

TP1 - Survey methodologies: study case and analysis

CIV8760E - Transport data management
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September 9 and 23, 2022

This first assignment focuses on survey methods in the transportation field and aims to familiarize yourself with the different types of surveys as well as the process of survey development and administration. This assignment is structured around one assignment:

- A case study!

1 Description

There are different types of surveys that collect data relevant to the analysis of mobility behavior: travel logs, panels, sectional surveys (OD surveys), longitudinal surveys, activity surveys, time use surveys. You are asked to identify an interesting survey experience on mobility and to conduct a literature review. Several cities and countries regularly conduct mobility surveys, so it should not be difficult to identify one. A list of some relevant sites is provided in the appendix, but you are not limited to this one. In particular, you should describe:

- Survey mode (face-to-face, telephone, Internet, etc.) ;
- Reference population (all residents, all users, etc.);
- Sample ;
- Observation period (1 day, 1 week, etc.);
- Sample unit (person, household, etc.);
- Examples of results obtained.

In addition, you must argue what limitations (spatial, temporal, etc.) you believe apply to the analyses from this survey and support these limitations with the elements described above. For example, you might ask at what level of spatial aggregation the survey results can be used, what would be required to analyze a sub-sample, how the observation period (time frame of the survey or the time unit of the survey) or the sample influence the results obtained, or whether the way the questions were asked introduces a bias in the answers. Note that you do not need to include all of the items listed and are not limited to this list of examples.

1.1 Specifications

Important: you must have your choice of survey approved before September 23rd. Quebec surveys are not eligible. Please email your choice to me at frederick.chabot@polymtl.ca and be sure to include a link to the publication.

2 Design and analysis - Web survey

For this second assignment, you must develop a questionnaire on people's mobility and present the highlights. The survey must include "declared preference" type questions related to people's mobility. You can of course draw inspiration from the survey you have previously studied or from various surveys conducted in the Greater Montreal area.

2.1 Survey tool

The questionnaire must be developed on an Internet platform using free software that offers the possibility of exporting the data such as [SurveyMonkey](#). [KwikSurvey](#) also offers this option and [Google Forms](#) allows you to develop surveys in which the answers are directly recorded in a spreadsheet. These free tools have some limitations (number of questions, days of availability of the online survey, number of respondents etc.), but they are sufficient for an interesting experiment. It is up to you to choose the tool according to your skills/experience.

2.2 Specifications

The survey must be online by September 16th and you must ensure that you have at least 25 valid responses for further analysis by the due date (October 6th). Note that it is not mandatory to have all 25 responses for the second lab (September 23rd), but you must be able to begin your analyses with the responses you have. Information on the following items is mandatory:

- HOME address;
- Properties of the HOUSEHOLD (number of persons and vehicles, etc.);
- Properties of the PERSON (age, gender, driver's license, status, car ownership, type of vehicle, TC subscription, communauto - Bixi member, etc.);
- TRIP properties (address, times, modes, O-D, reason, etc.).

You will have to geocode the locations of residence and destinations for spatial representation purposes. You will be able to transform the addresses by acquiring the corresponding coordinates via free web tools, for example using Google Map or [GPS Visualizer's](#). The second tool allows you to transform a complete list in one go. However, you have to register and it is strongly recommended to check the obtained coordinates. Note that special attention should be given to the confidentiality of the questions asked.

In addition, in order to reflect your thinking when designing the questionnaire, you will need to include a brief explanation of the questionnaire (e.g., conceptual choices, question

types, descriptive diagram, sampling plan, etc.). This step will allow you to properly analyze your results.

2.3 Results analysis

You should present the results in the form of aggregate descriptive statistics and, where relevant, include figures and maps to help understand the results. In view of the results obtained, analyze whether the questions you asked allowed you to collect answers with the expected level of precision (were they understood? did they introduce a bias? etc.) and, if not, propose a correction.

3 Submission

This work will be done individually. A report in PDF or Word format, not to exceed **10 pages**, should outline the assignment for this work. The due date is **October 6th, 2021 at 11:59pm**. The file must be submitted in electronic format on Moodle.

Particular attention will be given to the writing (grammar mistakes will be penalized as well as poor organization of the work), counting for a total of two points (10%) on the final grade.

4 Appendix

Some interesting links on transport surveys:

- [Metropolitan Travel Survey Archive](#)
- [New-Zealand travel survey](#)
- [National Household Travel Survey \(NHTS\)](#)
- [Mobidrive survey](#)
- [CHASE Toronto survey](#)
- [Enquête ménages déplacements de Lyon](#)