Interreg North Sea Region MOVE
European Regional Development Fund

EUROPEAN UNION

Mobility Opportunities Valuable to Everybody (MOVE)

MOVE Data collection methodologies

GHENT UNIVERSITY

UNIVERSITY OF APPLIED SCIENCES

GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN

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1. Introduction

This report discusses the data collection methodologies, as proposed by Ghent University within the Interreg MOVE project. Given the great importance of data within this context, appropriate data collection techniques are indispensable. After explaining the purpose and importance of these methodologies, a general working method to successfully complete and guide every pilot project is proposed. This includes a stepwise formulation of the analysis of both the pilot areas and the proposed mobility solutions. The desired outcome is to work towards future mobility scenarios and to effectuate a change in travel behaviour towards more sustainable forms of transport. Subsequently, the specific data needs in order to achieve these objectives are discussed. Two data collection techniques are proposed: a web survey and a smartphone application for location tracking. After formulating both techniques, it is up to each partner to make a suitable choice and to get started on their own data collection.

2. Objectives

There are several reasons why the collection of appropriate data is important in this project. As a member of 'Work Package 3' (WP3), the overall purpose is to support and coach the partners with the development of sustainable and economically viable mobility solutions through innovative co-creation and the actual implementation of these solutions. In order to accomplish this in a correct and responsible way the HZ University of Applied Sciences, the University of Göttingen and Ghent University were given the task to ensure a common methodological framework and a research based validation of the project activities and results. This translates into providing the participating partners (being IGEMO, HITRANS, NSHH and the municipality of Middelburg) with the appropriate methods and knowledge to succeed in implementing one or more new mobility solutions in their pilot regions. While not actively participating in the co-creation process itself, WP3 gives input into this process to start the general brainstorm and dialogue. More specifically this input consists of the following deliverables: a general methodology to nurture the co-creation process, tools to monitor local mobility flows, in depth research into the pilot areas, analysis of local mobility data, the identification of the travel demand of target groups, impact analysis of the proposed mobility solutions and methodologies to develop a MaaS system in rural, peri-urban and intermediate density areas. It is therefore not surprising that the collection of correct mobility data plays a crucial role in this. Due to problems with the availability and/or comparability of mobility data across national borders, different methods of data collection methods within the aim of this project are proposed.

3. Methodology

As the responsible beneficiary of WP3, Ghent University has developed a methodology to give insight in the mobility demand of target groups in a region and calculate potential service level and impact of proposed mobility solutions. This methodology will be used for all pilot regions, and splits into four sub-tasks:

1. *Give insight in the current mobility situation in the pilot site*. Based on both socio-economical and mobility data of the pilot site, a description of the area can be drawn. Which (target) groups live in this area? What about their travel behaviour? What are their attitudes towards different ways of

travelling? What are the main mobility problems in the area, and where are they located specifically? Are there any (public) transport gaps? Between which zones are the main flows of mobility situated? Where are the main travel demand clusters situated? What is the current service level to basic, regional and metropolitan services? By answering these questions, a general overview of the current mobility status of the pilot site can be drawn up. This will be the basis for the rest of the research.

2. *Model the impact of a mobility solution on the given site*. Given the travel demand description of the pilot site, the impact of a given mobility solution can be calculated. This will be done with a four-step travel demand model, which – as the name indicates – forecasts future transport demand in four sequential steps: trip generation, trip distribution, modal split and trip assignment (de Dios Ortuzar & Willumsen, 2011). This way, the number of trips between each transport analysis zone, the thereby used modes of transport and the exact routes used between each origin and destination pair are estimated. By forecasting the future travel demand of a region, the future performance of both the existing and newly proposed transportation systems can be assessed (Martens & Hurvits, 2011). This way the effectiveness of the proposed pilot initiatives can be estimated before implementation. Post-implementation, the correctness of the model will be re-evaluated by using observed travel data of the region.

3. *Give a view on the mobility future(s) through scenario building.* Based on the current description of the pilot site, certain trend assumptions and the potential mobility impacts of different mobility systems, a prediction towards the near-future can be made. These scenarios then serve as input for the decision-making process at a higher level.

4. *Effectuate a change in travel behaviour on the pilot site*. A series of golden questions is used to segment the population into different mobility profiles. These profiles then help to persuade people in a targeted way to change their travel behaviour and shift towards more sustainable forms of transport (Ladbury, 2013).

4. Data

4.1. Data needs

In order to achieve the above stated objectives using the proposed methodology, a series of data is needed from each pilot site. Figure 1 provides a complete overview of the required data for modelling the future travel demand, working towards different mobility scenarios and effecting a desired change in travel behaviour. The blue circles represent the data to be (possibly actively) collected. Part of is this data has probably already been collected on a higher level and made available for each region. Yet this does not appear to be the case for all the data and all regions. Moreover, this data is often collected independently from each other, while it may be interesting to work with different data types linked to one person. This, and the need to work with the most recent data possible, increases the need to additionally collect data independently.

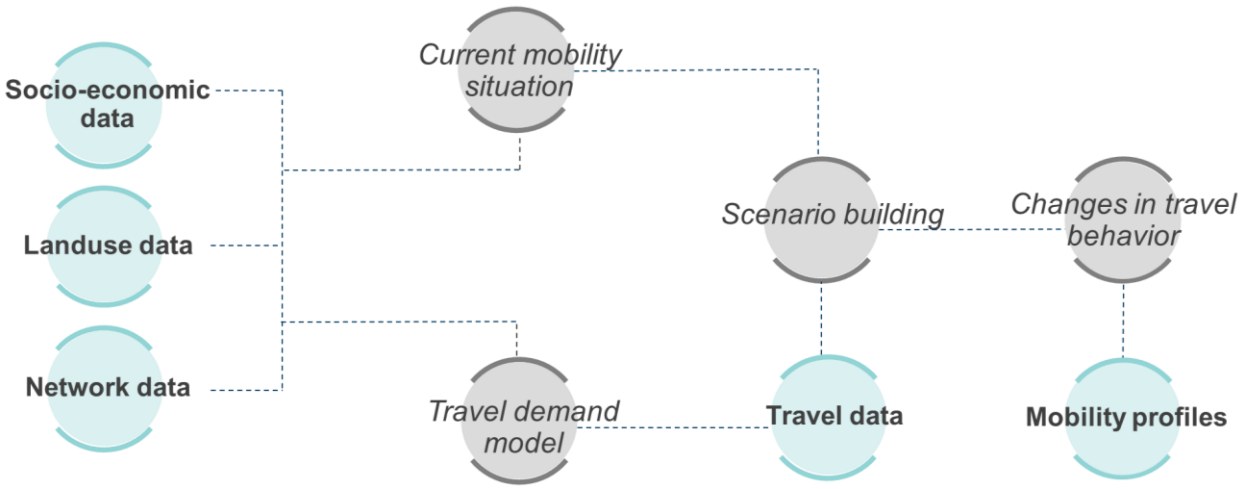

Figure 1 Data needed for modelling and scenario building on a given pilot site

The most important source for all further analyzes starts with the collection of socio-economic data. This includes population numbers, population density, number of households, household size, age, gender, employment status, (household) income, education level, vehicle availability or ownership, etc. It is important that this data is collected and grouped according to a chosen Transportation Analysis Zone (TAZ). Although there are no set rules in the choice of these zones, the statistical sector is usually chosen.

The smaller the scale level of these zones, the more detailed the results of the analyzes will be. In addition, all data must be collected in the same (as recent as possible) base year and, wherever possible, trend assumptions towards the near future will be needed in order to build future possible mobility scenarios.

To subsequently place this data in a spatial context, there is a need for data related to land use and facilities. More specifically, the exact location of important basic, regional and metropolitan facilities is needed. This includes supermarkets, hospitals, doctors, daycare facilities, pharmacies, schools (primary, secondary, tertiary), businesses, central business districts, etc. Another important spatial data type is network data. This data is typically defined in terms of nodes, zones, links, lines and turning relations. The exact definition of each of these terms depends on the data type, as network data can be subdivided into road network data (road lines, functional classification, length, uncongested speed, capacity, one-way versus two-way status, etc.), transit network data (transit lines, schedule data, run time, travel fares, transfer and walking links, etc.) and bicycling and walking network data (biking and walking lines, average travel times by bike and foot, etc.). However, both the land use and network data are not easy to collect, and will have to be gathered from already existing (open) data sources. Analyses with these data sources will reveal where the biggest problems in terms of accessibility occur. With this, and depending on the interests of the various stakeholders, targeted mobility solution can be proposed within this project.

In order to calibrate the travel demand model, and to identify the most important travel patterns in the given pilot site, travel data has to be collected. This refers to origin-destination patterns, segmented by travel purpose and travel mode. Although this kind of data is often already collected, it is usually not open to use for own analysis. Finally, different mobility profiles are drawn up per region, depending on the residents concerned. To create these profiles, attitudinal data towards different mobility related topics is used. Analogous to the SEGMENT project, which developed a methodology for rolling out segmented marketing campaigns for sustainable transport, the population is subdivided into different profiles (Table 2): *Devoted Drivers, Image Improvers, Malcontented Motorists, Active Aspirers, Practical Travelers, Car Contemplators, Public Transport Dependents* and *Car-Free Choosers* (Ladbury, 2013). This way, it becomes possible to set up a targeted marketing campaign to achieve a desired change in travel behavior, and link the mobility profiles to (future) use of proposed mobility solutions.

4.2. Data collection methodologies

4.2.1. Survey

In order to collect the aforementioned data in a rather simple and independent way, and thus ensure the linkage of the data, it is proposed to distribute a (web) survey among the residents of the given pilot region. The University of Ghent designed a complete survey, which can be adapted according to a chosen mobility solution. This survey is divided into 4 parts, bringing together the data needed for this project: travel behaviour, room for own questions, mobility profile and personal data. In the first part, the actual travel behaviour of the inhabitants is questioned in detail. How often do they travel? What transportation modes do they use? How long does their journey take? In addition, the use of the increasingly important shared mobility systems is questioned, as these may play an important role in the future of rural mobility. Both the use of these systems and the reasons for not using it can provide important insights into the potential of these services. Since this type of data is often lacking in existing mobility surveys, this information can also be important for other projects and decision making processes.

Subsequently, some space is left for each partner to drawn up their own questions. These questions may be related to existing rural mobility services within the study area, the willingness-to-pay for proposed mobility solutions, and any other information that each partner considers necessary to bring their pilot project to a successful ending. The third part of the survey attempts then to draw up mobility profiles of the participants, based on a series of attitudinal questions. Here, the respondents are asked to answer a series of 'golden questions' (Table 1), which reflect the respondents attitudes towards car use, cycling, electric vehicles but also climate change and health (Semanjski & Gautama, 2016). The respondents are presented with a series of statements, and are asked to evaluate them by scoring them with a number between 1 and 5 (1 stands for ' I strongly disagree' and 5 for 'I strongly agree'). Based on these answers, each respondent will be classified into one of the six segments from the SEGMENT project (Table 2). This will help the partners to assess the potential of their proposed mobility solutions, and to effect changes in travel behaviour of specific target groups. In addition, this section also asks for possible limitations that people might experience to travel. This can both be physically, mentally, financially and practically and attempts to map possible transport poverty in the region, which is often seen in rural areas.

Table 1: The 'Golden questions' (Anable & Wright, 2013).

The 'Golden questions'
Q1: Have you driven a car or van in the past 12 months?
Q2: For most journeys, I would rather use the car than any other form of transport
Q3: I like to drive just for the fun of it
Q4: I am not interested in reducing my car use
Q5: Driving gives me a way to express myself
Q6: How likely are you to drive in the next 12 months?
Q7: I am not the kind of person who rides a bicycle
Q8: I feel I should cycle more to keep fit
Q9: I find cycling stressful
Q10: Cycling can be the quickest way to travel around
Q11: I like travelling by bicycle
Q12: I am not the kind of person that likes to walk a lot
Q13: I feel I should walk more to keep fit
Q14: I like travelling by walking
Q15: I am not the kind of person to use the public transportation
Q16: In general, I would rather cycle than use the bus
Q17: I feel a moral obligation to reduce my emissions of greenhouse gases
Q18: People should be allowed to use their cars as much as they like

Table 2: User segments (Ladbury, 2013; Semanjski & Gautama, 2016)

Segment	**Short description**
Active aspirers	Have a high moral obligation to the environment and are highly motivated to use active transport modes, predominantly cycling as they believe that it is quick and provides freedom and fitness. They are not public transport users and see lots of problems with using it.
Carfree choosers	Do not like driving and think that cars lead to unhealthy lifestyles, they prefer cycling, public transport (do not think it is stressful or problematic) and walking. They feel a high moral obligation to the environment and are more likely to be women.
Car contemplators	They do not use car, have the highest proportion of non driving licence owners, but would like to as they see cars as status symbols. They see lots of problems with the public transportation use and find it, same as cycling, stressful. They believe walking is healthy and have a neutral or moderate attitude towards the environment.
Devoted drivers	Have no intention of reducing car use and think successful people use car. They do not use public transportation, nor cycling, and think walking is too slow. They are not motivated by fitness and have a very low moral obligation to the environment.
Image improvers	Like to drive, see the car as a way of self-expression and do not want to cut down car use. They do not use the public transportation but see cycling also as way of expressing them self's and a good way to keep fit. They have neutral or moderate environmental attitudes.
Malcontented motorists	They find driving stressful and have a moderately strong intention to reduce car use, but not to increase the use of public transport. Although, they would rather use the public transportation than cycle. They have a small level of environmental consciousness.
Practical travelers	They use car only when necessary as they think that it reduces the quality of life. They prefer cycling, as quicker, over the use of public transportation and would also walk when it seems more practical. They are not motivated by climate change and see local pollution and congestion as issues. They are highly educated and above-average part-time working.
Public transport dependents	They think people should be allowed to use cars and would like to see less congestion (they consider more roads as appropriate solution). They use public transport, although they think that it is not the quickest method. They do not cycle, but would like to walk more for fitness. They are not motivated by the environment, are least likely to start driving and have the highest number of retired people.

Finally, the fourth part is dedicated to personal data of the respondent. This includes age, gender, educational level, income, employment situation, household composition and the possession of car(s) and bicycle(s). In addition, each respondent is also asked about the locations of their frequent travel patterns. Thus, among other things, the respondents are asked for the location of their place of residence, work/school, shop (groceries), etc. For each trip that the respondent stated earlier (in the first part) to do it regularly, an exact origin and destination location will be asked. Due to privacy issues, the respondents are free to choose their own degree of detail in answering these questions by further zooming in on the proposed map in the web survey. The link between this personal data, travel patterns, travel behaviour and the established mobility profiles will be important in drawing up a first mirror of the region, calibrate the travel demand model and subsequently make mobility predictions towards the near future.

To use, change and distribute this survey, each partner will receive a unique Limesurvey login code from Ghent University. This allows the partners to adjust their survey according to their own wishes. Each partner is asked to provide a translation of the default language (English) into their own language. The amount of people that has to be reached for a valid result depends entirely on the partners. The final analysis of the analysis will be done by Ghent University. For a detailed overview of the survey, see Appendix A.

4.2.2. Smartphone tracking

A more complex solution for collecting travel behavior data is the use of a smartphone application. Although this method might be a more expensive solution, the resulting data will be of remarkably higher quality. Every user installs the app on their smartphone and completes the registration process, where one is given the option to allow continuous (locational) data collection in the background, or to actively register their travel behavior through some kind of travel diary. In addition, every user is also asked to complete the 'Golden questions' survey, giving the partners a complete and detailed overview of their travel behavior and attitudes. Please note that Ghent University will not provide this application. Each partner is therefore dependent to choose (and develop) their own means of data collection. Since a similar application is currently running in Zeeland (The Netherlands), reference is made to them for further information.

5. References

Anable, J. & Wright, S. (2013) Segment: Golden Questions and Social Marketing Guidance Report. <http://aura.abdn.ac.uk/bitstream/handle/2164/3226/Deliverable_7.8.4_GOLDEN_QUESTIONS_REPORT_Final_Corrected_27oct13.pdf;jsessionid=8EA06E027477DD190749E428BBC8953B?sequence=1 > (accessed 17th of july 2019).

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APPENDIX A: MOVE Survey

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UNIVERSITY OF APPLIED SCIENCES

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MOVE Survey

Welcome to the **Research Travel Behaviour *'region'*.** Based on this survey, opportunities are being sought to improve the existing offer of transportation options in your region. You were selected to participate in this research conducted by Ghent Univeristy based on your place of residence. Your participation is completely voluntary, and takes approximately **10 minutes** of your time. Please allow only one adult member of your household to participate. All your answers are completely anonymous. You can track your progress via the gray bar at the top of the page. For questions and comments you can always contact us via *'e-mail address'*.

Thanks in advance for your time and effort!

This research is part of an European Interreg project called 'MOVE' or 'Mobility Opportunities Valuable to Everybody'.

There are 32 questions in this survey.

Which trips do you make during an average week? *

Please choose the appropriate response for each item:

	5-7 days a week	2-4 days a week	Once a week or every two weeks	Once a month or every two months	Less often or never
Work or school	◯	◯	◯	◯	◯
Bringing child(ren) to/from school or childcare	◯	◯	◯	◯	◯
Shopping (groceries)	◯	◯	◯	◯	◯
Leisure activities (sports, hobbies and recreation)	◯	◯	◯	◯	◯
Medical appointments (doctor, hospital)	◯	◯	◯	◯	◯
Social activities (visiting friends/family)	◯	◯	◯	◯	◯

How long (in minutes) do you travel on average for a single journey? You can assume a normal traffic situation. *

	Travel time (in minutes)
Work or school	
Bringing child(ren) to/from school or daycare	
Shopping (groceries)	
Leisure activities (sports, hobbies and recreation)	
Medical appointments (doctor, hospital)	
Social activities (visiting friends/family)	

Which (combination of) means of transport do you usually use for a single journey? You can assume a normal traffic situation. *

	Car (driver)	Car (passenger)	Train	Bus/tram/metro	Motorcycle or moped	Bicycle	Taxi	By foot	Other
Work or school	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bringing child(ren) to/from school or daycare	☐	☐	☐	☐	☐	☐	☐	☐	☐
Shopping (groceries)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Leisure activities (sports, hobbies and recreation)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Medical appointments (doctor, hospital)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Social activities (visiting friends/family)	☐	☐	☐	☐	☐	☐	☐	☐	☐

Please indicate all means of transport that apply for a single trip to the destination concerned.

What is your main means of transport for a single journey? You can assume a normal traffic situation. *

Please choose the appropriate response for each item:

	Car (driver)	Car (passenger)	Train	Bus/tram	Motorcycle or moped	Bicycle	Taxi	By foot	Other
Work or school	◯	◯	◯	◯	◯	◯	◯	◯	◯
Bringing child(ren) to/from school or daycare	◯	◯	◯	◯	◯	◯	◯	◯	◯
Shopping (groceries)	◯	◯	◯	◯	◯	◯	◯	◯	◯
Leisure activities (sports, hobbies and recreation)	◯	◯	◯	◯	◯	◯	◯	◯	◯
Medical appointments (doctor, hospital)	◯	◯	◯	◯	◯	◯	◯	◯	◯
Social activites (visiting friends/family)	◯	◯	◯	◯	◯	◯	◯	◯	◯

The main means of transport is the one that covers most of the travelled time.

How often do you use the following shared mobility systems? *

Please choose the appropriate response for each item:

	5-7 days a week	2-4 days a week	Once a week or every two weeks	Once a month or every two months	Less often or never	Never heard of this
Car sharing system (eg. ...)	◯	◯	◯	◯	◯	◯
Bike sharing system (eg. ...)	◯	◯	◯	◯	◯	◯
Ride sharing system (eg. ...)	◯	◯	◯	◯	◯	◯

Car sharing system: a system that enables people to rent locally available cars at any time (according to availability) and for any length of time. The car is put back at an agreed location for the next user.

Bicycle sharing system: a system that enables people to rent locally available bicycles at any time (according to availability) and (usually) for a limited period of time. The bicycle is put back at an agreed location for the next user.

Ride sharing system: a system that enables people to order and pay for a trip through a private application with a private operator. In this way you can ride with someone for a certain ride, so that the costs are shared among the passengers.

How satisfied are you with these shared mobility systems in your region? *

Please choose the appropriate response for each item:

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Car sharing system (eg. ...)	◯	◯	◯	◯	◯
Bike sharing system (eg. ...)	◯	◯	◯	◯	◯
Ride sharing system (eg. ...)	◯	◯	◯	◯	◯

You do not use the following shared mobility systems. Can you indicate the main reason why not? *

Please choose the appropriate response for each item:

	No need	It's too expensive	The provider is too far away	I don't like the concept of sharing	I don't know how this works	Other
Car sharing system (e.g. ...)	◯	◯	◯	◯	◯	◯
Bike sharing ssytem (e.g. ...)	◯	◯	◯	◯	◯	◯
Ride sharing system (e.g. ...)	◯	◯	◯	◯	◯	◯

Please indicate the answer that is most applicable.

Have you driven a car in the past 12 months? *

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

◯ Yes
◯ No

How likely are you to drive a car in the next 12 months? *

Only answer this question if the following conditions are met:
Answer was 'No' at question '8 [G4Q00001]' (Have you driven a car in the past 12 months?)

Please choose the appropriate response for each item:

Very unlikely	Quite unlikely	Neutral (I don't know)	Quite likely	Very likely
◯	◯	◯	◯	◯

Do you have a driver's license to drive a car? *

Only answer this question if the following conditions are met:
Answer was 'No' at question '8 [G4Q00001]' (Have you driven a car in the past 12 months?)

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

◯ Yes
◯ No

Do you sometimes feel limited in your ability to travel? *

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

◯ Yes
◯ No

In which way and how often do you feel limited in your ability to travel? *

Only answer this question if the following conditions are met:
Answer was 'Yes' at question '11 [G4Q00007b]' (Do you sometimes feel limited in your ability to travel?)

Please choose the appropriate response for each item:

	Never	Sometimes	Regularly	Always
Physically	◯	◯	◯	◯
Mentally	◯	◯	◯	◯
Financially	◯	◯	◯	◯
Practically	◯	◯	◯	◯

Physically limited: due to physical conditions, disability or other physical health problems.

Mentally limited: due to mental disorders or feelings of anxiety/unsafety while travelling.

Financially limited: due to a lack of financial resources to pay for the travel costs.

Practically limited: due to a lack of (own) means of transport, a lack of public transport, no driver's license or poor travel infrastructure.

How often do you feel limited in your ability to travel to the destinations stated below? *

Only answer this question if the following conditions are met:
Answer was 'Yes' at question '11 [G4Q00007b]' (Do you sometimes feel limited in your ability to travel?)

Please choose the appropriate response for each item:

	Never	Sometimes	Regularly	Always
Work or school	◯	◯	◯	◯
Bringing child(ren) to/from school or daycare	◯	◯	◯	◯
Shopping (groceries)	◯	◯	◯	◯
Leisure activities	◯	◯	◯	◯
Medical appointments (doctor, hospital)	◯	◯	◯	◯
Social activities (visiting friends/family)	◯	◯	◯	◯

To what extent can you find yourself in the following statements? *

Only answer this question if the following conditions are met:
! is_empty(G4Q00001 (/limesurvey/index.php/admin/questions/sa/view/surveyid/925752/gid/20/qid/485))

Please choose the appropriate response for each item:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Non applicable
For most journeys, I would rather use the car than any other form of transport	◯	◯	◯	◯	◯	◯
I like to drive a car just for the fun of it	◯	◯	◯	◯	◯	◯
I am not interested in reducing my car use	◯	◯	◯	◯	◯	◯
Driving gives me a way to express myself	◯	◯	◯	◯	◯	◯
I am not the kind of person who rides a bicycle	◯	◯	◯	◯	◯	◯
I feel I should cycle more to keep fit	◯	◯	◯	◯	◯	◯
I find cycling stressful/dangerous	◯	◯	◯	◯	◯	◯
Cycling can be the quickest way to travel around	◯	◯	◯	◯	◯	◯
I like travelling by bicycle	◯	◯	◯	◯	◯	◯
I am not the kind of person that likes to walk a lot	◯	◯	◯	◯	◯	◯
I feel I should walk more to keep fit	◯	◯	◯	◯	◯	◯

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Non applicable
I like travelling by walking	◯	◯	◯	◯	◯	◯
I am not the kind of person to use the bus	◯	◯	◯	◯	◯	◯
In general, I would rather cycle than use the bus	◯	◯	◯	◯	◯	◯
I feel a moral obligation to reduce my emissions of greenhouse gases	◯	◯	◯	◯	◯	◯
People should be allowed to use their cars as much as they like	◯	◯	◯	◯	◯	◯

Please indicate 'Neutral' when you have no opinion and 'Non applicable' when you are not able to answer that question.

What is your year of birth? *

Please write your answer here:

What is your gender? *

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

◯ Male

◯ Female

◯ I'd rather not say

What is the highest diploma you have obtained so far? *

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

- ◯ None
- ◯ Primary education
- ◯ Secondary education
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Doctorate
- ◯ Other

What is the total monthly net income of your household? *

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

- ◯ 0 - 1.500 € per month
- ◯ 1.501 - 3.000 € per month
- ◯ 3.001 - 4.500 € per month
- ◯ More than 4.500 € per month
- ◯ I'd rather not specify

The total monthly net income of your household consists of:

- net professional income from work
- net replacement income (unemployment, disability, subsistence income, social assistance support or pension)
- additional net incomes (e.g. rental monthly income)

You may deduct alimony that you may have to pay; You can add alimony that you possibly receive. You do not have to include child allowance.

What is your current home situation? *

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

- ◯ Living alone, with child(ren) living at home
- ◯ Living alone, without children living at home
- ◯ Living together, with child(ren) living at home
- ◯ Living together, without children living at home
- ◯ I live with my parents
- ◯ Other

Children who live with you part-time through co-parenting may also be included.

You are currently: *

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

- ◯ Student
- ◯ Working part time
- ◯ Working full time
- ◯ Unemployed
- ◯ Unable to work
- ◯ Retired
- ◯ Other

How many people from every age group, including yourself, currently live in your household? Write '0' or leave blank for 'none'.

	Number of people
Younger than 12 years old	
12-18 years old	
19-25 years old	
26-44 years old	
45-64 years old	
65+	

A household means all persons who live at the same address as you. You can also include children who live part-time with you through co-parenting.

What is the location of your (main) place of residence? If you prefer not to answer, you can leave this question open.

Please write your answer here:

Please be as specific as possible.

What is the location of your school or work? If you prefer not to answer, you can leave this question open.

Only answer this question if the following conditions are met:
Answer was '5-7 days a week' *or* '2-4 days a week' *or* 'Once a week or every two weeks' at question '1 [G2Q00001]' (Which trips do you make during an average week? (Work or school))

Please write your answer here:

Please be as specific as possible.

What is the location of your children's school or daycare? If you prefer not to answer, you can leave this question open.

Only answer this question if the following conditions are met:
Answer was '2-4 days a week' *or* '5-7 days a week' *or* 'Once a week or every two weeks' at question '1 [G2Q00001]' (Which trips do you make during an average week? (Bringing child(ren) to/from school or childcare))

Please write your answer here:

If there are more than one, please state the location of your most frequently visited school or childcare.

Please be as specific as possible.

What is the location of the place where you do most of your shopping (groceries)? If you prefer not to answer, you can leave this question open.

Only answer this question if the following conditions are met:
Answer was '5-7 days a week' *or* '2-4 days a week' *or* 'Once a week or every two weeks' at question '1 [G2Q00001]' (Which trips do you make during an average week? (Shopping (groceries)))

Please write your answer here:

If there are more than one, please state the location of your most frequently visited shop or supermarket.

Please be as specific as possible.

What is the location of the place where you do most of your leisure activities (sports, hobbies and recreation)? If you prefer not to answer, you can leave this question open.

Only answer this question if the following conditions are met:
Answer was '5-7 days a week' *or* '2-4 days a week' *or* 'Once a week or every two weeks' at question '1 [G2Q00001]' (Which trips do you make during an average week? (Leisure activities (sports, hobbies and recreation)))

Please write your answer here:

If there are more than one, please state the location of your most frequently visited place for leisure activities.

Please be as specific as possible.

What is the location of the place where you go most often for your medical appointments (doctor, hospital)? If you prefer not to answer, you can leave this question open.

Only answer this question if the following conditions are met:
Answer was '5-7 days a week' *or* '2-4 days a week' *or* 'Once a week or every two weeks' at question '1 [G2Q00001]' (Which trips do you make during an average week? (Medical appointments (doctor, hospital)))

Please write your answer here:

If there are more than one, please state the location of your most frequently visited place for your medical appointments.

Please be as specific as possible.

What is the location of the place where you go most often for social activities (visiting friends/family)? If you prefer not to answer, you can leave this question open.

Only answer this question if the following conditions are met:
Answer was '5-7 days a week' *or* '2-4 days a week' *or* 'Once a week or every two weeks' at question '1 [G2Q00001]' (Which trips do you make during an average week? (Social activities (visiting friends/family)))

Please write your answer here:

If there are more than one, please state the location of your most frequently visited place for social activites.

Please be as specific as possible.

How many (personal) cars does your household have? *

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

- ◯ None
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 or more

Take both vehicles that you have purchased yourself and company vehicles into account.

A household means all persons who live at the same address as you. Children who live with you part-time through co-parenting may also be included.

How many bikes does your household have? *

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

- ◯ None
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 or more

A household means all persons who live at the same address as you. Children who live with you part-time through co-parenting may also be included.

Can we contact you again in the future for a few follow-up questions? *

Please choose **all** that apply:

- ☐ Yes
- ☐ No

Thank you for your participation. Please enter your e-mail address or telephone number below.

Only answer this question if the following conditions are met:
Answer was NOT at question '31 [end]' (Can we contact you again in the future for a few follow-up questions?)

Please write your answer here:

Thank you for participating!

If you have any further questions about this research or the data processing by Ghent University, please feel free to contact us via anke.bracke@ugent.be.

Submit your survey.
Thank you for completing this survey.