DMP title

Project Name Generational Differences in Travel Behavior

Project Identifier NA

Grant Title NA

Principal Investigator / **Researcher** Shaila Jamal (Student Investigator)

Project Data Contact NA

Description My PhD research will utilize the data which will be collected by Dr. Bruce Newbold (Principal Investigator) under the project "Automobility in Canada: An Intergenrational Perspective" sponsored by Social Sciences and Humanities Research Council (SSHRC). The PhD research will explore two questions: 1. How is the travel behavior evolving among generations (particularly among baby boomers and millennials)? 2. What are the factors that influencing each generations travel behavior in terms of trip frequency, trip purpose, mode choice, trip duration and trip length and how do these factors differ between and within generations? The primary data will be collected in two phases. Phase 1: A questionnaire survey asking socio-economic conditions, travel behavior and preferences towards residential location and transportation options. Phase 2: Completion of a 7 day travel diary using a GPS device. The dairy will include detail information on travel such as travel duration, trip purpose, trip mode, etc. The GPS device will be used to collect data on the exact activity points (e.g. work, shopping, leisure) which will be used to calculate distances.

Institution McMaster University

Data Collection

What types of data will you collect, create, link to, acquire and/or record?

The database will include both numeric and categorical data along with spatial information (e.g. location, activity points).

What file formats will your data be collected in? Will these formats allow for data re-use, sharing and long-term access to the data?

The database and documents will be stored either in CSV or TXT formats (Open file format).

The '.csv' and '.txt' formats can be accessed by using open source softwares, which will allow re-use, easy and immediate sharing and long term access to data. Proprietary file formats will not be used as when the software is not available, files become unreadable, thus inaccessible.

What conventions and procedures will you use to structure, name and version-control your files to help you and others better understand how your data are organized?

File naming:

- Will use project name or project ID as a unique identifier.
- Will use content naming (e.g. Database, Questionnaire, DataDisctionary).

- Will use sequential version number to keep track of the documents (v01, v02) or with the date (YYYYMMDD).

- Will use '_' to separate elements in the file name.

Examples:

ProjectName_Questionnaire_v01.txt

and/or

ProjectName_Database_20180922.csv

Documentation and Metadata

What documentation will be needed for the data to be read and interpreted correctly in the future?

The following documentation will be needed:

- A brief description of the project background, objectives, research methods.

- A description of data collection methods including questionnaires.

- A data dictionary containing descriptions of the variables and corresponding units, the date and time of data collection, geographic coverage of the data, and explanation of data codes and coding methods. Also, if the data is manipulated, there will be notes on decisions made (ie., if variables are defined, recoded, user-made, etc.).

- A description of the restrictions of data use as the database will contain personal information along with coordinates of the respondents' activity points. To protect confidentiality, the description will also include in what format the data will be shared if needed (e.g. aggregated at a broader geographic boundary or disaggregated data after removing all personal information and coordinates).

- A description of the project collaborators (including their contact information) along with their roles and responsibilities in terms of data management.

- An up-to-date list of the different research outputs (e.g. project report, journal articles, conference papers) that have utilized the data.

How will you make sure that documentation is created or captured consistently throughout your project?

PI will assign a person from the project team who will be responsible for recording and maintaining all project details. They will also ensure that data are properly formatted. The documents will be routinely reviewed and revised by another team member, as well as duplicated for back up storage.

If you are using a metadata standard and/or tools to document and describe your data, please list here.

No.

Storage and Backup

What are the anticipated storage requirements for your project, in terms of storage space (in megabytes, gigabytes, terabytes, etc.) and the length of time you will be storing it?

We are anticipating a total storage demand of 5 GB and electronic versions will be stored for maximum 5 years (untill the end of the project).

How and where will your data be stored and backed up during your research project?

Data will be stored in a file server that will hold the original data file and versions. Only the project team members will have access to it. The computer that is used to manipulate the data will have a firewall, antivirus, disk encryption, and browser security.

How will the research team and other collaborators access, modify, and contribute data throughout the project?

Only the research team (all of whom are based on McMaster University) will have access to the password protected data and contribute according to the project guidelines on expected outcomes. They will use the data through a a file server which will hold the original data file and versions.

In any case, data will not be stored or shared through emails, or third-party commercial file-sharing services (e.g. Google Drive, Dropbox).

Before sharing the data to the outside community, any identifiable information will be removed and only aggregate level information will be shared.

If someone outside the research team becomes interested to use the data or want to be a collaborator in the project, they must need the PI's and project sponsor's approval before accessing the data.

Preservation

Where will you deposit your data for long-term preservation and access at the end of your research project?

There won't be any long term preservation of the data at the end of the project. Data will be destroyed after the completion of the project.

Since the data will be on a server, the IT specialist will oversee the data destruction.

Indicate how you will ensure your data is preservation ready. Consider preservation-friendly file formats, ensuring file integrity, anonymization and de-identification, inclusion of supporting documentation.

Except for the raw data, processed data will only include a person identification number. Data will be preserved in non-proprietary file formats such as '.txt' and '.csv' for use during the project period and after the end of the project period data will be destroyed.

In case of sharing, no personal information will be used and data will be shared at an aggregate level such as average trip distance, activity duration, general location of activities by geographic boundary and/or by age groups.

Sharing and Reuse

What data will you be sharing and in what form? (e.g. raw, processed, analyzed, final).

Raw and processed data will not be shared publicly as they contain personal information. Only analyzed data such as descriptive statistics (percentage, average, standard deviation), graphs, charts, and statiscal model results will be shared as research outputs.

However, with PI's permission data can be shared, but all personal identification (residential location, work location, etc.) will be stripped from the database.

Have you considered what type of end-user license to include with your data?

The project will not need one.

What steps will be taken to help the research community know that your data exists?

As the micro-data won't be shared with public, no steps will be taken.

The research community may know about the data through multiple research outputs such as project report, conference presentations and published journal articles.

Responsibilities and Resources

Identify who will be responsible for managing this project's data during and after the project and the major data management tasks for which they will be responsible.

PI (Dr. Bruce Newbold at McMaster University) will be the responsible person for managing data and other team members will provide assistance in managing, updating, storing data and disseminating research outputs. PI will also be responsible for distributing roles and responsibilities for data administration among the team members.

How will responsibilities for managing data activities be handled if substantive changes happen in the personnel overseeing the project's data, including a change of Principal Investigator?

In case of substantive changes, for example, PI leaves the University, the co-PI will take the lead responsibility for managing the project data. Also, in case of their long term leave of absence, PI will identify other members of the research team to handle data administration.

What resources will you require to implement your data management plan? What do you estimate the overall cost for data management to be?

PI will estimate the overall cost for data management including file strorage and backup and contributions of non-project staff. As the data will be destroyed after the project completion, no cost will be required for the longer-term support after the project is finished.

Ethics and Legal Compliance

If your research project includes sensitive data, how will you ensure that it is securely managed and accessible only to approved members of the project?

As the data includes personal information, to maintain confidentiality, data will be stored on a server as noted and will be destroyed at the end of the project. No personal/confidential information will be released publicly at points of the study.

If applicable, what strategies will you undertake to address secondary uses of sensitive data?

This is not applicable for this project as Research Ethics Board's (REB) approval has not been received as well as consent from the participants has not been taken to share their information with anyone besides the research team.

How will you manage legal, ethical, and intellectual property issues?

To manage legal, ethical and intellectual property issues, a letter of informed consent will be provided to the respondents outlining the following components:

- a brief project backgroud.
- description of potential harm, risks or discomforts.
- description of how researchers will maintain confidentiality of the information.
- description of participation and withdrawal process from the survey.
- a description of ownership and intellectual property of the data obtained through the project.

This document was generated by DMP Assistant (https://assistant.portagenetwork.ca)