 stories
- (●) Apartment/Condo building that has 5+ stories

- ○ Mobile home, manufactured home, or RV
- ○ Rooming house, collective residence, dormitory
- ○ Other

Q1-2.
Which of the following describes your current residential situation?

- ◉ I rent my home
- ○ I share rent with a roommate(s)
- ○ I live in a housing cooperative or dormitory
- ○ I own my home and pay a mortgage
- ○ I own my home and have paid it off fully
- ○ Other (please specify):

Q2. Please enter your home postal code.

M4Y1R5

Q3. How many people live in your (main) household at least 4 days a week (yourself included)?

Household Size: 4

Q4. Please provide an initial/nickname for people **OTHER THAN YOU** in your household. (The initial/nickname should be unique for each person).
This will help you save time as you take the survey.
If there are more than 10 people living in your household, answer this and the following questions for the **oldest 9** except you.

Household member #1: Wife

Q5.

Household member #2: Son

Q6.

Household member #3 | Daughter

Q7.

This question was not displayed to the respondent.

Q8.

This question was not displayed to the respondent.

Q9.

This question was not displayed to the respondent.

Q10.

This question was not displayed to the respondent.

Q11.

This question was not displayed to the respondent.

Q12.

This question was not displayed to the respondent.

Q13. Last year, what was your household's (related members only: do not include roommate, household help, etc.) total annual income (from all sources, before taxes/deductions from pay)?
We ask this question to help understand how closely the people who participate in this study represent the GTHA population as a whole.

- ○ Under $20,000
- ○ $20,000-$39,999
- ○ $40,000-$59,999
- ○ $60,000-$79,999
- ○ $80,000-$99,999
- ◉ $100,000-$124,999
- ○ $125,000-$149,999
- ○ $150,000-$199,999
- ○ $200,000 or more
- ○ Prefer not to answer

Q14. Which of the following best describes you?
Select all that apply.

- [ ] African (e.g., Kenyan, Ethiopian, Nigerian)
- [ ] Asian - East Asian (e.g., Chinese, Japanese, Korean, etc.)
- [ ] Asian – Southeast Asian (e.g., Cambodian, Filipino, Indonesian, Malaysian, Singaporean, Thai, Vietnamese, etc.)
- [ ] Asian - South Asian (e.g., Indian, Pakistani, Sri Lankan, Bangladeshi, etc.)
- [ ] Caribbean (e.g., Jamaican, Barbadian, West Indian, etc.)
- [ ] Indigenous (First Nations, Inuit, Métis, etc.)
- [ ] Latin, Central and South American (e.g., Mexican, Argentinian, Guatemalan, Peruvian, Cuban, etc.)
- [ ] Middle Eastern/North African (e.g., Afghan, Arab, Egyptian, Iranian, Lebanese, Kurdish, Moroccan, Turkish, other West Asian, etc.)
- [ ] Oceanian (Australian, New Zealander, Samoan, Fijian, etc.)
- [x] White (European descent – English, French, German, Italian, Ukrainian, etc.)
- [ ] Other
- [ ] Don't know
- [ ] Prefer not to say

QI. In this section, we will ask you a few questions about your household members.

Q1. What is each person's relationship to you?

Wife

Husband/wife/spouse

Q2. Son

Son/daughter

Q3. Daughter

Son/daughter

Q4.

This question was not displayed to the respondent.

Q5.

This question was not displayed to the respondent.

Q6.

This question was not displayed to the respondent.

Q7.

This question was not displayed to the respondent.

Q8.

This question was not displayed to the respondent.

Q9.

This question was not displayed to the respondent.

Q10. How old is each person? (Please enter a number between 1 and 99)

You	42

Q11.

Wife	39

Q12.

Son	18

Q13.

Daughter	12

Q14.

This question was not displayed to the respondent.

Q15.

This question was not displayed to the respondent.

Q16.

This question was not displayed to the respondent.

Q17.

This question was not displayed to the respondent.

Q18.

This question was not displayed to the respondent.

Q19.

This question was not displayed to the respondent.

Q20. What is each person's gender?

You

Male

Q21. Wife

Female

Q22. Son

Male

Q23. Daughter

Female

Q24.

This question was not displayed to the respondent.

Q25.

This question was not displayed to the respondent.

Q26.

This question was not displayed to the respondent.

Q27.

This question was not displayed to the respondent.

Q28.

This question was not displayed to the respondent.

Q29.

This question was not displayed to the respondent.

Q30. What is each person’s highest completed level of education?

Q31. You

University Master’s degree or Doctorate

Q32. Wife

University Bachelor’s degree

Q33. Son

High school

Q34. Daughter

This question was not displayed to the respondent.

Q35.

This question was not displayed to the respondent.

Q36.

This question was not displayed to the respondent.

Q37.

This question was not displayed to the respondent.

Q38.

This question was not displayed to the respondent.

Q39.

This question was not displayed to the respondent.

Q40.

This question was not displayed to the respondent.

Q41. What is each person’s current employment status?

Q42. You

Employed (Full-time)

Q43. Wife

Employed (Part-time)

Q44. Son

Not employed (or retired)

Q45. Daughter

This question was not displayed to the respondent.

Q46.

This question was not displayed to the respondent.

Q47.

This question was not displayed to the respondent.

Q48.

This question was not displayed to the respondent.

Q49.

This question was not displayed to the respondent.

Q50.

This question was not displayed to the respondent.

Q51.

This question was not displayed to the respondent.

Q52. As of today, how many jobs does each person have?

Q53. You

1

Q54. Wife

1

Q55. Son

This question was not displayed to the respondent.

Q56. Daughter

This question was not displayed to the respondent.

Q57.

This question was not displayed to the respondent.

Q58.

This question was not displayed to the respondent.

Q59.

This question was not displayed to the respondent.

Q60.

This question was not displayed to the respondent.

Q61.

This question was not displayed to the respondent.

Q62.

This question was not displayed to the respondent.

Q63. As of today, which of the following best describes each person’s CURRENT work location? (If someone has more than one job, please answer for the job where they work the most hours)

Q64. You

Fixed location (outside home)

Q65. Wife

Fixed location (outside home) and telework some days

Q66. Son

This question was not displayed to the respondent.

Q67. Daughter

This question was not displayed to the respondent.

Q68.

This question was not displayed to the respondent.

Q69.

This question was not displayed to the respondent.

Q70.

This question was not displayed to the respondent.

Q71.

This question was not displayed to the respondent.

Q72.

This question was not displayed to the respondent.

Q73.

This question was not displayed to the respondent.

Q74. Are each person’s working hours fixed or scheduled before each week starts? (If someone has more than one job, please answer for the job where they work the most hours)

Q75. You

Fixed working hours

Q76. Wife

Working hours scheduled before each week starts

Q77. Son

This question was not displayed to the respondent.

Q78. Daughter

This question was not displayed to the respondent.

Q79.

This question was not displayed to the respondent.

Q80.

This question was not displayed to the respondent.

Q81.

This question was not displayed to the respondent.

Q82.

This question was not displayed to the respondent.

Q83.

This question was not displayed to the respondent.

Q84.

This question was not displayed to the respondent.

Q85. Currently, how many hours does each person work TOTAL per week on average?

Q86. You

40-49 hours

Q87. Wife

20-29 hours

Q88. Son

This question was not displayed to the respondent.

Q89. Daughter

This question was not displayed to the respondent.

Q90.

This question was not displayed to the respondent.

Q91.

This question was not displayed to the respondent.

Q92.

This question was not displayed to the respondent.

Q93.

This question was not displayed to the respondent.

Q94.

This question was not displayed to the respondent.

Q95.

This question was not displayed to the respondent.

Q96. Currently, what is each person’s occupation? (If someone has more than one job, please answer for the job where they work the most hours)

Q97. You

Professionals in business, finance, natural and applied sciences

Q98. Wife

Technical and Paraprofessional

Q99. Son

This question was not displayed to the respondent.

Q100. Daughter

This question was not displayed to the respondent.

Q101.

This question was not displayed to the respondent.

Q102.

This question was not displayed to the respondent.

Q103.

This question was not displayed to the respondent.

Q104.

This question was not displayed to the respondent.

Q105.

This question was not displayed to the respondent.

Q106.

This question was not displayed to the respondent.

Q107. As of today, which adults (15+) are enrolled as a student?

Q108. You

Not a student

Q109. Wife

Not a student

Q110. Son

Full-time student, currently attending some or all classes in-person

Q111. Daughter

This question was not displayed to the respondent.

Q112.

This question was not displayed to the respondent.

Q113.

This question was not displayed to the respondent.

Q114.

This question was not displayed to the respondent.

Q115.

This question was not displayed to the respondent.

Q116.

This question was not displayed to the respondent.

Q117.

This question was not displayed to the respondent.

Q118. As of today, in what grade or type of school is each person enrolled?

Q119. You

This question was not displayed to the respondent.

Q120. Wife

This question was not displayed to the respondent.

Q121. Son

College (e.g., George Brown College)

Q122. Daughter

Kindergarten to Grade 6

Q123.

This question was not displayed to the respondent.

Q124.

This question was not displayed to the respondent.

Q125.

This question was not displayed to the respondent.

Q126.

This question was not displayed to the respondent.

Q127.

This question was not displayed to the respondent.

128.

This question was not displayed to the respondent.

QI. In this section, we will ask you a few questions about your mobility.

Q1. Does each person in your household have a driving license for passenger cars (G2/G)?

Q2. You

Yes

Q3. Wife

Yes

Q4. Son

Yes

Q5. Daughter

This question was not displayed to the respondent.

Q6.

This question was not displayed to the respondent.

Q7.

This question was not displayed to the respondent.

Q8.

This question was not displayed to the respondent.

Q9.

This question was not displayed to the respondent.

Q10.

This question was not displayed to the respondent.

Q11.

This question was not displayed to the respondent.

Q12. Does each person in your household have a driving license for motorcycles (M2/M)?

Q13. You

Yes

Q14. Wife

No

Q15. Son

No

Q16. Daughter

This question was not displayed to the respondent.

Q17.

This question was not displayed to the respondent.

Q18.

This question was not displayed to the respondent.

Q19.

This question was not displayed to the respondent.

Q20.

This question was not displayed to the respondent.

Q21.

This question was not displayed to the respondent.

Q22.

This question was not displayed to the respondent.

Q23. Does each person have a monthly or annual transit pass?
A transit pass is a product that allows unlimited travel for a month or a year. **Do not** take tickets, daily transactions using Presto e-purse/ticket, or weekly passes into account.

Q24. You

No

Q25. Wife

No

Q26. Son

Yes

Q27. Daughter

No

Q28.

This question was not displayed to the respondent.

Q29.

This question was not displayed to the respondent.

Q30.

This question was not displayed to the respondent.

Q31.

This question was not displayed to the respondent.

Q32.

This question was not displayed to the respondent.

Q33.

This question was not displayed to the respondent.

Q34. Does each of your household members have a subscription to a bike sharing service (e.g., Bike Share Toronto)?

Q35. You

Yes

Q36. Wife

No

Q37. Son

Yes

Q38. Daughter

This question was not displayed to the respondent.

Q39.

This question was not displayed to the respondent.

Q40.

This question was not displayed to the respondent.

Q41.

This question was not displayed to the respondent.

Q42.

This question was not displayed to the respondent.

Q43.

This question was not displayed to the respondent.

Q44.

This question was not displayed to the respondent.

Q34-2. Does each of your household members have a subscription to a car-rental/car-sharing service (e.g., Communauto, Zipcar, Turo, ...)?

Q35-2. You

Yes

Q36-2. Wife

Yes

Q37-2. Son

No

Q38-2. Daughter

This question was not displayed to the respondent.

Q39-2.

This question was not displayed to the respondent.

Q40-2.

This question was not displayed to the respondent.

Q41-2.

This question was not displayed to the respondent.

Q42-2.

This question was not displayed to the respondent.

Q43-2.

This question was not displayed to the respondent.

Q44-2.

This question was not displayed to the respondent.

Q45. How many registered cars are in your household?
Include all cars, trucks, and vans whether owned or leased or provided by an employer. Please do NOT include any recreational vehicles, ATVs, snowmobiles, or the like.
If you have more than 8 cars, please answer the following questions about the 8 most used ones.

1

Q46. What is the model year of each of your car(s)?

Car #1

2020

Q47. Car #2

This question was not displayed to the respondent.

Q48. Car #3

This question was not displayed to the respondent.

Q49. Car #4

This question was not displayed to the respondent.

Q50. Car #5

This question was not displayed to the respondent.

Q51. Car #6

This question was not displayed to the respondent.

Q52. Car #7

This question was not displayed to the respondent.

Q53. Car #8

This question was not displayed to the respondent.

Q54. What kind of fuel does each of your car(s) use?

Car #1 (2020)

Gasoline

Q55. Car #2 ()

This question was not displayed to the respondent.

Q56. Car #3 ()

This question was not displayed to the respondent.

Q57. Car #4 ()

This question was not displayed to the respondent.

Q58. Car #5 ()

This question was not displayed to the respondent.

Q59. Car #6 ()

This question was not displayed to the respondent.

Q60. Car #7 ()

This question was not displayed to the respondent.

Q61. Car #8 ()

This question was not displayed to the respondent.

Q62. Which size category applies best to your car(s)?

Car #1 (2020)

Medium to large car (e.g., Toyota Camry or Audi A4)

Q63. Car #2 ()

This question was not displayed to the respondent.

Q64. Car #3 ()

This question was not displayed to the respondent.

Q65. Car #4 ()

This question was not displayed to the respondent.

Q66. Car #5 ()

This question was not displayed to the respondent.

Q67. Car #6 ()

This question was not displayed to the respondent.

Q68. Car #7 ()

This question was not displayed to the respondent.

Q69. Car #8 ()

This question was not displayed to the respondent.

Q70. How many residential parking spots do you own/use?
Include residential on-street parking spot(s) and the parking spots that you don't use for parking your vehicles (e.g., a garage used as a storage unit).
If you have more than 8 parking spots, please answer the following questions about the 8 most used ones.

1

Q71. Which of the following parking types can best describe each of your residential parking spots?

Spot #1

Residential underground parking

Q72. Spot #2

This question was not displayed to the respondent.

Q73. Spot #3

This question was not displayed to the respondent.

Q74. Spot #4

This question was not displayed to the respondent.

Q75. Spot #5

This question was not displayed to the respondent.

Q76. Spot #6

This question was not displayed to the respondent.

Q77. Spot #7

This question was not displayed to the respondent.

Q78. Spot #8

This question was not displayed to the respondent.

Q79. You selected 'Other' for spot #1. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q80. You selected ‘Other’ for spot #2. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q81. You selected ‘Other’ for spot #3. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q82. You selected ‘Other’ for spot #4. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q83. You selected ‘Other’ for spot #5. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q84. You selected ‘Other’ for spot #6. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q85. You selected ‘Other’ for spot #7. Please tell us more about your type of parking.

This question was not displayed to the respondent.

Q86. You selected ‘Other’ for spot #8. Please tell us more about your type of parking.

This question was not displayed to the respondent.

87. Where is each of your residential parking spots located?

Spot #1 (Residential underground parking)

At home

Q88. Spot #2 ()

This question was not displayed to the respondent.

Q89. Spot #3 ()

This question was not displayed to the respondent.

Q90. Spot #4 ()

This question was not displayed to the respondent.

Q91. Spot #5 ()

This question was not displayed to the respondent.

Q92. Spot #6 ()

This question was not displayed to the respondent.

Q93. Spot #7 ()

This question was not displayed to the respondent.

Q94. Spot #8 ()

This question was not displayed to the respondent.

Q95. How much [$] do you spend on each parking spot monthly? (Please enter 0 if it is free)

Spot #1 (Residential underground parking)

200

Q96. Spot #2 ()

This question was not displayed to the respondent.

Q97. Spot #3 ()

This question was not displayed to the respondent.

Q98. Spot #4 ()

This question was not displayed to the respondent.

Q99. Spot #5 ()

This question was not displayed to the respondent.

Q100. Spot #6 ()

This question was not displayed to the respondent.

Q101. Spot #7 ()

This question was not displayed to the respondent.

Q102. Spot #8 ()

This question was not displayed to the respondent.

Q103. What type of parking do you use overnight for each of your household vehicles? (Select all that apply) Car #1 (2020)

- [x] Spot #1 (Residential underground parking)
- [ ] Spot #2 ()
- [ ] Spot #3 ()
- [ ] Spot #4 ()
- [ ] Spot #5 ()
- [ ] Spot #6 ()
- [ ] Spot #7 ()
- [ ] Spot #8 ()

Q104. Car #2 ()

This question was not displayed to the respondent.

Q105. Car #3 ()

This question was not displayed to the respondent.

Q106. Car #4 ()

This question was not displayed to the respondent.

Q107. Car #5 ()

This question was not displayed to the respondent.

Q108. Car #6 ()

This question was not displayed to the respondent.

Q109. Car #7 ()

This question was not displayed to the respondent.

Q110. Car #8 ()

This question was not displayed to the respondent.

Q111. Does each of your household members have an at-work parking permit(s)?

Q112. You

Yes

Q113. Wife

No

Q114. Son

This question was not displayed to the respondent.

Q115. Daughter

This question was not displayed to the respondent.

Q116.

This question was not displayed to the respondent.

Q117.

This question was not displayed to the respondent.

Q118.

This question was not displayed to the respondent.

Q119.

This question was not displayed to the respondent.

Q120.

This question was not displayed to the respondent.

Q121.

This question was not displayed to the respondent.

Q122. How much [$] does each person with an at-work parking permit pay for that monthly? (Please enter 0 if it is free)

Q123. You

0

Q124. Wife

This question was not displayed to the respondent.

Q125. Son

This question was not displayed to the respondent.

Q126. Daughter

This question was not displayed to the respondent.

Q127.

This question was not displayed to the respondent.

Q128.

This question was not displayed to the respondent.

Q129.

This question was not displayed to the respondent.

Q130.

This question was not displayed to the respondent.

Q131.

This question was not displayed to the respondent.

Q132.

This question was not displayed to the respondent.

Q133. Does each of your household members have a student parking permit(s)?

Q134. You

This question was not displayed to the respondent.

Q135. Wife

This question was not displayed to the respondent.

Q136. Son

No

Q137. Daughter

This question was not displayed to the respondent.

Q138.

This question was not displayed to the respondent.

Q139.

This question was not displayed to the respondent.

Q140.

This question was not displayed to the respondent.

Q141.

This question was not displayed to the respondent.

Q142.

This question was not displayed to the respondent.

Q143.

This question was not displayed to the respondent.

Q144. How much [$] does each person with an student parking permit pay for that monthly? (Please enter 0 if it is free)

This question was not displayed to the respondent.

Q145. You

This question was not displayed to the respondent.

Q146. Wife

This question was not displayed to the respondent.

Q147. Son

This question was not displayed to the respondent.

Q148. Daughter

This question was not displayed to the respondent.

Q149.

This question was not displayed to the respondent.

Q150.

This question was not displayed to the respondent.

Q151.

This question was not displayed to the respondent.

Q152.

This question was not displayed to the respondent.

Q153.

This question was not displayed to the respondent.

Q154.

This question was not displayed to the respondent.

Q155. How many registered motorcycles are in your household?

0 (no motorcycles in my household)

Q156. How many bicycles (E-bike or regular) are in your household?

2

Q1. As a last step, please enter your email address below so that we can send you important information on how to get started.

thats@utoronto.ca

Q2. Please re-enter your email address to confirm.

thats@utoronto.ca

Q3. For the purposes of this study, it would be very helpful if we have the trip data of as many household adults as possible since the analysis is to be done at a household level.
Also, you can include your household adults (15+) in the incentive by inviting them to participate in the smartphone study (see the invitation email). They don't need to take this online survey. The only thing they need to do is to install the application on their smartphone following the instructions which will be emailed to them.

To participate they must:

- Have an Android or iOS smartphone.
- Be able to walk 200 meters without assistance.
- Not be staying outside the GTHA for more than two nights over the next 7 days.

Which of your household adults would you like to invite?

Q4.

◉ Wife

Q5.

◉ Son

Q6.

This question was not displayed to the respondent.

Q7.

This question was not displayed to the respondent.

Q8.

This question was not displayed to the respondent.

Q9.

This question was not displayed to the respondent.

Q10.

This question was not displayed to the respondent.

Q11.

This question was not displayed to the respondent.

Q12.

This question was not displayed to the respondent.

Q13.

◯ I would not like to invite any household members.

Q14. Please enter the email addresses of the invited household members.

Q15. Please enter Wife's email address

thats1@utoronto.ca

Q16. Please re-enter Wife's email address

thats1@utoronto.ca

Q17. Please enter Son's email address

thats2@utoronto.ca

Q18. Please re-enter Son's email address

thats2@utoronto.ca

Q19. Please enter Daughter's email address

This question was not displayed to the respondent.

Q20. Please re-enter Daughter's email address

This question was not displayed to the respondent.

Q21. Please enter 's email address

This question was not displayed to the respondent.

Q22. Please re-enter 's email address

This question was not displayed to the respondent.

Q23. Please enter 's email address

This question was not displayed to the respondent.

Q24. Please re-enter 's email address

This question was not displayed to the respondent.

Q25. Please enter 's email address

This question was not displayed to the respondent.

Q26. Please re-enter 's email address

This question was not displayed to the respondent.

Q27. Please enter 's email address

This question was not displayed to the respondent.

Q28. Please re-enter 's email address

This question was not displayed to the respondent.

Q29. Please enter 's email address

This question was not displayed to the respondent.

Q30. Please re-enter 's email address

This question was not displayed to the respondent.

Q31. Please enter 's email address

This question was not displayed to the respondent.

Q32. Please re-enter 's email address

This question was not displayed to the respondent.

Location Data

Location: (43.6638, -79.3999)

Source: GeoIP Estimation

14.4 Appendix D (Sample Answer to the Day-Specific Activity Diary Survey)

Appendix D:

Sample Answer to the Day-Specific Activity Diary Survey

First Click: 0
Last Click: 0
Page Submit: 2.995
Click Count: 0
Browser: Safari iPhone
Version: Unknown
Operating System: iPhone
Screen Resolution: 390x844
Flash Version: -1
Java Support: 0
User Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 16_5 like Mac OS X) AppleWebKit/605.1.15 (KHTML, like Gecko) Mobile/15E148

Date. June 8th 2023

This question was not displayed to the respondent.

ID. thats@utoronto.ca

This question was not displayed to the respondent.

QI. Welcome to the day 4 daily survey!

In this survey, we will ask you a few questions about your activities on **June 8th 2023**.

Please contact us at thats@utoronto.ca with any questions.

Please click on the arrow to start the survey.

Q1. HOME ACTIVITIES

This question was not displayed to the respondent.

Q2. First, we want to know about the activities you have done on **June 8th 2023**.

Please check the hours that you spent **outside home** from 12 am to 11:59 pm on **June 8th 2023**.

Please round to the nearest hour and select "at home __-__" if you have been at home an entire time period.

	12-1 am	1-2 am	2-3 am	3-4 am	4-5 am	5-6 am	At home 12-6 am
Before Morning (12-6 am)	☐	☐	☐	☐	☐	☐	☑

Q3. ----------

	6-7 am	7-8 am	8-9 am	9-10 am	10-11 am	11 am-12 pm	At home 6 am-12 pm
Morning (6 am - 12 pm)	☐	☑	☑	☑	☑	☑	☐

Q4. ----------

	12-13 pm	13-14 pm	14-15 pm	15-16 pm	16-17 pm	17-18 pm	At home 12-18 pm
Afternoon (12-18 pm)	☑	☑	☑	☑	☑	☑	☐

Q5. ----------

	18-19 pm	19-20 pm	20-21 pm	21-22 pm	22-23 pm	23-23:59 pm	At home 18-23:59 pm
Night (18-23:59 pm)	☑	☑	☑	☐	☐	☐	☐

Q6. Which of the following activities did you do when you were **at home** on **June 8th 2023** from 12 am to 11:59 pm? Select all that apply.

- ☑ Sleeping/Resting

- [ ] Self-care (Shower, Makeup, ...)
- [x] Eating
- [ ] Working from Home
- [x] Hobby/Leisure (Playing a Board Game, Reading a Book, ...)
- [x] Digital Entertainment (TV, Smartphone, Video Games, ...)
- [x] Housekeeping (Cooking, Home Cleaning, Doing the Dishes, Doing the Laundry, Gardening, ...)
- [ ] Caretaking (Children, Elderly, ...)
- [ ] Studying (For School or Work)
- [ ] Exercising
- [ ] Socializing (Having guests, Making calls, ...)
- [ ] Other 1
- [ ] Other 2

Q7. Approximately, when were you doing each of the activities you selected in the previous question? (Select **all** the hours during which you have been doing each activity)

	12-1am	1-2am	2-3am	3-4am	4-5am	5-6am	6-7am	7-8am	8-9am	9-10am	10-11am	11am-12pm	12-13pm	13-14pm	14-15pm	15-16pm	16-17pm	17-18pm	18-19pm	19-20pm	20-21pm	21-22pm	22-23pm	23-23:59pm
Sleeping/Resting	☐	☐	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Self-care (Shower, Makeup, ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Eating	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑
Working from Home	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hobby/Leisure (Playing a Board Game, Reading a Book, ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
Digital Entertainment (TV, Smartphone, Video Games, ...)	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑
Housekeeping (Cooking, Home Cleaning, Doing the Dishes, Doing the Laundry, Gardening, ...)	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
Caretaking (Children, Elderly, ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Studying (For School or Work)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Exercising	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Socializing (Having guests, Making calls, ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other 1 ()	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other 2 ()	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q8. OUT-OF-HOME ACTIVITIES

This question was not displayed to the respondent.

Q9. Did you go **out of home** to work and/or school on **June 8th 2023**? Select all that apply.

- [x] I went to work
- [ ] I went to school
- [ ] I didn't go to work or school.

Q10. Which of the following **out-of-home entertainment/recreation** activities did you do on **June 8th 2023**? Select all that apply.

- [x] Eating out (Restaurant, Bar, Coffee, ...)
- [ ] Visit friends/relatives at their residence
- [ ] Leisure/entertainment (e.g., night club, movies, amusement park, sports event as a spectator)

- [x] Jog or Bike
- [ ] Walk a dog
- [x] Go to the gym
- [ ] Library, hobby class or club (e.g. quilting, music, painting class/club)
- [x] Nature (e.g., hiking trails, provincial parks)
- [ ] Art, Historical, and Cultural (e.g., museum, historic site, performance such as a play or concert, festival or fair)
- [x] Play individual or team sports
- [ ] Family activities with kids
- [ ] Other entertainment 1 _____
- [ ] Other entertainment 2 _____
- [ ] I didn't do any entertainment activities on this day.

Q11. Which of the following types of **out-of-home shopping** did you do on **June 8th 2023**? Select all that apply.

- [x] Grocery Shopping
- [ ] Other routine shopping (e.g., convenience store)
- [ ] Window shopping or browsing
- [ ] Shopping for specialty items (e.g., clothing, jewelry)
- [ ] Shopping appliances or major items (e.g., new car)
- [ ] Got gas
- [ ] Other shopping _____
- [ ] I did not do any shopping on this day.

Q12. Which of the following **other out-of-home** activities did you do on **June 8th 2023**? Select all that apply.

- [ ] Appointment (Visiting a Doctor, a Lawyer, an Accountant, Barber, Hairdresser)
- [ ] Personal (Bank, Government Services, Dry Cleaning)
- [ ] Religious, Volunteering, or Civic
- [ ] Package/mail pick up/drop off
- [ ] Staying at a residence other than home (second home, or hotel)
- [ ] Other _____
- [x] I didn't do any of these activities on this day.

Q13. Approximately, when were you doing each of the activities you selected in the previous questions? (Select **all** the hours during which you have been doing each activity)

	12-1am	1-2am	2-3am	3-4am	4-5am	5-6am	6-7am	7-8am	8-9am	9-10am	10-11am	11am-12pm	12-13pm	13-14pm	14-15pm	15-16pm	16-17pm	17-18pm	18-19pm	19-20pm	20-21pm	21-22pm	22-23pm	23-23:59pm
Work	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐
School	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Eating out (Restaurant, Bar, Coffee, ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
Visit friends/relatives at their residence	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Leisure/entertainment (e.g., night club, movies, amusement park, sports event as a spectator)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Jog or Bike	☐	☐	☐	☐	☐	☐	☐	☑	☑	☐	☐	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐
Walk a dog	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Go to the gym	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐
Library, hobby class or club (e.g. quilting, music, painting class/club)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nature (e.g., hiking trails, provincial parks)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐
Art, Historical, and Cultural (e.g., museum, historic site, performance such as a play or concert, festival or fair)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Play individual or team sports	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Family activities with kids	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other entertainment 1 ()	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other entertainment 2 ()	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Grocery Shopping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐
Other routine shopping (e.g., convenience store)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Window shopping or browsing	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Shopping for specialty items (e.g., clothing, jewelry)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Shopping appliances or major items (e.g., new car)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Got gas	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other shopping ()	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Appointment (Visiting a Doctor, a Lawyer, an Accountant, Barber, Hairdresser)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Personal (Bank, Government Services, Dry Cleaning)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Religious, Volunteering, or Civic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Package/mail pick up/drop off	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staying at a residence other than home (second home, or hotel)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other ()	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q14. Please provide the required information for each of the activities you selected in the previous questions.

Q15. **Eating out (Restaurant, Bar, Coffee, ...)**
With whom? Select all that apply.

- ☑ Alone
- ☐ Spouse/Partner
- ☐ Children
- ☐ Parents, Siblings &/or Other Relatives
- ☐ Friends
- ☐ Other

Q16. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

12

Q17. When did you plan to do this activity?

Planned on the same day

Q18. **----------**
Visit friends/relatives at their residence
With whom? Select all that apply.

This question was not displayed to the respondent.

Q19. When did you plan to do this activity?

This question was not displayed to the respondent.

Q20. **----------**
Leisure/entertainment (e.g., night club, ...)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q21. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q22. When did you plan to do this activity?

This question was not displayed to the respondent.

Q23. **----------**
Jog or Bike
With whom? Select all that apply.

- [x] Alone
- [ ] Spouse/Partner
- [ ] Children
- [ ] Parents, Siblings &/or Other Relatives
- [ ] Friends
- [ ] Other

Q24. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

0

Q25. When did you plan to do this activity?

Planned earlier this week

Q26. **----------**
Walk a dog
With whom? Select all that apply.

This question was not displayed to the respondent.

Q27. When did you plan to do this activity?

This question was not displayed to the respondent.

Q28. **----------**
Go to the gym
With whom? Select all that apply.

- [ ] Alone
- [ ] Spouse/Partner
- [ ] Children
- [ ] Parents, Siblings &/or Other Relatives
- [ ] Friends
- [x] Other

Q29. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

0

Q30. When did you plan to do this activity?

Planned on the same day

Q31. **----------**
Library, hobby class or club
With whom? Select all that apply.

This question was not displayed to the respondent.

Q32. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q33. When did you plan to do this activity?

This question was not displayed to the respondent.

Q34. **----------**
Nature (e.g., hiking trails, ...)
With whom? Select all that apply.

- [x] Alone
- [ ] Spouse/Partner
- [ ] Children
- [ ] Parents, Siblings &/or Other Relatives
- [ ] Friends
- [ ] Other

Q35. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

0

Q36. When did you plan to do this activity?

Planned before this week starts

Q37. **----------**
Art, Historical, and Cultural
With whom? Select all that apply.

This question was not displayed to the respondent.

Q38. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q39. When did you plan to do this activity?

This question was not displayed to the respondent.

Q40. **----------**
Play individual or team sports
With whom? Select all that apply.

- [ ] Alone
- [ ] Spouse/Partner
- [ ] Children
- [ ] Parents, Siblings &/or Other Relatives
- [ ] Friends
- [x] Other

Q41. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

0

Q42. When did you plan to do this activity?

Planned earlier this week

Q43. **----------**
Family activities with kids
With whom? Select all that apply.

This question was not displayed to the respondent.

Q44. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q45. When did you plan to do this activity?

This question was not displayed to the respondent.

Q46. **----------**
Other entertainment 1 ()
With whom? Select all that apply.

This question was not displayed to the respondent.

Q47. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q48. When did you plan to do this activity?

This question was not displayed to the respondent.

Q49. **----------**
Other entertainment 2 ()
With whom? Select all that apply.

This question was not displayed to the respondent.

Q50. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q51. When did you plan to do this activity?

This question was not displayed to the respondent.

Q52. **----------**
Grocery Shopping
With whom? Select all that apply.

- [x] Alone
- [ ] Spouse/Partner
- [ ] Children
- [ ] Parents, Siblings &/or Other Relatives
- [ ] Friends
- [ ] Other

Q53. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it.

45

Q54. When did you plan to do this activity?

Planned on the same day

Q55. **----------**
Other routine shopping (e.g., convenience store)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q56. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it.

This question was not displayed to the respondent.

Q57. When did you plan to do this activity?

This question was not displayed to the respondent.

Q58. **----------**
Window shopping or browsing
With whom? Select all that apply.

This question was not displayed to the respondent.

Q59. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q60. When did you plan to do this activity?

This question was not displayed to the respondent.

Q61. **----------**
Shopping for specialty items (e.g., clothing, jewelry)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q62. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q63. When did you plan to do this activity?

This question was not displayed to the respondent.

Q64. **----------**
Shopping appliances or major items (e.g., new car)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q65. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q66. When did you plan to do this activity?

This question was not displayed to the respondent.

Q67. **----------**
Got gas
How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q68. When did you plan to do this activity?

This question was not displayed to the respondent.

Q69. **----------**
Other shopping ()
With whom? Select all that apply.

This question was not displayed to the respondent.

Q70. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q71. When did you plan to do this activity?

This question was not displayed to the respondent.

Q72. **----------**
Appointment (Visiting a Doctor, a Lawyer, an Accountant, Barber, Hairdresser)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q73. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q74. When did you plan to do this activity?

This question was not displayed to the respondent.

Q75. **----------**
Personal (Bank, Government Services, Dry Cleaning)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q76. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q77. When did you plan to do this activity?

This question was not displayed to the respondent.

Q78. **----------**
Religious, Volunteering, or Civic
With whom? Select all that apply.

This question was not displayed to the respondent.

Q79. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q80. When did you plan to do this activity?

This question was not displayed to the respondent.

Q81. **----------**
Package/mail pick up/drop off

With whom? Select all that apply.

This question was not displayed to the respondent.

Q82. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q83. When did you plan to do this activity?

This question was not displayed to the respondent.

Q84. **----------**
Staying at a residence other than home (second home, or hotel)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q85. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q86. When did you plan to do this activity?

This question was not displayed to the respondent.

Q87. **----------**
Other ()
With whom? Select all that apply.

This question was not displayed to the respondent.

Q88. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q89. When did you plan to do this activity?

This question was not displayed to the respondent.

Q90. UNSPECIFIED HOURS

This question was not displayed to the respondent.

Q91. If you haven't specified any activity for one or more hours **at home**, they will appear here. Please select one or more activity(ies) for each of them (select all that apply).

This question was not displayed to the respondent.

Q92. If you haven't specified any activity for one or more hours **out of home**, they will appear here. Please select one or more activity(ies) for each of them (select all tha

	I was travelling	Work	School	Eating out (Restaurant, Bar, Coffee, ...)	Visit friends/relatives at their residence	Leisure/entertainment (e.g., night club, movies, amusement park, sports event as a spectator)	Jog or Bike	Walk a dog	Go to the gym	Library, hobby class or club (e.g. quilting, music, painting class/club)	Nature (e.g., hiking trails, provincial parks)	Art, Historical, and Cultural (e.g., museum, historic site, performance such as a play or concert, festival or fair)	Play individual or team sports	Family activities with kids	Grocery Shopping	Other routine shopping (e.g., convenience store)	Window shopping or browsing	Sh sp i cl je
12-1am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
1-2am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2-3am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
3-4am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
4-5am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
5-6am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

6-7am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7-8am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8-9am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9-10am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10-11am	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
11am-12pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12-13pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13-14pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
14-15pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
15-16pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
16-17pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
17-18pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
18-19pm	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
19-20pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
20-21pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
21-22pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
22-23pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
23-23:59pm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q93. Please provide the required information for each of the activities you selected in the previous question.

This question was not displayed to the respondent.

Q94. **Eating out (Restaurant, Bar, Coffee, ...)**
With whom? Select all that apply.

This question was not displayed to the respondent.

Q95. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q96. When did you plan to do this activity?

This question was not displayed to the respondent.

Q97. **----------**
Visit friends/relatives at their residence
With whom? Select all that apply.

This question was not displayed to the respondent.

Q98. When did you plan to do this activity?

This question was not displayed to the respondent.

Q99. **----------**
Leisure/entertainment (e.g., night club, ...)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q100. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q101. When did you plan to do this activity?

This question was not displayed to the respondent.

Q102. **----------**
Jog or Bike
With whom? Select all that apply.

This question was not displayed to the respondent.

Q103. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q104. When did you plan to do this activity?

This question was not displayed to the respondent.

Q105. **----------**
Walk a dog
With whom? Select all that apply.

This question was not displayed to the respondent.

Q106. When did you plan to do this activity?

This question was not displayed to the respondent.

Q107. **----------**
Go to the gym
With whom? Select all that apply.

This question was not displayed to the respondent.

Q108. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q109. When did you plan to do this activity?

This question was not displayed to the respondent.

Q110. **----------**
Library, hobby class or club
With whom? Select all that apply.

This question was not displayed to the respondent.

Q111. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q112. When did you plan to do this activity?

This question was not displayed to the respondent.

Q113. **----------**
Nature (e.g., hiking trails, ...)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q114. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q115. When did you plan to do this activity?

This question was not displayed to the respondent.

Q116. **----------**
Art, Historical, and Cultural
With whom? Select all that apply.

This question was not displayed to the respondent.

Q117. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q118. When did you plan to do this activity?

This question was not displayed to the respondent.

Q119. **----------**
Play individual or team sports
With whom? Select all that apply.

This question was not displayed to the respondent.

Q120. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything, or someone else paid for it, or you used membership card and didn't pay anything else.

This question was not displayed to the respondent.

Q121. When did you plan to do this activity?

This question was not displayed to the respondent.

Q122. **----------**
Family activities with kids
With whom? Select all that apply.

This question was not displayed to the respondent.

Q123. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q124. When did you plan to do this activity?

This question was not displayed to the respondent.

Q125. **Grocery Shopping**
With whom? Select all that apply.

This question was not displayed to the respondent.

Q126. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q127. When did you plan to do this activity?

This question was not displayed to the respondent.

Q128. **----------**
Other routine shopping (e.g., convenience store)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q129. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q130. When did you plan to do this activity?

This question was not displayed to the respondent.

Q131. **----------**
Window shopping or browsing
With whom? Select all that apply.

This question was not displayed to the respondent.

Q132. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q133. When did you plan to do this activity?

This question was not displayed to the respondent.

Q134. **----------**
Shopping for specialty items (e.g., clothing, jewelry)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q135. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q136. When did you plan to do this activity?

This question was not displayed to the respondent.

Q137. **----------**
Shopping appliances or major items (e.g., new car)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q138. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q139. When did you plan to do this activity?

This question was not displayed to the respondent.

Q140. **----------**
Got gas
How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q141. When did you plan to do this activity?

This question was not displayed to the respondent.

Q142. **Appointment (Visiting a Doctor, a Lawyer, an Accountant, Barber, Hairdresser)**
With whom? Select all that apply.

This question was not displayed to the respondent.

Q143. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q144. When did you plan to do this activity?

This question was not displayed to the respondent.

Q145. **----------**
Personal (Bank, Government Services, Dry Cleaning)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q146. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q147. When did you plan to do this activity?

This question was not displayed to the respondent.

Q148. **----------**
Religious, Volunteering, or Civic
With whom? Select all that apply.

This question was not displayed to the respondent.

Q149. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q150. When did you plan to do this activity?

This question was not displayed to the respondent.

Q151. **----------**
Package/mail pick up/drop off
With whom? Select all that apply.

This question was not displayed to the respondent.

Q152. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q153. When did you plan to do this activity?

This question was not displayed to the respondent.

Q154. **----------**
Staying at a residence other than home (second home, or hotel)
With whom? Select all that apply.

This question was not displayed to the respondent.

Q155. How much [$] did you spend on this activity in total? Enter "0" if you didn't pay anything or someone else paid for it.

This question was not displayed to the respondent.

Q156. When did you plan to do this activity?

This question was not displayed to the respondent.

Q157. ONLINE SHOPPING

This question was not displayed to the respondent.

Q158. Did you do any online shopping on **June 8th 2023**?

- ○ Yes
- ◉ No

Q159. What did you buy online on **June 8th 2023**? (Select all that apply)

This question was not displayed to the respondent.

Q160. How much [$] did you spend on each of the following categories while shopping online on **June 8th 2023**?

This question was not displayed to the respondent.

Q161. PARKING COST

This question was not displayed to the respondent.

Q162. In this section, we want to know if you have paid for parking on **June 8th 2023**.

Did you **pay** to park your car on **June 8th 2023**?
Please **do not** include monthly/weekly payments for parking permits.

- ○ Yes, once
- ○ Yes, twice
- ○ Yes, three times
- ○ Yes, four times
- ○ Yes, five times
- ○ Yes, six times
- ○ Yes, seven times
- ○ Yes, eight times
- ○ Yes, nine times
- ○ Yes, ten times or more
- ◉ No

Q163. Approximately, when did you park in each of the spots you paid for? (Please specify **the time you parked**, not the time you paid for that)

This question was not displayed to the respondent.

Q164. First parking payment

This question was not displayed to the respondent.

Q165. Second parking payment

This question was not displayed to the respondent.

Q166. Third parking payment

This question was not displayed to the respondent.

Q167. Fourth parking payment

This question was not displayed to the respondent.

Q168. Fifth parking payment

This question was not displayed to the respondent.

Q169. Sixth parking payment

This question was not displayed to the respondent.

Q170. Seventh parking payment

This question was not displayed to the respondent.

Q171. Eighth parking payment

This question was not displayed to the respondent.

Q172. Ninth parking payment

This question was not displayed to the respondent.

Q173. Tenth parking payment

This question was not displayed to the respondent.

Q174. Please provide the following information for the parking payment(s) you made.

This question was not displayed to the respondent.

Q175. **First parking payment ()**
Type of parking?

This question was not displayed to the respondent.

Q176. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q177. Cost of parking?

This question was not displayed to the respondent.

Q178. ----------
Second parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q179. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q180. Cost of parking?

This question was not displayed to the respondent.

Q181. ----------
Third parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q182. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q183. Cost of parking?

This question was not displayed to the respondent.

Q184. ----------
Fourth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q185. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q186. Cost of parking?

This question was not displayed to the respondent.

Q187. ----------
Fifth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q188. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q189. Cost of parking?

This question was not displayed to the respondent.

Q190. ----------
Sixth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q191. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q192. Cost of parking?

This question was not displayed to the respondent.

Q193. ----------
Seventh parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q194. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q195. Cost of parking?

This question was not displayed to the respondent.

Q196. **----------**
Eighth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q197. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q198. Cost of parking?

This question was not displayed to the respondent.

Q199. ----------
Ninth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q200. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q201. Cost of parking?

This question was not displayed to the respondent.

Q202. ----------
Tenth parking payment)
Type of parking?

This question was not displayed to the respondent.

Q203. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q204. Cost of parking?

This question was not displayed to the respondent.

Embedded Data

user_email: thats@utoronto.ca

trip_date: June 8th 2023

Location Data

Location: (43.6883, -79.3868)

Source: GeoIP Estimation

14.5 Appendix E (Sample Answer to the Day 6 Theme-Based Questionnaire (Leisure Resources and Activities))

Appendix E:
Sample Answer to the Day 6 Theme-Based Questionnaire (Leisure Resources and Activities)

Q202. ----------
Tenth parking payment)
Type of parking?

This question was not displayed to the respondent.

Q203. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q204. Cost of parking?

This question was not displayed to the respondent.

Q1. **This is not the end of the survey. Please do not close the window.**

The following questions will be about your **recreational and leisure resources**.

Q2. What type(s) of **memberships or passes** do you hold? Select all that apply.

- [ ] Fitness centre, athletic club, dance studio
- [ ] Business and social clubs
- [ ] Library, museum, art gallery, art studio
- [ ] Entertainment (e.g., theatre, amusement park)
- [ ] Others (Please specify) _____
- [x] None

Q3. ----------
Fitness centre, athletic club, dance studio

What is the duration of your Fitness centre, athletic club, dance studio membership/pass plan?

This question was not displayed to the respondent.

Q4. How much [CAN$] did you pay for your Fitness centre, athletic club, dance studio membership/pass plan for the duration of ?

This question was not displayed to the respondent.

Q5. How much [CAN$] did you pay for your Fitness centre, athletic club, dance studio membership/pass plan for the duration of days?

This question was not displayed to the respondent.

Q6. ----------
Business and social clubs

What is the duration of your Business and social clubs membership/pass plan?

This question was not displayed to the respondent.

Q7. How much [CAN$] did you pay for your Business and social clubs membership/pass plan for the duration of ?

This question was not displayed to the respondent.

Q8. How much [$] did you pay for your Business and social clubs membership/pass plan for the duration of days?

This question was not displayed to the respondent.

Q9. ----------
Library, museum, art gallery, art studio

What is the duration of your Library, museum, art gallery, art studio membership/pass plan?

This question was not displayed to the respondent.

Q10. How much [CAN$] did you pay for your Library, museum, art gallery, art studio membership/pass plan for the duration of ?

This question was not displayed to the respondent.

Q11. How much [$] did you pay for your Library, museum, art gallery, art studio membership/pass plan for the duration of days?

This question was not displayed to the respondent.

Q12. **----------**
Entertainment (e.g., theatre, amusement park)

What is the duration of your Entertainment (e.g., theatre, amusement park) membership/pass plan?

This question was not displayed to the respondent.

Q13. How much [CAN$] did you pay for your Entertainment (e.g., theatre, amusement park) membership/pass plan for the duration of ?

This question was not displayed to the respondent.

Q14. How much [CAN$] did you pay for your Entertainment (e.g., theatre, amusement park) membership/pass plan for the duration of days?

This question was not displayed to the respondent.

Q15. **----------**

What is the duration of your membership/pass plan?

This question was not displayed to the respondent.

Q16. How much [CAN$] did you pay for your membership/pass plan for the duration of ?

This question was not displayed to the respondent.

Q17. How much [CAN$] did you pay for your membership/pass plan for the duration of days?

This question was not displayed to the respondent.

Q18. What type(s) of pets do you or your other household members have? Select all that apply

- [ ] Dog
- [ ] Cat
- [ ] Others (Please specify) _____
- [x] None

Q19. What amenities does your residence have? Select all that apply

- [x] Rooftop deck or outdoor garden
- [ ] Gym
- [ ] Swimming pool
- [ ] Billiard room, squash court, etc.
- [ ] Party room or meeting room
- [ ] Sauna or steam room
- [ ] Others (Please specify) _____
- [ ] None

Q20. How often do you use Rooftop deck or outdoor garden?

1-2 times per week

Q21. How often do you use Gym?

This question was not displayed to the respondent.

Q22. How often do you use Swimming pool?

This question was not displayed to the respondent.

Q23. How often do you use Billiard room, squash court, etc.?

This question was not displayed to the respondent.

Q24. How often do you use Party room or meeting room?

This question was not displayed to the respondent.

Q25. How often do you use Sauna or steam room?

This question was not displayed to the respondent.

Q26. How often do you use ?

This question was not displayed to the respondent.

Q27. How do you usually find leisure activity or event information?

Please rank the approaches by frequency (Click and drag the most frequent approach to the top and the least to the bottom).

Recommended or decided by friends and/or relatives	1
Search on internet (e.g., Google)	2
Search on social media (e.g., Facebook, Instagram)	3
Recommended by Ads on social media (e.g., Instagram Ads, YouTube Ads)	4
Recommended by Ads through email	5
TV, radio	6
Newspapers, magazines, catalogues, brochures	7
Travel agencies	8
Others (Please specify)	9

Q28. Halfway there!

The following part is about your **leisure activity participation by day vs. overnight trips**.

Q29. How often do you participate in the following leisure activities by **day trips**?

Indoor recreation or exercise (e.g., gym, stadium, arena)	1-3 times per month
Outdoor recreation or exercise (e.g., urban parks, green spaces)	3+ times per week
Explore the nature outside your usual living environment (e.g., national park, skiing)	1-4 times per year
Outdoor exercise without designated destinations (e.g., jogging or cycling on streets)	1-3 times per month
Be a spectator at sports events at stadiums or arenas	5-11 times per year

Q30. How often do you participate in the following leisure activities by **day trips**?

Entertainment activities (e.g., cinema, window shopping, casino)	1-3 times per month
Go to amusement or theme parks	1-4 times per year

Social-oriented leisure activities (e.g., go to pubs)	1-2 times per week
Art, historical, or cultural activities (e.g., museum, theatre, gallery)	5-11 times per year
Travel to other cities for city exploration or sightseeing	Less than once per year
Visit friends or family	Less than once per year

Q31. How often do you participate in the following leisure activities by **overnight trips**?

Be a spectator at sports events at stadiums or arenas	Never
Go to concerts, art or cultural festivals	Never
Explore the nature (e.g., national park, skiing, camping)	1-2 times per year
Go to amusement or theme parks	Never
Entertainment activities (e.g., window shopping, casino)	Never
Travel to other cities for city exploration or sightseeing	1-2 times per year
Visit friends or family	5-11 times per year

Q32. Final questions!

In the last part of the leisure survey, please share with us your **latest overnight leisure trips since 2022.**

Q33. How many **overnight** leisure trip(s) have you made since January 2022?

Please include both **carefree leisure travel** (e.g., vacation trips) and **leisure travel during business trips** (e.g., extending business trips for leisure). Please do **not** include trips made on a regular basis (e.g., visiting family every week).

- ○ 0
- ○ 1
- ○ 2
- ○ 3
- ◉ 4
- ○ 5
- ○ more than 5 (Please specify the number)

Q34. Why haven't you made any overnight leisure trip since 2022?

This question was not displayed to the respondent.

Q35. When did you make your latest overnight leisure trip?

Departure year	2023
Departure month	January
Departure day of week	Saturday

Q36. What is the main purpose of this trip?

- ◉ Carefree leisure
- ○ Combined business and leisure
- ○ Others (Please specify)

Q37. How many days did you travel? (return date - departure date)

10

Q38. How many people accompanied you on this trip?

	Number of people

Adults, 18 and over, living in your household	2
Children, 17 and under, living in your household	2
Other persons, not living in your household	0

Q39. Regardless of who paid, what was the total cost [CAN$] of this trip for your household?

Round to the nearest dollar. Provide an estimate if necessary.

Include all expenses during the trip: Transportation, accommodation, food and meals, recreational activities, gifts and souvenirs, package costs, the value of rewards programs used (e.g., frequent flyer points), etc.

12000

Q40. How much [CAN$] out of 12000 was reimbursed?

This question was not displayed to the respondent.

Q41. Which country(ies) did you visit during your latest overnight leisure trip? Select all that apply.

- Côte d'Ivoire
- Croatia
- Cuba
- Cyprus
- Czech Republic
- Democratic Republic of the Congo
- Denmark
- Djibouti
- Dominica
- Dominican Republic

Q42.
Which state(s) in the U.S. did you visit? Select all that apply.

- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- District of Columbia
- Florida

Q43.
Which province(s) in Canada did you visit? Select all that apply.

This question was not displayed to the respondent.

Q44. Which tourism region(s) in Ontario did you visit? Select all that apply.

This question was not displayed to the respondent.

Q45.
For this trip, which mode of transportation did you use?

If you used multiple modes of transportation, please select the one you used to travel the greatest distance.

Boat/Ship/Ferry

Q46. Please specify the other mode of transportation.

This question was not displayed to the respondent.

Q47. When did you make your 2nd latest overnight leisure trip?

Departure year: 2022
Departure month: June
Departure day of week: Thursday

Q48. What is the main purpose of this trip?

- (●) Carefree leisure
- ( ) Combined business and leisure
- ( ) Others (Please specify)

Q49. How many days did you travel? (return date - departure date)

10

Q50. How many people accompanied you on this trip?

	Number of people
Adults, 18 and over, living in your household	0
Children, 17 and under, living in your household	0
Other persons, not living in your household	0

Q51. Regardless of who paid, what was the total cost [CAN$] of this trip for your household?

Round to the nearest dollar. Provide an estimate if necessary.

Include all expenses during the trip: Transportation, accommodation, food and meals, recreational activities, gifts and souvenirs, package costs, the value of rewards programs used (e.g., frequent flyer points), etc.

6000

Q52. How much [CAN$] out of 6000 was reimbursed?

This question was not displayed to the respondent.

Q53. Which country(ies) did you visit during your 2nd latest overnight leisure trip? Select all that apply.

Tonga
Trinidad and Tobago
Tunisia
Turkey
Turkmenistan
Tuvalu
Uganda
Ukraine
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland

Q54. Which state(s) in the U.S. did you visit? Select all that apply.

This question was not displayed to the respondent.

Q55. Which province(s) in Canada did you visit? Select all that apply.

This question was not displayed to the respondent.

Q56. Which tourism region(s) in Ontario did you visit? Select all that apply.

This question was not displayed to the respondent.

Q57.
For this trip, which mode of transportation did you use?

If you used multiple modes of transportation, please select the one you used to travel the greatest distance.

Commercial airline

Q58. Please specify the other mode of transportation.

This question was not displayed to the respondent.

Q59. When did you make your 3rd latest overnight leisure trip?

Departure year: 2022
Departure month: December
Departure day of week: Saturday

Q60. What is the main purpose of this travel?

- (●) Carefree leisure
- ( ) Combined business and leisure
- ( ) Others (Please specify)

Q61. How many days did you travel? (return date - departure date)

4

Q62. How many people accompanied you on this trip?

	Number of people
Adults, 18 and over, living in your household	2
Children, 17 and under, living in your household	2
Other persons, not living in your household	0

Q63. Regardless of who paid, what was the total cost [CAN$] of this trip for your household?

Round to the nearest dollar. Provide an estimate if necessary.

Include all expenses during the trip: Transportation, accommodation, food and meals, recreational activities, gifts and souvenirs, package costs, the value of rewards programs used (e.g., frequent flyer points), etc.

100

Q64. How much [CAN$] out of 100 was reimbursed?

This question was not displayed to the respondent.

Q65. Which country(ies) did you visit during your 3rd latest overnight leisure trip? Select all that apply.

Bosnia and Herzegovina
Botswana
Brazil
Brunei Darussalam
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada

Q66. Which state(s) in the U.S. did you visit? Select all that apply.

This question was not displayed to the respondent.

Q67. Which province(s) in Canada did you visit? Select all that apply.

Alberta
British Columbia
Manitoba
New Brunswick
Newfoundland and Labrador
Northwest Territories
Nova Scotia
Nunavut
Ontario
Prince Edward Island

Q68. Which tourism region(s) in Ontario did you visit? Select all that apply.

Muskoka, Parry Sound and Algonquin Park
Niagara Falls and Wine Country
North Central Ontario
North East Ontario
North West Ontario
Ottawa and Countryside
Southwest Ontario
South Eastern Ontario
York, Durham, Hills of Headwaters
Not stated, Ontario

Q69.
For this trip, which mode of transportation did you use?

If you used multiple modes of transportation, please select the one you used to travel the greatest distance.

Car or truck (privately owned)

Q70. Please specify the other mode of transportation.

This question was not displayed to the respondent.

Q71. When did you make your 4th overnight leisure trip?

Departure year 2022
Departure month January
Departure day of week Saturday

Q72. What is the main purpose of this trip?

- (●) Carefree leisure
- ( ) Combined business and leisure
- ( ) Others (Please specify) _____

Q73. How many days did you travel? (return date - departure date)

14

Q74. How many people accompanied you on this trip?

	Number of people
Adults, 18 and over, living in your household	2
Children, 17 and under, living in your household	2
Other persons, not living in your household	0

Q75. Regardless of who paid, what was the total cost [CAN$] of this trip for your household?

Round to the nearest dollar. Provide an estimate if necessary.

Include all expenses during the trip: Transportation, accommodation, food and meals, recreational activities, gifts and souvenirs, package costs, the value of rewards programs used (e.g., frequent flyer points), etc.

18000

Q76. How much [CAN$] out of 18000 was reimbursed?

This question was not displayed to the respondent.

Q77. Which country(ies) did you visit during your 4th latest overnight leisure trip? Select all that apply.

Canada
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo, Republic of the...
Costa Rica

Q78. Which state(s) in the U.S. did you visit? Select all that apply.

This question was not displayed to the respondent.

Q79. Which province(s) in Canada did you visit? Select all that apply.

This question was not displayed to the respondent.

Q80. Which tourism region(s) in Ontario did you visit? Select all that apply.

This question was not displayed to the respondent.

Q81.
For this trip, which mode of transportation did you use?

If you used multiple modes of transportation, please select the one you used to travel the greatest distance.

Commercial airline

Q82. Please specify the other mode of transportation.

This question was not displayed to the respondent.

Q83. When did you make your 5th overnight leisure trip?

This question was not displayed to the respondent.

Q84. What is the main purpose of this trip?

This question was not displayed to the respondent.

Q85. How many days did you travel? (return date - departure date)

This question was not displayed to the respondent.

Q86. How many people accompanied you on this trip?

This question was not displayed to the respondent.

Q87. Regardless of who paid, what was the total cost [CAN$] of this trip for your household?

Round to the nearest dollar. Provide an estimate if necessary.

Include all expenses during the trip: Transportation, accommodation, food and meals, recreational activities, gifts and souvenirs, package costs, the value of rewards programs used (e.g., frequent flyer points), etc.

This question was not displayed to the respondent.

Q88. How much [CAN$] out of was reimbursed?

This question was not displayed to the respondent.

Q89. Which country(ies) did you visit during your 5th latest overnight leisure trip? Select all that apply.

This question was not displayed to the respondent.

Q90. Which state(s) in the U.S. did you visit? Select all that apply.

This question was not displayed to the respondent.

Q91. Which province(s) in Canada did you visit? Select all that apply.

This question was not displayed to the respondent.

Q92. Which tourism region(s) in Ontario did you visit? Select all that apply.

This question was not displayed to the respondent.

Q93.
For this trip, which mode of transportation did you use?

If you used multiple modes of transportation, please select the one you used to travel the greatest distance.

This question was not displayed to the respondent.

Q94. Please specify the other mode of transportation.

This question was not displayed to the respondent.

Q95. For the remaining -5 overnight leisure trip(s) not reported, how many of them are...?

This question was not displayed to the respondent.

Q96. For the remaining -5 overnight leisure trip(s) not reported, how many of them are...?

This question was not displayed to the respondent.

Q97. Thank you for answering the survey!

Hope you enjoy your leisure time. :)

Embedded Data

user_email: thats@utoronto.ca

trip_date: June 27th 2023

Location Data

Location: (43.6911, -79.3353)

Source: GeoIP Estimation

14.6 Appendix F (Sample Answer to the Day 7 Theme-Based Questionnaire (MaaS SP and Feedback))

Appendix F:

Sample Answer to the Day 7 Theme-Based Questionnaire (MaaS SP and Feedback)

This question was not displayed to the respondent.

Q193. ----------
Seventh parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q194. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q195. Cost of parking?

This question was not displayed to the respondent.

Q196. **----------**
Eighth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q197. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q198. Cost of parking?

This question was not displayed to the respondent.

Q199. ----------
Ninth parking payment ()
Type of parking?

This question was not displayed to the respondent.

Q200. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q201. Cost of parking?

This question was not displayed to the respondent.

Q202. ----------
Tenth parking payment)
Type of parking?

This question was not displayed to the respondent.

Q203. Duration of parking? (Please round to the nearest hour)

This question was not displayed to the respondent.

Q204. Cost of parking?

This question was not displayed to the respondent.

Q290. **This is not the end of the survey. Please do not close the window.**

In this part, we will ask you a few questions about your typical travelling habits.

How often do you use navigation apps (e.g., Google Maps) each day?

- ○ Never
- ◉ 1-3 times per week
- ○ 1-3 times per month
- ○

1-3 times per day

More than 3 times per day

Q291. In the past 30 days, how often have you used the following travel mode in the GTHA?

	5-7 days a week	3-4 days a week	1-2 day a week	1-3 days a month	I have in the past year but not in the past 30 days	I never do this or have not done this in over a year
Uber, Lyft, or a similar app-based ride service	○	○	○	○	◉	○
Carshare or car rental	○	○	○	○	○	○
Bikeshare program	○	○	○	○	◉	○
Transit (e.g., bus, street car, subway, rail)	○	○	○	◉	○	○

Q292. Which of the following trip purposes do you engage in currently? Please select all that apply.

- [x] Commuting to/from work or school/university (e.g., attending classes)
- [x] Shopping (e.g., groceries, clothing, household items)
- [x] Leisure or recreation (e.g., visiting parks, sports activities, socializing)

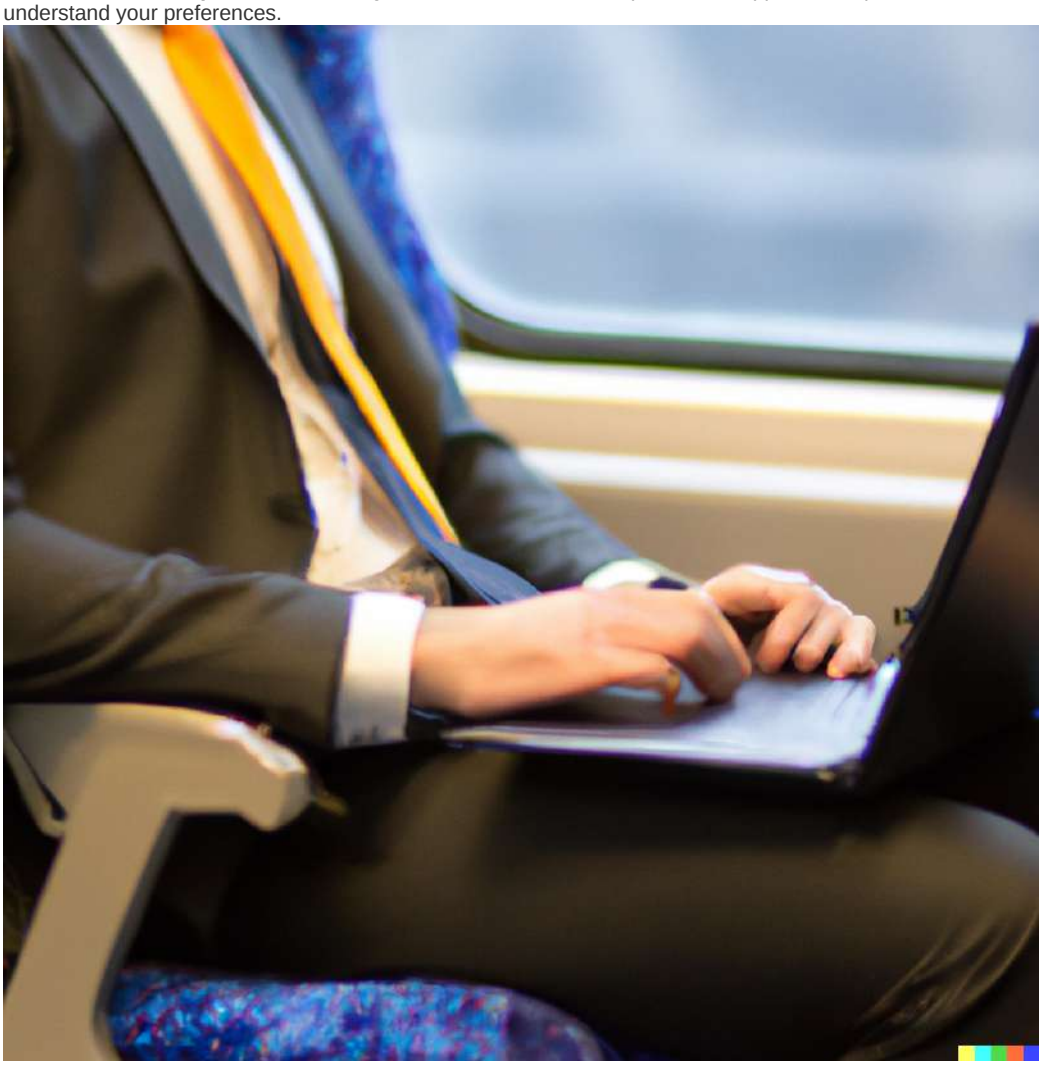
Q295. Which of the following modes are available to you?

	Yes	No
Bike (for bicycle owners)	◉	○
Public Transit (e.g., TTC, GO Transit)	◉	○
Ride-hailing (e.g., Uber, Lyft, Taxi)	◉	○
Bike share (e.g., Bike Share Toronto, SoBi Hamilton)	◉	○
Driving (for car owners)	◉	○
Walking	◉	○

Q293. What is the average one-way distance (in kilometers) you travel daily to get to work or school/university? (If your travel distance is more than 25 kilometers, choose to travel exactly 25 km)

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10
- ○ 11
- ○ 12
- ○ 13
- ○ 14
- ○ 15
- ○ 16
- ○ 17
- ○ 18
- ○ 19
- ○ 20
- ○ 21
- ○ 22
- ◉ 23
- ○ 24
- ○ 25

Q621. Welcome to our **Commuting** Trips Mode Choices Part, the **first scenario out of three**! We want to know your personal mode choice to your **work or school** destination.
We will present you with various travel modes for reaching your workplace or school destination. The modes can be combinations of different options or single modes, depending on the distance of your trip. **We will conduct four experiments, and although some questions may appear similar, each transportation mode will have unique attributes for you to consider.** This comprehensive approach helps us better understand your preferences.



Q533. (Experiment 1: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Biking → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q534. (Experiment 1: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Biking → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q535. (Experiment 1: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments, so please evaluate each scenario carefully.**

This question was not displayed to the respondent.

Q553. (Experiment 2: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near

your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q554. (Experiment 2: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q555. (Experiment 2: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments, so please evaluate each scenario carefully.**

This question was not displayed to the respondent.

Q556. (Experiment 3: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q557. (Experiment 3: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q558. (Experiment 3: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments**, so please evaluate each scenario carefully.

This question was not displayed to the respondent.

Q559. (Experiment 4: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q560. (Experiment 4: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q561. (Experiment 4: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments**, so please evaluate each scenario carefully.

This question was not displayed to the respondent.

Q841. (Experiment 1: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○

Bike → Transit → Ride-hailing

1. Bike
Travel Time: 18.4 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 9.01 min
Travel Cost: $15.3
Waiting Time: 8 min
Total Travel Time: 76.46 min
Total Travel Cost: $18.6

○ ***Driving → Transit → Ride-hailing***

1. Driving
Travel Time: 6.13 min
Travel Cost: $2.48
Parking Cost: $10
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 9.01 min
Travel Cost: $15.3
Waiting Time: 5 min
Total Travel Time: 61.19 min
Total Travel Cost: $31.08

○ ***Bikeshare→Transit→Ride-hailing***

1. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 9.01 min
Travel Cost: $15.3
Waiting Time: 2 min
Total Travel Time: 75.46 min
Total Travel Cost: $21.85

○ ***Ride-hailing → Transit → Ride-hailing***

1. Ride-hailing
Travel Time: 9.01 min
Travel Cost: $18.35
Waiting Time: 8 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 2 min
Total Travel Time: 72.02 min
Total Travel Cost: $33.89

◉ ***Bike → Transit → Bikeshare***

1. Bike
Travel Time: 18.4 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 87.85 min
Total Travel Cost: $6.55

○ ***Driving → Public Transit → Bikeshare***

1. Driving
Travel Time: 10.43 min
Travel Cost: $2.48
Parking Cost: $5
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min

Total Travel Time: 74.88 min
Total Travel Cost: $14.03

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $15.3
Waiting Time: 5 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 76.38 min
Total Travel Cost: $21.85

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 68.83 min
Total Travel Cost: $9.8

Q842. (Experiment 1: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

◉ ***Biking → Transit***
1. Biking
Travel Time: 13.8 min
2. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 65.2 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 7.97 min
Travel Cost: $1.66
Parking Cost: $15
2. Transit
Travel Time: 48.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 71.27 min
Total Travel Cost: $19.96

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 2 min
2. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 65.18 min
Total Travel Cost: $15.54

○ ***Bike Share → Transit***
1. Bike Share
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 2 min
2. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 71.8 min
Total Travel Cost: $6.55

○

Transit → Ride-hailing
1. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
2. Ride-hailing
Travel Time: 9.01 min
Travel Cost: $15.3
Waiting Time: 8 min
Total Travel Time: 68.41 min
Total Travel Cost: $18.6

○ ***Transit → Bike Share***
1. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
2. Bike Share
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 51.64 min
Total Travel Cost: $6.55

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 18.4 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 87.85 min
Total Travel Cost: $6.55

Q843. (Experiment 1: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments, so please evaluate each scenario carefully.**

○ ***Driving***
Travel Time: 52.13 min
Travel Cost: $4.14
Parking Cost: $5
Total Travel Time: 52.13 min
Total Travel Cost: $9.14

○ ***Transit***
Travel Time: 51.75 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 56.75 min
Total Travel Cost: $3.3

○ ***Ride-hailing***
Travel Time: 34.65 min
Travel Cost: $41.98
Waiting Time: 2 min
Total Travel Time: 36.65 min
Total Travel Cost: $41.98

○ ***Bike Share***
Travel Time: 69 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 77 min
Total Travel Cost: $3.25

○ ***Walking***
Total Travel Time: 345 min

○ ***Bicycling***
Total Travel Time: 92 min

◉ ***Biking → Transit***
1. Biking
Travel Time: 13.8 min
2. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 65.2 min
Total Travel Cost: $3.3

Q844. (Experiment 2: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 23 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 8 min
Total Travel Time: 66.41 min
Total Travel Cost: $15.54

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 10.43 min
Travel Cost: $0.83
Parking Cost: $5
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 2 min
Total Travel Time: 47.84 min
Total Travel Cost: $21.36

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 8 min
Total Travel Time: 59.21 min
Total Travel Cost: $18.79

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $18.35
Waiting Time: 2 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $18.35
Waiting Time: 2 min
Total Travel Time: 41.49 min
Total Travel Cost: $40.01

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 23 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 100.23 min
Total Travel Cost: $6.55

◉ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 6.13 min
Travel Cost: $0.83
Parking Cost: $10
2. Transit
Travel Time: 18.63 min

Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 45.56 min
Total Travel Cost: $17.38

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $18.35
Waiting Time: 2 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 48.36 min
Total Travel Cost: $24.9

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 93.43 min
Total Travel Cost: $9.8

Q845. (Experiment 2: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○ ***Biking → Transit***
1. Biking
Travel Time: 23 min
2. Transit
Travel Time: 48.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 86.3 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 6.13 min
Travel Cost: $0.83
Parking Cost: $15
2. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 35.97 min
Total Travel Cost: $19.13

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $18.35
Waiting Time: 2 min
2. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 38.77 min
Total Travel Cost: $21.65

○ ***Bike Share → Transit***
1. Bike Share
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 5 min
2. Transit

Travel Time: 48.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 91.3 min
Total Travel Cost: $6.55

○ ***Transit → Ride-hailing***
1. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
2. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $18.35
Waiting Time: 2 min
Total Travel Time: 38.77 min
Total Travel Cost: $21.65

○ ***Transit → Bike Share***
1. Transit
Travel Time: 48.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
2. Bike Share
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 94.3 min
Total Travel Cost: $6.55

◉ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 6.13 min
Travel Cost: $0.83
Parking Cost: $10
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 45.56 min
Total Travel Cost: $17.38

Q846. (Experiment 2: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments, so please evaluate each scenario carefully.**

○ ***Driving***
Travel Time: 39.87 min
Travel Cost: $12.42
Parking Cost: $15
Total Travel Time: 39.87 min
Total Travel Cost: $27.42

○ ***Transit***
Travel Time: 60.38 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 75.38 min
Total Travel Cost: $3.3

○ ***Ride-hailing***
Travel Time: 34.65 min
Travel Cost: $33.58
Waiting Time: 8 min
Total Travel Time: 42.65 min
Total Travel Cost: $33.58

○ ***Bike Share***
Travel Time: 115 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 123 min
Total Travel Cost: $3.25

○ ***Walking***
Total Travel Time: 276 min

○ ***Bicycling***
Total Travel Time: 115 min

◉ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 6.13 min
Travel Cost: $0.83
Parking Cost: $10

2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 45.56 min
Total Travel Cost: $17.38

Q847. (Experiment 3: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 13.8 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 2 min
Total Travel Time: 68.81 min
Total Travel Cost: $15.54

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 6.13 min
Travel Cost: $2.48
Parking Cost: $5
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $12.24
Waiting Time: 2 min
Total Travel Time: 38.69 min
Total Travel Cost: $23.02

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $12.24
Waiting Time: 8 min
Total Travel Time: 54.36 min
Total Travel Cost: $18.79

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $18.35
Waiting Time: 2 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $15.3
Waiting Time: 8 min
Total Travel Time: 70.09 min
Total Travel Cost: $36.95

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 23 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare

Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 72.43 min
Total Travel Cost: $6.55

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 6.13 min
Travel Cost: $0.83
Parking Cost: $10
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 70.58 min
Total Travel Cost: $17.38

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 2 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 53.21 min
Total Travel Cost: $18.79

◉ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 5 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 102.23 min
Total Travel Cost: $9.8

Q848. (Experiment 2: Two Travel Modes Combination).Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○ ***Biking → Transit***
1. Biking
Travel Time: 23 min
2. Transit
Travel Time: 48.3 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 76.3 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 6.13 min
Travel Cost: $2.48
Parking Cost: $5
2. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 52.53 min
Total Travel Cost: $10.78

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 11.78 min
Travel Cost: $12.24
Waiting Time: 2 min

2. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 48.62 min
Total Travel Cost: $15.54

○ ***Bike Share → Transit***
1. Bike Share
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 8 min
2. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 61.64 min
Total Travel Cost: $6.55

◉ ***Transit → Ride-hailing***
1. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
2. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $12.24
Waiting Time: 8 min
Total Travel Time: 44.77 min
Total Travel Cost: $15.54

○ ***Transit → Bike Share***
1. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
2. Bike Share
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 64.84 min
Total Travel Cost: $6.55

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 5 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 102.23 min
Total Travel Cost: $9.8

Q849. (Experiment 3: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments**, so please evaluate each scenario carefully.

○ ***Driving***
Travel Time: 30.67 min
Travel Cost: $4.14
Parking Cost: $15
Total Travel Time: 30.67 min
Total Travel Cost: $19.14

◉ ***Transit***
Travel Time: 51.75 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 66.75 min
Total Travel Cost: $3.3

○ ***Ride-hailing***
Travel Time: 34.65 min
Travel Cost: $41.98
Waiting Time: 2 min
Total Travel Time: 36.65 min
Total Travel Cost: $41.98

○ ***Bike Share***
Travel Time: 92 min
Travel Cost: $3.25

Walking Time: 8 min
Total Travel Time: 100 min
Total Travel Cost: $3.25

○ ***Walking***
Total Travel Time: 276 min

○ ***Bicycling***
Total Travel Time: 115 min

○ ***Transit → Ride-hailing***
1. Transit
Travel Time: 24.84 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
2. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $12.24
Waiting Time: 8 min
Total Travel Time: 44.77 min
Total Travel Cost: $15.54

Q850. (Experiment 4: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 18.4 min
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $12.24
Waiting Time: 8 min
Total Travel Time: 61.96 min
Total Travel Cost: $$e{round(

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 6.13 min
Travel Cost: $0.83
Parking Cost: $10
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $15.3
Waiting Time: 5 min
Total Travel Time: 59.11 min
Total Travel Cost: $29.42

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $15.3
Waiting Time: 2 min
Total Travel Time: 73.38 min
Total Travel Cost: $21.85

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 9.01 min
Travel Cost: $18.35
Waiting Time: 8 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $15.3
Waiting Time: 8 min

Total Travel Time: 72.99 min
Total Travel Cost: $36.95

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 18.4 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 23 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 84.63 min
Total Travel Cost: $6.55

◉ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 10.43 min
Travel Cost: $0.83
Parking Cost: $5
2. Transit
Travel Time: 18.63 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 49.86 min
Total Travel Cost: $12.38

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 6.93 min
Travel Cost: $15.3
Waiting Time: 2 min
2. Transit
Travel Time: 31.05 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 70.38 min
Total Travel Cost: $21.85

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 2 min
2. Transit
Travel Time: 36.23 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 18.4 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 93.03 min
Total Travel Cost: $9.8

Q851. (Experiment 4: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

○ ***Biking → Transit***
1. Biking
Travel Time: 18.4 min
2. Transit
Travel Time: 41.4 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 74.8 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 10.43 min
Travel Cost: $0.83
Parking Cost: $5
2. Transit
Travel Time: 41.4 min

Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 56.83 min
Total Travel Cost: $9.13

- ◉ ***Ride-hailing → Transit***
  1. Ride-hailing
  Travel Time: 6.93 min
  Travel Cost: $12.24
  Waiting Time: 8 min
  2. Transit
  Travel Time: 24.84 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 44.77 min
  Total Travel Cost: $15.54
- ○ ***Bike Share → Transit***
  1. Bike Share
  Travel Time: 23 min
  Travel Cost: $3.25
  Walking Time: 8 min
  2. Transit
  Travel Time: 24.84 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 60.84 min
  Total Travel Cost: $6.55
- ○ ***Transit → Ride-hailing***
  1. Transit
  Travel Time: 41.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  2. Ride-hailing
  Travel Time: 9.01 min
  Travel Cost: $15.3
  Waiting Time: 8 min
  Total Travel Time: 68.41 min
  Total Travel Cost: $18.6
- ○ ***Transit → Bike Share***
  1. Transit
  Travel Time: 48.3 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  2. Bike Share
  Travel Time: 13.8 min
  Travel Cost: $3.25
  Walking Time: 2 min
  Total Travel Time: 74.1 min
  Total Travel Cost: $6.55
- ○ ***Driving → Public Transit → Bikeshare***
  1. Driving
  Travel Time: 10.43 min
  Travel Cost: $0.83
  Parking Cost: $5
  2. Transit
  Travel Time: 18.63 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  3. Bikeshare
  Travel Time: 13.8 min
  Travel Cost: $3.25
  Walking Time: 2 min
  Total Travel Time: 49.86 min
  Total Travel Cost: $12.38

Q852. (Experiment 4: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments**, so please evaluate each scenario carefully.

- ○ ***Driving***
  Travel Time: 52.13 min
  Travel Cost: $12.42
  Parking Cost: $10
  Total Travel Time: 52.13 min
  Total Travel Cost: $22.42
- ◉ ***Transit***
  Travel Time: 60.38 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  Total Travel Time: 70.38 min
  Total Travel Cost: $3.3
- ○

Ride-hailing
Travel Time: 34.65 min
Travel Cost: $33.58
Waiting Time: 2 min
Total Travel Time: 36.65 min
Total Travel Cost: $33.58

- ***Bike Share***
  Travel Time: 115 min
  Travel Cost: $3.25
  Walking Time: 5 min
  Total Travel Time: 120 min
  Total Travel Cost: $3.25
- ***Walking***
  Total Travel Time: 345 min
- ***Bicycling***
  Total Travel Time: 92 min
- ***Ride-hailing → Transit***
  1. Ride-hailing
  Travel Time: 6.93 min
  Travel Cost: $12.24
  Waiting Time: 8 min
  2. Transit
  Travel Time: 24.84 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 44.77 min
  Total Travel Cost: $15.54

Q853. (Experiment 1: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q854. (Experiment 1: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q855. (Experiment 1: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments, so please evaluate each scenario carefully.**

This question was not displayed to the respondent.

Q856. (Experiment 2: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

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Q858. (Experiment 2: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments, so please evaluate each scenario carefully.**

This question was not displayed to the respondent.

Q859. (Experiment 3: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q860. (Experiment 3: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q861. (Experiment 3: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments**, so please evaluate each scenario carefully.

This question was not displayed to the respondent.

Q862. (Experiment 4: Three Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, in the "Bike → Public Transit → Bikeshare" option, you bike to a transit station, take a bus or train to a stop near your destination, and use a bikeshare for the final part of the journey. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q863. (Experiment 4: Two Travel Modes Combination). Please choose your preferred commuting option for a typical **work** or **school** trip. Each option includes a combination of transportation methods. For example, "Bike → Public Transit" means biking to a station and taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may change across different experiments.**

This question was not displayed to the respondent.

Q864. (Experiment 4: Final Selection of Travel Mode). Please choose your preferred commuting option for a typical **work** or **school** trip. You have multiple transportation options. When choosing your preferred option, consider factors like travel time, cost, and waiting time. **Keep in mind that these factors may change across different experiments**, so please evaluate each scenario carefully.

This question was not displayed to the respondent.

Q624. **Welcome to our Shopping Trips Mode Choices Part, the second scenario out of three! We want to know your personal mode choice to your shopping destination.**
To start, we will present you with combinations of different mobility tools. These combinations represent options like "Bike → Public Transit," where you bike to a station and then take a bus or train to your destination. After that, we will ask you about each individual mobility tool separately, building on your previous answers. We will conduct these procedures four times, with each experiment having different provided values. Some questions may appear similar, but this comprehensive approach allows us to gather a deeper understanding of your preferences.

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Q300.
(Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bike → Transit option involves cycling to a transit station and then taking a bus or train to your destination**. As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q301. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q302. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q303.
(Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q304.

(Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q305.
(Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q306.
(Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

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Q307.
(Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q298.
(Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q299.
(Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

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(Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q305.
(Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q282.
(Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q283.
(Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q284.
(Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

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(Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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(Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q288.
(Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **shopping** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully weigh these factors to select the most suitable option based on your needs and preferences.

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Q289.
(Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q331. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q353. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q332. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q357. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q358. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

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Q359. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q360. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q361. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q362. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q363. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q364. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q365. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q368. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q369. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q370. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q371. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q372. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q373. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q374. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q375. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q376. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q377. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q378. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q379. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q380. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 4.8 min
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $13.1
Waiting Time: 2 min
Total Travel Time: 25.7 min
Total Travel Cost: $16.4

○ ***Driving → Transit → Ride-hailing***

1. Driving
Travel Time: 2.8 min
Travel Cost: $0.6
Parking Cost: $15
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $13.1
Waiting Time: 8 min
Total Travel Time: 42.5 min
Total Travel Cost: $32.0

○ ***Bikeshare→Transit→Ride-hailing***

1. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 2 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $10.9
Waiting Time: 2 min
Total Travel Time: 27.0 min
Total Travel Cost: $17.5

○ ***Ride-hailing → Transit → Ride-hailing***

1. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $10.9
Waiting Time: 5 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $8.8
Waiting Time: 8 min
Total Travel Time: 40.3 min
Total Travel Cost: $23.0

○ ***Bike → Transit → Bikeshare***

1. Bike
Travel Time: 6.4 min
2. Transit
Travel Time: 6.5 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 34.7 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***

1. Driving
Travel Time: 2.1 min
Travel Cost: $0.9
Parking Cost: $5
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 20.4 min
Total Travel Cost: $12.4

○ ***Ride-hailing → Public Transit → Bikeshare***

1. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $10.9
Waiting Time: 2 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.25

Walking Time: 5 min
Total Travel Time: 35.0 min
Total Travel Cost: $17.5

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 2 min
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 34.4 min
Total Travel Cost: $9.8

Q381. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

◉ ***Biking → Transit***
1. Biking
Travel Time: 4.8 min
2. Transit
Travel Time: 8.64 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 28.44 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 2.1 min
Travel Cost: $0.3
Parking Cost: $10
2. Transit
Travel Time: 14.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 26.5 min
Total Travel Cost: $13.6

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $8.8
Waiting Time: 2 min
2. Transit
Travel Time: 14.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 30.5 min
Total Travel Cost: $12.1

○ ***Bike Share → Transit***
1. Bike Share
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 2 min
2. Transit
Travel Time: 16.8 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 31.8 min
Total Travel Cost: $6.5

○ ***Transit → Ride-hailing***
1. Transit
Travel Time: 14.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
2. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $13.1
Waiting Time: 2 min
Total Travel Time: 26.8 min
Total Travel Cost: $16.4

○ ***Transit → Bike Share***
1. Transit
Travel Time: 16.8 min
Travel Cost: $3.3

Waiting & Walking Time: 5 min
2. Bike Share
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 31.8 min
Total Travel Cost: $6.5

Q382. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

- ○ ***Driving***
  Travel Time: 13.9 min
  Travel Cost: $4.3
  Parking Cost: $10
  Total Travel Time: 13.9 min
  Total Travel Cost: $14.3
- ◉ ***Transit***
  Travel Time: 18.0 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  Total Travel Time: 28.0 min
  Total Travel Cost: $3.3
- ○ ***Ride-hailing***
  Travel Time: 15.7 min
  Travel Cost: $24.3
  Waiting Time: 5 min
  Total Travel Time: 20.7 min
  Total Travel Cost: $24.3
- ○ ***Bike Share***
  Travel Time: 32 min
  Travel Cost: $3.2
  Walking Time: 2 min
  Total Travel Time: 34 min
  Total Travel Cost: $3.2
- ○ ***Biking***
  Total Travel Time: 32 min
- ○ ***Biking → Transit***
  1. Biking
  Travel Time: 4.8 min
  2. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 28.44 min
  Total Travel Cost: $3.3

Q383. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

- ○ ***Bike → Transit → Ride-hailing***
  1. Bike
  Travel Time: 6.4 min
  2. Transit
  Travel Time: 12.6 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  3. Ride-hailing
  Travel Time: 3.1 min
  Travel Cost: $13.1
  Waiting Time: 5 min
  Total Travel Time: 42.1 min
  Total Travel Cost: $16.4
- ○ ***Driving → Transit → Ride-hailing***
  1. Driving
  Travel Time: 3.6 min
  Travel Cost: $0.6
  Parking Cost: $15
  2. Transit
  Travel Time: 12.6 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  3. Ride-hailing
  Travel Time: 4.1 min

Travel Cost: $13.1
Waiting Time: 8 min
Total Travel Time: 43.3 min
Total Travel Cost: $32.0

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.2
Walking Time: 8 min
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 3.1 min
Travel Cost: $13.1
Waiting Time: 5 min
Total Travel Time: 50.1 min
Total Travel Cost: $19.7

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 3.1 min
Travel Cost: $10.9
Waiting Time: 5 min
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $10.9
Waiting Time: 5 min
Total Travel Time: 44.8 min
Total Travel Cost: $25.2

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 6.4 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 40.2 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 2.8 min
Travel Cost: $0.6
Parking Cost: $15
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 8 min
Total Travel Time: 46.4 min
Total Travel Cost: $22.1

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $10.9
Waiting Time: 8 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 42.6 min
Total Travel Cost: $17.5

◉ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.2
Walking Time: 5 min
2. Transit
Travel Time: 6.5 min
Travel Cost: $3.3

Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 29.7 min
Total Travel Cost: $9.8

Q384. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

- (●) ***Biking → Transit***
  1. Biking
  Travel Time: 4.8 min
  2. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 24.2 min
  Total Travel Cost: $3.3
- ( ) ***Driving → Transit***
  1. Driving
  Travel Time: 3.6 min
  Travel Cost: $0.9
  Parking Cost: $5
  2. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  Total Travel Time: 28.0 min
  Total Travel Cost: $9.2
- ( ) ***Ride-hailing → Transit***
  1. Ride-hailing
  Travel Time: 4.1 min
  Travel Cost: $10.9
  Waiting Time: 5 min
  2. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 40.9 min
  Total Travel Cost: $14.2
- ( ) ***Bike Share → Transit***
  1. Bike Share
  Travel Time: 4.8 min
  Travel Cost: $3.2
  Walking Time: 2 min
  2. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 20.44 min
  Total Travel Cost: $6.5
- ( ) ***Transit → Ride-hailing***
  1. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  2. Ride-hailing
  Travel Time: 3.1 min
  Travel Cost: $10.9
  Waiting Time: 5 min
  Total Travel Time: 34.9 min
  Total Travel Cost: $14.2
- ( ) ***Transit → Bike Share***
  1. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  2. Bike Share
  Travel Time: 6.4 min
  Travel Cost: $3.2
  Walking Time: 5 min
  Total Travel Time: 35.8 min
  Total Travel Cost: $6.5
- ( ) ***Bikeshare → Public Transit → Bikeshare***
  1. Bikeshare
  Travel Time: 6.4 min
  Travel Cost: $3.2

Walking Time: 5 min
2. Transit
Travel Time: 6.5 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 29.7 min
Total Travel Cost: $9.8

Q385. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

- ***Driving***
  Travel Time: 13.9 min
  Travel Cost: $4.3
  Parking Cost: $10
  Total Travel Time: 13.9 min
  Total Travel Cost: $14.3
- ***Transit***
  Travel Time: 18.0 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 23.0 min
  Total Travel Cost: $3.3
- ***Ride-hailing***
  Travel Time: 20.5 min
  Travel Cost: $20.2
  Waiting Time: 8 min
  Total Travel Time: 28.5 min
  Total Travel Cost: $20.2
- ***Bike Share***
  Travel Time: 24 min
  Travel Cost: $3.2
  Walking Time: 2 min
  Total Travel Time: 26 min
  Total Travel Cost: $3.2
- ***Biking***
  Total Travel Time: 24 min
- ***Biking → Transit***
  1. Biking
  Travel Time: 4.8 min
  2. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 24.2 min
  Total Travel Cost: $3.3

Q386. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

- ***Bike → Transit → Ride-hailing***
  1. Bike
  Travel Time: 6.4 min
  2. Transit
  Travel Time: 10.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  3. Ride-hailing
  Travel Time: 3.1 min
  Travel Cost: $10.9
  Waiting Time: 8 min
  Total Travel Time: 38.3 min
  Total Travel Cost: $14.2
- ***Driving → Transit → Ride-hailing***
  1. Driving
  Travel Time: 3.6 min
  Travel Cost: $0.3
  Parking Cost: $5
  2. Transit
  Travel Time: 6.48 min

Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $8.8
Waiting Time: 2 min
Total Travel Time: 19.5 min
Total Travel Cost: $17.3

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.2
Walking Time: 5 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 3.1 min
Travel Cost: $10.9
Waiting Time: 8 min
Total Travel Time: 43.3 min
Total Travel Cost: $17.5

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $8.8
Waiting Time: 8 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $8.8
Waiting Time: 8 min
Total Travel Time: 45.0 min
Total Travel Cost: $20.8

◉ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 4.8 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 43.6 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 2.8 min
Travel Cost: $0.9
Parking Cost: $10
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 35.0 min
Total Travel Cost: $17.4

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 3.1 min
Travel Cost: $13.1
Waiting Time: 5 min
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 50.1 min
Total Travel Cost: $19.7

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.2

Walking Time: 8 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 6.4 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 51.2 min
Total Travel Cost: $9.8

Q387. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

- (●) ***Biking → Transit***
  1. Biking
  Travel Time: 4.8 min
  2. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 24.2 min
  Total Travel Cost: $3.3
- ( ) ***Driving → Transit***
  1. Driving
  Travel Time: 3.6 min
  Travel Cost: $0.9
  Parking Cost: $5
  2. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 17.3 min
  Total Travel Cost: $9.2
- ( ) ***Ride-hailing → Transit***
  1. Ride-hailing
  Travel Time: 3.1 min
  Travel Cost: $13.1
  Waiting Time: 5 min
  2. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 39.9 min
  Total Travel Cost: $16.4
- ( ) ***Bike Share → Transit***
  1. Bike Share
  Travel Time: 4.8 min
  Travel Cost: $3.2
  Walking Time: 2 min
  2. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 30.44 min
  Total Travel Cost: $6.5
- ( ) ***Transit → Ride-hailing***
  1. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  2. Ride-hailing
  Travel Time: 2.4 min
  Travel Cost: $10.9
  Waiting Time: 8 min
  Total Travel Time: 26.8 min
  Total Travel Cost: $14.2
- ( ) ***Transit → Bike Share***
  1. Transit
  Travel Time: 14.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  2. Bike Share
  Travel Time: 6.4 min
  Travel Cost: $3.2
  Walking Time: 5 min
  Total Travel Time: 40.8 min
  Total Travel Cost: $6.5

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 4.8 min
2. Transit
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 43.6 min
Total Travel Cost: $6.5

Q388. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

○ ***Driving***
Travel Time: 18.1 min
Travel Cost: $1.4
Parking Cost: $5
Total Travel Time: 18.1 min
Total Travel Cost: $6.4

◉ ***Transit***
Travel Time: 10.8 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 25.8 min
Total Travel Cost: $3.3

○ ***Ride-hailing***
Travel Time: 20.5 min
Travel Cost: $20.2
Waiting Time: 8 min
Total Travel Time: 28.5 min
Total Travel Cost: $20.2

○ ***Bike Share***
Travel Time: 32 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 37 min
Total Travel Cost: $3.2

○ ***Biking***
Total Travel Time: 32 min

○ ***Biking → Transit***
1. Biking
Travel Time: 4.8 min
2. Transit
Travel Time: 14.4 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 24.2 min
Total Travel Cost: $3.3

Q389. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 8.0 min
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $8.8
Waiting Time: 8 min
Total Travel Time: 29.9 min
Total Travel Cost: $12.1

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 2.1 min
Travel Cost: $0.9
Parking Cost: $5

2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $8.8
Waiting Time: 2 min
Total Travel Time: 18.0 min
Total Travel Cost: $17.9

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.2
Walking Time: 5 min
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $8.8
Waiting Time: 2 min
Total Travel Time: 35.6 min
Total Travel Cost: $15.3

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $13.1
Waiting Time: 8 min
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 2.4 min
Travel Cost: $13.1
Waiting Time: 2 min
Total Travel Time: 26.3 min
Total Travel Cost: $29.6

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 8.0 min
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 8 min
Total Travel Time: 38.4 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 3.6 min
Travel Cost: $0.3
Parking Cost: $5
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 21.9 min
Total Travel Cost: $11.8

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 4.1 min
Travel Cost: $8.8
Waiting Time: 8 min
2. Transit
Travel Time: 6.48 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 4.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 30.4 min
Total Travel Cost: $15.3

◉ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare

Travel Time: 4.8 min
Travel Cost: $3.2
Walking Time: 2 min
2. Transit
Travel Time: 12.6 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 8.0 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 50.4 min
Total Travel Cost: $9.8

Q390. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

- (●) ***Biking → Transit***
  1. Biking
  Travel Time: 6.4 min
  2. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 38.2 min
  Total Travel Cost: $3.3
- ( ) ***Driving → Transit***
  1. Driving
  Travel Time: 2.1 min
  Travel Cost: $0.9
  Parking Cost: $10
  2. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 15.8 min
  Total Travel Cost: $14.2
- ( ) ***Ride-hailing → Transit***
  1. Ride-hailing
  Travel Time: 2.4 min
  Travel Cost: $8.8
  Waiting Time: 8 min
  2. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 24.1 min
  Total Travel Cost: $12.1
- ( ) ***Bike Share → Transit***
  1. Bike Share
  Travel Time: 6.4 min
  Travel Cost: $3.2
  Walking Time: 8 min
  2. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 46.2 min
  Total Travel Cost: $6.5
- ( ) ***Transit → Ride-hailing***
  1. Transit
  Travel Time: 8.64 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  2. Ride-hailing
  Travel Time: 4.1 min
  Travel Cost: $8.8
  Waiting Time: 2 min
  Total Travel Time: 17.7 min
  Total Travel Cost: $12.1
- ( ) ***Transit → Bike Share***
  1. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  2. Bike Share
  Travel Time: 4.8 min
  Travel Cost: $3.2
  Walking Time: 8 min

Total Travel Time: 44.6 min
Total Travel Cost: $6.5

- ***Bikeshare → Public Transit → Bikeshare***
  1. Bikeshare
  Travel Time: 4.8 min
  Travel Cost: $3.2
  Walking Time: 2 min
  2. Transit
  Travel Time: 12.6 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  3. Bikeshare
  Travel Time: 8.0 min
  Travel Cost: $3.25
  Walking Time: 8 min
  Total Travel Time: 50.4 min
  Total Travel Cost: $9.8

Q391. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

- ***Driving***
  Travel Time: 13.9 min
  Travel Cost: $2.9
  Parking Cost: $15
  Total Travel Time: 13.9 min
  Total Travel Cost: $17.9
- ***Transit***
  Travel Time: 21.0 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 36.0 min
  Total Travel Cost: $3.3
- ***Ride-hailing***
  Travel Time: 12.1 min
  Travel Cost: $20.2
  Waiting Time: 2 min
  Total Travel Time: 14.1 min
  Total Travel Cost: $20.2
- ***Bike Share***
  Travel Time: 40 min
  Travel Cost: $3.2
  Walking Time: 8 min
  Total Travel Time: 48 min
  Total Travel Cost: $3.2
- ***Biking***
  Total Travel Time: 40 min
- ***Biking → Transit***
  1. Biking
  Travel Time: 6.4 min
  2. Transit
  Travel Time: 16.8 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 38.2 min
  Total Travel Cost: $3.3

Q392. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q393. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q394. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q395. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q396. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q397. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q398. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q399. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

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Q400. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q401. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q402. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q403. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q404. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q405. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q406. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q407. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q408. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. Several combinations of travel methods are available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q409. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q410. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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This question was not displayed to the respondent.

Q412. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q413. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision,**

please note that travel time, cost, and waiting time may vary between experiments. Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q414. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. Several combinations of travel methods are available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q415. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q416. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q418. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q419. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q422. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q424. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q425. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. There are several combinations of travel methods available. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a transit to a station near your destination, and then using a bikeshare to get the destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q426. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **shopping** destination. Several combinations of travel methods are available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q427. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **shopping** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q625.
Welcome to our Leisure Trip Mode Choices Part, the final scenario out of three scenarios! We would like to understand your preferred mode of transportation for leisure trips.
To start, we will present you with combinations of different mobility tools. These combinations represent options like "Bike → Public Transit," where you bike to a station and then take a bus or train to your destination. After that, we will ask you about each individual mobility tool separately, building on your previous answers. We will conduct these procedures four times, with each experiment having different provided values. Some questions may appear similar, but this comprehensive approach allows us to gather a deeper understanding of your preferences.

Q865.
(Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments**. Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q866. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q867. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios. Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q868.
(Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q869.
(Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then

taking a bus or train to your destination. As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios. Carefully weigh these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q870.
(Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q871.
(Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios. Carefully weigh these factors to select the most suitable option based on your needs and preferences.

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(Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios. Carefully weigh these factors to select the most suitable option based on your needs and preferences.

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(Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **3 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For instance, the Bicycling → Public Transit option involves cycling to a transit station and then taking a bus or train to your destination. As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios. Carefully weigh these factors to select the most suitable option based on your needs and preferences.

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(Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **3 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

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Q889. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

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Q890. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

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Q892. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q893. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q894. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q895. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q896. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q897. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q898. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q899. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q900. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q901. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q902. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q903. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q904. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bike → Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q905. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking

→ Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q906. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q907. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q908. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q909. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q910. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q911. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q912. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q913. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q914. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q915. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q916. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q917. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q918. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q919. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q920. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q921. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q922. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q923. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **8 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q924. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **8 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q925. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 7.8 min
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $14.9
Waiting Time: 2 min
Total Travel Time: 29.2 min
Total Travel Cost: $18.2

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 3.5 min
Travel Cost: $1.4
Parking Cost: $5
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $9.9
Waiting Time: 2 min
Total Travel Time: 27.7 min
Total Travel Cost: $19.6

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 7.8 min
Travel Cost: $3.2
Walking Time: 2 min
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $9.9
Waiting Time: 2 min
Total Travel Time: 34.0 min
Total Travel Cost: $16.5

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $9.9
Waiting Time: 5 min
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $9.9
Waiting Time: 8 min
Total Travel Time: 39.1 min
Total Travel Cost: $23.1

◉ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 13.0 min
2. Transit
Travel Time: 10.5 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.2

Walking Time: 2 min
Total Travel Time: 53.5 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 3.5 min
Travel Cost: $0.5
Parking Cost: $10
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 7.8 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 28.8 min
Total Travel Cost: $17.0

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $9.9
Waiting Time: 2 min
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 7.8 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 34.0 min
Total Travel Cost: $16.5

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 8 min
2. Transit
Travel Time: 20.5 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 7.8 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 66.7 min
Total Travel Cost: $9.8

Q926. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

◉ ***Biking → Transit***
1. Biking
Travel Time: 10.4 min
2. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 52.7 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 3.5 min
Travel Cost: $0.5
Parking Cost: $15
2. Transit
Travel Time: 14.04 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 27.5 min
Total Travel Cost: $18.8

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $9.9
Waiting Time: 8 min
2. Transit
Travel Time: 14.04 min

Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 33.7 min
Total Travel Cost: $13.2

○ ***Bike Share → Transit***
1. Bike Share
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 8 min
2. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 58.3 min
Total Travel Cost: $6.5

○ ***Transit → Ride-hailing***
1. Transit
Travel Time: 23.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
2. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $14.9
Waiting Time: 2 min
Total Travel Time: 37.3 min
Total Travel Cost: $18.2

○ ***Transit → Bike Share***
1. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
2. Bike Share
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 8 min
Total Travel Time: 58.3 min
Total Travel Cost: $6.5

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 13.0 min
2. Transit
Travel Time: 10.5 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 53.5 min
Total Travel Cost: $6.5

Q927. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

○ ***Driving***
Travel Time: 22.5 min
Travel Cost: $4.7
Parking Cost: $15
Total Travel Time: 22.5 min
Total Travel Cost: $19.7

◉ ***Transit***
Travel Time: 34.1 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 49.1 min
Total Travel Cost: $3.3

○ ***Ride-hailing***
Travel Time: 33.3 min
Travel Cost: $22.0
Waiting Time: 2 min
Total Travel Time: 35.3 min
Total Travel Cost: $22.0

○ ***Bike Share***
Travel Time: 65 min
Travel Cost: $3.2
Walking Time: 2 min
Total Travel Time: 67 min
Total Travel Cost: $3.2

○ ***Biking***
Total Travel Time: 65 min

○ ***Biking → Transit***
1. Biking
Travel Time: 10.4 min
2. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 52.7 min
Total Travel Cost: $3.3

Q928. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 10.4 min
2. Transit
Travel Time: 17.55 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $12.4
Waiting Time: 8 min
Total Travel Time: 49.9 min
Total Travel Cost: $15.7

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 4.5 min
Travel Cost: $0.9
Parking Cost: $15
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 5.1 min
Travel Cost: $14.9
Waiting Time: 8 min
Total Travel Time: 53.1 min
Total Travel Cost: $34.1

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
2. Transit
Travel Time: 17.55 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $12.4
Waiting Time: 2 min
Total Travel Time: 48.9 min
Total Travel Cost: $18.9

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 5.1 min
Travel Cost: $12.4
Waiting Time: 5 min
2. Transit
Travel Time: 10.53 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $9.9
Waiting Time: 2 min
Total Travel Time: 34.3 min
Total Travel Cost: $25.6

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 10.4 min
2. Transit
Travel Time: 10.5 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min

3. Bikeshare
Travel Time: 7.8 min
Travel Cost: $3.2
Walking Time: 8 min
Total Travel Time: 41.7 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 5.9 min
Travel Cost: $1.4
Parking Cost: $5
2. Transit
Travel Time: 17.55 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 48.8 min
Total Travel Cost: $13.0

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $9.9
Waiting Time: 8 min
2. Transit
Travel Time: 17.55 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 54.9 min
Total Travel Cost: $16.5

◉ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 8 min
2. Transit
Travel Time: 17.6 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.25
Walking Time: 2 min
Total Travel Time: 58.5 min
Total Travel Cost: $9.8

Q929. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

◉ ***Biking → Transit***
1. Biking
Travel Time: 10.4 min
2. Transit
Travel Time: 23.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 43.8 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 4.5 min
Travel Cost: $1.4
Parking Cost: $10
2. Transit
Travel Time: 23.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 37.9 min
Total Travel Cost: $14.7

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $12.4

Waiting Time: 8 min
2. Transit
Travel Time: 23.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 45.3 min
Total Travel Cost: $15.7

- ◯ ***Bike Share → Transit***
  1. Bike Share
  Travel Time: 7.8 min
  Travel Cost: $3.2
  Walking Time: 8 min
  2. Transit
  Travel Time: 23.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 44.2 min
  Total Travel Cost: $6.5
- ◯ ***Transit → Ride-hailing***
  1. Transit
  Travel Time: 23.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  2. Ride-hailing
  Travel Time: 6.7 min
  Travel Cost: $9.9
  Waiting Time: 2 min
  Total Travel Time: 40.1 min
  Total Travel Cost: $13.2
- ◯ ***Transit → Bike Share***
  1. Transit
  Travel Time: 23.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  2. Bike Share
  Travel Time: 10.4 min
  Travel Cost: $3.2
  Walking Time: 5 min
  Total Travel Time: 53.8 min
  Total Travel Cost: $6.5
- ◯ ***Bikeshare → Public Transit → Bikeshare***
  1. Bikeshare
  Travel Time: 13.0 min
  Travel Cost: $3.2
  Walking Time: 8 min
  2. Transit
  Travel Time: 17.6 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  3. Bikeshare
  Travel Time: 13.0 min
  Travel Cost: $3.25
  Walking Time: 2 min
  Total Travel Time: 58.5 min
  Total Travel Cost: $9.8

Q930. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

- ◯ ***Driving***
  Travel Time: 17.3 min
  Travel Cost: $7.0
  Parking Cost: $5
  Total Travel Time: 17.3 min
  Total Travel Cost: $12.0
- ◉ ***Transit***
  Travel Time: 29.2 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 34.2 min
  Total Travel Cost: $3.3
- ◯ ***Ride-hailing***
  Travel Time: 25.5 min
  Travel Cost: $27.5
  Waiting Time: 8 min
  Total Travel Time: 33.5 min
  Total Travel Cost: $27.5
- ◯ ***Bike Share***
  Travel Time: 39 min
  Travel Cost: $3.2

Walking Time: 2 min
Total Travel Time: 41 min
Total Travel Cost: $3.2

- ***Biking***
  Total Travel Time: 52 min

- ***Biking → Transit***
  1. Biking
  Travel Time: 10.4 min
  2. Transit
  Travel Time: 23.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  Total Travel Time: 43.8 min
  Total Travel Cost: $3.3

Q931. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

- ***Bike → Transit → Ride-hailing***
  1. Bike
  Travel Time: 13.0 min
  2. Transit
  Travel Time: 20.475 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  3. Ride-hailing
  Travel Time: 6.7 min
  Travel Cost: $14.9
  Waiting Time: 5 min
  Total Travel Time: 60.1 min
  Total Travel Cost: $18.2

- ***Driving → Transit → Ride-hailing***
  1. Driving
  Travel Time: 4.5 min
  Travel Cost: $0.9
  Parking Cost: $10
  2. Transit
  Travel Time: 17.55 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  3. Ride-hailing
  Travel Time: 5.1 min
  Travel Cost: $12.4
  Waiting Time: 5 min
  Total Travel Time: 42.1 min
  Total Travel Cost: $26.6

- ***Bikeshare→Transit→Ride-hailing***
  1. Bikeshare
  Travel Time: 13.0 min
  Travel Cost: $3.2
  Walking Time: 8 min
  2. Transit
  Travel Time: 20.475 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  3. Ride-hailing
  Travel Time: 6.7 min
  Travel Cost: $14.9
  Waiting Time: 8 min
  Total Travel Time: 71.1 min
  Total Travel Cost: $21.4

- ***Ride-hailing → Transit → Ride-hailing***
  1. Ride-hailing
  Travel Time: 3.9 min
  Travel Cost: $9.9
  Waiting Time: 8 min
  2. Transit
  Travel Time: 20.475 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  3. Ride-hailing
  Travel Time: 6.7 min
  Travel Cost: $14.9
  Waiting Time: 5 min
  Total Travel Time: 59.1 min
  Total Travel Cost: $28.1

- (●)

Bike → Transit → Bikeshare
1. Bike
Travel Time: 10.4 min
2. Transit
Travel Time: 17.6 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 53.4 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 5.9 min
Travel Cost: $0.9
Parking Cost: $15
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 8 min
Total Travel Time: 62.4 min
Total Travel Cost: $22.5

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $14.9
Waiting Time: 8 min
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 71.1 min
Total Travel Cost: $21.4

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
2. Transit
Travel Time: 17.6 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 58.4 min
Total Travel Cost: $9.8

Q932. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

◉ ***Biking → Transit***
1. Biking
Travel Time: 7.8 min
2. Transit
Travel Time: 14.04 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 26.84 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 5.9 min
Travel Cost: $1.4
Parking Cost: $5
2. Transit
Travel Time: 14.04 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min

Total Travel Time: 24.9 min
Total Travel Cost: $9.7

- ***Ride-hailing → Transit***
  1. Ride-hailing
  Travel Time: 5.1 min
  Travel Cost: $14.9
  Waiting Time: 5 min
  2. Transit
  Travel Time: 27.3 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  Total Travel Time: 52.4 min
  Total Travel Cost: $18.2

- ***Bike Share → Transit***
  1. Bike Share
  Travel Time: 7.8 min
  Travel Cost: $3.2
  Walking Time: 2 min
  2. Transit
  Travel Time: 14.04 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 28.84 min
  Total Travel Cost: $6.5

- ***Transit → Ride-hailing***
  1. Transit
  Travel Time: 27.3 min
  Travel Cost: $3.3
  Waiting & Walking Time: 15 min
  2. Ride-hailing
  Travel Time: 5.1 min
  Travel Cost: $14.9
  Waiting Time: 5 min
  Total Travel Time: 47.4 min
  Total Travel Cost: $18.2

- ***Transit → Bike Share***
  1. Transit
  Travel Time: 23.4 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  2. Bike Share
  Travel Time: 10.4 min
  Travel Cost: $3.2
  Walking Time: 5 min
  Total Travel Time: 48.8 min
  Total Travel Cost: $6.5

- ***Bike → Transit → Bikeshare***
  1. Bike
  Travel Time: 10.4 min
  2. Transit
  Travel Time: 17.6 min
  Travel Cost: $3.3
  Waiting & Walking Time: 10 min
  3. Bikeshare
  Travel Time: 10.4 min
  Travel Cost: $3.2
  Walking Time: 5 min
  Total Travel Time: 53.4 min
  Total Travel Cost: $6.5

Q933. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

- ***Driving***
  Travel Time: 22.5 min
  Travel Cost: $4.7
  Parking Cost: $10
  Total Travel Time: 22.5 min
  Total Travel Cost: $14.7

- ***Transit***
  Travel Time: 17.6 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 22.6 min
  Total Travel Cost: $3.3

- ***Ride-hailing***
  Travel Time: 33.3 min
  Travel Cost: $33.0
  Waiting Time: 8 min

Total Travel Time: 41.3 min
Total Travel Cost: $33.0

○ ***Bike Share***
Travel Time: 52 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 57 min
Total Travel Cost: $3.2

○ ***Biking***
Total Travel Time: 39 min

○ ***Biking → Transit***
1. Biking
Travel Time: 7.8 min
2. Transit
Travel Time: 14.04 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 26.84 min
Total Travel Cost: $3.3

Q934. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

○ ***Bike → Transit → Ride-hailing***
1. Bike
Travel Time: 13.0 min
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 5.1 min
Travel Cost: $12.4
Waiting Time: 5 min
Total Travel Time: 58.6 min
Total Travel Cost: $15.7

○ ***Driving → Transit → Ride-hailing***
1. Driving
Travel Time: 4.5 min
Travel Cost: $0.5
Parking Cost: $10
2. Transit
Travel Time: 17.55 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $12.4
Waiting Time: 5 min
Total Travel Time: 41.0 min
Total Travel Cost: $26.2

○ ***Bikeshare→Transit→Ride-hailing***
1. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 8 min
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 5.1 min
Travel Cost: $14.9
Waiting Time: 5 min
Total Travel Time: 66.6 min
Total Travel Cost: $21.4

○ ***Ride-hailing → Transit → Ride-hailing***
1. Ride-hailing
Travel Time: 3.9 min
Travel Cost: $12.4
Waiting Time: 2 min
2. Transit
Travel Time: 17.55 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Ride-hailing
Travel Time: 5.1 min

Travel Cost: $12.4
Waiting Time: 5 min
Total Travel Time: 48.6 min
Total Travel Cost: $28.1

◉ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 7.8 min
2. Transit
Travel Time: 20.5 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 53.7 min
Total Travel Cost: $6.5

○ ***Driving → Public Transit → Bikeshare***
1. Driving
Travel Time: 4.5 min
Travel Cost: $0.9
Parking Cost: $15
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.2
Walking Time: 8 min
Total Travel Time: 61.0 min
Total Travel Cost: $22.5

○ ***Ride-hailing → Public Transit → Bikeshare***
1. Ride-hailing
Travel Time: 5.1 min
Travel Cost: $12.4
Waiting Time: 5 min
2. Transit
Travel Time: 20.475 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
3. Bikeshare
Travel Time: 13.0 min
Travel Cost: $3.25
Walking Time: 8 min
Total Travel Time: 66.6 min
Total Travel Cost: $18.9

○ ***Bikeshare → Public Transit → Bikeshare***
1. Bikeshare
Travel Time: 7.8 min
Travel Cost: $3.2
Walking Time: 2 min
2. Transit
Travel Time: 17.6 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.25
Walking Time: 5 min
Total Travel Time: 52.8 min
Total Travel Cost: $9.8

Q935. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

◉ ***Biking → Transit***
1. Biking
Travel Time: 13.0 min
2. Transit
Travel Time: 14.04 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
Total Travel Time: 32.04 min
Total Travel Cost: $3.3

○ ***Driving → Transit***
1. Driving
Travel Time: 4.5 min
Travel Cost: $0.9

Parking Cost: $10
2. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 46.8 min
Total Travel Cost: $14.2

○ ***Ride-hailing → Transit***
1. Ride-hailing
Travel Time: 5.1 min
Travel Cost: $12.4
Waiting Time: 5 min
2. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
Total Travel Time: 52.4 min
Total Travel Cost: $15.7

○ ***Bike Share → Transit***
1. Bike Share
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
2. Transit
Travel Time: 23.4 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 48.8 min
Total Travel Cost: $6.5

○ ***Transit → Ride-hailing***
1. Transit
Travel Time: 27.3 min
Travel Cost: $3.3
Waiting & Walking Time: 15 min
2. Ride-hailing
Travel Time: 6.7 min
Travel Cost: $12.4
Waiting Time: 5 min
Total Travel Time: 49.0 min
Total Travel Cost: $15.7

○ ***Transit → Bike Share***
1. Transit
Travel Time: 23.4 min
Travel Cost: $3.3
Waiting & Walking Time: 5 min
2. Bike Share
Travel Time: 7.8 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 41.2 min
Total Travel Cost: $6.5

○ ***Bike → Transit → Bikeshare***
1. Bike
Travel Time: 7.8 min
2. Transit
Travel Time: 20.5 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
3. Bikeshare
Travel Time: 10.4 min
Travel Cost: $3.2
Walking Time: 5 min
Total Travel Time: 53.7 min
Total Travel Cost: $6.5

Q936. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

○ ***Driving***
Travel Time: 29.5 min
Travel Cost: $2.3
Parking Cost: $5
Total Travel Time: 29.5 min
Total Travel Cost: $7.3

◉ ***Transit***
Travel Time: 17.6 min
Travel Cost: $3.3
Waiting & Walking Time: 10 min
Total Travel Time: 27.6 min
Total Travel Cost: $3.3

○

Ride-hailing
Travel Time: 25.5 min
Travel Cost: $33.0
Waiting Time: 5 min
Total Travel Time: 30.5 min
Total Travel Cost: $33.0

- ◯ ***Bike Share***
  Travel Time: 52 min
  Travel Cost: $3.2
  Walking Time: 5 min
  Total Travel Time: 57 min
  Total Travel Cost: $3.2
- ◯ ***Biking***
  Total Travel Time: 39 min
- ◯ ***Biking → Transit***
  1. Biking
  Travel Time: 13.0 min
  2. Transit
  Travel Time: 14.04 min
  Travel Cost: $3.3
  Waiting & Walking Time: 5 min
  Total Travel Time: 32.04 min
  Total Travel Cost: $3.3

Q937. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q938. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q939. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q940. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q941. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q942. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q943. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final

leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q944. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q945. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q946. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q947. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q948. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q949. (Experiment 1: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q950. (Experiment 1: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q951. (Experiment 1: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q952. (Experiment 2: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bike → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q953. (Experiment 2: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q954. (Experiment 2: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q955. (Experiment 3: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.** Carefully consider these factors to select the most suitable option based on your needs and preferences.

This question was not displayed to the respondent.

Q956. (Experiment 3: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q957. (Experiment 3: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q958. (Experiment 4: Three Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. Several intermodal options are available, each combining different transportation methods. For example, the Bicycling → Public Transit → Bikeshare option involves cycling to a transit station, taking a bus or train to a station near your destination, and then using a bikeshare for the final leg of your journey. **As you make your decision, please note that travel time, cost, and waiting time may vary between scenarios.**

This question was not displayed to the respondent.

Q959. (Experiment 4: Two Travel Modes Combination). Imagine that you need to travel **13 km** from your home to a **leisure** destination. There are several combinations of travel methods available. For instance, the Biking → Transit option involves cycling to a transit station and then taking transit to your destination. Please select the most suitable option based on your needs and preferences. **As you make your decision, please note that travel time, cost, and waiting time may vary between experiments.**

This question was not displayed to the respondent.

Q960. (Experiment 4: Final Selection of Travel Modes). Imagine you need to travel **13 km** from home to a **leisure** destination. You have various transportation options available, including the ones you provided in your previous answers. Please choose the option that best suits your needs and preferences.

This question was not displayed to the respondent.

Q961.
Welcome to the final part of our survey!

In this part, We're looking into a new "Monthly Travel Pass" for people living in the Greater Toronto and Hamilton Area (GTHA). This pass would be like a subscription, where you pay once a month and get access to different types of transport like buses, trains, bikes, and even cars!

We're interested in what you think about:

1. **Which Discounted Transport Services Are Included: From transit and ride-hailing, to bikeshare and car sharing.**
2. **Price: How much you'd be willing to pay each month.**

We appreciate your response!

C1. (1/5) Please select your preferred monthly plan from the available combinations of discount-based travel modes below.

-	Monthly Plan 1	Monthly Plan 2	None
Transit Services	Unlimited Trips	Unlimited Trips	
Bikeshare Services	No Discount	No Discount	
Car Share Services	20% Discount	No Discount	
Ride-hailing Services	20% Discount	No Discount	
Monthly Fee	$200.00	$150.00	None of these options
-	◯	◯	◯

C2. (2/5) Please select your preferred monthly plan from the available combinations of discount-based travel modes below.

-	Monthly Plan 1	Monthly Plan 2	None
Transit Services	Unlimited Trips	No Discount	
Bikeshare Services	Unlimited Trips	Unlimited Trips	
Car Share Services	20% Discount	20% Discount	
Ride-hailing Services	No Discount	No Discount	
Monthly Fee	$200.00	$100.00	None of these options
-	◯	◯	◯

C3. (3/5) Please select your preferred monthly plan from the available combinations of discount-based travel modes below.

-	Monthly Plan 1	Monthly Plan 2	None
Transit Services	Unlimited Trips	Unlimited Trips	
Bikeshare Services	No Discount	No Discount	
Car Share Services	No Discount	No Discount	
Ride-hailing Services	No Discount	20% Discount	
Monthly Fee	$50.00	$150.00	None of these options
-	◯	◯	◯

C4. (4/5) Please select your preferred monthly plan from the available combinations of discount-based travel modes below.

-	Monthly Plan 1	Monthly Plan 2	None
Transit Services	No Discount	Unlimited Trips	
Bikeshare Services	Unlimited Trips	No Discount	
Car Share Services	20% Discount	20% Discount	
Ride-hailing Services	20% Discount	20% Discount	
Monthly Fee	$250.00	$250.00	None of these options
-	◯	◯	◯

C5. (5/5) Please select your preferred monthly plan from the available combinations of discount-based travel modes below.

-	Monthly Plan 1	Monthly Plan 2	None
Transit Services	No Discount	No Discount	
Bikeshare Services	Unlimited Trips	Unlimited Trips	
Car Share Services	No Discount	No Discount	
Ride-hailing Services	20% Discount	20% Discount	
Monthly Fee	$50.00	$100.00	None of these options
-	◯	◯	◯

Q1. In this last part, we will ask you a few feedback questions.

On a scale of 1 to 10, how much did you enjoy participating in this study?

2

Q2. On a scale of 1 to 10, how much did you enjoy using your smartphone to participate in this study?

10

Q3. Which of the following did you find a problem with while completing the survey? Select all that apply.

- [ ] **Intrusiveness**
- [ ] **Repetitiveness**
- [x] **Tediousness**
- [x] **Application crashed / didn't track trips**
- [ ] **Too long**
- [x] **Too time consuming**
- [ ] **Too many emails**
- [ ] **None**

Q4. Were any of the following parts of the survey unclear to you or difficult to answer? (Select all that apply)

- [ ] **Sign-up survey (only answered by the primary household member)**
- [ ] **Daily activity diary surveys**
- [ ] **Trip validation (mode and purpose) in the application**
- [x] **None**

Q5. Do you think a week is enough to replicate the general pattern of your daily activities? If not, how long do you think is enough?

- (●) **A week is enough**
- ( ) **A month is enough**
- ( ) **A season is enough**
- ( ) **A whole year is enough**

Q6. Are you willing to participate in similar studies in the future? If not, why (optional)?

- (●) **Yes**
- ( ) **No**

Q7. If the incentive was not offered, were you willing to participate in this survey?

- ○ **Yes**
- ◉ **No**

Q8. Which of the following incentives encourages you more to participate in a similar survey?

- ○ **A 1-out-of-100 chance of winning a $1000 valued prize (e.g. an iPad Pro).**
- ◉ **A definite $15 gift card.**

Q9. Which of the following incentives encourages you more to participate in a similar survey?

- ○ **A 1-out-of-50 chance of winning a $500 prize (an iPad mini).**
- ◉ **A definite $15 gift card.**

Q10. Which of the following incentives encourages you more to participate in a similar survey?

- ○ **A 1-out-of-100 chance of winning a $1000 prize (e.g. an iPad Pro).**
- ◉ **A definite $25 gift card.**

Q11. Which of the following incentives encourages you more to participate in a similar survey?

- ○ **A 2-out-of-100 chance of winning a $500 prize (an iPad mini).**
- ◉ **A definite $25 gift card.**

Embedded Data

user_email: jujulina321@hotmail.com

trip_date: June 26th 2023

WD: 23

vers_CBCONJOINT: 222

f9e6742b-0cb9-4937-b93f-77270d79cc72.1.1_CBCONJOINT: Unlimited Trips

08712018-9453-4758-80d6-ea54cfd9ecd1.1.1_CBCONJOINT: $200.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.1.1_CBCONJOINT: No Discount

8d456699-0e3e-47cf-91ad-a11e084da7f1.1.1_CBCONJOINT: 20% Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.1.1_CBCONJOINT: 20% Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.1.2_CBCONJOINT: Unlimited Trips

08712018-9453-4758-80d6-ea54cfd9ecd1.1.2_CBCONJOINT: $150.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.1.2_CBCONJOINT: No Discount

8d456699-0e3e-47cf-91ad-a11e084da7f1.1.2_CBCONJOINT: No Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.1.2_CBCONJOINT: No Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.2.1_CBCONJOINT: Unlimited Trips

08712018-9453-4758-80d6-ea54cfd9ecd1.2.1_CBCONJOINT: $200.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.2.1_CBCONJOINT: Unlimited Trips

8d456699-0e3e-47cf-91ad-a11e084da7f1.2.1_CBCONJOINT: 20% Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.2.1_CBCONJOINT: No Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.2.2_CBCONJOINT: No Discount

08712018-9453-4758-80d6-ea54cfd9ecd1.2.2_CBCONJOINT: $100.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.2.2_CBCONJOINT: Unlimited Trips

8d456699-0e3e-47cf-91ad-a11e084da7f1.2.2_CBCONJOINT: 20% Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.2.2_CBCONJOINT: No Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.3.1_CBCONJOINT: Unlimited Trips

08712018-9453-4758-80d6-ea54cfd9ecd1.3.1_CBCONJOINT: $50.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.3.1_CBCONJOINT: No Discount

8d456699-0e3e-47cf-91ad-a11e084da7f1.3.1_CBCONJOINT: No Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.3.1_CBCONJOINT: No Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.3.2_CBCONJOINT: Unlimited Trips

08712018-9453-4758-80d6-ea54cfd9ecd1.3.2_CBCONJOINT: $150.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.3.2_CBCONJOINT: No Discount

8d456699-0e3e-47cf-91ad-a11e084da7f1.3.2_CBCONJOINT: No Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.3.2_CBCONJOINT: 20% Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.4.1_CBCONJOINT: No Discount

08712018-9453-4758-80d6-ea54cfd9ecd1.4.1_CBCONJOINT: $250.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.4.1_CBCONJOINT: Unlimited Trips

8d456699-0e3e-47cf-91ad-a11e084da7f1.4.1_CBCONJOINT: 20% Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.4.1_CBCONJOINT: 20% Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.4.2_CBCONJOINT: Unlimited Trips

08712018-9453-4758-80d6-ea54cfd9ecd1.4.2_CBCONJOINT: $250.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.4.2_CBCONJOINT: No Discount

8d456699-0e3e-47cf-91ad-a11e084da7f1.4.2_CBCONJOINT: 20% Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.4.2_CBCONJOINT: 20% Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.5.1_CBCONJOINT: No Discount

08712018-9453-4758-80d6-ea54cfd9ecd1.5.1_CBCONJOINT: $50.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.5.1_CBCONJOINT: Unlimited Trips

8d456699-0e3e-47cf-91ad-a11e084da7f1.5.1_CBCONJOINT: No Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.5.1_CBCONJOINT: 20% Discount

f9e6742b-0cb9-4937-b93f-77270d79cc72.5.2_CBCONJOINT: No Discount

08712018-9453-4758-80d6-ea54cfd9ecd1.5.2_CBCONJOINT: $100.00

bf3692c3-73c7-48f0-8a62-656f3b75ef83.5.2_CBCONJOINT: Unlimited Trips

8d456699-0e3e-47cf-91ad-a11e084da7f1.5.2_CBCONJOINT: No Discount

dc80d3d6-0237-45cd-9c4d-16cc5e7682cc.5.2_CBCONJOINT: 20% Discount

revision_CBCONJOINT: f7dec950-04a2-11ee-8075-255c442c9d18

Location Data

Location: (43.8678, -79.442)

Source: GeoIP Estimation

14.7 Appendix G (Survey Documents)

Appendix G:

Survey Documents

Informed Consent

Project Name: **T**oronto **H**ousehold **A**ctivity-**T**ravel **S**urvey (THATS)

Type of Study: Smartphone tracking study

Region of Implementation: **G**reater **T**oronto and **H**amilton **A**rea (GTHA)

Study Leader: Prof. Eric Miller

Please read this form carefully. If anything is unclear or you have additional questions, please contact us by email at thats@utoronto.ca.

1. I have read the Participant Information Sheet and Data Privacy Policy.
2. Questions related to my participation in this study, if any, have been answered in a satisfactory manner.
3. I am aware of the objectives, the timeframe of the study, and the type of data to be collected.
4. I choose to voluntarily participate in this study.
5. I can revoke my consent to participate at any time without stating any reason and without incurring any penalty.
6. I have read and understood the minimum requirements to qualify for the incentive.
7. I had enough time to make my decision.
8. I agree that the responsible investigators and/or members of the Research Ethics Program at the University of Toronto may have confidential access to my data to help ensure participants' protection procedures are followed.

Data Privacy Notice

1. Implementation and Adherence to the Data Privacy Policy

We, the Mobility Network at University of Toronto, Galbraith Building 305, 35 St George St, Toronto ON, M5S 1A4, (hereafter, "we"), provide you with a smartphone application (hereafter, "the app") within the scope of the study entitled *THATS*. The app allows us to track and record your daily movements and mobility behavior for the smartphone study within the scope of the overall *THATS* study. Additionally, we record your responses from online surveys (hereafter, the *THATS* study, the smartphone study, and all online surveys are referred to as "the study"). Your private information is of the utmost importance to us, especially with regard to the collection, processing, and use of personal data. We, therefore, provide you with information related to data privacy in the study.

Please read the data privacy policy carefully before agreeing to participate in the study. We commit to adherence to the data privacy policy as described in the following.

By agreeing to participate in the study, you consent to the collection and use of your data in accordance with the data privacy policy.

2. Purpose of Data Collection

Mobility behavior in the GTHA is increasingly dynamic and diversified in its development. Traditional methods of data collection, such as travel diaries, are unable to incorporate this reality in an accurate manner. By using the app, we aim to generate a better overall picture of your mobility behavior in this study. This will contribute to the improvement of transport policy (e.g., building roads or expanding public transport).

3. Study Description

The purpose of the app is to gain new insights into mobility behavior. We aim to measure key indicators such as transport mode choice, travel times, and transport capacity as well as identify hot spots for different transport modes.

4. Data Collection Methods

Survey Data

We collect survey data using the online survey platform Qualtrics.

Movement Data

We collect your movement data (hereafter, "trip data") using the app. We perform transport analyses using trip data, which allows for the determination of key mobility indicators (e.g., transport mode choice). The Application is also able to provide a personalized estimate of the calories burned during a trip if the user has provided gender, height, weight and age

information. The disclosure of this information by the User is optional and it is not subject to any subsequent data processing since it is stored on the User's smartphone only.

Traditional methods are not suitable for the accurate measurement of trips with different transport modes (inter-modal trips). The app directly measures individual mobility behavior and automatically detects the transport mode. As a result, mobility behavior is measured much more accurately than traditional methods such as surveys or traffic counts.

The raw data is stored on the user's smartphone and continuously sent to a server that performs processing each night to improve the data. These improvements consist of an 8-step treatment:

- GPS position and speed data are collected in the application (telephone side) by querying the smartphone OS, then:
    1. Sent (asynchronously) to the server to be processed on a non-realtime basis (every night) in a processing pipeline.
    2. Recovery of app data already saved in the database.
    3. Breakdown into trips: after 5′ of immobility (configurable threshold), it is considered to be another trip.
    4. Divisions into sections.
    5. Smoothing of sections: correction of potential GPS errors.
    6. Cleaning / temporal resampling of samples.
    7. travel mode detection: the mode is detected according to the speed, and, for public transport, only based on the proximity of the start and the end of the trip (section) and a transport stop collective (public transport stops are found on the OpenStreetMap database queried by the overpass API).
    8. verification of active modes: the mobile app allows the user to inform about an incident and to correct the mode, or complete the reason for a trip.

The server hosting the Application and the data collected: TOR1 is located in Toronto, Canada, at Digital Ocean. No use for commercial purposes of this personal data is made by La Fabrique des Mobilités Québec and its partners (Coop Carbone and Savoir Faire Linux).

Aggregate data is made up of individual data and is the result of a combination of different measurements. They are obtained by adding or averaging the individual values obtained. They make it possible to obtain information on groups that have common characteristics. We can aggregate by location, by characteristics or by analysis criteria.

Data is visible in the "Dashboard" tab and corresponds to the indicators for each user of the application for a period defined by the User. These data are not subject to a specific database and

are calculated on the fly for direct display in the users' application. These are the following indicators:

- total number of kilometers per mode of travel
- number of journeys by mode of travel
- total travel time by mode of travel
- speed by travel mode

5. Classification and Scope of Collected Data

The following summarizes the data collected:

- Primary identification data
  - Username and e-mail address for contact, recruitment, and reimbursement for participation
  - Login credentials for the app
- Survey Data
  - Questions regarding mobility
  - Demographic data
- Smartphone app
  - Time and location
  - Coordinates and accuracy (determined by GPS chip)
  - Gyroscopic sensor data (determined by smartphone sensors)
  - Movement activity from operating system
  - Accuracy of movement activity
  - User agent (make and model of smartphone, operating system version, app version)

6. Data Processing

The survey data of participants in the smartphone study will be linked to the app data. This data will be statistically analyzed.

7. Data Storage

Survey Data

The survey data will be downloaded from Qualtrics to a secure server at the University of Toronto.

App Data

The app only stores collected trip data and the participant number. No other personal data is stored. As soon as the trip data is transmitted to the server, the tracking data in the app is deleted.

8. Data Dissemination

The data is used for scientific publications. Results are presented in the aggregate, which eliminates the possibility of identifying individuals.

9. Distribution to Third Parties

The collected data are not distributed to third parties and only used for research purposes, and will only be processed by La FabMob and Coop Carbone. At the conclusion of the study, the data will be stored for future research projects in the University of Toronto data archive, such that new methods and research questions may be analyzed.

10.Contact with Participants

We will use your email address to send information relevant to the study. We will provide you with access (i.e., links) to online surveys, and brief you on any potential changes in the data privacy policy or study protocol. If you agree at registration, we will provide you with information on the results of the study and may contact you with regard to participating in future studies.

To avoid unnecessary e-mails and cookies, we collect the following information on the sent emails: whether and when an email was opened, and whether any links were clicked on. This information is subject to the same strict privacy regulations as all other personal data. If you do not agree to the collection of this information, please contact the study team (thats@utoronto.ca).

11.Data Deletion

You reserve the right to block or delete all your data at any time. To exercise this right, send an email with the subject "Please delete data" to thats@utoronto.ca from the email address with which you registered for the study. Your data will be removed from the live system and do not enter any further analyses. Deletion of your data is irrevocable and takes place in all storage and backup locations. Once the deletion request has been processed, you receive a confirmation by email. The processing time for this type of request can take up to 30 business days.

12.Data Subject Rights

Right to Revoke and Right to Object

You may object to and/or revoke consent for the use of your data at any time, independently of the above clauses. The lawfulness of the processing of your data up until the point at which you object to or revoke consent for the processing or use of your data remains unaffected.

Right to Amend, Delete, Block, and Restrict

In addition, you reserve the right to amend, block or delete your data collected and stored as part of the study. We explicitly state that legal requirements may exist requiring us to continue storing your data. In this case, the data can only be blocked.

Contact for Exercising Data Subject Rights

The party responsible for the processing of your data is the Mobility Network at the University of Toronto. You can also contact the Research Oversight and Compliance Office – Human Research Ethics Program at ethics.review@utoronto.ca or 416-946-3273 if you have questions about your rights as participants.

13.Contact

E-Mail: thats@utoronto.ca

Private Investigator: Prof. Eric J. Miller / eric.miller@utoronto.ca / 416-978-4076

Information for study participants

1. Goals of the study

The goal of the *THATS* study is to gain new insight into how best to improve transport systems in urban areas in the GTHA. How can mobility become more efficient? What do people expect from transport systems? How does the ongoing digitalization of various aspects of life influence the requirements put toward our transport systems?

2. The study

The study starts with an online survey regarding your household basic socio-demographic data as well as mobility tools and patterns. It further includes an extensive smartphone-based study, where your and your household members' mobility behavior is measured over 7 days. Participation in the smartphone study is by way of a mobile app, which must be installed and activated on your smartphone. The app continuously tracks your geo-position and derives routes and places you have travelled throughout a given day. Apart from the automatically detected position data, we ask you to provide the mode and purpose of each trip. You will also complete an online daily survey at the end of each day to provide further information about your activities on that day and your general travel-activity behaviour. Your data, along with more than 1,000 other study participants, will aid us in understanding current mobility behavior and allow us to contribute to improving the transport system in the GTHA.

3. Timetable of the study

The invitation email you received includes a link to our sign-up survey and a personal code that you may use to log in to the survey. Your email address was provided to us by the Ministry of Transportation, Ontario (MTO) from the TTS (Transportation Tomorrow Survey) where you stated that you are willing to participate in further studies conducted by the University of Toronto. After completing the online survey, you and your household members you invite will be sent an email with instructions to join the smartphone study. Our website contains information on how to install and activate the app. We will track your mobility over the course of one week (7 days) via the app. Tracking takes place in the background, but you need to validate the mode and purpose of the tracked trips. After you successfully complete your study participation, you will be eligible for an incentive you received the information about in the invitation email. We kindly ask you to download and activate the app right after completing the online survey, and at most up to two days later.

4. Requirements for participation

To participate in the smartphone study, you need to fulfil the following requirements:

- 15+ years old (by May 2023).
- Live in the GTHA
- Use of a smartphone that can install the tracking app (Android or iOS).
- Be able to walk 200m without help.
- Must not be staying outside the GTHA for more than two nights over the next 7 days.
- Agree to the terms described in the consent form.

5. Potential Risks

The risks of participating in this study are minimal. However, we have identified the potential risks and mitigated them as explained below:

The monitoring of all activities for a week could be emotionally distressing: To handle this, we assure you that your information will be anonymized right after data collection and will be secured at all times on our servers which can only be accessed by authorized researchers. Moreover, the results will not be published unless aggregated at a very high level from which is impossible to identify any personal information. Also, you have the right to withdraw from the study at any time and easily if they feel distressed (see section 7 below). Finally, each day's information is collected at the end of that day and not in real time. You can answer the questions of a day on the next day(s), whenever they feel comfortable to do so.

The possibility of using the application while driving: Each day's information is collected at the end of that day and not in real time. Therefore, there is absolutely no necessity to use the application while driving.

6. Requirements for Receiving the Incentive

We are pleased to inform you that as a sign of gratitude to participate in our survey, you will be considered for the incentive you received the information about in the invitation email if you meet the following requirements:

- Receipt of the invitation email (including the participant registration code) by the primary household member and app installation instruction email by the primary household member and all invited household members.
- Completion of the sign-up survey. (Only for the primary household members. The household members invited by the primary member will not need to complete the sign-up survey)
- Installing the survey application (Ma Mobilite), giving all the access to the application required for tracking (location, ...) and completing the tracking survey over the 7 days of the study period. You need to label your daily travel records by choosing the mode and

purpose of your trips. Additionally, you need to complete a daily survey at the end of each day no later than a day after its generation.
- The travel diary data provided in the application and the activity diary data provided in the daily surveys should reasonably match regarding the timing of activities and trips.

7. Right to withdraw

You may withdraw from the survey at any time during the study and without stating any reason. You can do so by sending us an email to the email address provided in section 9 below.

8. Data protection

The tracking aims to collect 7 days of validated GPS data. After the 7th day, and making sure all the trips are labeled and all the 7 daily surveys are completed, you need to delete the application to avoid further tracking

If the user deletes the application, the data stored on the application is immediately deleted and the data associated with his token (geographical positions, speeds, routes) in the server are saved unless the user requests the deletion of his data. Data stored locally on the application is kept in the application until the application is deleted. The user can request the deletion of his data stored on the server (geographical positions, speeds, routes) at any time. You can delete the recorded trips using the "delete my data" button provided in the profile section. A page will open where you must paste the identifier in the right place and write the email address with which you identified yourself when you first used the application. Once this is done, check the box “I want to delete my data” and finally click on submit my request. The process also is described in the FAQ section and in instruction videos on our website. On the other hand, you can request to have all your recorded data deleted without stating any reason by contacting us by email. Once your data is deleted, it cannot be restored.

In accordance with the digital data charter, all user data is hosted in Canada, on facilities operated by Digital Ocean. Digital Ocean claims to comply with Canadian legislation regarding the protection of personal data. All elements relating to the security and compliance of Digital Ocean are available on this page: https://www.digitalocean.com/trust/resources/.
The infrastructure of the Application is managed by La Fabrique des Mobilités Québec (https://fabmobqc.ca/). On the University of Toronto side, only the researchers who are directly involved with the project will have access to any personal data, the actual processing, however, is done only after the data was pseudonymized. All personal data will be deleted after the project is completed.

All data will be kept at all times on secure, password-protected servers. Only authorized persons from the study team will have access to the data for research and analysis purposes using virtual machines which are locked down so they cannot upload the data to themselves. The analysis results will also be checked to be aggregated enough before exporting. Respondents will be anonymized

so that they cannot be identified. All the recorded locations will be coded to a geographically aggregate level at which no individual person/location can be identified. Addresses will be deleted once the locations have been geocoded.

The published results of the project will not allow us to identify individuals. The researchers in this study and/or the responsible members of the ethics commission may access the original data for control purposes under strict confidentiality requirements. After the completion of *THATS*, the pseudonymized data will be stored for future research projects in the University of Toronto data archive, so that new methods and research questions may be analyzed. Any new researcher who wants to access the data in the future needs to request that, be evaluated by our research group, and will submit a separate Research Ethics application to be evaluated by the University of Toronto Human Research Ethics Board as well. All researchers can only access the data using virtual machines which are locked down so they cannot upload the data themselves. The analysis results will also be checked to be aggregated enough before exporting. Finally, before storing the data on the archive servers, all the participants' data will be anonymized and mixed with the data from other respondents to eliminate any possibility of identification.

9. Contact

E-Mail: thats@utoronto.ca

Private Investigator: Prof. Eric J. Miller / eric.miller@utoronto.ca / 416-978-4076

Frequently Asked Questions

1. General Inquiries

- **What are the goals of the study?**

The goal of the THATS study is to gain new insight into how best to improve transport systems in urban areas in the GTHA. How can mobility become more efficient? What do people expect from transport systems? How does the ongoing digitalization of various aspects of life influence the requirements put toward our transport systems? For more information, please refer to THATS Study Information Sheet.

- **Who is conducting this project?**

This research project is conducted by the THATS team at the University of Toronto.

- **Why should I participate in this study?**

Mobility behavior in the GTHA is increasingly dynamic and diversified in its development. Traditional methods of data collection, such as travel diaries, are unable to incorporate this reality in an accurate manner. By conducting this survey, your data, along with more than 1,000 other study participants, will aid us in understanding current mobility behavior and allow us to contribute to improving the transport system in the GTHA (e.g., building roads or expanding public transport).

- **How can I participate in the study?**

The invitation email you received includes a link to our sign-up survey and a personal code that you may use to log in to the survey. After completing the online survey, you and the household members you invite will be sent an email with instructions to join the smartphone study. Our website contains information on how to install and activate the app. We will track your mobility over the course of one week (7 days) via the app. Tracking takes place in the background, but you need to validate the mode and purpose of the tracked trips and answer some daily questions. After you successfully complete your study participation, you will be eligible for an incentive you received the information about in the invitation email.

- **What are the inclusion criteria for participating in the smartphone study?**

To participate in the smartphone study, you need to fulfil the following requirements:

- 15+ years old (by May 2023).
- Live in the GTHA
- Use of a smartphone that can install the tracking app (Android or iOS).

- Be able to walk 200m without help.
- Must not be staying outside the GTHA for more than two nights over the next 7 days.
- Agree to the terms described in the consent form.

- **What is the workload associated with participating in the smartphone study?**
  - Sign-up survey: 10 minutes
  - Download and activate the application: 5 minutes
  - Validate the mode, and purpose of your trips and complete the daily survey: 5 to 10 minutes per day

- **What are the requirements to receive the incentive?**

We are pleased to inform you that as a sign of gratitude to participate in our survey, you will be considered for the incentive you received the information about in the invitation email if you meet the following requirements:

- Receipt of the invitation email (including the participant registration code) by the primary household member and app installation instruction email by the primary household member and all invited household members.
- Completion of the sign-up survey. (Only for the primary household members. The household members invited by the primary member will not need to complete the sign-up survey)
- Installing the survey application (Ma Mobilite), giving all the access to the application required for tracking (location, ...) and completing the tracking survey over the 7 days of the study period. You need to label your daily travel records by choosing the mode and purpose of your trips. Additionally, you need to complete a daily survey at the end of each day.
- The travel diary data provided in the application and the activity diary data provided in the daily surveys should reasonably match regarding the timing of activities and trips.

- **Is my data kept safe?**

Your private information is of the utmost importance to us, especially with regard to the collection, saving, and using of personal tracking data. The collected data are under no circumstances distributed to third parties and are only used for research purposes. You reserve the right to block or delete all of your data at any time during the study without giving reasons. All your data will be used strictly anonymously for the analysis of the study. Find more details on data privacy in the Data Privacy Notice.

- **Can I withdraw in the middle of the survey?**

Yes, you may withdraw from the survey at any time during the study and without stating any reason. You can do so by sending an email to thats@utoronto.ca.

2. Sign-Up survey

- **What is the Sign-Up survey about?**

The first stage of the survey involves completing the web-based sign-up survey which is to be completed by the primary household member who received the activation code in their invitation email. The link to the sign-up survey is sent by invitation emails to the contacted household members. This survey asks various questions to gather sociodemographic and mobility information about both the main and other household members. Please note that household members invited by the primary member do not need to complete the sign-up survey.

- **Where do I get a registration code from?**

Only invited participants have access to a registration code. You will find the registration code on the invitation letter sent by the THATS team. If you have not received an invitation letter from us and would like to participate in our study, please send an email to thats@utoronto.ca.

- **Why is my registration code invalid?**

This happens when you have already used your registration code. Please note that your registration code is valid only for you and can be used only once. If your registration code is invalid and you have not used it before, or if you have not received the registration code in your invitation email, please send an email to thats@utoronto.ca, and we will get in touch with you shortly.

3. Application usage

- **What is the name of the smartphone app?**

The application used for this study is called Ma Mobilite and is developed by FABRIQUE DES MOBILITÉS QUÉBEC. It is a simple tracking application that asks you to validate your mode and trips and complete your daily survey.

- **Where can I download the app?**

Use the following links:

- IOS
- Android

To get instructions on how to install the application, please refer to the manual.

- **What will my data be used for?**

The data you provide by using Ma Mobilite will be used to improve our knowledge of mobility. It will help us better understand the changes in behavior regarding mobility, hence better react to citizens' needs.

- **Who has access to my data?**

The data collected will be accessible by THAT'S team and will only be processed by La FabMob and Coop Carbone. The collected data are not distributed to third parties and only used for research purposes and the data will be stored for future research projects in the University of Toronto data archive, such that new methods and research questions may be analyzed.

- **Does the app have access to my location?**

Yes, enabling this feature is crucial for the app to work correctly.

- **Does my location have to be activated at all times?**

Yes, in order to function and record movements, the application must have access to the location at all times. Therefore, the location must be enabled.

- **Does the application require mobile data?**

Ma Mobilite does not use any mobile data and requires very little background data, it can be estimated at 1 MB per month of use.

- **Does it drain my phone battery?**

Ma Mobilite is an ergonomic application that does not drain your battery more than other apps. The app is in standby mode and starts recording as soon as it detects a movement.

- **How can I request the suppression of my data?**

You can request the suppression of your data easily by going to your profile section in the Ma Mobilite app. First, click on the identifier to copy it, and then click on "delete my data". A page should open. Paste the identifier where it is required, and write your email address with which you identified yourself when you first used the app. Then, check the box "I wish to delete my data" and click on "submit my request".

Once the deletion request has been processed, you will receive an email confirming that the data has been deleted.

It may take up to 30 business days to process such a request.

- **How can I get a copy of my data?**

In the profile section, there is an option "download json dump". Clicking on it allows you to choose the date of the data you want to download. Once validated, the file will be downloaded to your phone.
For a copy of all the usage data, please write a request to thats@utoronto.ca.

- **Do I have to give the app permission to view my files?**

The application must be able to access the phone's files in order to store data on the phone's hard drive.

- **I moved and the application did not register my movement.**

It sometimes happens that a movement is not recorded. This can be explained by:

- The closing of the application through the phone system for optimization.
- Incorrectly configured settings, such as disabled location, or the application does not have access to the user's physical activity.
- Once the app is turned off by the system, the app is still open but does not save any data. The system forces the application to cease, causing conflicts in the application's functionality.

If you checked all the above items and still have an issue, please send an email to thats@utoronto.ca.

- **My movement is not displayed correctly.**

The movement may not be displaced correctly in the logbook immediately after it is recorded, it may take some time for it to be displayed correctly.
If, after a few hours, the movement is still not displayed correctly, force the synchronization to transfer the data to the server, so that it can process and analyze it.

- **My dashboard is empty even if movements have been made.**

This can be explained by:

- The data is recent and is not yet displayed on the dashboard. A minimum of 24 hours is required for the data to appear on the dashboard.
- The data has not been analyzed on the server. This problem can occur and can affect the display on the dashboard.
- The data analysis was performed but the server did not determine the correct mode of transportation used during the trips.

To fix this problem, try to synchronize by clicking on the button at the top right of the dashboard.
If you checked all the above items and still have an issue, please send an email to thats@utoronto.ca.

- **My movements are in draft and there is no associated mode to them.**

If there is no mode associated with a movement and it is displaced on the diary page, the data has not been analyzed in the server yet. We kindly ask you to validate the mode, purpose of your trips and complete your daily survey.

- **How do I know if the tracking is working?**

You can tell the tracking has been successful if you can see tracks (paths) and stays (points) on the map on the top of the screen of a given day. You can only validate these recorded tracks and stays. You will know that the information is ready to be validated, thus tracked, when it appears in the calendar. Please write an email to thats@utoronto.ca. if you notice that the tracking does not work.

- **Can I travel abroad during the smartphone study?**

This study requires you to actively track your movements in Canada and you must not be staying outside the GTHA for more than two nights over the next 7 days.

- **Can I turn off the tracking during the smartphone study?**

We recommend that you try to keep your smartphone on and the tracking active for the entire duration of the study. Deactivating the tracking, logging out of the app, or turning off your smartphone can negatively affect the quality of the study results. If you do not track, you are unable to validate the mode and purposes of your trips. This means that the participation won't be successful. Visit the manual for detailed information.

- **I have technical problems with the app.**

Please report any technical malfunctions to thats@utoronto.ca.

14.8 Appendix H (Emails)

Appendix H:

Emails

Survey Invitation Email

Dear ${m://FirstName},

Would you be willing to help make the GTHA Transportation System more efficient?! We have the perfect way for you. You can help us in understanding how households arrange their activities during the week and how that leads to making trips. The knowledge can then be used to help make policy decisions that could reduce traffic congestion and its effects on the environment.

Our team, led by the *University of Toronto* has designed a smartphone-based activity-travel survey. To participate, in the first stage, you need to start by completing a 10-minute sign-up survey the link to which is provided below. You will then receive instructions to install our smartphone application and do the second stage of the survey over 7 days (5 to 10 minutes per day).

As a sign of gratitude, you will receive a **$30 Amazon gift card** upon completing the entire survey. You can also invite your other household members to participate in the second stage of the study. They won't need to complete the sign-up survey. Information about how to invite your household members is provided in the sign-up survey. Each invited household member will receive a **$20 Amazon gift card** upon completing the 7-day smartphone survey.

You and your household members are free to withdraw from the survey at any point during the study.

This survey is approved by the University of Toronto Research Ethics Board. All information that you provide to us will be kept strictly confidential and will be used for university research purposes only. Also, the respondents will be anonymized so that they cannot be identified. For more information, please check our website.

To complete the sign-up survey, please click on the link below and use the email address you received this email on and this registration code:

${m://ExternalDataReference}

Please note that you only have until Sunday, July 2nd at 11:59 pm to start the survey.

THATS (Toronto Household Activity-Travel Survey)

Follow this link to the Survey:

Link to Sign-Up Survey

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

For more information, please visit our website.
If you have any questions or concerns, please do not hesitate to contact us at thats@utoronto.ca.

With Best Regards,

Prof. Eric J. Miller
Department of Civil & Mineral Engineering
University of Toronto
35 St. George St.
Toronto, Ontario
Canada, M5S 1A4

App Installation Instructions Email

Dear participant of *THATS* study,

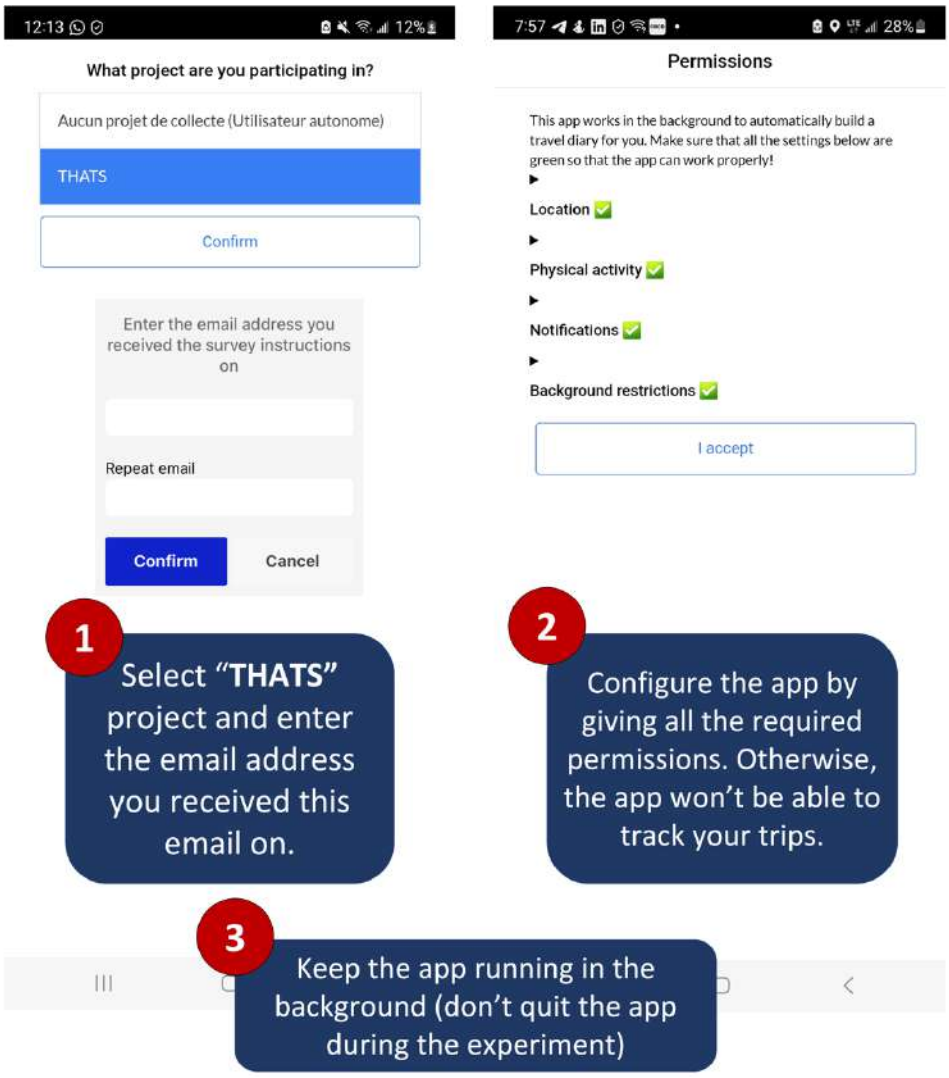
Thanks for your interest in participating in *THATS* Smartphone Survey. To do so, please follow the instructions below.

To start, please install the "Ma Mobilité " application on your smartphone by clicking on the links provided at the bottom of this email. Then, configure the app based on the figures below. We kindly ask you to download and activate the app right after receiving this email, and **at most up to two days later**.

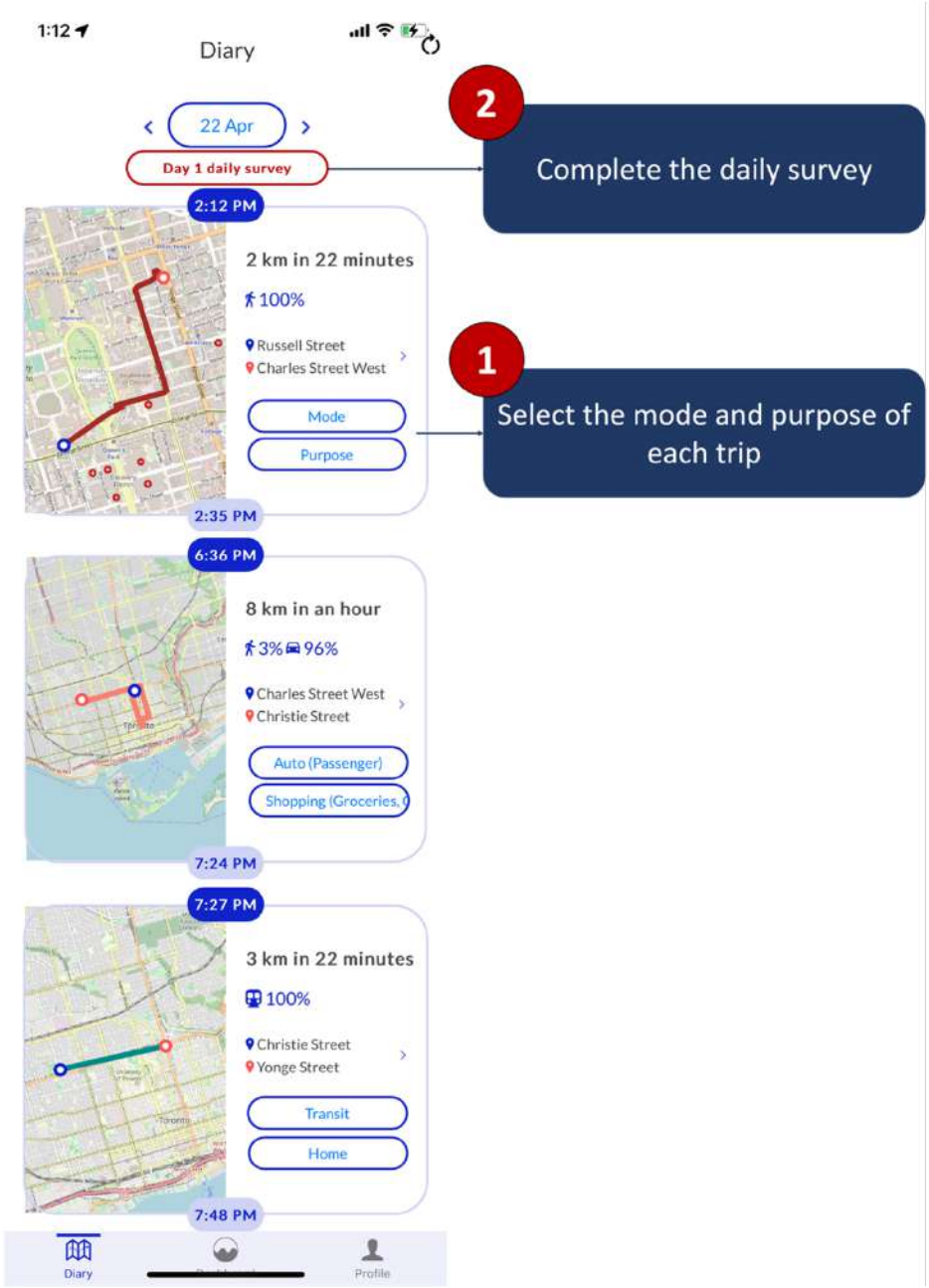
To watch an instruction video on how to install and configure the app, please click on one of the links below depending on the type of your smartphone.

Android instruction video

iOS (iPhone) instruction video



You have to keep the application installed for 7 days. Starting from **the day after the day of installation**, at the end of each day, you will receive a notification asking you to choose the mode and purpose of your tracked trips and complete the daily survey available on the diary page as shown in the figure below.



Please install the application using one of the following links depending on the type of your smartphone.

GET IT ON Google Play

Download on the App Store

By installing the application, you consent to our terms and conditions.

For more information, please visit our website.

If you have any questions or concerns, please do not hesitate to contact us at thats@utoronto.ca.

Best,

THATS Team

Daily Survey Completion Reminder Email

Dear participant of *THATS* study,

This is a kind reminder for you to open the "Ma Mobilité" application on your smartphone, select the **modes and purposes of your trips** and complete the **daily survey** available on the diary page of your days of study up to now.

If the app doesn't respond or gets stuck on a page, close it completely (from the background) and reopen it and this must fix the problem (Once you reopen the app, make sure it is running by going to the profile page and click on "Force sync"). If it still doesn't work, **please try again in an hour or the next day (our servers get a bit busy, especially between 21:00-23:00).**

You can also access your today's daily survey using the link below:

Link to Today's Daily Survey

If none of your trips has been tracked, please make sure you have granted the required permissions to the app by going to: **Open Ma Mobilité → Profile Tab → App Status → Make sure all permissions are ticked green (location access must be on "Always")**.

Ignore this message if you have already done these.

We highly appreciate your valuable contribution to our study.

For more information, please visit our website.
Please DO NOT REPLY to this email and if you have any questions or concerns, send an email to thats@utoronto.ca.

Best,

THATS Team

Survey Completion Email

Dear participant of *THATS* study,

This is the last day of your seven-day experiment.

Please open the "Ma Mobilité " application on your smartphone, make sure the **trips are labelled** and the **daily surveys are completed** for all seven days and then, **delete the application** to avoid further tracking.

We will get back to you soon with the incentive information.

We highly appreciate your valuable contribution to our study.

For more information, please visit our website.
Please DO NOT REPLY to this email and if you have any questions or concerns, send an email to thats@utoronto.ca.

Best,

THATS Team

App Deletion Reminder Email

Dear participant of *THATS* study,

Thank you for taking part in our survey.

This is a kind reminder for you to **delete the "Ma Mobilité " application** to avoid further tracking after making sure the **trips are labelled** and the **daily surveys are completed** for all seven days of study.

Ignore this message if you have already done these.

We highly appreciate your valuable contribution to our study.

For more information, please visit our website.
Please DO NOT REPLY to this email and if you have any questions or concerns, send an email to thats@utoronto.ca.

Best,

THATS Team
