

Understanding Commuting Mode Selection: A Case Study of Trinity College Dublin

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2025

A dissertation submitted for the degree of Doctor of Philosophy of the University of Dublin, Trinity College, Dublin 2, Ireland. December 2024.

This research was conducted in the School of Psychology, TCD

Declaration

I hereby declare that:

(a) The work contained in this thesis has not been submitted as an exercise for a degree at this, or at any other University.

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Date: 31 / 12 / 2024

Acknowledgements

This thesis represents the culmination of nearly 5 years of research on the topic of Commuting Transport Mode Selection. Throughout these years I have received the support, guidance, and encouragement of many people which has been instrumental.

I would like to thank my supervisor, Dr. Sam Cromie, who believed in the potential of my idea and took me in as his student. His support, guidance, advice, and encouragement has been invaluable. I would also like to acknowledge the support and help Dr. Michael Gormley, who joined as co-supervisor during the first year and provided guidance until the end.

I would like to acknowledge Erika Carroll, who helped with the analysis of the data and provided guidance. I would also like to thank Dr. Siobhán Corrigan whose advice and guidance was essential to complete the research.

I cannot fail to mention the post-graduate researchers of Trinity that I had the pleasure to meet and work over the last 5 years. who not only had provided the support and understanding that only people in your same situation can, but who have also heard, and occasionally joined, all my rants.

Finally, I would like to thank my family, who have supported and encouraged me all this time, even when it meant that I was going to be away from them. In particular, I would like to thank my mum for always believing in me and for all her sacrifices to help me get where I am. I would also like to thank my friends, who have kept me sane.

Abstract

Over the last few decades, the increase of pollution levels and greenhouse gas emissions has been a reason for concern for governments, individuals, and the scientific community. With transportation being a major contributor to the problem, research has focused on the factors involved in Transport Mode Selection.

This thesis focuses specifically on Commuting Transport Mode Selection. Commuting behaviour is largely different from other types of transport-related behaviours due to its specificity and stability. The regular, mostly compulsory nature of commuting heavily restricts the when, where, and how the behaviour happens. However, despite the agreed complexity of commuting, most research has followed a too-narrow approach. Research has presented a wide number of factors involved in transport mode selection in regards of commuting, yet it has failed to consider how the main factors affect the behaviour when studied together. The research conducted in this thesis aims to address this gap, while also widening the methodological approach used. For this, this research was based on two theoretical approaches, the Value-Belief-Norm Theory and the Campbell Paradigm, under which values, attitudes, beliefs, and personal and social norms were studied. Additionally, this research also included a wide range of socio-demographic and contextual factors, such as accessibility.

This study used a combined quantitative-qualitative methodology. The sample were staff and students at Trinity College Dublin. Firstly, a quantitative, questionnaire-based methodology was employed. This aimed to study a wide number of factors with the goal of identifying those that had the stronger impact on mode selection. For this, a repeated measures approach was employed, gathering data at two times. The sample size for Time 1 was of 1029 participants, and for Time 2 consisted of 241 participants. The results found, informed the factors involved in the second study. This second study followed an interview-based qualitative approach with the goal of obtaining a more in-depth understanding of how the different factors influenced mode selection. The sample consisted of 20 participants recruited from among those that had taken part in the survey study.

The results found in this research speak of commuting transport mode selection as hierarchy, in which the different factors influence the decision at different stages. This challenges previous research in which the factors either had an influence in mode selection or they did not. Instead, these results propose the idea that the factors do have an impact in mode selection, but at different points in the decision-making process. This research proposed a 3-stage hierarchy of how the different factors are involved in commuting transport mode selection.

This research presents a new way of approaching the study of commuting transport mode selection and opens the doors for a new pathway for interventions related to mode selection.

Keywords: VBN, Campbell Paradigm, Transport Mode Selection, Commuting, COVID

List of Abbreviations

DPIA – Data Protection Impact Assessment

GEB - General Ecological Behaviour Scale

NAM – Norm-Activation Model

NEP – New Environmental Paradigm

PN - Personal Norms

PTA – Public Transport and Active modes of transport

PT - Public Transport

S1 – Study 1

S1a – Study 1, Time 1

S1b - Study 1, Time 2

S2 - Study 2

SN – Social Norms

TPB – Theory of Planned Behaviour

VCN - Value-Belief-Norm Theory

WHO – World Health Organisation

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Chapter 1: Introduction

Over the last decades, the world has witnessed a massive, rapid, globalisation. With the spread of internet, people can access goods and merchandise from all around the world, turning shopping into a global thing. This has been facilitated by the evolution of transport that has made international and trans-continental travel a regular, common occurrence. But this travel does not only happen in the context of physical purchases. People have taken advantage and move from one place to another easily for any number of reasons. From work and school trips to vacations, everyday thousands of people use different types of transport in their regular life. While there is no doubt of the positive effects that have come with these evolutions and adaptations, the extreme speed in which they have happened and the unprecedented number of them, have brought negative consequences.

One of the negative consequences mentioned above is the change in means of transport. In the past years, the technological advances have facilitated the massive production of cars, making them cheaper and more accessible to people. This has made the usage of personal cars to increase at the expense of public transport, which has decreased more and more (McDonnell & Caulfield, 2011). Regarding the negative effects of the adaptations, this switch in the decision of the primary way of transportation has shown to have a very important impact on the environment, being one of the main causes of CO₂ emissions (Ben-Elia & Shiftan, 2013; Zimmermann et al., 2024). With the enormous increase of pollution and CO₂ levels it is essential to take action not only to put a stop to this exponential contamination, but to decrease it in comparison to the past years.

This increase in CO₂ emissions and other transport related pollution particles, such as PM_{2.5} or NO, has had a major impact not only in the environment, but also on human health (Stanton et al., 2025). Looking at the environmental impact brought by the changes in transport patterns, this impact comes from two fronts. On the one hand, these changes have increased the emission of greenhouse gases, one of the main contributors to climate change (Amarales, 2012), as well as the increase in number of oil spills into the water due to the increase in maritime transport (Ďaďová, 2023), both of which have been noted to damage the ecosystems. On the other hand, the infrastructural changes adopted to satisfy the new transport demands have brought their own negative consequences to the ecosystems. From soil degradation to water pollution, to loss of biodiversity, the impact of the new transport demands on habitats and ecosystems is noteworthy (Amarales, 2012; Li et al., 2024).

Similar to the environmental impact, the impact of transport patterns on human health also comes from two areas. On the one hand, the increased use of personal cars has come with a reduction of the use of active transport (i.e., walking, cycling) (Mundorf et al.,

2018), either on its own or in order to reach other modes of transport, as private cars often offer the possibility of door-to-door trips. This sedentary nature of private motorized transport has been reported to have a negative impact on health, as it has been linked to obesity and heart issues (Mulley et al., 2013; Mundorf et al., 2018). On the other hand, and related to the environmental impact discussed above, the increase of pollution, either water, soil and/or air pollution, has been noted to have a negative impact of human health (Amarales, 2012). Traffic-related air pollutants, such as PM_{2.5}, have been linked to numerous health issues, from respiratory illnesses to death (Colistro et al., 2024; Wang, 2019).

It is undeniable that reducing the impact of transport is a necessity both from an environmental and from a health perspective, as the negative consequences of current travel patterns are considerable. While this may seem as a difficult, daunting task, the solution may be much simpler. Private vehicles have been noted to be a significant contributor to transport-related emission, with some reports noting that private vehicles accounted for nearly 60% of these emissions (Stanton et al., 2025). Reducing the use of private transport, particularly in regards of single occupancy vehicles, in favour of public and active transport is an effective way to address the environmental impact of transport (Mundorf et al., 2018) while at the same time addressing the health impact of a sedentary life.

This need to change the environmental and health impact that has been brought by the change in transport patterns has not been overlooked. Governments, countries, the scientific community and, ultimately, the general population have raised their concern about this, and several campaigns have been developed and implemented. In Europe, the EU has been taking steps to tackle environmental damage since 1972, with both short- and long-term goals, such as achieving carbon neutrality by 2050 (European Parliament, 2024). At a more local level, the Irish Government aims to reduce greenhouse gases in over a 50% by 2030, date by which Dublin city aims to be carbon neutral (Sustainable Governance Indicators, 2022; Dublin City Council, 2024).

Looking at recent transport use statistics, a travel survey conducted in 2023 by the National Transport Authority showed that over 70% of the trips done at a national level were conducted by private car, with active transport (walking and cycling) accounting for a 20%, and public transport a mere 5% (National Transport Authority, 2023). Focusing on Dublin, these percentages change, with private car use being reduced to 54% for Dublin city and 61% for the Greater Dublin Area. On the opposite hand, active transport use increases to 35% and 29% respectively, and public transport to 7% in both areas. Despite the lower car use in Dublin compared to the national numbers, private car use still accounts for the majority of trips and remains far from the carbon neutrality target. To accomplish this goal, Dublin has set a transport strategy that focuses on reducing the

use of private motor transportation. Some of the measures proposed are the removal of private cars and/or complete pedestrianisation of some streets in the city centre, and the improvement of the walking and cycling infrastructure (e.g., increase the number crossing or increase number of high-quality cycle parking) (National Transport Authority, 2022). Many of the measures implemented aim to reduce the CO₂ emissions produced by individual transportation, and one key element to accomplish this is to understand how and why people move in the way they do.

The concerns about humans' environmental impact have triggered many attempts to promote the adoption of sustainable behaviours, both in general and specifically related to mobility. A common way to approach this, particularly in the area of transport choices, has been by appealing to society's expectations that individuals should make decisions based on the environments' best interest, through the use of moral persuasion. This approach has not worked as well as expected, having a limited success in changing people's behaviour (Gaborieau & Pronello, 2021) which brings the need of a better, more thorough understanding of how behaviour change is influenced.

1.1. Travel Mode Selection

Travel mode selection is a fundamental part of travel choice behaviour and is influenced by a wide range of factors (Jing et al., 2018). Varying from the practical reasoning during the decision-making process (Hiselius & Rosqvist, 2016; Taube et al., 2018) to more psychological factors and concepts, such as values (Lind et al., 2015; Steg, 2016); different theories and models study different concepts and approaches.

Studies have shown that demographic and socio-economic status have an impact in how and how much people use the different means of transport in their daily life; it is not the same if people have a low or high income or whether or not there are children in the household (McDonnell & Caulfield, 2011). Some studies also point at simpler reasons conditioning people's choices, such as travel time or weather, and suggest that these may have a great influence on people's decision making and should, therefore, be taken into account (Taube et al., 2018). Yet, despite the wide number of studies attempting to understand the hows and whys of travel mode selection, and the many factors that have been pointed as relevant, the question remains as to what exactly, and to what extent, drives the decision to use one mode of transport or another.

Additionally, transport mode selection is also affected by the purpose of the travel, there is a difference between choosing a mode for your daily commute and for a holiday trip. Some studies have noted that commute trips are more likely to be done by means of public transport than leisure trips. This is not only due to leisure trips, particularly holiday trips,

tend to cover greater distances for which public transport may be unsuitable, but also because people are less likely to be familiar with the different transport alternatives for leisure trips (Arbués et al., 2016).

1.1.1. Sustainable Travel & Active Travel

Due to the important percentage of CO₂ emission being generated by road transport, sustainable travel and mobility has been a major focus towards environmental goals. However, this is a complex topic that often involves several different approaches. Both research and policy have tackled sustainable mobility from very different perspectives, ranging from a health focused approach to infrastructural or economic perspectives (Götschi et al., 2017; Maltese et al., 2021). From a health perspective, studies have looked at the relationship between active travel and different health indicators, such as BMI or obesity (Egset & Nordfjærn, 2019). These studies found that active travel, and to some extent public transport, were linked to a healthier BMI score and lower obesity rates, even at national level. That is, countries where use of car was less common, had overall lower obesity rates compared to countries where driving was more dominant. Furthermore, some recent studies have pointed at the relationship between pollution and health, and how an increase in active travel could bring health benefits due to reduced levels of pollution (Mulley et al., 2013).

From an economic perspective, related to the previous point, some research has noted that the link between more active travel and better health has the added benefit of lower economic loss due to loss of workers (e.g., due to death, chronic diseases) (Mulley et al., 2013). However, public health costs is not the only connection between economy and transport. While car ownership related to higher economic status is a well reported phenomenon, some studies have pointed at the connection between transport infrastructure and economic growth (Zhang & Zhao, 2021). These studies have noted a link between increased transport connectivity, particularly into/around the cities' economic centres, and economic growth, both at local and national level, due to increased access to workplaces and business centres.

Additionally, there also does not seem to be a consensus on what is considered sustainable travel. While sustainable travel is mostly related to a type of mobility with reduced or zero carbon emissions, the specifics are more nuanced. Some approaches include fuel-efficient driving (Taube et al., 2018), while others focus solely on active travel. Regardless, the ultimate goal is to reduce the negative impact transportation has on the environment.

Overall, active travel is often chosen as a means to achieve sustainable mobility. Much like with sustainable travel itself, the specifics of what is considered active travel are open for interpretation. Some approaches consider public transport as part of active travel, as it often involves walking or cycling in order to reach the point in which you can use it (Mulley et al., 2013). Other approaches make a distinction between public transport and walking/cycling (Greaves et al., 2024; He et al., 2022). For the purposes of this study, active travel follows the later approach.

The level to which people engage in active travel is influenced by numerous factors, ranging from psycho-social and demographic factors to environmental ones; particularly infrastructure and build environment have been pointed as particularly relevant (Götschi et al., 2017; He et al., 2022). The purpose of the trip also influences the likelihood to engage in active travel, with commuting being an important factor.

1.1.2. Commuting Behaviour

Commuting is described as the trip from home to work and back; however, this apparently straight-forward concept has suffered a change due to the increase in remote working, often referred as “telecommuting”, particularly in the more recent years. With commuting being a major contributor to traffic volume (Zimmermann et al., 2024) the importance of more sustainable ways of commuting is undeniable. Additionally, commuting in itself offers an interesting topic of research not only because it is a substantial portion of travel, and therefore influences transport-related pollution, but also because it usually is less variable than other types of travel. This stability comes from the little variation in the characteristics of the trip, as the time of travelling, the starting and ending points, purpose, baggage, or modes available is often similar from day to day.

This is evident in the increase in the number of policies and mobility plans that include interventions and measures focused on active and/or low carbon emission commuting (Maltese et al., 2021). These often focus on reducing the traffic congestion, either by promoting other, more sustainable modes such as active modes or public transport, or by promoting remote working.

Many of these have focused on facilitating the more desirable alternative modes. Creating or improving the infrastructure (e.g., creating cycle lanes) as well as increasing the access to the mode, has been a common approach to increase active travel, particularly cycling (Maltese et al., 2021). Using smartphone apps to make alternative modes more salient has become more common in recent years (Zimmermann et al., 2024).

However, some research has noted that commuting has its own characteristics that affect mode selection in different ways to non-commute trips. In a Chinese study, researchers found that for a distance under 2Km commute trips were more likely to be done by car than non-commute trips (He et al., 2022). This study focused on short-distance trips (under 4km) and how different factors such as purpose of the trip or road density affected travel mode selection, both on their own and when interacting amongst them. They found that overall, there is a threshold regarding distance (under 1.2km in their study) at which walking or cycling are preferred over car use. However, when travel purpose was taken into account, car was mostly used for commuting, both at the 0-2km and the 2-4km range. They argued that the reason behind this is due to convenience, as commuting often requires carrying heavy things regularly as compared to other types of trips, such as leisure. However, the study does not elaborate in detail on how this relationship between car use and commute is influenced by other factors, such as road density, in comparison with other trip purposes for which it discusses the different interactions. Whether this is due to an oversight or a lack of interactions to discuss, overall, it seems to point towards commuting trips having a marked difference from other types of trips on which factors it is influenced by.

It is clear that travel mode selection and, particularly, commuting, are complex behaviours influenced by a large and wide number of factors. Their major impact on CO2 emissions makes vital to tackle them in order to promote more sustainable options. However, to do this complexity, more research is necessary.

1.2. Trinity

The current research is a case study based in Trinity College. As such, it has a unique set of peculiarities that influences the research. By being focused on a specific setting factors like location or internal culture affects the way its members commute. Additionally, due to the context itself, the sample studied may skew the data as most of the participants have obtained or are pursuing third level education, which previous studies have pointed to be an influencing factor in regards of travel mode selection. Finally, as one of the main tourist attractions in Dublin, Trinity experiences a great number of daily visitors outside of its members, altering not only mobility patterns into the university, but also within. Due to the particularities natural of case studies, the following section will explain the context in which this study took place.

Trinity College, founded in 1592, is the oldest university in Ireland and one of the oldest in Europe. Aside from being an active university with over 20 thousand students from 80 countries, Trinity is also one of the main tourist attractions in Ireland. The university also houses numerous conferences, events, and non-college courses and workshops across the year.

With over 170 societies and clubs in which students, staff, and alumni take part daily, Trinity is a busy crossroad of education and leisure.

1.2.1. Location

The main campus and most of the facilities are located in the city centre of Dublin. For this study, focused on commuting behaviour, it is particularly important to emphasise the location of Trinity. In comparison to other universities of Dublin, which are located outside the city centre, Trinity is more heavily connected to public transport. Most of the public transport routes in the city start or end in the city centre or pass through it.

Regarding the Luas – Dublin’s light rail system -, out of the two lines, one has a stop located right outside the main entrance to the campus, while the other line has a stop within a 10-minute walk. There is also a train station on one end of campus. Regarding buses, the university’s location in the city centre means that a large number of bus lines are accessible within a short walk.

However, this centre location also means that accessing the campus during peak time can be challenging due to the heavy traffic as Dublin is one of the most congested cities in the world (Tomtom traffic index, n.d.).

Finally, in regards of cycling, while the infrastructure in the city centre has improved greatly in the last few years it is still poor in comparison to similar cities, with most of the cycling routes (or parts of) being shared with bus lanes (Conway, 2019).

1.2.2. Initiatives

As a public sector body, under the Government of Ireland Climate Action Plan, Trinity College drafted its own plan to reduce greenhouse emissions. This plan included measures such as updating the heating systems of buildings from using fossil fuels to alternative resources or exchanging the college owned vehicles for electric ones (Trinity’s Climate Action Roadmap, 2023).

However, Trinity’s commitment to sustainability goes beyond this plan. Over the last few years, the university has increased the number of sustainability-related modules,

including the development of interdisciplinary modules available to all students regardless of their degree (Centre for Academic Practice, Trinity Teaching & Learning, 2024). This, along with numerous campaigns broaching different areas of sustainability, shows that this commitment does not stop just at an organizational level, but it aims to encourage the individual people within it to live a more sustainable lifestyle.

Additionally, Trinity College is part of an international programme to sustainability and environmental education on universities. As such, it formed an environmental committee, composed by both staff and students, that meets monthly to discuss issues and measures to implement (Trinity Sustainability, Green Campus Programme, 2024).

Trinity also has numerous initiatives across the year to create awareness and boost sustainable behaviours. One of the more notable initiatives is the Green Week during which workshops, panel discussion, and other different activities are held. Other initiatives include “Trash to Treasure”, a week during which homeware, clothes, and books left behind by students are re-sold to tackle the waste of still usable goods (Trinity Sustainability, Events, 2024).

Finally, Trinity is also invested in promoting active travel, which it promotes through both initiatives and schemes, and by physical environment. The campus itself encourages walking and cycling, with bike racks available next to most buildings (Healthy Trinity, Travel, 2024). Regarding initiatives, every Autumn the Walk October Challenge takes place, during which teams of staff and students record the number of steps they each have taken daily for the chance to win prizes at the end of the month (Healthy Trinity, Challenges, 2024).

Another initiative is the Bike-to-work scheme, a government programme which allows staff to purchase bikes and e-bikes for a reduced cost. This initiative not only has been very successful, but Trinity’s Smarter Travel Committee brought forward the suggestion during one of the government’s Citizens’ Assembly to extend the scheme to include students. This shows that Trinity’s interest in increasing active travel goes beyond the scope of what can be done within, and into creating changes at a national level.

Finally, Trinity is using a “living lab” approach to study how its members travel to campus. Since its start in 2011 to the latest data collection in 2023, there has been a clear change in mobility patterns. Surprisingly, despite the numerous campaigns, initiatives, and changes undertaken to increase active travel, the latest results show a decrease of both walking and cycling. Car use has also decreased since 2011, while public transport use has consistently increased in the last decade. The data collected has also noted an increase

in the distance between living residence and campus, for both staff and the student body, which could explain the decrease on active travel (Healthy Trinity, Living Lab, 2024). While these results show interesting changes in travel mode selection, the information it provides is superficial and requires further research in order to understand the reason for these changes and what influences travel mode selection among Trinity's members. This research aims to provide some of these answers, gaining a deeper understanding of how transport mode selection is influenced and what factors promote changes in mode use.

1.2.3. Campus Set-up

Aside from all the initiatives and efforts Trinity is conducting to promote sustainable means of transport as part of the commute, the location of the university itself, along with the distribution and set-up of the campus, also encourages the use of alternative modes.

Regarding the use of cars, due to the central, very busy location of the main campus, car parking spaces around the campus are very limited. At the same time, while there is available parking inside the campus, it is only accessible for staff members with a parking permit. This lack of parking within and around the main campus heavily discourages the use of car for commuting, both among staff and students. This is reflected in a survey conducted in 2021 which showed that pre-COVID only 5% of Trinity members commuted by car. Although that percentage tripled (15.6%) when asked about preferred mode to return once restrictions were lifted, a similar increase was reported for walking and cycling, showing that even when public transport was avoided, Trinity's staff and students still prefer sustainable modes over car (Caulfield et al., 2021)

In regards of cycling, there are bike racks all across campus, with more racks having been installed in 2024 providing bike parking spaces nearly at every main building. Additionally, there is a secure bike parking lot which is only accessible with a staff/student ID card, reducing the risks of having a bike stolen. There are also two small service stations for bikes on opposite ends of campus, and there is free access to shower and changing facilities before 9am for staff and all day for students. However, these facilities and services seem to not be widely known, as people have raised concerns about lack of shower/changing facilities and secure parking. This suggest that while Trinity has many measures in place to encourage cycling into campus, there is more work to be done to promote the use of the available facilities (Caulfield et al., 2021).

On top of all this, there are also several bike share services (e.g., Bleeper, Dublin Bikes, Moby) accessible within or right outside campus. This allows those who don't own their own bike to still be able to cycle as part of their commute. It also encourages visiting members (whether exchange students or visiting staff), who often are only attending the

university for a short period of time during which purchasing a bike is not feasible, to use bikes to access campus.

Overall, while the location of the main campus heavily discourages the use of car while promoting alternative modes of transport, the university itself has taken extra steps to further encourage the use of more sustainable modes for its members' commute.

1.3. COVID-19

In December 2019 the first few cases of COVID-19 were reported, spreading rapidly until the World Health Organisation (WHO) declared it a pandemic in March 2020. In Ireland, schools and cultural institutions were closed in early March, followed by a stay-at-home order later that month (Leahy, 2020; Government of Ireland, 2020). That first lockdown was the longest in Europe.

During the lockdown all non-essential services were closed, and movement of non-essential workers was limited to a 5Km radio from home. While restrictions were somewhat lifted during the summer, many institutions remained operating remotely. During this time, access to public transport was limited, with modes running at reduced capacity (McGee, 2020; Bray 2020; Citizens Information, 2023).

In Trinity's case, the academic year 20-21 was mostly conducted remotely, with most lectures and meetings being online. Access to campus was limited to residents, staff and students who needed to access labs and equipment, and to access the libraries. In-person teaching was reinstated for the year 21-22 although health and safety measures, such as wearing a mask, were still in place.

Chapter 2: Literature Review

The following chapter will review the existing literature on the topic of Travel Mode Selection. The aim of this chapter is to, on the one hand, identify some of the more relevant and common approaches, both in regards of Theories used, and the factors studied, in order to inform the present research. On the other hand, this review aims to identify the gaps in the literature with the goal of addressing and bridge them throughout this study.

This chapter will start by introducing previous attempts to change travel mode selection, which will follow a broad approach without focusing on specific theories or models. Next, the theoretical approach will review the most commonly used theories and models employed to study the topic at hand. After this, the empirical approach will focus on some specific factors researched in the study of travel mode selection followed by the methodological approaches commonly employed. Finally, the chapter will end with the introduction of the current study, highlighting its relevance and the theoretical approach it follows.

2.1. Attempts to Change Travel Mode Selection

With the growing concern about the impact of transport on the environment many governments and organizations have tried to implement campaigns and policies to tackle the problem, such as increasing and improving the cycling infrastructure or educative programs. (European Parliament, 2024) However, these measures have not always achieved the desired success (Guzman et al., 2020). This lack of success may be due to many different factors, ranging from an often too narrow approach in research that fails to fully understand how travel mode selection is influenced, to the opposition of the public which renders those measures useless. In his study, Guzman reviewed the use of carrot and stick policies, and their use in work mobility plans in the northern hemisphere, and their possible implementation on the southern hemisphere. He discussed that the combination of both types of policies has been found to be more successful in promoting long-term change in behaviour, and that some of the possible reasons of the failure of some measures may be due to stick policies failing to highlight the benefits of the alternative options, and of carrot policies not punishing the undesirable alternatives. For his study, Guzman conducted a scenario-based experiment where employees from different organizations were presented with different measures that could be implemented to promote non-car commuting. In this study Guzman separated the participants in three groups based on the duration of their regular commute (i.e., short trip, medium, or long). Participants in all groups were presented with six scenarios and were asked to choose which mode of transport would they prefer for their commute in each scenario. In each scenario participants were presented with different overall cost of trip, cost of transport,

wait time, travel time, and the availability of app-based incentives. Participants were also informed of possible mobility plan measures that could be implemented (e.g., incentive for carpooling, availability of changing facilities). To test the potential impact of the different variables, Guzman compared the mode of transport chosen in the scenarios with the participants' actual mode. He found that while incentivising cycling mostly had an effect on other active modes (e.g., walking), penalising private car use turned people away from it and into public transport and carpooling. Incentivising carpooling (e.g., reserved parking spaces) also appeared to promote carpooling. His initial results fell in line with previous ones, suggesting a combined approach as the most successful.

The public's perception of the measures and the way they are presented has been noted to have an impact on their success. People value what they have, and when a policy is seen as having negative consequences for them, they are less likely to comply, which could lead to the failing of the policy (Steg, 2016). However, when a solution to the perceived inconvenience is introduced along with the measure, its implementation is more effective (Guzman et al., 2020).

A possible explanation to this could be linked to infrastructure. Recent mobility plans have put emphasis on making infrastructural changes to promote the desired modes of transport, both by making those modes more available to the public and by altering the geography (Maltese et al., 2021). While this is supported by recent research that points at built environment, infrastructure, and land use as major influencers of travel mode selection (Götschi et al., 2017; Greaves et al., 2024; He et al., 2022), is important to mention the seemingly disconnected approach researchers in general have taken. Both when studying psychological and non-psychological factors, despite the general consensus on the complexity of travel mode selection, the scope of the research is often limited to a few variables. The studies are usually based on a single theoretical approach and focus solely on the factors contained in it. As such, studies that consider attitudes rarely include beliefs, studies that look at values, typically overlook habits. And sometimes, when a wider approach is used, the possible interaction among factors is not studied (Arroyo et al. 2020). In her study, Arroyo pointed at the scarce research done in regards of how factors affect each other in relation to travel behaviour and conducted her research in order to bridge this gap. Although she found an interaction between the factors included in the study, proving that future research should look into how the variables affect each other, her study focused only on the interactions between attitudes and values, failing to include other variables noted to be influential, both psychosocial (such as norms) and spatial. While her study offers a good first step into correcting this omission from previous studies, further research needs to be done in order to gain a deeper understanding of travel behaviour.

2.2. Theoretical Approach

As previously stated, there had been numerous attempts to explain Travel Model Selection from very different approaches and theories. The following section introduces some of them.

2.2.1. *Theory of Planned Behaviour (TPB)*

Developed by Azjen in 1991 tries to explain how humans engage in specific behaviours. It has been one of the most commonly used models to explain behaviour, and it assumes that behaviour cannot be determined directly from attitudes alone. This theory defends the idea that behaviour is controlled through a combination of attitudes towards the behaviour itself, subjective norms related to it, and perceived control over the behaviour (Hiselius & Rosqvist, 2016). According to the TPB these three constructs influence intention to perform the behaviour, which is directly related to behaviour (Donald et al., 2014; Ibrahim et al., 2022).

Under the TPB, attitudes refers to a person's evaluation of whether engaging in a behaviour is positive or negative (Ibrahim et al., 2022). Subjective norms refers to whether the person believes others will approve or disapprove the behaviour, and possible social costs and benefits of said behaviour (Hauslbauer et al., 2022). Finally, Perceived control, or perceived behavioural control as is sometimes referred to, relates to the person's evaluation of their ability to engage in the behaviour and the influence of factors that may facilitate or complicate that behaviour (Steg et al., 2013). It has been suggested that when the perceived control matches the actual ability of performing the behaviour, perceived behavioural control can influence behaviour directly (Donald et al., 2014; Eriksson & Forward, 2011).

Over the years, the TPB has been extended to include other constructs. One of these, is the inclusion of personal norms. The TPB originally only considered subjective (social) norms leaving out personal norms despite the relationship between them having been reported by other researchers (Bamberg et al., 2007). In their study, Donald tested an extended version of TPB which included personal (moral) norms, and found that personal norms, along with the three constructs of TPB, influenced intention (Donald et al., 2014). Another construct that has been used in an attempt to extend the TPB is habit. In their study, Ibrahim looked at university students' willingness to cycle. While they found results consistent with those expected by the TPB (e.g., attitudes, subjective norms, and

perceived control influence intention), they found that perceived barriers had an indirect impact on intentions through habits (Ibrahim et al., 2022).

Theory of Planned Behaviour (TPB) has been widely used in environmental psychology research to explain how people engage in environmental related behaviours. Specifically, in relation to sustainable traveling, this approach is well-established in Mobility Management research and interventions (Andersson et al., 2018). This type of intervention usually focuses on the application of hard and soft measures to promote change. TPB studies how people can be encouraged and prompted towards more sustainable ways of transport.

2.2.2. The Transtheoretical Model

The Transtheoretical Model was developed by Prochaska and DiClemente in 1983 to explain the process of behavioural change. Based on health psychology, this model perceives change as a dynamic process that occurs over time and can be described in several steps of a continuum (Maltese et al., 2021). This process is separated in stages that happen in a specific order and where one step is followed by the next in order to produce behaviour change (Cheah et al., 2019; Steg et al., 2013). The first step is Pre-contemplation in which the person is not prepared to make the change. In this step, people are usually unaware of the need of a change. The second step is Contemplation where the person starts to realise that a change may be necessary, but they are not yet committed to take action. The third step is Preparation; in this step the person starts to seriously think about making a change. They may talk to others about making changes, looking for possible things they may do if they are unaware of how to achieve the change or even start making a plan to change. The fourth step is Action where the person starts making actual changes. It usually requires a cognitive effort, and it may need some kind of guidance. The fifth and last step is Maintenance; in this step the new behaviour has been interiorised and it does not require a conscious effort (Hicks, 2019).

This model has been used in the implementation of Travel Campaigns and Travel Awareness Campaigns to estimate in which step was their target population in order to tailor the campaign in a more significant way (Andersson et al., 2018; Hiselius & Rosqvist, 2016). Some authors argue that campaigns aiming at new travel behaviours may be more successful when targeting people on the contemplation and preparation stages, as they have already begun the behavioural change process and are more susceptible to the information provided (Hiselius & Rosqvist, 2016). In line with this, some authors argue that the type of information (e.g., highlighting the cons or the advantages of current/new behaviour) has a different weigh on the different stages and therefore different stages require different information. The authors note that people in the earlier stages are more susceptible to information regarding the disadvantages of the current

behaviour and the advantages of the new proposed behaviour. As they move onto the following stages, facilitating the adoption of the new behaviour, and rewarding it are more effective measures (Andersson et al., 2018). This suggest that knowing the stage at which the target audience is could help to tailor the information provided in order to maximize its effectiveness.

In their study, Batool (Batool et al., 2024) tried to test if a continuous measure could identify the five stages of change as proposed by the TTM, if self-efficacy and decisional balances (i.e., one's assessment of the pros and cons of adopting a behaviour) increased as participants' progressed through the different stages, and if self-efficacy, decisional balance, and the stages of change increased as the participants' increased their use of active modes. Their results supported their proposed hypothesis as they found that as participants moved through the stages, their use of active modes, as well as their decisional balance and self-efficacy, increased.

Mundorf conducted an intervention in which participants in the precontemplation and contemplation stages were shown a video highlighting the benefits of using sustainable transport (Mundorf et al., 2018). They found that the video intervention increased readiness to change and reduced the perceived cons of sustainable transport at these stages. They also found that the intervention was effective into moving participants onto the next stage of change.

2.2.3. Norm-Activation Model

The Norm-Activation Model (NAM) developed by Schwartz in 1977 was originally proposed to explain helping behaviour, but it has been widely used to explain pro-environmental behaviours (Lind et al., 2015; Mehdizadeh et al., 2020). In contrast to the TPB, the NAM follows a moral approach, in which behaviour is based in an internal feeling of obligation. According to this model, behaviour occurs when personal norms related to the behaviour are activated. This activation follows a specific sequence in which first, an individual identifies a situation with potential negative consequences (problem awareness/ awareness of consequences), and second, they feel responsible to prevent those consequences (ascription of responsibility) (Abrahamse et al., 2009). After the person identifies the problem and assumes responsibility of it, the personal norms are activated as the moral obligation to intervene. However, before behaviour occurs, they evaluate the personal cost of such intervention, if the cost is perceived as too high, the person could choose not to act and rationalize such omission (Bamberg et al., 2007).

However, despite its common use, this model presents issues in itself. On the one hand, the NAM fails to consider situational or contextual factors (Taube et al., 2018). On the

other hand, the model does not consider bi-directionality between the steps, despite the general lack of evidence to support the sequence (Mehdizadeh et al., 2020). Additionally, while the focus of the NAM is on pro-social or altruistic behaviours, it does not directly look into social norms.

In their study, Nordfjærn looked at the interaction between the constructs of the NAM, situational constraints and mode selection. They conducted a survey among university students in two universities in Norway (Nordfjærn, Egset, et al., 2019). They found that while personal norms had no impact on mode selection during winter compared to situational constraints, awareness of consequences, found earlier in the causal chain, was related to mode selection.

On the other hand, Simsekoglu tested the causal chain proposed by the NAM in the use of e-bikes (Simsekoglu & Klöckner, 2019). Their results found that awareness of consequences predicted personal norms, which in turn predicted the use of environmentally friendly modes.

2.2.4. Values-Beliefs-Norms Theory

The Value-Beliefs-Norms Theory (VBN) was developed in 1999 by Stern et al. as an extension of the NAM. Through the years the VBN has established itself as one of the most relevant theories to study environmental related behaviours and it has been used in a wide number of researches (Havlíčková & Zámečník, 2020). This model offers a comprehensive understanding of behaviours, studying both the psychological roots for behaviour, values, and less abstracts and more malleable concepts, such as beliefs, which places it as an ideal theory to study complex behaviours as the one that will be studied in this research. The VBN is a pro-social approach that states the human behaviour is influenced and determined by three constructs, values, beliefs, and norms. Under this theory, the influence of the three concepts works in a sequence in which values influences beliefs, beliefs influence personal norms, which in turn influence behaviour (Havlíčková & Zámečník, 2020). Additionally, the influence is not only to the next concept of the sequence but a variable could influence a variable further down in the sequence (e.g., values and norms), although this influence is expected to be weaker (Steg et al., 2013).

Value-Belief-Norms Theory has been used in multiple research studies involving environmental behaviours. Its social approach and its environmental focus have helped to analyse how people react to environmental problems and how to prompt people to make environmentally aware decisions. Due to the theory's effectiveness to predict behaviour it has been widely used to study and create interventions regarding people's travel choices (Kiatkawsin & Han, 2017; Lind et al., 2015).

2.2.5. The Campbell Paradigm

This Paradigm was developed by Kaiser, Byrka and Hartig in 2010 as an alternative model to study behaviour. This model states that behaviour regarding specific goals is influenced by two compensatory effects, the person's propensity to engage in the behaviour (attitudes) and the constraints of engaging in said behaviour. The evaluation of those effects forms a set of behaviours ordered from easy to difficult that reflects the person's attitudes in relation to that specific goal (Steg et al., 2013). The idea behind this model is that people tend to engage in easy rather than difficult behaviours and that the more costly the behaviour the stronger the commitment of the person to that specific goal.

In relation with Sustainable Traveling this model has been used to study people's use of transport via actual use instead of perceptions or attitudes towards the environment. Probably the most remarkable aspect of this model is the fact that it studies the reasons of why people choose a specific mean of transport in a specific environment. This allows to pinpoint what is the real reasoning behind people's choices and which behaviours are more costly and why (Taube et al., 2018).

2.2.6. System Theories – The PASTA Model

This framework offers a broad, intricate pathway of the process in which travel choices are made. It integrates and expands on other frameworks developed in an attempt to gain understanding of active travel. Unlike previous ones, it combines different domains, such as the built environment, policy, or socio-economic factors, in a hierarchical system in which its different components not only influence travel choices at different levels, but they also influence each other (Götschi et al., 2017).

This hierarchy offers a novel perspective of how active transport, and the choices related to it, are influenced, and affected. Previous studies and approaches had used a mostly binary perspective, in which the different factors either had an impact or not. This framework's approach is a step forward into better understanding how the process of transport mode selection happens and helps bridge the gap created by the overly separated focus of earlier research.

While this framework offers a highly valuable and much needed approach, it is too broad to meaningfully inform this study and to be fully used. However, although the framework

will not be used at this stage, it will be addressed, and it will help inform the findings produced by this study.

2.2 Empirical Literature

From a research perspective, travel mode selection is not a new topic of interest. Early research focused mainly on psychological factors and how different theories applied at an empirical level. Particularly the Theory of Planned Behaviour (TPB), the Norm-Activation Model (NAM), and the Value-Belief-Norm theory (VBN) (Bamberg et al., 2007; Lind et al., 2015) have been the most commonly used. At a more specific level, many different variables have been found relevant at an empirical level, including both psychosocial and infrastructural factors.

2.2.1 *Psychological Factors*

2.2.1.1 *Values.*

Values are defined as general goals varying in importance, that guide people and affect their beliefs and attitudes. The study of values in regards of pro-environmental behaviours is not a new approach, in fact, it has been one of the most used approaches, both on its own and in combination with other factors (Kiatkawsin & Han, 2017). The study of the impact of values on pro-environmental behaviours has been wide, encompassing from renewable energies to sustainable mobility (Lind et al., 2015), and the empirical findings seem to point at a pro-social values (e.g., altruistic values) to be the most influencing of these types of behaviours (Price et al., 2014).

In a study in South Korea, Kiatkawsin studied the effect of values, among other factors, on the intention to behave pro-environmentally among youth travellers (Kiatkawsin & Han, 2017). The sample was made up of undergraduate students across seven universities in South Korea. The data was collected via a survey done during lectures on a voluntary basis. The survey contained scales related to the variables of interest measured in a 7-point Likert style. This study found that values, particularly altruistic and biospheric values, impact the intention to behave pro-environmentally through the influence of other factors. That is, values don't affect behaviour directly but indirectly. In this study, values' impact on behaviour followed a causal chain at which's end was behaviour preceded by personal norms, which acted as mediators.

Despite the limitations of this study, such as the study of intention rather than actual behaviour (although other empirical studies have accepted intention as an indicator of behaviour), the findings follow in line with those of previous studies, consolidating the

importance of values on pro-environmental behaviour, and specifically sustainable mobility.

In their study in Norway, Lind studied the influence of values (along with beliefs and personal norms) in transport mode use among the urban population of Norway (Lind et al., 2015). The sample consisted of 1043 participants composing a representative sample of six urban areas across Norway. The data was collected through an online self-completion questionnaire. They found that values were predictive of both beliefs and personal norms. More specifically, they found that biospheric values were predictive of pro-environmental beliefs while egoistic values were related to lower scores of beliefs. In regards of personal norms, biospheric and hedonistic values were found predictive of these types of norms.

2.2.1.2 Attitudes.

Attitudes has been defined as the tendency to behave or respond in a specific way (Urban & Duda, 2024). Similar to values, attitudes is not a new concept in the study of sustainable mobility). In the last few decades, attitudes have been noted to have an important influence on pro-environmental behaviours, which has led to an extensive body of research, both from a theoretical and empirical perspective (Bamberg et al., 2007). Specifically in the area of mobility, empirical studies have found that positives attitudes towards a mode of transport increases the likelihood of choosing said mode (Nordfjærn, Lind, et al., 2019).

In a series of three studies conducted by Taube, he tested the impact of attitudes of mobility related behaviours (Taube et al., 2018). The first study conducted consisted of a self-reported survey which focused about turning off the car's engine while at traffic lights and railroad crossings. The second study was an observational study conducted in two companies in Germany. Data was collected by approaching potential participants after they had arrived to work and asked to fulfil a questionnaire. The last study was an experimental one in which participants were asked to choose travel routes. For each scenario, a route was presented that participants could either accept or reject and choose from among 4 different routes.

In each of these studies Taube looked at the influence of attitudes on behaviour. He found that while attitudes did have an impact on the different types of sustainable behaviour, it was mediated by the cost, mostly related to effort, of conducting the behaviour itself. People are less likely to perform a behaviour when the cost of it is high, despite the attitudes falling in line with it.

Although limited, and somewhat unconnected, these results highlight the need of conducting further research studying the effect different factors have on each other and on the behaviour itself.

In a study in Norway, Simsekoglu studied the influence of attitudes towards e-bikes, along with the three constructs of the NAM, in the use of e-bikes (Simsekoglu & Klöckner, 2019). Their sample was collected online through a commercial panel and a Facebook post, those recruited through the panel were representative of the Norway population, while those recruited by Facebook were e-bike users. In regards of attitudes, they found that positive attitudes towards e-bikes was related to e-bike use, and attitudes was also noted to be the strongest predictor.

2.2.1.3 Norms.

Empirical research has highlighted the importance of norms in travel mode selection. Norms are defined as a set of rules that guides behaviour. These rules can be moral (personal norms), expected behaviour from others (subjective or social norms), or guided by what others do (descriptive norms)). This importance goes beyond the mere impact of norms in behaviour as they had been noted to be a major contributor in bridging the conflict between the main theories used in studying travel mode selection (Bamberg et al., 2007; Havlíčková & Zámečník, 2020). Research done in this area has found personal norms to be major predictors of pro-environmental behaviour in general, and travel behaviour particular (Kiatkawsin & Han, 2017; Mehdizadeh et al., 2020). Although research has heavily focused on personal norms, some studies have also pointed at social norms as major influencers of travel mode selection, particularly in regards of car use as car ownership is often perceived as a symbol of status (Hiselius & Rosqvist, 2016).

In a study conducted in Shanghai, Zhang attempted to understand how norms, both personal and social, influenced mode decision (Zhang et al., 2015). The data was collected via online bulletin boards and social media. Participants were asked to answer an online survey for which they received a monetary compensation. The final sample consisted of 465 participants with a majority of men. The survey included two statements for social norms and two for personal, as well as a question about intention to use public transport. In the study, he found that both types of norms influence public transport use via the intention to use it. Interestingly, he found that while descriptive norms, a different type of norms defined as the perception of what is normal (e.g., “what most people do”), also influenced public transport use, this was mediated by household car ownership, and that once this mediation was controlled for, descriptive norms no longer showed a direct link to public transport use.

This study not only reinforced the previously reported impact of norms in travel mode selection, but also showed that this effect is also seen outside western countries, which have been the main population studied in this area (Mehdizadeh et al., 2020).

In their study, Kaplan studied the influence of subjective norms, along with the other two constructs of TPB, on the intention to use bike-share services while on holidays (Kaplan et al., 2015). Their sample consisted of potential tourist to the city of Copenhagen, Denmark, and it was collected through students in the city which shared the survey among their friends and family. The survey consisted of an online questionnaire that asked about general demographic information and transport use (including cycling experience), an exercise to create a potential holiday in Copenhagen that included length of stay, type of accommodation, travel companions, and preference for a cycling holiday. This was followed by the intention to use different types of transport mode during the hypothetical holiday, and the last part related to the constructs of the TPB. They found that subjective norms, as well as attitudes and perceived control, was predictive of intention to use the bike-share system. Interestingly, they found that those participants from countries where cycling is less common (lower subjective norms) showed more enthusiasm to try the bike-share scheme. They argued this was due to the novelty the scheme presented to those that were not from cycling-friendly countries.

2.2.1.4 Habits.

Another factor that has been empirically confirmed to interact with the aforementioned variables in regards of travel mode selection is habits. Habits are defined as behaviour or choices that through consistent repetition becomes automatic by creating a link between context clues and the behaviour (Havlíčková & Zámečník, 2020; Hsu & Feng, 2019; Steg et al., 2013). The use of habits in research about behaviour in general, and travel behaviour in specific, is also not a new development. In 2013 Friedrichsmeier conducted an empirical study comparing different concepts of habit to test their effect on travel mode selection. The concepts used in this study were the associationist' approach, in which habits are created by the association of stimulus and response, and the script-based approach, which understands habits as scripts that provide a guide for behaviour. For this study, they recruited participants from a university in Germany to answer an online survey and enter their trips on a daily travel log for one week. Participants completed the survey and the log a second time six months later. The survey inquired about the participants' car availability, driver license, past behaviour, and context of traveling (e.g. distance, weather). This last two were multiplied to obtain the "habit strength" measure in order to test the associationist concepts of habits. To test the second concept, participants were presented with imaginary trips and asked to state with travel mode they would most likely choose. Although they failed to find support for script-based concepts of habit, they did find support for the associationist. It was argued that the lack of results, in contrast with previous studies, may have been due to the measure used not being a good fit. Regardless, they found overall that habit has an important impact on travel mode selection, particularly at the level of intention to use one or another mode, which was supported by

later studies (Friedrichsmeier et al., 2013; Havlíčková & Zámečník, 2020). As such, due to the often unconscious, stable nature of habits, they pointed at changes and disruptions (e.g., road blocks, new employment) as a way to overcome the effect of habit and change travel behaviour (Friedrichsmeier et al., 2013; Havlíčková & Zámečník, 2020).

Some researchers have pointed that due to the stable, repeated nature of commute, this behaviour is very prone to form habits, and therefore targeting it to promote the use of sustainable modes could be a major step to reduce transport-related CO₂ emissions (Mehdizadeh et al., 2020).

2.2.2 Sociodemographic Factors

One of the factors highlighted as relevant in early research, and that has continued to be remarked by more recent studies, is sociodemographic factors (Arbués et al., 2016; Jing et al., 2018; Lu et al., 2023).

2.2.2.1 Gender.

Gender has been noted to be relevant, as empirical data shows that women are generally less likely to choose car as a means of transport (Arbués et al., 2016). However, the results are not always consistent among studies (Chaudhry et al., 2023) or simply fail to find significance altogether (Guzman et al., 2020; Mehdizadeh et al., 2020). Similar contradictions have been found in regards of cycling with some research finding women more likely to use non-motorized transport (Jeong et al., 2022) while others have found women less likely to cycle (Akter & Alam, 2024). Some authors have discussed that part of the reason for the gender differences in regards of mode selection could be related to a different experience of transports between men and women. Research on this topic had noted that women experience more violence than men while travelling which often translates in a higher level of fear (Leva et al., 2021). However, the discrepancies in regards of mode use among studies suggest that while gender does play a role in travel mode selection, it might be sensitive to the influence of other factors, which calls for further research to understand the relationship among them.

2.2.2.2. Other Factors.

Other factors such as age, income and education level have also been pointed to affect travel mode selection in a more indirect way, as those factors both influence the cost of travel (e.g., reduced public transport fares for students/elderly people) and the ability to purchase a car (Arbués et al., 2016; Jing et al., 2018).

Looking specifically at age, this is often related to other factors such as physical fitness or family circumstances that could influence the choice of mode (Akter & Alam, 2024).

2.2.3 Infrastructural Factors

Finally, recent research and reviews of empirical studies have brought the attention towards build environment and urban architecture, and trip characteristics as important influencers of travel mode selection. In regards of trip characteristics, trip purpose and cost have been noted to have an impact. Research has found differences in mode selection depending on the reasons for it (e.g., commute, leisure, second residence, etc) (Arbués et al., 2016; He et al., 2022). On the other hand, cost has been noted to, not only influence the mode of transport, but also the point where the mode is accessed (Lu et al., 2023), and it comes from many different factors such as reduced fares for some collectives and times (e.g., higher cost at peak time, reduced ticket for schoolchildren), buying and maintaining the transport modes (e.g., car, bicycles), or monetary incentives such as tax discounts or financial aids for bicycle purchase (Jing et al., 2018; Lu et al., 2023; Zimmermann et al., 2024).

Regarding a non-psychological approach, factors such as access to modes, purpose of trip, or even policies and mobility plans within the place of work had been pointed as empirically relevant (Ben-Elia & Shiftan, 2013; Friedrichsmeier et al., 2013), although the research's focus on that type of factors is relatively recent.

Regarding workplace mobility plans and policies, these have included a wide number of measures, from discouraging driving by reducing number of parking spaces or increasing the cost of parking, to encouraging active travel by offering public transport tickets at reduced price or introducing flexible start/finish times to avoid peak time. These types of policies have been implemented in several countries, mostly in western countries, with positive results (Guzman et al., 2020). This shows that workplaces are important players in reducing traffic congestion and its associated pollution.

In regards of trip purpose, while the studies that look into the relationship between purpose and mode selection tend to show a strong effect, the overall link is not as clear. Some studies have found that car use is more likely for leisure trips than for business, while other studies have noted the opposite (Arbués et al., 2016), although most studies have found that car is less likely to be used for commuting trips. However, this apparent contradiction might be partially explained by access. Most studies that have looked into the effect of having access to mode and the likelihood to choosing said modes have noted a strong positive link between the two (Arbués et al., 2016). This could explain the contradiction mentioned above, as the purpose of the trip itself could change the

importance of different characteristic of travel (e.g., for business trips, which are often short in duration, having access to high-speed trains may increase the likelihood of choosing train, while the higher prices of these types of trains in comparison to other types of public transport, may discourage their use for leisure trips that are not time-restricted). These results highlight the need to take a broad approach when studying travel mode selection, as the effect of some factors may be linked to each other and therefore losing significance when studied separately.

On its part, build environment and architecture have been noted to be particularly relevant in regards of access to the modes. Recent research has found that factors such as distance to public transport stops, transport connections, access to secure bicycle/car parking, and road density play a major role in transport mode selection (He et al., 2022; Lu et al., 2023; Zhang & Zhao, 2021).

In a study in Seoul, Jeong found that different factors affect travel mode differently and proposed a hierarchical approach of the influence of several variables in travel mode selection (Jeong et al., 2022). In their study, the participants were asked to complete a survey, inquiring about sociodemographic information and travel preferences, and to fill out a travel book with information about their last trips, including purpose, time spent and date, cost, travel companions, and mode used. In the study they found that built environment and travel characteristics influence travel mode selection, particularly when accounting for purpose. In this study, participants tended to avoid cars for commute but were more likely to use it for weekend trips. They argued that this was due to road density, as the heavy traffic of peak time made commuting by car unpredictable in terms of time of arrival to the workplace.

This study, along previous literature, highlight the importance of non-psychological and sociodemographic factors, such as build environment, on travel mode selection. Particularly, these studies offer an answer to the apparent discrepancies found on earlier studies among the factors researched.

2.2.4 Extreme Events

In line with the point discussed above, the discussion about the effect that disruptions may have on travel mode selection is particularly interesting as most of the theories have not been tested in the context of extreme events, bringing the question whether they can predict behaviour even in extraordinary circumstances. In light of the recent COVID-19 pandemic, the need to explore further the impact of disruptions on travel is essential, as the changes on mobility that happened during the last 5 years could have caused previous research to become outdated overnight.

2.3 Methodological Approach of this Study

Despite the interest in understanding mobility that has taken place over the last couple of decades, and the extensive research done in the field, the methodological approach used for its study is limited and, overall, lacking.

In the study of Travel Mode Selection, quantitative methodologies were, and still are, the dominating approach employed in research (Göransson & Andersson, 2023). Surveys and questionnaires, sometimes conducted in an face-to-face interview style (Hsu & Feng, 2019), have been the most common tool used in research (Chaudhry et al., 2023; Jing et al., 2018). Within this approach, there had been different perspective used in regards of how data is gathered. When focusing on specific factors or areas, many researchers use surveys designed and tailored for the study itself. When studying broader concepts or general patterns, is it not uncommon for researches to conduct their studies accessing and using the data from nation-wide surveys (Göransson & Andersson, 2023). In their literature review, Göransson found that 70% of the revealed preference studies they examined used data from national surveys. On their study, Liang used the data from a large-scale survey conducted by Milan metropolitan area (Liang et al., 2021)

However, despite its common use, these methods, even when using large datasets, are often limited to the population they have been conducted in and their generalization to other contexts may raise problems. Additionally, these studies often follow a broad approach, looking at connections generally but overlooking how the variables studied influence each other and, in turn, travel mode selection.

In recent years, the advances in technology have not only facilitated the collection of massive amounts of information, but it has also facilitated its study. These developments have encouraged the use of big data in order to understand mobility patterns (Liang et al., 2021). This new approach opens the door to study travel mode selection from different angles that were not possible (or at least very limited) until recently. Access to ticketing and crowd data has been used to estimate the usage of different modes of transports, allowing to identify changes in patterns (de Nally et al., 2022; Moyo & Musakwa, 2019). In their study, de Nally found, through the study of ticketing data, that the use of the underground had increased over the years, which was linked to an increase on traffic congestion that had turned commuters away from the car in order to avoid it. The increase of Smart Mobility Services has also allowed to use Smartphone Apps and GPS data to study mobility (Zhang & Zhao, 2021). Several researchers have made emphasis on the advantages of using information collected through smartphone online ticketing data or share mobility services to study how and when people move (Cornali et al., 2022; Moyo

& Musakwa, 2019). However, this approach has the risk of overlooking those who do not have access to smartphones or who are not technologically competent (Zhang & Zhao, 2021).

However, these quantitative methodologies, both traditional and the more modern approaches, often fail to capture the nuances of travel mode selection. When focusing on commuting behaviour, the lack of nuance means that the research often overlooks multimodal users, whose choice of mode may be influenced by different variables than for single-mode users.

Regarding more qualitative approaches, their use is still rather limited, with interviews being the most common type of methodology (Chaudhry et al., 2023; Göransson & Andersson, 2023). Within this approach, scenario based methodologies (Guzman et al., 2020) are not uncommon. Survey-style interviews, while sometimes falling into the quantitative approach, are often used in the study of travel mode selection, both as the main tool, but also as a pre-selection tool to identify potential candidates or topics to study (Guzman et al., 2020). In a study in 2007, Bamberg conducted a short phone interview in order to assess if their potential participants fulfilled the required criteria to participate in their study (Bamberg et al., 2007). On their part, Jeong used interviews as a means to identify factors to include in their study, and a second set of interviews to confirm the relevance of those factors (Jeong et al., 2022)

Following this idea, some researchers have started to use a combination of both qualitative and qualitative methodologies in order to gain a more extensive, in-depth understanding of mobility and travel mode selection (Zhang & Zhao, 2021). On a study in 2021, Caulfield conducted a thematic qualitative analysis on their otherwise quantitative approach, which allowed for a more in depth analysis and understanding of the data (Caulfield et al., 2021). Although still relatively uncommon, this combined approach presents a new way of conducting research. The inclusion of technology in everyday life allows to conduct the quantitative part to identify areas of action without necessarily recruiting participants, which, in turns, allows to allocate that time and resources to employ a qualitative method. These same advances on technology have facilitated the use of the qualitative methodologies, particularly interviews, as the opportunity to conduct them online, not only has facilitated the data collection, but it has also reduced the potential risks to the researchers.

This study follows this combined method, in which a quantitative methodology was employed to identify the most relevant and contributing factors in travel mode selection within commuting behaviour. Subsequently, a qualitative methodology was used to gain in-depth understanding of how those factors influenced the behaviour.

2.4 The Current Research

The focus of this research will be Travel Model Choice, specifically regarding commuting. The research will be studying the use of public transport, cycling, and walking as well as car use. The interest is not only in the differences between car and public transport but rather in all means of transport. The relevance of this approach lies in the lack of research done about it. While research and interventions focused on car reduction are not new, most of them had focused only on what is effective to reduce the use of car without paying much attention to other transport alternatives. This research, however, will take a broader study of transport selection in an attempt to find not only how to reduce car usage but also how to increase the use of more sustainable travel choices.

From a theoretical point of view, the approach of this research will comprise different theories and models. The reason for combining models lies in the complex nature of the behaviour. While other environmental related behaviours can be explained with more straightforward models; the literature has shown that Travel Model Selection is influenced by a numerous of factors, varying from values to travel constraints (Taube et al., 2018). Many of the theories used to study environmental behaviours focus on purely psychological factors and overlook more “mundane” factors, such as weather, that may play an important role in Travel Model Selection. Due to this, a single theoretical approach may not be sufficient to completely explain the behaviour involved.

The global lockdown derived from the COVID-19 pandemic has produced a massive change not only in the way people move but likely also in the perception they have from the different modes of transport. This offers a unique opportunity to study how extreme events affect people’s Travel Mode Selection. This research will study people’s choice of transport before, during and after the lockdown, trying to see if it has prompted any change and if so, to understand what has prompted it.

2.4.1 Theoretical Background

This research combines two of the most used theoretical approaches, Values-Beliefs-Norms (VBN) Theory, and the Campbell Paradigm. The reason to use these two approaches is that they look at different and complementary factors. While the VBN uses more purely psychological factors, the Campbell Paradigm focuses on attitudes while at the same time taking into account situational factors.

The first one of the VBN's constructs is Values. Values can be separated in four different categories: biospheric, egoistic, hedonic, and altruistic (Kiatkawsin & Han, 2017; Steg, 2016). Values are formed early in life and are related to the person's identity. This causes values to be very strong and difficult to change, which makes them resistant to interventions aimed at them (Steg et al., 2013). However, as they lie at the core of the identity, they guide the belief and norms system, which, in the end, make them good predictors of behaviour.

The second construct is Beliefs. These are defined as the cultural or personal biases and worldviews related to a specific topic, in this scenario the environment, (Price et al., 2014) and are affected by values. Having been developed as an extension of the NAM, the VBN considers problems awareness and ascription of responsibility as two of the categories forming beliefs. The VBN also includes Dunlap's New Environmental Paradigm (NEP) as part of the beliefs (Kiatkawsin & Han, 2017; Lind et al., 2015; Steg et al., 2013).

Finally, the third and last construct of the theory is Personal Norms which is defined as rules and moral standards of how people should behave (Kiatkawsin & Han, 2017; Steg et al., 2013). Both the VBN and the NAM propose that personal norms control behaviour by providing a moral guide of whether an action is perceived as positive and negative. Personal norms would be the last link of the chain, being activated by beliefs, which were previously activated by values (Havlíčková & Zámečník, 2020).

As an addition to this theory, Social Norms have been included as well. Social Norms are defined as a set of rules shared by a group that guides behaviour through interaction with member of the group (Zhang et al., 2015). While Social Norms are not included within VBN, it has been linked with Personal Norms in numerous occasions, to the point to even suggest that Social Norms are part of the formation of the Personal (Bamberg et al., 2007). In addition, Social Norms have also been widely used to study environmental behaviours (Abrahamse et al., 2009).

As opposed to the VBN, the Campbell Paradigm not only focuses on the psychological reasoning for behaviour, but actual physical, geographical, and other daily life constraints. This offers a perfect counter point and balance to the VBN in the study of Travel Model Selection.

This combined approach benefits from integrating some of the psychological factors that have been repeatedly reported as highly significant in a wide-reaching approach. By including those factors, this approach will allow to test if the previously reported influence of the factors was due to the lack of the presence of the other factors (e.g.,

finding attitudes due to not including values in the study). The choice of the specific theories included in the research is also guided by this goal.

While attitudes are often studied from the TPB approach, this theory often assumes that the influence of other factors, such as sociodemographic or contextual, influence behaviour through the theory's 3 main components. With recent research having pointed at the important influence that these factors have on behaviour, the aim of this research aims to test this influence separated from the psychological factors, and as such, it contradicts the assumption of mediation made by the TPB.

Similarly, while recent hierarchical models such as PASTA, offer an approach in line with the goals of this research, this model is both too narrow and not narrow enough. On the one hand, the PASTA model focuses on active travel, falling into previous research's barrier towards understanding multimodal users. On the other hand, the model overlooks commuting trips, which have its own set of constraints and demands setting it apart from other types of trips. As such, while the PASTA model offers a good guideline of how hierarchical models can inform travel behaviours, the model itself does not offer a good fit for the specificities of the present research.

2.4.2 Relevance

This research is important as it takes into consideration all those factors and uses a wider approach, combining fields, methodologies, and theories in an attempt to overcome the problems encountered by previous studies. This research aims to understand and gain insight of what motivates people's decisions regarding commuting. It tries to understand the mental, conscious and/or unconscious, process that people follow when choosing their modes of travel on their daily commuting. It also aims to identify and understand what influences those decisions; what facilitates and hinders sustainable choices of travel modes.

By combining these two models, this research offers a completely new, thorough approach to behaviour and Travel Mode Selection that aims to bridge over the previously faced limitations and, luckily, provide a more accurate, close-to-reality answer that allows to design successful interventions. This approach uses models that, not only complement each other, but support each other.

The combined methodology used in this research (i.e., surveys and interviews) allows to study the behaviour from the general to the specific without losing potentially relevant variables, as is the data itself guiding the research.

Finally, this research also integrates the restrictions associated to the COVID-19 pandemic as one of the variables, providing a completely new insight of how extreme events, such a long, world-wide pandemics, interact and influence not only with travel behaviours, but also with the psychological factors that lie underneath them. It also allows to gain perspective of how such event may have produced structural changes that affect the behaviour.

Chapter 3: Overall Methodology & Design

This research used a mixed methods approach, both in the design of the research itself, and in regards of the models it was based on. This approach allowed a wider scope of the factors studied while also allowing a more in-depth study of these factors. Commuting Travel Mode Selection is a complex behaviour that has been widely researched, yet the single approach commonly employed, while offering a large number of factors involved, has failed to provide a thorough understanding of how all these factors influence the behaviour. The present research aims to bridge that gap by stepping away from the narrow focus of factors and instead including many of the factors pointed as relevant by previous research, while using a quantitative methodology followed by a qualitative methodology.

3.1 Design

This study followed a mixed-method approach consisting of a quantitative study followed by a qualitative study. The quantitative approach was based on a repeated measures questionnaire including a wide number of variables. While the narrower approach of previous research didn't allow to study if the salience of the different variables were due to the factors being truly relevant to the behaviour or due to the lack of presence of other more impactful variables, the wider scope employed in the present study solved this issue. By nature, quantitative methodologies allow to collect a large data sample, while also allowing to study a large number of variables without resulting in an overly time-consuming process for the participants. This resulted ideal for the present study as the factors of interest were numerous. The use of the quantitative methodology as a first step allowed to identify those factors that had an impact on mode selection (for more details on the design see 4.1 & 4.2). Once the more relevant factors involved in mode selection had been identified, these were used to inform the data that would be gathered on the qualitative study.

Qualitative approaches are often more time consuming and require more effort from both the participant and the researcher. As such, the data sample is often limited as the participation is low. The high cost of conducting this type of research, along with the usually low number of participants, turns researchers away from qualitative methodologies in favour of other methodologies. However, this method proved ideal as a second step of this research. As a quantitative approach had already been taken, there was no need for a high number of participants or information gathered. Instead, the interest was in a smaller but more in-depth understanding of those initial results found. Additionally, there was already a number of potential participants that had expressed a willingness to take part in further research, thus reducing the cost of recruitment. As one of the key benefits of qualitative research is to gain insight into how and why the different

variables influence behaviour, this approach was an ideal second step to gain a more thorough understanding of commuting behaviour.

While it could be argued that the qualitative approach on this study fell into the too-narrow approach that has been criticized above, this narrower scope in regards of the factors studied had, unlike in previous research, been informed by a wider-reaching quantitative methodology.

3.2 Factors

Moving onto the factors that this research looked at, while the overall number of variables included was large, not all of them were studied at both stages. First, as part of the quantitative study, the factors studied could be divided into psychological and contextual. Within the psychological domain, the factors studied were values, beliefs, social and personal norms, and attitudes. In regards of the contextual variables, these were related to socio-demographic variables such as age, gender, or economic status, and related to access to the modes, such as having public transport stops nearby or having a driving license.

On the other hand, the qualitative study focused more on the contextual and environmental variables. Although due to the nature of this methodology, in some instances data related to other factors may have been collected, the main factors studied were related to access to the modes (e.g., having a car), safety, cost and comfort (e.g., price, weather), habit and alternatives (e.g., frequent behaviour, using a different mode), health, and social norms and influences (e.g., family obligations).

Table 1 shows a summary of the overall factors studied at each step.

TABLE 1 SUMMARY OF FACTORS STUDIED

Variable	Quantitative	Qualitative
Values	Yes	Partially
Beliefs	Yes	No
Personal Norms	Yes	No
Social Norms	Yes	Yes
Attitudes	Yes	No
Access	Yes	Yes
Safety	No	Yes
Health	Partially	Yes

Cost	No	Yes
Socio-demographics	Yes	No
Habit & Changes	No	Yes

3.3 Aims and Research Questions

The goal of this research is to approach the factors involved in commuting mode selection from a broad perspective in order to provide a more thorough, in-depth understanding of the behaviour. By following this approach, the research aims to test if the influence of the different factors found by previous research was artificial, as the factors were often tested separately. This research aims to find which factors are actually impactful in regard to mode selection. Additionally, by following a mixed methodology, this research aims to obtain a richer explanation of how the different factors affect mode selection.

Following the research questions related to this study are presented. The research questions presented at this stage are general, the specific questions to each of the studies conducted in this research will be presented in later chapters.

1. What factors influence on people's decisions regarding Travel Mode Selection related to commuting?
2. Which psychological/behavioural model(s) are most effective at predicting travel mode decisions?
3. How can commuters' mode selection choices be influenced towards more ecological modes?
4. How do people change their commuting behaviour in the light of an extreme event?
5. How enduring are changes in commuting behaviour due to extreme events?

Chapter 4: Survey Study Methodology & Results

4.1 Design

This study (S1) used a survey-based correlational, within-subjects design assessing the commuting behaviour of staff and students at Trinity College Dublin. The study consisted of an initial survey and a follow-up (Time two survey) for those participants who agreed to be contacted a second time. The follow-up survey mainly replicated the initial one, aside from some minor changes regarding clarity and simplicity. The initial survey asked about the participants' commuting behaviour prior to the Covid-19 restrictions, during, and their expected commute after the restrictions. The Time two (S1b) survey asked participants about their current commuting behaviour. The follow-up was done with the aim of studying the impact of extreme circumstances, such as the Covid-19, on travel patterns.

This design was chosen as the study's goal was to gain in-depth knowledge of a complex topic and to provide understanding of the influence of more variables than previous studies had focused on. Additionally, the specific focus of the study (commuting behaviour), during the COVID-19 global pandemic, made other types of designs difficult as, on the one hand, the public was extremely concerned about the possibility of contagion and, on the other hand, there were many restrictions still in place.

The Dependent Variable for this study was commuting behaviour across four points in time (before pandemic restrictions, during, expected behaviour after restrictions, and actual behaviour after restrictions). The Independent Variables for this study were separated into contextual (e.g., access to different modes of transport) and psychological (values, beliefs, norms, and attitudes). Therefore, the survey consisted of three parts: commuting behaviour, contextual factors, and psychological factors.

The commuting behaviour was addressed by instructing participants to indicate the frequency with which they used 15 different modes of transport for their regular commute. For this part, frequency of use was chosen instead of most common mode. This decision was based on previous literature that had indicated that choice of commuting behaviour is complex. Thus, asking about frequency allowed us to study the behaviour of multimodal commuters, both those that used several modes for their regular commute and those who switched modes.

Regarding the contextual factors, these could be separated in two types of factors. The first was based on previous literature regarding Transport Mode Selection and commuting

behaviours; the factors most commonly mentioned in previous research as well as factors identified as especially relevant, were included for the first part of the survey. These mainly included demographic factors, such as age or gender, accessibility (e.g., having public transport stops near home/work, owning/having access to a car, etc), and constraints (e.g., needing to drop/pick children from school, health concerns, etc.).

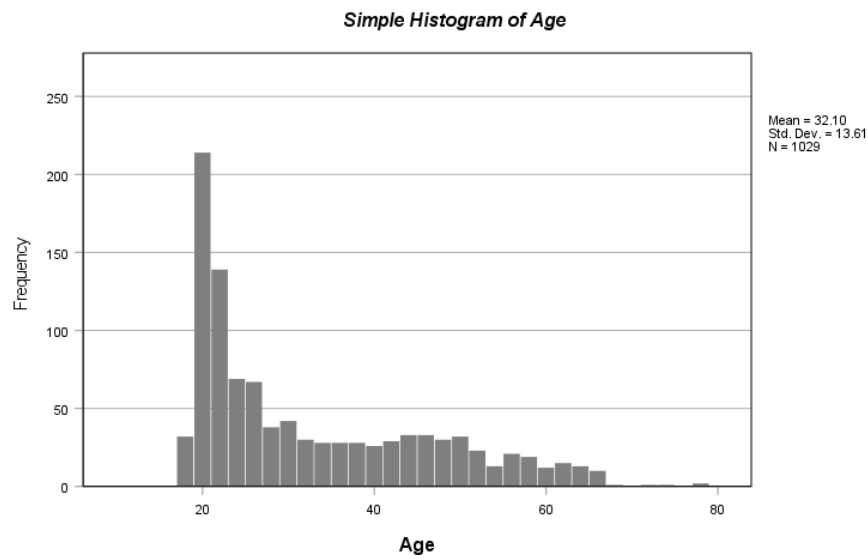
The second type was included in the final stage of the survey development and was included as a reaction to the COVID-19 Pandemic that was starting at the time of the creation of the survey. This second part was included to study how extreme, unexpected events, such as the pandemic, altered people's commuting behaviour. For this section, the factors included (such as health concerns) were those that had been pointed as significant by the studies conducted during the early research on the impact of the pandemic.

4.2 Participants

4.2.1 Time One Survey (S1a)

The population of this study consisted of a total of 1029 participants who were students and/or staff at Trinity College Dublin. The original sample consisted of 1358 participants, but 329 participants were eliminated as they had not completed essential parts of the questionnaire such as the scales relating to psychological factors. The recruitment was conducted during the summer months at the end of the academic year 2020-2021 (from June to October 2021) with most of the responses being recorded during June and July. Despite the questionnaire being available past the beginning of the following academic year, as the survey had only been promoted during June, only the students registered for the academic year 20-21 had access to it. Regarding staff members, anyone who had an active TCD email during June 2021 was able to participate in the survey. Alumni did not receive an invitation to participate regardless of having an active TCD email.

The age of the participants ranged from 18 years old to 78, with the most common ages 19 and 20 years old representing 20.8% of the sample (figure 1). As participants were not required to list whether they were a student or staff, it is not possible to know which group each participant belonged to.

FIGURE 1**HISTOGRAM OF AGE FOR S1A SURVEY**

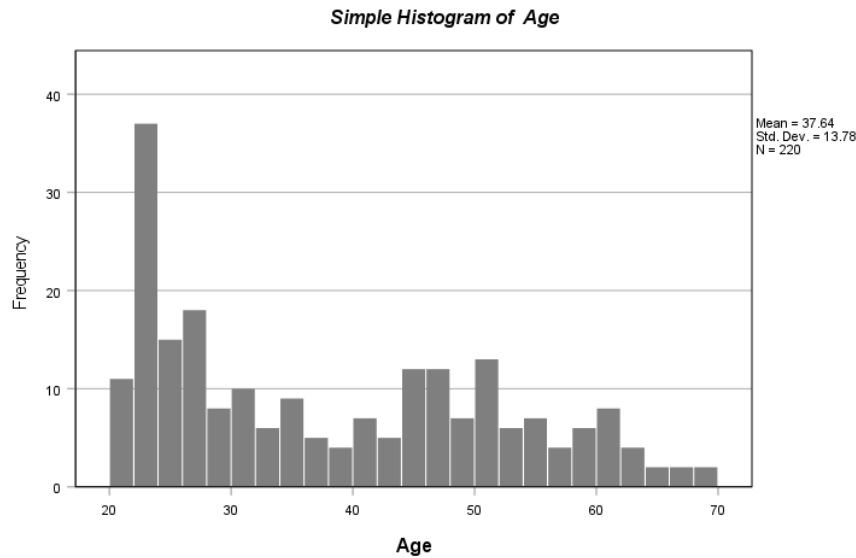
Of the 1029 participants, 64.9% were female, 33.7% male, and 1.4% didn't identify as either. 36.8% had completed up to High School Education, 24.6% a non-University Higher Certificate or a bachelor's degree, and 22% a Master's Degree. 95.5% of the participants were Irish and 1.3% from the UK.

4.2.2 Time two Survey (S1b)

The population of the study consisted of a total of 241 participants who had been staff and/or students at Trinity College Dublin during the time the data of Time one (S1a) survey had been collected. The original sample consisted of 310, of which 69 were removed due to not having completed essential parts of the questionnaire such as the scales relating to psychological factors. The recruitment was conducted during the months of November and December 2023. Participants were contacted directly at the email they had provided in S1a Survey.

The age of the participants ranged from 21 to 61 years old, with the most common ages being 22 and 23 years old representing 21.8% of the sample (figure 2). Nearly half the participants were staff (49.8%), while students made up just over a quarter of the sample (26.1%). The rest were either students or staff somewhere else, or unemployed.

FIGURE 2

HISTOGRAM OF AGE FOR S1B SURVEY

63.1% of the participants were female, 34.4% male, and 1.7% non-binary/third gender. 12.4% had completed up to High School Education, 31.1% a non-University Higher Certificate or a Bachelor's Degree, 27.4% a Master's Degree, and 28.2% a Doctorate.

4.3 Materials

For this study two questionnaires (original, S1a, and follow-up questionnaire, S1b) were designed to measure different factors that previous research has identified as influencing decisions regarding Transport Mode Selection. Each questionnaire could be separated into three parts: situational or contextual factors, commuting behaviour, and psychological factors.

4.3.1 Contextual Factors

The first part included a wide variety of factors such as distance, age, weather, or the need to make stops on the commute (e.g., to drop or pick up kids from school).

4.3.2 Commuting Behaviour

This part focused on commuting behaviour itself. As the contextual factors part, this also suffered changes during the early days of design due to the pandemic. Participants were asked about their commuting behaviour before the pandemic started, their commuting behaviour while the travel and health and safety restrictions associated with the pandemic were in place, and finally about their expected behaviour once the restrictions were fully lifted. As the S1a survey was conducted while the pandemic restrictions were in place, the commuting behaviour from before was reported retrospectively, the during was current at the time, and the after was predictive. The format of this part consisted of the same questions asked three times relating to pre, during, and post restrictions.

Participants were presented with 15 modes of transports including working/studying from home and were asked to mark how frequently they used each one of them going from “never” to “everyday”. The modes included were:

- Working/studying from home: this mode was added as a result of the pandemic restrictions.
- Walking:
- Cycling with own bike: was a separate category from bike share as having access to the modes was included as part of the contextual factors.
- Cycling with bike share: this was a separate category from cycling with own bike as having access to the modes was included as part of the contextual factors.
- Electric bike: this was included as a separate category due to their increase popularity.
- Electric scooter or similar: this was included as a separate category due to their increase popularity.
- Public transport (bus, minibus, coach): For S1b Survey, this category was combined with train/tram/underground.
- Public transport (train, tram, underground): S1b Survey, this category was combined with bus/minibus/coach.
- Motorcycle or scooter: On the S1b Survey this category was renamed as “moped”.
- Driving alone (petrol/diesel car):
- Driving alone (electric car): This was a separate category from petrol/diesel to study the relevance of sustainability concerns.
- Ride sharing (petrol/diesel car): In S1b Survey, both modes of ride share were combined as users do not always have the option to choose between petrol/diesel and electric regardless of their preferences.
- Ride sharing (electric car):
- Taxi:
- Other: This was included to account for other modes that could have been overlooked.

4.3.3 Psychological Factors & Tools

This part was based on two theoretical perspectives, the Values-Beliefs-Norms Theory, and the Campbell Paradigm. A total of six scales were used in this part of the questionnaire, which were chosen based on previous research done in the topic. Some of the scales, specifically the norms scales, were adapted and extended to better adapt to the aim of the study.

4.3.3.1 Values.

Related to the Value-Belief-Norms Theory (VBN theory), values were measured with a short version of Schwartz's values scale proposed by Steg and De Groot in 2008. Originally the scale measured only three values (altruistic, egoistic, and biospheric) but was updated in 2014 to include hedonic values (Steg et al., 2014). For this survey, the updated scale measuring the four values was used. It consists of 16 items measured on a 9-point scale, going from -1 "opposed to my values" to 7 "of supreme importance". This measure is one of the most commonly used to gauge values and has been widely tested and validated (Steg et al., 2014). The Cronbach alpha for each of the values was as follows; .73 for Hedonic Values, .76 for Egoistic Values, .79 for Altruistic Values and .91 for Biospheric Values (Steg et al., 2014). For scoring, this scale was separated into four values, as each of the items was related specifically with one: 3 items related to hedonic, 5 to egoistic, 4 to altruistic, and 4 to biospheric.

This scale was chosen as it has been widely used to measure (Lind et al., 2015; Steg et al., 2014) values in the context of environmental and ecological behaviours, ranging from energy conservation to transport-related choices. Additionally, this scale is closely related with the concept of values presented by the VBN Theory used in this research, as it measures the four domains of values separately, providing an individual score for each one of them. As the previous research has found that different types of values impact behaviour differently (Price et al., 2014), this scale proved ideal for the present study.

4.3.3.2 Beliefs.

As part of the second step of the VBN theory, beliefs were measured using the Revised New Environmental Paradigm Scale (NEP). It was originally designed in 1978 by Dunlap and Van Liere. Through the years the scale has been widely used and has been updated, revised, and adapted several times (Dunlap, 2008). It consists of 15 items measuring five dimensions of environmental thought. While this scale has also been used to measure other factors, it is still widely used and accepted as a measure for environmental beliefs (Bernstein & Szuster, 2019; Kiatkawsin & Han, 2017). A meta-analysis of 68 studies that used NEP run in 2010 showed a high reliability and validity, with an average alpha of .71 (Bernstein & Szuster, 2019). Regarding scoring, although this scale contains five dimensions, each item was related to either positive or negative beliefs, which allowed the generation of one general score for the scale.

While this scale measures one of the components of Beliefs as proposed by the VBN Theory, thus making it ideal for a study based on this theory, some studies have also used it in contraposition to attitudes, finding differences between them and beliefs (Otto et al., 2018). As the present study combines the VBN Theory and a paradigm based on attitudes, this scale offered an ideal measure of beliefs. Additionally, this scale has been frequently used to measure beliefs over the years (Dunlap, 2008).

4.3.3.3 Norms.

For the last part of the VBN Theory, norms were measured with a modified version of a scale designed by Abrahamse in 2008 (Abrahamse et al., 2009). The original scale used a set of six questions, three for subjective norms (“I believe my family/friends expect me to use public transport to go to work”) and three for personal norms (e.g., “I would feel good about driving to work”), to measure people’s norms regarding their travel mode selection in their trips to work. The items related to personal norms had a Cronbach alpha of .65. For this study, the scale was split into two parts, each relating to each type of norms. The original scale focused solely on car use, therefore, to better fit the goal of this study, the questionnaire was extended to include walking and cycling, and using public transport. This was done by replicating the question about car use and changing the mode of transport asked about. While not as widely used as the previous scales, this one has been used in later studies with good results (Lind et al., 2015). For these scales, each item was specifically related to one mode of transport (walking/cycling, public transport, car) and thus the scales provided a score for each one of those modes.

While this scale is not as frequently used as the other scales used in this study, its flexibility was ideal for it. The simplicity and specificity of the original scale, as it focused on a single mode of transport (i.e., car), made it ideal to be adapted to other modes, providing separate scores of the norms related to the different modes. Additionally, the original scale measure both personal and social norms, which also were the types of norms included in the present study.

4.3.3.4 Attitudes.

In relation to the Campbell Paradigm, attitudes were measured with the General Ecological Behaviour Scale (GEB) proposed by Kaiser and Wilson in 1998. Despite the year of the development, the scale is still widely used as it helps to overcome the gap between attitudes and behaviour. The scale consists of 50 items, 21 of them measured in a yes/no format, and the other 29 in a 5-point format going from never to always. It shows a good reliability with an α of .79 (Kaiser, & Wilson, 2004). However, in a recent study by Otto in 2018 (Otto et al., 2018), a self-reported adapted version showed better reliability ($r=.98$). This scale was separated into six factors based on the factor structure found by the author. However, due to the N/A option the scale provided, some items had to be removed as N/A responses did not provide information meaningful for the analysis.

This scale was chosen for several reasons. First, the scale not only has been widely used over the years to measure attitudes, but it is also very closely related to the Campbell Paradigm (Kaiser et al., 2018; Taube et al., 2018) used in this study. Second, the scale can be separated into six factors (Kaiser & Wilson, 2004). Some research has noted that attitudes only influence behaviour when the domain of the attitudes and the behaviour match (e.g., attitudes related to energy consumption with behaviour related to energy use), while other authors have noted a more general influence (e.g., attitudes related to energy consumption can have an influence on other pro-environmental behaviours such as recycling). With this in mind, this scale offered a perfect opportunity to test the influence of different types of pro-environmental attitudes in a very specific behaviour. Third, previous studies have used a shortened version of the scale, which provided the opportunity to modify and shorten the scale for S1b if needed (Gaborieau & Pronello, 2021; Hsu & Feng, 2019).

4.3.4 S1b Survey Alterations

The S1b Survey mainly replicated the original questionnaire with minimal changes. Some questions were reworded for further clarity to avoid misinterpretations. Two questions regarding participants status as staff/students were added, one regarding their status at the time of the S1b survey and another regarding their status when they completed the original questionnaire.

A question regarding changes in their living situation since the first questionnaire and its possible effect on their commute was also added. This question attempted, on the one hand, to provide some clarity regarding participants' commuting distance and mode of transport, as early data analysis showed that the timing of the pandemic had affected some participants' responses. On the other hand, this question attempted to provide some insight on how their commute choices had changed and whether they followed the predictions of the original survey.

Regarding the commuting behaviour, the main change was the combination of public transport under one category and the addition of a question regarding time spent on each mode of transport.

The last part, addressing psychological variables, remained mostly unchanged aside from the attitudes measure. This scale was shortened through an exploratory factor analysis of the data from the first survey. For this the items that had not loaded into meaningful factor during the analysis were removed for the follow-up survey. These changes were consistent with previous research in which the scale was also adapted ((Hsu & Feng, 2019; Taube et al., 2018).

Table 2 shows a summary of the variables included in each questionnaire.

TABLE 2 SUMMARY OF VARIABLES INCLUDED IN S1A AND S1B

Variable	Questionnaire 1 (S1a)	Questionnaire 2 (S1b)
Age	Yes	Yes
Gender	Yes	Yes
Educational Level	Yes	Yes
Distance	Yes	Yes
Staff/Student status	No	Yes
Change in working/living situation	No	Yes
Driving License	Yes	Yes
Access/Owning a car	Yes	Yes
Access to ride share	Yes	Yes
Access/Owning a bike	Yes	Yes
Access to bike share	Yes	Yes
Access/Owning an electric bike	Yes	Yes
PT stop close to home	Yes	Yes
Access to Bus	Yes	Yes
Access to Tram	Yes	Yes
Access to Train	Yes	Yes
Health issues related to walking	Yes	Yes
Health issues related to cycling	Yes	Yes
Health issues related to using an electric scooter	Yes	Yes
Hedonic	Yes	Yes
Egoistic	Yes	Yes
Altruistic	Yes	Yes
Biospheric	Yes	Yes
Beliefs	Yes	Yes
Personal Norms related to car use	Yes	Yes
Personal Norms related to walking and/or cycling	Yes	Yes
Personal Norms related to public transport use	Yes	Yes
Social Norms related to car use	Yes	Yes
Social Norms related to walking and/or cycling	Yes	Yes
Social Norms related to public transport use	Yes	Yes
Energy Conservation	Yes – Extended version	Yes – Shortened version

Mobility and Transportation	Yes – Extended version	Yes – Shortened version
Waste avoidance	Yes – Extended version	Yes – Shortened version
Consumerism	Yes – Extended version	Yes – Shortened version
Recycling	Yes – Extended version	Yes – Shortened version
Vicarious, social behaviours towards conservation	Yes – Extended version	Yes – Shortened version

4.4 Procedure

Participants were recruited through an email from the college secretary's office to the staff and students email lists requesting participants for the study. The email contained a brief explanation of the study, the link to the online questionnaire, and an information leaflet (Appendix 3) with extended information about the study, data protection procedures, and contact information. All the data collection and contact with the participants was done online, and participant collaboration was incentivised with the option of entering a raffle for a gift card if they provided their email for a follow-up survey. Around 70% of the participants provided their email. Both the raffle and email gathering were approved by the Ethics committee.

For the follow-up questionnaire, participants who had provided their email on the S1a survey were contacted. All participants were recruited via email, reintroducing the questionnaire they first answered and inviting them to answer the follow-up questionnaire. For this second survey no incentive was offered.

4.5 Ethics

This study went through ethics approval. Due to the collection of participants emails and the option to participate in a draft for a voucher, the study required Data Protection Impact Assessment (DPIA). To ensure Data Protection, participants' responses were anonymized by replacing their email with a participant number as a first step before data analysis. Both DPIA and Ethics approval were granted and are presented in Appendix 4 and Appendix 22 respectively.

4.6 Results of S1a Survey and Preliminary Discussion

4.6.1 Group Categorization

Participants were removed from the dataset if they had not provided responses for the questions regarding the psychological factors and the commuting behaviour. The final sample after removing incomplete answers, consisted of 1029 participants. These participants were separated into groups based on the most common mode of transport they used for their commute. This was done by identifying the mode(s) most frequently used for the commute, which created a separation between single-mode commuters and multi-modal commuters. Initially this created 23 groups that were later combined to produce 7 groups: walk, cycle, walk/cycle, Public Transport (PT), PT and an active mode (PTA from now on), car, and other. The last group included participants who could not be placed on the previous 6 and was removed from the analysis due to its lack of consistency. This final step was done by combining similar groups (e.g., groups walk, and walk and working from home were combined under the group walk).

The groups were combined and reduced as many of the 23 groups were similar enough that they would not provide meaningful differences during the analysis. Additionally, some of the groups were too small.

This removal affected differently the number of participants included at each time period. Commuting behaviour was measured across three different time periods: before, during, and after COVID-19 restrictions. Due to the removal of the group “other”, the number of participants included in the during stage was heavily reduced. Table 3 shows the distribution of participants across the groups for each time period.

TABLE 3

PARTICIPANT NUMBER FOR EACH GROUP AT THE 3 TIME POINTS

	Before	Percentage	During	Percentage	After	Percentage
Walk	169	16.4	190	18.5	234	22.7
Cycle	74	7.2	10	1	67	6.5
Walk/Cycle	23	2.2	6	.6	33	3.2
Public Transport	249	24.2	29	2.8	147	14.3
Public Transport & Active	155	15.1	23	2.2	101	9.8
Car	61	5.9	35	3.4	45	4.4
Other (excluded from analysis)	298	29	736	71.5	402	39.1

Total (in analysis)	731	71	293	28.5	627	60.9
Total sample	1029	100	1029	100	1029	100

The final six groups were created by combining the original 23 groups. First, five main categories were identified as they had the largest number of single-mode participants (walk, cycle, bus, rail, car). Due to the public transport distribution around Dublin, in particular rail related transport (LUAS, DART, train), bus and rail were combined into one category.

Next, any mode that was paired with Work/Study from home was considered under that mode's category, as due to the pandemic restrictions WFH may have been compulsory. Additionally, any pairing that included "other" was also considered under that mode's category, as the "other" group did not provide meaningful information.

Following this, the groups were created as follows:

Walk: included the main group walk, and the walk and WFH pairing.

Cycle: the main group cycle.

Public Transport: included the main groups of Bus and Rail, the bus and rail pairing, and the public transport and WFH pairing.

Car: included the main group car, and the car and other pairing.

Walk/Cycle was a main multimodal category. It was formed from participants who used both modes with the same frequency.

Finally, the group Public Transport & Active was created as it comprised several of the other main categories and could not be meaningfully allocated to the other groups. It combined the pairings walk/public transport/WFH, walk and bus, walk and train, and walk/bus/rail.

4.6.2 Analysis Plan

Firstly, a contingency tables analysis was run using the environmental and contextual variables to identify those which impacted commuting behaviour. Out of the 25 variables analysed, 15 were significant. This first step was necessary to reduce the number of variables to be entered into the analysis at subsequent stages. Identifying the non-significant variables allowed to reduce the noise of the data.

The core analysis procedure was Multinomial Logistic Regression. The analysis was run in two steps. In the first step, the regression was run separately on the environmental and contextual factors, and on psychological. Predictor variables that proved to be significant in the first step were combined to produce a parsimonious analysis of all the relevant predictor variables at the second step of the regression. This was repeated with the data regarding the mode category during and after COVID. Since the effect of COVID was of interest, each time period used the variables which proved significant at that stage for the analysis, regardless of whether they had been significant at the other time periods.

Car was chosen as the comparison variable as from a sustainability perspective it was the most problematic option of the DVs. On the one hand, car is the most limited mode of transport due to lack of parking facilities. On the other hand, car is the least environmentally friendly mode of transport.

4.6.2.1 Removed Items.

Before starting the analysis, some items related to the attitudes scale were removed as they did not provide meaningful data. First, seven items were removed as they had at least a 30% of N/A responses. Since there are no definitive rules about the percentage of NA responses which invalidates participant's data and it is left to the researcher's discretion, the figure of 30% was agreed since it marked a notable increase of missing data percentage (most variables had less than 10% missing data). Additionally, the flagged questions were reviewed to check that their removal was justified. Most of the questions were related to fuel-saving/pollution-reduction styles of driving (e.g., "At red traffic lights, I keep the engine running"), as the original scale was created in 2004, these types of questions have become outdated as many car manufactures have implemented such features by default. Finally, one question ("I reuse my shopping bags") was removed due to most of participants (99.1%) had given the same answer. Since the creating of the scale, a European directive to charge for plastic bags has been passed, the response rate of this question indicates that said directive has rendered the question outdated. Additionally, the directive could have turned the behaviour from being motivated by pro-environmental attitudes to being motivated by economic attitudes, therefore changing the original aim of the question.

4.6.3 Correlation Analysis

Once all the psychological variables were identified, a correlation analysis was run to test possible correlations between the Psychological and contextual variables. This analysis was done to identify potential multicollinearity among variables and to identify which variables should be used for the logistic regression analysis. Factor 2 of the attitudes scale, related to mobility and transportation, showed a correlation over .3 with two of the

contextual variables related to having a driving license and owning/having access to a petrol/diesel car ($r=.432$ and $r=.452$). As the correlation was moderate, the variable was not removed at this stage, but the analysis proceeded with caution.

4.6.4 Multinomial Logistic Regression

4.6.4.1 Time Period: Before COVID Restrictions.

4.6.4.1.1 Environmental and Contextual Variables.

First, a regression analysis with the environmental and contextual variables was run in order to identify which of the environmental and contextual variables predicted commuting behaviour. Originally a total of 14 variables were included in the analysis, but two of these (“Owning a bicycle” and “having a public transport stop close to home”) were removed due to producing problems when running the analysis. Regarding “owning a bicycle”, the issue was due to it presenting quasi-separation for the category “cycling” of the dependent variable. Regarding “having a public transport stop close to home”, the issues were due to most of participants (87.1%) had the same answer, as well as it presenting separation for the group walk/cycle of the dependent variable. The 12 variables included were the following:

Age, Gender, Education level, Driving license, Own/access petrol/diesel car, Access to ride share service, Access to bike share service, Access to Bus, Access to tram, Access to train, Health issues affecting walking, Health issues affecting cycling.

At this step, the model was statistically significant $X^2(60) = 204.61$, $p < .001$, $R^2 = .31$ (Cox & Snell), $.32$ (Nagelkerke). Overall, out of the 12 variables introduced in the analysis, seven were significant. Table 4 shows a summary of the significant variables.

TABLE 4

SUMMARY OF THE SIGNIFICANT VARIABLES

Variable	DF	Chi-Square	p
Age	5	15.42	<.009
Gender	5	19.56	<.002
Education Level	5	11.46	<.043
Driving License	5	23.81	<.001
Access to petrol/diesel car	5	20.05	<.001
Access to bike share	5	18.73	<.002
Health issues affecting walking	5	13.42	<.02

Table 5 presents a summary of the significant parameter estimates (full table in appendix 5).

TABLE 5

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	2.85(2.31)			
Driving license	1.45(0.69)*	1,09	4,25	16,56
Access petrol/diesel car	1.73(0.59)**	1,76	5,61	17,90
Health affecting walking	-.69(0.34)*			
		0,26	0,50	0,99
Cycle vs Car				
Intercept	.51(2.54)			
Gender	-1.02(0.45)*	0,15	0,36	0,87
Access petrol/diesel car	1.93(0.63)**	1,99	6,90	23,89
Access bike share	-1.14(0.55)*	0,11	0,32	0,94
Walk/Cycle vs Car				
Intercept	-3.87(3.47)			
Age	-.06(0.03)*	0,88	0,94	1,00
Gender	-1.52(0.58)**	0,07	0,22	0,69
Access petrol/diesel car	1.77(0.76)*	1,32	5,88	26,24
PTA vs Car				
Intercept	-.15(2.34)			
Driving license	2.40(0.69)***	1,32	5,88	26,24
PT vs Car				
Intercept	-.59(2.27)			
Driving license	1.96(0.68)**	1,89	7,11	26,83

Note $R^2 = .31$ (Cox & Snell), $.32$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$

4.6.4.1.2 Psychological Variables.

Next, a regression analysis with the psychological variables was run. The Psychological variables related to four categories subdivided into several other categories. First, Values were subdivided into four categories (Hedonic, Egoistic, Altruistic, Biospheric). Secondly, Beliefs was not subdivided. Thirdly, Norms was subdivided into Social and Personal norms, which were in turn subdivided into three other subcategories (Walk/Cycle, Public Transport, and Car), totalling to six variables. Finally, Attitudes was included which was subdivided in six parts.

To Sum up, there were a total of 17 independent psychological variables included in the regression (table 6).

TABLE 6

PSYCHOLOGICAL FACTORS INCLUDED IN THE MULTINOMINAL REGRESSION ANALYSIS

Values	Beliefs	Personal Norms	Social Norms	Attitudes
- Hedonistic	Beliefs	- Walk/Cycle	- Walk/Cycle	- Energy Conservation
- Egoistic		- Public	- Public	- Mobility and
- Altruistic		Transport	Transport	Transportation
- Biospheric		- Car	- Car	- Waste avoidance
				- Consumerism
				- Recycling
				- Vicarious, social behaviours towards conservation

At this step, the model was statistically significant $X^2(85) = 357.1$, $p < .001$, $R^2 = .39$ (Cox & Snell), .41 (Nagelkerke). Overall, out of the 17 variables introduced in the analysis, 10 were significant (Table 7).

TABLE 7

SUMMARY OF THE SIGNIFICANT VARIABLES

Variables	DF	Chi-Square	p
Altruistic	5	11.66	<.040
Biospheric	5	11.19	<.048
Beliefs	5	13.60	<.018
Personal norms related to Car	5	18.04	<.003
Personal Norms related to Public Transport	5	12.23	<.032
Social Norms related to Car	5	12.94	<.022
Social Norms related to Walking/Cycling	5	96.18	<.001
Social Norms related to Public Transport	5	57.56	<.001
Mobility and Transportation	5	59.63	<.001
Consumerism	5	19.48	<.002

Table 8 presents a summary of the significant parameter estimates (full table in appendix 6).

TABLE 8

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR
PSYCHOLOGICAL VARIABLES. BEFORE DATA

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-4.22(3.27)			
Beliefs	-.40(0.20)*	0.45	0.67	0.99
Personal Norms	.43(0.22)*			
Walk/Cycle		1.00	1.53	2.34
Social Norms	-.39(0.16)*			
Car		0.50	0.68	0.92
Social Norms	.67(0.21)**			
WalkCycle		1.30	1.94	2.92
Mobility and Transportation	1.83(0.32)***			
		3.31	6.24	11.77
Cycle vs Car				
Intercept	-5.01(4)			
Altruistic	-.63(0.23)**	0.34	0.53	0.84
Biospheric	.56(0.24)*	1.10	1.75	2.79
Beliefs	-.69(0.24)**	0.31	0.50	0.80
Personal Norms	-.80(0.27)**			
Car		0.27	0.45	0.76
Social Norms	-.66(0.23)**			
Car		0.33	0.52	0.82
Social Norms	1.41(0.25)***			
Walk/Cycle		2.49	4.08	6.69
Social Norms	-.68(0.24)**			
PT		0.32	0.51	0.81
Mobility and Transportation	1.71(0.35)***			
		2.75	5.50	11.00
Consumerism	.61(0.31)*	1.01	1.83	3.33
Walk/Cycle vs Car				
Intercept	-8(5.41)			
Beliefs	-.74(0.31)*	0.26	0.48	0.87
Social Norms	1.09(0.31)***			
Walk/Cycle		1.59	2.96	5.53
Mobility and Transportation	1.94(0.41)***			
		3.11	6.94	15.52
Consumerism	1.44(0.48)**	1.65	4.22	10.80
PTA vs Car				
Intercept	-2.41(3.22)			
Social Norms	.33(0.16)*			
PT		1.02	1.40	1.91
Mobility and Transportation	1.99(0.32)***			
		3.88	7.32	13.81

PT vs Car

Intercept	- .81(3.06)	0.75	0.98	1.28
Social Norms	-.47(0.15)**			
Car		0.47	0.63	0.84
Social Norms	.38(0.15)*			
PT		1.09	1.46	1.97
Mobility and Transportation	1.68(0.32)***	2.89	5.38	10.01
Note $R^2 = .39$ (Cox & Snell), .41 (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

4.6.4.1.3 Two-step Combined Analysis.

Once all the significant variables were identified, a final regression analysis was completed. This analysis involved two levels, the first using the environmental variables that were found significant in the previous analysis, and the second adding the significant psychological variables. The analysis was done by doing the first analysis with all the significant environmental variables and then running the analysis again including the significant psychological variables.

In the first level of the analysis, seven variables were included. For the second level, 10 variables were added. In total, 17 variables were included in the second level of the model (table 9).

TABLE 9**VARIABLES INCLUDED IN THE TWO-STEP MULTINOMINAL REGRESSION ANALYSIS. BEFORE DATA**

First Level	Added at Second Level
Age	Altruistic
Gender	Biospheric
Education level	Beliefs
Driving License	Personal norms related to car use
Own/access to car	Personal norms related to public transport use
Access to bike share service	Social norms related to car use
Health issues affecting walking	Social norms related to walking and/or cycling
	Social norms related to public transport use

Attitudes related to Mobility and Transportation

Attitudes related to Consumerism

At the first step, the model was statistically significant $X^2(35) = 199.16$, $p < .001$, $R^2 = .24$ (Cox & Snell), .25 (Nagelkerke). At the second step, the model was statistically significant $X^2(85) = 438.61$, $p < .001$, $R^2 = .45$ (Cox & Snell), .47 (Nagelkerke). Overall, out of the 17 variables introduced in the analysis, 14 were significant (Table 10).

TABLE 10**SUMMARY OF THE SIGNIFICANT VARIABLES**

Variables	DF	Chi-Square	p
Age	5	16.09	<.007
Gender	5	21.66	<.001
Driving License	5	13.7	<.018
Access to bike share	5	14.96	<.011
Health issues related to walking	5	14.37	<.013
Altruistic	5	11.45	<.043
Biospheric	5	14.09	<.015
Personal norms related to Car	5	17.29	<.004
Personal Norms related to Public Transport	5	12.2	<.032
Social Norms related to Car	5	14.95	<.011
Social Norms related to Walking/Cycling	5	87.71	<.001
Social Norms related to Public Transport	5	47.52	<.001
Mobility and Transportation	5	18.38	<.003
Consumerism	5	15.84	<.006

Table 11 presents a summary of the significant parameter estimates (full table in appendix 7).

TABLE 11**SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS**

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.84(2.74)			

Age	-.05(0.02)***	0.93	0.95	0.99
Social Norms Car	-.48(0.17)**			
		0.44	0.62	0.86
Social Norms Walk/Cycle	.61(0.21)**			
		1.22	1.83	2.75
Mobility and Transportation	1.29(0.38)***			
		1.74	3.64	7.60
Cycle vs Car				
Intercept	.54(3.15)			
Gender	-1.55(0.47)**	0.08	0.21	0.54
Health affecting walking	-1.02(0.46)*			
		0.15	0.36	0.88
Altruistic	-.64(0.25)**	0.33	0.53	0.85
Biospheric	.77(0.25)**	1.32	2.16	3.52
Beliefs	-.51(0.25)*	0.37	0.60	0.98
Personal Norms Car	-.92(0.28)***			
		0.23	0.40	0.68
Social Norms Car	-.71(0.24)**			
		0.31	0.49	0.79
Social Norms Walk/Cycle	1.42(0.26)***			
		2.49	4.14	6.89
Social Norms PT	-.75(0.25)**			
		0.29	0.47	0.78
Mobility and Transportation	1.45(0.42)***			
		1.88	4.27	9.70
Walk/Cycle vs Car				
Intercept	-4.53(4.08)			
Age	-.07(0.03)*	0.88	0.93	0.99
Gender	-1.79(0.60)**	0.05	0.17	0.54
Beliefs	-.79(0.31)*	0.25	0.45	0.83
Personal Norms Car	-.84(0.36)*			
		0.21	0.43	0.88
Social Norms Walk/Cycle	.98(0.33)**			
		1.41	2.66	5.04
Mobility and Transportation	1.38(0.48)**			
		1.56	3.97	10.10
Consumerism	1.29(0.48)**	1.41	3.63	9.34
PTA vs Car				
Intercept	-3.39(2.76)			
Age	-.03(0.02)*	0.94	0.97	1.00
Driving license	1.60(0.70)*	1.25	4.95	19.59
Personal Norms PT	.46(0.23)*			
		1.02	1.59	2.47

Social Norms Car	-.44(0.17)*			
		0.46	0.65	0.90
Mobility and Transportation	1.44(0.38)***			
		2.02	4.23	8.85
PT vs Car				
Intercept	-1.58(2.65)			
Social Norms Car	-.57(0.16)***	0.41	0.57	0.78
Social Norms PT	.35(0.16)*			
		1.05	1.42	1.94
Mobility and Transportation	1.23(0.37)***			
		1.66	3.43	7.07
<i>Note</i> $R^2 = .45$ (Cox & Snell), $.47$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

Once the significant variables for the first time period were identified, the analysis was run again with the data for the during and after time periods. This allowed to understand the impact of COVID on commuting behaviour and whether the same variables would predict modal travel choice across two additional time periods.

4.6.4.1.4 Brief Discussion of Before Results.

The before data showed that overall, older people, women, and people with stronger social and/or personal norms related to car use are slightly more likely to choose car for their commute over other means of transport. On the other hand, people with stronger attitudes regarding mobility and transportation were less likely to choose car.

People with stronger social norms related to PT were more likely to choose PT/PTA over car, but less likely to choose cycling over car.

4.6.4.1.4.1 WALK.

This study found that age and social norms related to car are negatively associated with choosing walking as a means to commute, this means that as people get older or the stronger their social norms associated to car use are, the more likely they are to take the car to work instead of walking. On the other hand, social norms related to walking and/or cycling, and attitudes related to mobility and transportation are positively associated to walking. In other words, the stronger these factors are, the most likely they are to choose walking compared to taking the car.

Out of these, attitudes related to mobility and transportation was the variable with the stronger impact on the behaviour, followed by both social norms related to walking and/or

cycling. This suggests that when it comes to walking one's attitudes related to transportation is more relevant any other variable.

4.6.4.1.4.2 CYCLING.

Regarding choosing cycling over car, gender, health issues related to walking, altruistic values, personal and social norms related to car use, and social norms related to PT showed a negative relationship, meaning that as these variables grow stronger, people are slightly more likely to choose car over cycling. In comparison, biospheric values, social norms related to walking and/or cycling, and attitudes related to mobility and transportation showed a strong positive association to commuting by cycling over car.

Similar to the previous group, for cycling attitudes related to mobility and transportation was the most influencing variable followed by social norms related to walking and cycling.

4.6.4.1.4.3 WALKING & CYCLING.

For walking and cycling as a way of commuting, age, gender, environmental beliefs, and personal norms related to car use showed a small, negative relationship. Social norms related to walking and/or cycling, attitudes towards mobility and transportation, and attitudes related to consumerism were strongly, positively associated to choosing walking and cycling over car.

In comparison to the two previous groups, for this group while the stronger influencer on behaviour was also attitudes related to mobility and transportation, the second most influencing variable was attitudes related to consumerism. This suggests that for this type of commuters, other people's opinions about the different modes are not as important at one's own attitudes when choosing a mode of transport.

4.6.4.1.4.4 PTA.

Regarding commuting by a combination of PT and an active mode of transport, having a driving license, personal norms regarding PT, and attitudes related to mobility and transportation showed a strong, positive relationship. This means that people who don't have a driving license, or who have stronger personal norms about PT or attitudes regarding mobility are more likely to use PTA over car for their commute. Opposed to this, older people or people with stronger social norms related to car, are more likely to choose car over PTA.

Unlike the other groups, for PTA the most impactful variable was driving license, followed by attitudes related to mobility and transportation. This suggest that for this group not having a driving license is the most decisive variable when choosing the mode of transport.

4.6.4.1.4.5 PT.

Choosing PT over car was more likely for people with stronger social norms related to PT, and/or with stronger attitudes related to mobility and transportation. On the other hand, people with stronger social norms related to car were more likely to choose car over PT as a means of commute.

Finally for PT, similarly to most other groups, the variable with the stronger influence was attitudes related to mobility and transportation.

4.6.4.2 Time Period: During COVID Restrictions.

4.6.4.2.1 Environmental and Contextual Variables.

First, a regression analysis of the environmental and contextual variables for the During groups was run. Initially the analysis included 14 variables, however, several of these produced problems when running the analysis. Variables “Driving license”, “Own/access to petrol/diesel car”, “Access to ride share service”, “Owning/access to bike”, “Access to bike share service”, “PT stop close to home” and “Heath issues affecting walking“ had to be removed. For most of these, the issue was related to them presenting separation or quasi-separation for one or more of the categories of the dependent variable. For question “PT stop close to home” the issue was due to most of participants (87.1%) had the same answer. The final analysis included seven variables. The variables included were the following:

Age, Gender, Education Level, Access to Bus, Access to Tram, Access to Train, and Health issues affecting cycling.

At this step, the model was statistically significant $X^2(35) = 58.95$, $p < .007$, $R^2 = .24$ (Cox & Snell), .27 (Nagelkerke). Overall, out of the 7 variables introduced in the analysis, only one was significant, Gender, $X^2(5) = 22.81$, $p < .001$. Table 12 presents a summary of the significant parameter estimates (full table in appendix 8).

TABLE 12

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES. DURING DATA.

95% CI for Odds Ratio				
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.07(1.90)			
Age	-.07(0.02)**	0.90	0.94	0.98
Access to Bus	.95(0.43)*	1.11	2.57	5.95
Cycle vs Car				
Intercept	.37(4.55)			
Gender	-2.97(1.05)**	0.01	0.05	0.40
Access to Bus	2.92(1.43)*	1.14	18.59	304.44
Access to Train	-1.73(0.65)**	0.05	0.18	0.63
Walk/Cycle vs Car				
Intercept	2.19(3.42)			
Gender	-2.91(1.25)*	0.01	0.05	0.62
PTA vs Car				
Intercept	-.49(2.73)			
Access to Tram	1.02(0.50)*	1.05	2.77	7.32
Note R ² = .24 (Cox & Snell), .27 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

4.6.4.2.2 Psychological Variables.

Next, a second regression analysis was run, this time with the psychological variables. Initially this analysis included 17 variables, but one of which (Social Norms related to Car) had to be removed as it produced errors on the analysis, due to presenting separation for several of the categories of the dependent variable. The final analysis included 15 variables (Table 13).

TABLE 13

PSYCHOLOGICAL FACTORS INCLUDED IN THE MULTINOMINAL REGRESSION ANALYSIS

Values	Beliefs	Personal Norms	Social Norms	Attitudes
- Hedonistic	Beliefs	- Walk/Cycle	- Walk/Cycle	- Energy Conservation
- Egoistic		- Public	- Public	- Mobility and
- Altruistic		Transport	Transport	Transportation
- Biospheric		- Car		- Waste avoidance
				- Consumerism
				- Recycling

- Vicarious, social
behaviours towards
conservation

At this step, the model was statistically significant $X^2(80) = 153.05$, $p < .001$, $R^2 = .53$ (Cox & Snell), .55 (Nagelkerke). Overall, out of the 16 variables introduced in the analysis, four were significant. Table 14 shows a summary of the significant variables.

TABLE 14

SUMMARY OF THE SIGNIFICANT VARIABLES

Variable	DF	Chi-Square	p
Altruistic	5	18.88	<.002
Social Norms related to Walking/Cycling	5	11.26	<.047
Social Norms related to Public Transport	5	13.30	<.021
Mobility and Transportation	5	42.79	<.001

Table 15 presents a summary of the significant parameter estimates (full table in appendix 9).

TABLE 15

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR PSYCHOLOGICAL VARIABLES. DURING DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-8.16(5.61)			
Altruistic	.52(0.24)*	1.06	1.68	2.66
Mobility and Transportation	2.63(0.65)***	3.90	13.81	48.93
Cycle vs Car				
Intercept	-12.43(17)			
Altruistic	-1.15(0.55)*	0.11	0.32	0.93
Personal Norms Car	-1.62(0.80)*	0.04	0.20	0.94
Social Norms Walk/Cycle	1.40(0.58)*	1.31	4.05	12.50
Mobility and Transportation	1.65(0.83)*	1.03	5.19	26.19

Walk/Cycle vs Car

Intercept	-7.38(12.47)			
Mobility and Transportation	2.75(0.84)**	3.04	15.69	80.90

PTA vs Car

Intercept	-7.86(7.13)			
Mobility and Transportation	2.60(0.69)***	3.52	13.51	51.92

PT vs Car

Intercept	-14.02(6.90)*			
Mobility and Transportation	2.90(0.68)***	4.82	18.24	69.02

Note $R^2 = .53$ (Cox & Snell), $.55$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$

4.6.4.2.3 Two-step Combined Analysis.

Next, the two-level regression analysis was done. The analysis included one contextual variable at the first step (Gender) and added four psychological variables at the second (Altruistic Values, Social norms related to walking and cycling, social norms related to public transport, and attitudes related to mobility and transportation). The analysis included a total of 5 variables at the second level. The model was statistically significant at the first level $X^2(5) = 24.004$, $p < .001$, $R^2 = .08$ (Cox & Snell), $.09$ (Nagelkerke), and at the second $X^2(25) = 110.40$, $p < .001$, $R^2 = .32$ (Cox & Snell), $.35$ (Nagelkerke).

All of the 5 variables introduced in the analysis were significant. Table 16 shows a summary of the significant variables.

TABLE 16**SUMMARY OF THE SIGNIFICANT VARIABLES**

Variable	DF	Chi-Square	p
Gender	5	24.53	<.001
Altruistic	5	13.09	<.023
Social Norms related to Walking/Cycling	5	13.31	<.021
Social Norms related to Public Transport	5	14.02	<.015
Mobility and Transportation	5	48.01	<.001

Table 17 presents a summary of the significant parameter estimates (full table in appendix 10).

TABLE 17

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS. DURING DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-7.09(1.64)***			
Altruistic	.46(0.17)**	1.14	1.59	2.23
Mobility and Transportation	2.52(0.54)***	4.27	12.40	35.97
Cycle vs Car				
Intercept	-4.23(2.27)			
Gender	-2.63(0.95)**	0.01	0.07	0.46
Social Norms Walk/Cycle	1.22(0.47)**	1.35	3.40	8.52
Mobility and Transportation	2.49(0.66)***	3.31	12.11	44.39
Walk/Cycle vs Car				
Intercept	-12.16(4.56)**			
Gender	-3.25(1.24)**	0.00	0.04	0.44
Altruistic	1.52(0.69)*	1.20	4.59	17.55
Mobility and Transportation	2.74(0.70)***	3.92	15.45	60.89
PTA vs Car				
Intercept	-8.20(2.11)**			
Social Norms PT	.54(0.25)*	1.06	1.72	2.80
Mobility and Transportation	2.52(0.59)***	3.94	12.42	39.19
PT vs Car				
Intercept	-8.82(2.04)***			
Mobility and Transportation	2.76(0.58)***	5.12	15.86	49.08

Note $R^2 = .32$ (Cox & Snell), $.35$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$

4.6.4.2.4 Brief Discussion of During Results.

Overall, for the during stage, attitudes regarding mobility a transportation showed a strong, positive effect on choosing different modes of transport over car.

For walking and cycling, people with stronger altruistic values were less likely to choose commuting by car, while women were less likely to choose cycling, both cycling alone or in combination to walking.

4.6.4.2.4.1 WALK.

At the during time, people with stronger altruistic values and attitudes regarding mobility and transportation were more likely to commute by foot over car. Out of these, attitudes was the variable that had the stronger influence.

4.6.4.2.4.2 CYCLING.

Regarding cycling, women were more likely to commute by car over bicycle, while people with stronger social norms related to walking and/or cycling, or attitudes about mobility were more likely to choose cycling. Similar to the previous group, for cycling attitudes related to mobility and transportation was the most influencing variable, followed in this case by social norms related to walking and/or cycling.

4.6.4.2.4.3 WALKING & CYCLING.

Similarly to the previous group, women were slightly more likely to choose car for their commute over walking and cycling. On the other hand, altruistic values and, particularly, attitudes regarding to mobility and transportation, were strongly related to choosing walking and cycling over car. Like for the cycling group, for walking and cycling attitudes related to mobility and transportation, followed by altruistic values, were the factors with the stronger impact.

4.6.4.2.4.4 PTA.

Social norms regarding public transport, and attitudes about mobility and transportation had a strong, positive effect on using a combination of PT and an active mode of transport over car. As with the group walking, for PTA attitudes was the more influencing variable.

4.6.4.2.4.5 PT.

At the during stage, for public transport only attitudes related to mobility and transportation showed a significant relationship, in particular a strong, positive effect.

4.6.4.3. Time Period: After COVID Restrictions

4.6.4.3.1 Environmental and Contextual Variables.

Finally, the set of analysis was run one more time for the After group. The first analysis was related to the contextual and environmental factors. Of the initial 14 variables, three (“Own/access to petrol/diesel car”, “Access to ride share service”, and “PT stop close to

home”) had to be removed. For the first two, the issue was related to them presenting separation or quasi-separation for one or more of the categories of the dependent variable. For question “PT stop close to home” the issue was due to most of participants (87.1%) had the same answer. The 11 variables included were as follows:

Age, Gender, Education Level, Driving License, Owning/Access to bike, Access to bike share service, Access to Bus, Access to Tram, Access to Train, Health issues affecting Walking, Health issues affecting Cycling.

At this step, the model was statistically significant $X^2(55) = 229.54$, $p < .002$, $R^2 = .38$ (Cox & Snell), .39 (Nagelkerke). Overall, out of the 11 variables introduced in the analysis, four were significant. Table 18 shows a summary of the significant variables.

TABLE 18
SUMMARY OF THE SIGNIFICANT VARIABLES

Variable	DF	Chi-Square	p
Education level	5	17.54	<.004
Driving license	5	19.11	<.002
Access/owning a bicycle	5	109.08	<.001
Access to bike share	5	15.21	<.009
	5		

Table 19 presents a summary of the significant parameter estimates (full table in appendix 11).

TABLE 19
SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES. AFTER DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	.49(2.05)			
Age	-.05(0.02)*	0.92	0.96	0.99
Driving license	1.61(0.54)**	1.73	5.02	14.52
Access bike share	-1.20(0.53)*	0.11	0.30	0.85

Health affecting walking	-.72(0.31)*	0.27	0.49	0.90
Cycle vs Car				
Intercept	5.52(2.65)*			
Education Level	.46(0.19)*	1.08	1.58	2.31
Access /own bike	-4.59(1.09)***	0.001	0.01	0.09
Access bike share	-1.36(0.59)*	0.08	0.26	0.81
Walk/Cycle vs Car				
Intercept	2.00(2.96)			
Education level	.48(0.23)*	1.04	1.62	2.52
Access /own bike	-3.18(0.83)***	0.01	0.04	0.21
PTA vs Car				
Intercept	-1.58(2.25)			
Driving license	1.76(0.57)**	1.90	5.83	17.87
Access to Tram	.92(0.35)**	1.28	2.51	4.94
PT vs Car				
Intercept	-.95(2.13)			
Driving license	1.77(0.55)**	1.98	5.84	17.26
<i>Note R² = .38 (Cox & Snell), .39 (Nagelkerke). * p < .05, ** p < .01, *** p < .001</i>				

4.6.4.3.2 Psychological Variables.

Next, a second regression analysis was run, this time with the psychological variables. The analysis included 17 variables (Table 20).

TABLE 20

PSYCHOLOGICAL VARIABLES INCLUDED IN THE MULTINOMINAL REGRESSION ANALYSIS

Values	Beliefs	Personal Norms	Social Norms	Attitudes
- Hedonistic	Beliefs	- Walk/Cycle	- Walk/Cycle	- Energy Conservation
- Egoistic		- Public	- Public	- Mobility and
- Altruistic		Transport	Transport	Transportation
- Biospheric		- Car		- Waste avoidance
				- Consumerism
				- Recycling
				- Vicarious, social behaviours towards conservation

At this step, the model was statistically significant $X^2(85) = 354.82$, $p < .001$, $R^2 = .43$ (Cox & Snell), .45 (Nagelkerke). Overall, out of the 17 variables introduced in the analysis, eight were significant. Table 21 shows a summary of the significant variables.

TABLE 21

SUMMARY OF THE SIGNIFICANT VARIABLES

Variable	DF	Chi-Square	p
Biospheric	5	11.88	<.036
Personal norms related to Car	5	19.11	<.002
Personal Norms related to Public Transport	5	32.74	<.001
Social Norms related to Car	5	19.43	<.002
Social Norms related to Walking/Cycling	5	85.84	<.001
Social Norms related to Public Transport	5	47.84	<.001
Mobility and Transportation	5	36.65	<.001
Consumerism		15.07	<.010

Table 22 presents a summary of the significant parameter estimates (full table in appendix 12).

TABLE 22

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR PSYCHOLOGICAL VARIABLES. AFTER DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.95(4.02)			
Social Norms Car	-.71(0.17)***	0.35	0.49	0.69
Social Norms Walk/Cycle	.52(0.24)*	1.06	1.69	2.69
Mobility and Transportation	1.66(0.37)***	2.56	5.25	10.75
Cycle vs Car				
Intercept	-.49(4.76)			
Personal Norms Car	-.80(0.32)*	0.24	0.45	0.84

Personal Norms	.75(0.36)*			
Walk/Cycle		1.04	2.11	4.27
Social Norms	-.83(0.25)***			
Car		0.27	0.44	0.71
Social Norms	1.23(0.28)***			
Walk/Cycle		1.98	3.42	5.91
Social Norms	-.55(0.25)*			
PT		0.35	0.58	0.95
Mobility and	1.54(0.40)***			
Transportation		2.12	4.66	10.24
Consumerism	.81(0.35)*	1.14	2.25	4.47
Walk/Cycle vs Car				
Intercept	1.39(5.06)			
Personal Norms	-.99(0.38)**			
Car		0.18	0.37	0.78
Social Norms	-.65(0.26)*			
Car		0.31	0.52	0.88
Social Norms	.84(0.31)**			
Walk/Cycle		1.27	2.32	4.23
Mobility and	1.86(0.42)***			
Transportation		2.81	6.44	14.78
PTA vs Car				
Intercept	-.62(4.30)			
Personal Norms	.61(0.28)*			
PT		1.05	1.83	3.20
Social Norms	-.60(0.19)**			
Car		0.38	0.55	0.80
Social Norms	.46(0.20)*			
PT		1.08	1.59	2.35
Mobility and	1.82(0.38)***			
Transportation		2.94	6.17	12.96
PT vs Car				
Intercept	2.48(4.08)			
Personal Norms	.66(0.27)*			
PT		1.14	1.93	3.29
Social Norms	-.64(0.18)***			
Car		0.37	0.53	0.75
Social Norms	.42(0.19)*			
PT		1.05	1.52	2.22
Mobility and	1.63(0.37)***			
Transportation		2.47	5.11	10.57
<i>Note</i> R ² = .43 (Cox & Snell), .45 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

4.6.4.3.3 Two-step Combined Analysis.

Lastly, the two-level regression analysis was done. In the first level of the analysis, four variables were included. For the second level, eight variables were added. In total, 12 variables were included at the second level of the model (table 23).

TABLE 23

VARIABLES INCLUDED IN THE TWO-STEP MULTINOMINAL REGRESSION ANALYSIS

First Level	Added at Second Level
Education Level	Biospheric
Driving License	Personal norms related to car use
Own/Access to bike	Personal norms related to public transport use
Access to bike share service	Social norms related to car use
	Social norms related to walking and/or cycling
	Social norms related to public transport use
	Attitudes related to Mobility and Transportation
	Consumerism

At the first step, the model was statistically significant $X^2(20) = 213.33$, $p < .001$, $R^2 = .29$ (Cox & Snell), $.30$ (Nagelkerke). At the second step, the model was statistically significant $X^2(60) = 442.35$, $p < .001$, $R^2 = .51$ (Cox & Snell), $.53$ (Nagelkerke). Overall, out of the 12 variables introduced in the analysis, 10 were significant. Tables 24 shows a summary of the significant variables.

TABLE 24

SUMMARY OF THE SIGNIFICANT VARIABLES

Variable	DF	Chi-Square	p
Driving license	5	12.57	<.028
Access/owning a bicycle	5	105.16	<.001
Access to bike share	5	19.58	<.001
Personal norms related to Car	5	14.34	<.013
Personal Norms related to Public Transport	5	32.76	<.001

Social Norms related to Car	5	17.50	<.004
Social Norms related to Walking/Cycling	5	73.28	<.001
Social Norms related to Public Transport	5	39.21	<.001
Mobility and Transportation	5	20.84	<.001
Consumerism	5	12.62	<.027

Table 25 presents a summary of the significant parameter estimates (full table in appendix 13).

TABLE 25

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS. AFTER DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.57(2.58)			
Social Norms Car	-.65(0.17)***	0.38	0.52	0.72
Mobility and Transportation	1.35(0.38)***	1.84	3.87	8.16
Cycle vs Car				
Intercept	4.12(3.27)			
Access/own bike	-4.39(1.08)***	0.00	0.01	0.10
Personal Norms Car	-.82(0.30)**	0.25	0.44	0.80
Social Norms Car	-.75(0.25)**	0.29	0.47	0.78
Social Norms Walk/Cycle	1.05(0.28)***	1.65	2.85	4.92
Social Norms PT	-.52(0.26)*	0.36	0.60	1.00
Mobility and Transportation	1.32(0.43)**	1.61	3.73	8.65
Consumerism	.71(0.35)*	1.02	2.03	4.02
Walk/Cycle vs Car				
Intercept	-.94(3.59)			

Access/own bike	-2.87(0.82)***	0.01	0.06	0.28
Personal Norms Car	-.85(0.35)*	0.22	0.43	0.85
Social Norms Car	-.55(0.27)*	0.35	0.58	0.97
Social Norms Walk/Cycle	.64(0.29)*	1.06	1.89	3.36
Mobility and Transportation	1.79(0.45)***	2.48	6.00	14.55
PTA vs Car				
Intercept	7.93(2.88)**			
Driving license	1.28(0.60)*	1.10	3.58	11.70
Personal Norms PT	.87(0.27)**	1.42	2.39	4.05
Social Norms Car	-.60(0.19)**	0.38	0.55	0.79
Social Norms PT	.44(0.20)*	1.06	1.55	2.28
Mobility and Transportation	1.38(0.40)***	1.83	3.97	8.61
PT vs Car				
Intercept	-3.25(0.28)			
Personal Norms PT	.78(0.25)**	1.33	2.19	3.59
Social Norms Car	-.64(0.18)***	0.37	0.53	0.75
Social Norms PT	.41(0.19)*	1.04	1.51	2.19
Mobility and Transportation	1.33(0.39)***	1.77	3.79	8.13
Note R ² = .51 (Cox & Snell), .53 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

4.6.4.3.4 Brief Discussion of After Results.

Similar to the previous time periods, having strong attitudes towards mobility and transportation has a positive effect on choosing different modes of transport over car, while people with strong social and/or personal norms regarding car use expect more likely to choose car over other modes.

Additionally, regarding the expected behaviour after the restrictions were lifted, having access to the modes was significant in choosing them over car. Particularly, people with

bicycles expected to use them more likely than using the car, while people with driving licenses expected to use car more likely than PT.

4.6.4.3.4.1 WALK.

At the after stage, people with stronger attitudes related to mobility and transportation are more likely to choose walking over car, while people with stronger social norms related to car use are more likely to choose car. At this stage, it was attitudes related to mobility and transportation the variable that had the stronger influence on people's expected behaviour.

4.6.4.3.4.2 CYCLING.

Regarding cycling, people who do not have a bicycle, people with stronger personal and social norms related to car, and people with stronger social norms related to PT were more likely to choose car over cycling for their commute. On the other hand, people with stronger social norms related to walking and/or cycling, attitudes regarding mobility and transportation, and consumerism were more likely to commute by bike.

In this case, similar to the previous group, attitudes related to mobility and transportation had the stronger influence on mode selection, followed by social norms related to walking and/or cycling.

4.6.4.3.4.3 WALKING & CYCLING.

Similarly to the previous group, not having a bicycle, and personal and social norms regarding car use were negatively associated with choosing walking and cycling as modes of transport for the commute. In contrast, social norms associated with walking and/or cycling, and attitudes regarding mobility and transportation showed strong, positive relationship with commuting by foot and bike. For this group, attitudes related to mobility and transportation was the stronger influencer of behaviour, followed by social norms related to walking and/or cycling.

4.6.4.3.4.4 PTA.

People with stronger social norms regarding car use are more likely to choose car over a combination of PT and an active mode. On the other hand, people without a driving license, people with stronger social and/or personal norms regarding PT, and people with stronger attitudes about mobility and transportation are less likely to choose the car.

For this group, attitudes related to mobility and transportation was the more influencing variable. Next, not having a driving license, followed by personal norms related to public transport were the other variables with the stronger influence.

4.6.4.3.4.5 PT.

Finally, PT showed similar result to PTA with the exception of having a driving license, which had no effect on choosing PT over car. In this case, similar to the previous group, attitudes related to mobility and transportation had the stronger influence, followed by personal norms related to public transport.

4.7 Discussion

Regarding the overall results, Norms, whether personal or social, and attitudes related to Mobility and Transportation seem to be the more predicting variables for commuting behaviour. While this may initially seem to contradict to some extent the data found by previous studies, where Values have been pointed as predictive of pro-environmental behaviour, it has also been noted that Values can be inhibited and hindered by other factors. The results found in this study follow that idea and bring forward which factors may have a stronger impact on actual behaviour.

Additionally, contextual factors regarding accessibility seem to have an impact on Travel Mode Selection, with having a driving license and access to a bike share service being significant for both the before and after data. While neither of those was significant at the during stage, it is important to note that the heavy restrictions regarding traveling and the general concerns about contagion may have made them irrelevant.

Table 26 shows a summary of which variables were significant at the different time periods.

TABLE 26

SUMMARY OF ALL SIGNIFICANT VARIABLES

Variables	Before	During	After
Age	Yes	No	No
Gender	Yes	Yes	No
Education level	No	No	No

Driving License	Yes	No	Yes
Access/Owning a car	No	No	No
Access to ride share	No	No	No
Access/Owning a bike	No	No	Yes
Access to bike share	Yes	No	Yes
PT stop close to home	No	No	No
Access to Bus	No	No	No
Access to Tram	No	No	No
Access to Train	No	No	No
Health issues related to walking	Yes	No	No
Health issues related to cycling	No	No	No
Hedonic	No	No	No
Egoistic	No	No	No
Altruistic	Yes	Yes	No
Biospheric	Yes	No	No
Beliefs	No	No	No
Personal Norms related to car use	Yes	No	Yes
Personal Norms related to walking and/or cycling	Yes	No	Yes

Personal Norms related to public transport use	Yes	No	No
Social Norms related to car use	Yes	No	Yes
Social Norms related to walking and/or cycling	No	Yes	Yes
Social Norms related to public transport use	Yes	Yes	Yes
Energy Conservation	No	No	No
Mobility and Transportation	Yes	Yes	Yes
Waste avoidance	No	No	No
Consumerism	Yes	No	Yes
Recycling	No	No	No
Vicarious, social behaviours towards conservation	No	No	No

4.7.1 Demographics

Overall, age and gender were found to be predictive of past behaviour but not of expected future behaviour. Gender was also found to be significant regarding current behaviour, specifically regarding cycling. This goes in line with previous research where men were found to be more likely to cycle than women. It is interesting, however, the lack of significance of any demographic factors regarding expected future behaviour. The specific moment in which this study took place, during a global pandemic when travel was heavily restricted, suggest that such extreme events affect people's expectations on how they would commute.

4.7.2 Contextual Factors

Regarding contextual factors having a driving license and having access to a bike share service proved to be predictive for both past and expected future behaviour, which suggest that having the opportunity to commute in a specific way is as important as owning that

particular transport method. In relation to this, owning a bicycle was predictive of expected future behaviour but not of past behaviour, which could also point at the influence of the COVID-19 pandemic as some individuals may have been worried about the risk of contagion.

4.7.3 Values

Regarding values, both biospheric and altruistic values were predictive of past behaviour while altruistic values was also predictive of current behaviour. On the more specific level, these values were predictive of choosing active modes of transport with the exception of cycling regarding past behaviour. Although previous research has pointed at biospheric to be the value most predictive of transport mode selection, it has also been noted that it can often be inhibited by other variables. The specific timing of this study suggest that extreme, external factors influence the effect of biospheric values on behaviour. This timing may also had had an impact on the salience of altruistic values, as the importance of individual behaviours to protect others was heavily highlighted during this time period.

4.7.4 Beliefs

Overall, beliefs was only significant at the before stage for the group walk and cycle. The lack of findings for this variable may point towards other factors' influence overpowering the effect of beliefs on behaviour. However, it is also important to notice that, despite not showing correlation in the analysis, and having been used for such purposes on previous studies, the scale used in this study for beliefs (New Environmental Paradigm Scale, NEP) has also been used to measure attitudes. The consistent lack of findings regarding beliefs in this study, may also suggest that the use of this particular scale may not be a good fit. For future research, when attempting to study both beliefs and attitudes, the use of a more specific scale for beliefs could produce more meaningful results.

4.7.5 Norms

In relation to norms, social norms were predictive at some level across all time periods, particularly social norms related to PT. Social norms related to car use were found to be predictive of both past and future behaviour, while social norms related to walking and cycling were predictive of current and future behaviour. These results seem to be in line with previous studies which pointed to the influence of social norms in regard to environmental behaviours in general, and travel mode selection in particular. Additionally, personal norms related to walking and cycling, and car use were also

predictive of expected future behaviour, this also goes in line of previous studies where personal norms were found to influence future intended behaviour.

4.7.6 Attitudes

Regarding attitudes, out of the six dimensions included in the analysis only two were significant. Particularly, attitudes regarding mobility and transportation was significant at all steps of the analysis across all three time periods, being the only variable that was always significant. This suggest that attitudes may have the strongest impact regarding behaviour. It is important to note that the specific scale used to measure attitudes is strongly focused towards behaviour. The other attitude dimension to be found significant, specifically related to past and expected future behaviour, was consumerism.

Due to the particularities of this scale, these results seem to suggest that shortening the scale to use only the items related to the dimension of interest (e.g., mobility and transportation) may be a better use of the scale, as it would heavily reduce the number of questions, lessening the time participants would need to spend on completing the questionnaire.

4.7.7 General Discussion

With regards to the theoretical background used in this study, the results partly support the suggestions made by VBN Theory. This theory proposes that values operate as a guiding principle that influence beliefs, which in turn influence personal norms. The findings in this study suggest that this sequence may be conditional. On the one hand, values were significant, to some extent, for past and current behaviour but not for expected future behaviour, which may suggest that values do not influence behaviour at the planning stage but do influence when the action is taken. In order words, people do not seem to actively consider their values when they think about how they commute, but those values do come in play when the behaviour actually happens. Comparing expected behaviour with actual behaviour in the future may help clarify this.

On the other hand, the significance of beliefs across the results was minimal. Considering that most research has focused on values and norms, these results add to the lack of evidence supporting the impact of beliefs and may suggest that a review of the theory and the role of beliefs in behaviour is needed. Further research needs to be done to test whether beliefs do not have impact on travel mode selection or if its impact is overshadowed by other variables.

To wrap-up the review of the VBN, the results of this study fall in line with those expected by the theory as personal norms were found to have influence both in past behaviour and expected future behaviour. The lack of impact in current behaviour, does not necessary contradict the theory as the specific circumstances of the study may have contributed, particularly due to the severely restricted mobility and access to transport. Further research would be necessary to establish the impact of personal norms on current behaviour.

It is important, however, to highlight the results regarding social norms. This study has found social norms, particular related to PT, to be one of the only two variables to be significant across all three time periods, suggesting they play a major role in influencing commuting behaviour. While the VBN theory focuses on personal norms, other theories have expanded to include both personal and social norms (i.e., the extended TPB added personal norms to its social norms); the findings in this study suggest that expanding the VBN to include social norms could be beneficial.

Finally, regarding the Campbell Paradigm, this study has found that attitudes influence behaviour, but only those attitudes directly related to the behaviour studied. While the paradigm suggests that attitudes related to a specific goal (e.g., protecting the environment) influence behaviour, these findings seem to point that the impact of such attitudes is more targeted, and further research in other areas (e.g., energy conservation) would be needed to test the full extent of this. In regards of this specific study, overall attitudes proved to be the most predictive variable, as they were significant not only across all time periods but also across all options of the DV, which, while not necessarily in opposition to the paradigm, it seems to suggest that the interaction between attitudes and cost of behaviour is not as prominent as the paradigm suggests. Further research may help to clarify the relationship between attitudes and cost of performing the behaviour.

Overall, while social norms and attitudes regarding mobility and transportation seem to be the most predictive of travel mode selection, the results found in this study suggest that unexpected extreme circumstances have impact on commuting behaviour. However, these findings are limited and correspond to a specific population, more research needs to be done to determine whether the results can be generalised.

Chapter 5: Results of S1b Survey

5.1 Group Categorization

Participants who had not answered the questions related to the psychological variables and commuting behaviour were removed from the dataset. The final sample consisted of 241 participants. These participants were separated into groups based on the most common mode of transport they used for their commute as reported in the S1b survey. This followed the same process as for S1a Survey (see 4.6.1). Table 27 shows a summary of the distribution of participants across the final 7 groups. For the analysis, the group “other” was removed as it did not provide meaningful information.

TABLE 27

NUMBER OF PARTICIPANTS PER GROUP

	Number	Percentage
Walk	32	13.3
Cycle	26	10.8
Walk/Cycle	0	0
Public Transport & Active	39	16.2
Public Transport	67	27.8
Car	26	10.8
Other	50	20.7
Total	241	

5.2 Analysis Plan

First a contingency tables analysis was run through the environmental and contextual variables to identify which factors had influence on commuting behaviour. This was the first analysis done regarding variable selection. This was done due to the need for reducing the number of variables used in the core analysis of the study due to the large overall number of variables present. Identifying non-significant variables allowed to reduce the noise of the data. This followed the same process as in S1a and it was repeated at S1b as there was an interest if an extreme event, such as the COVID-19 pandemic, would have an impact on the variables that influence commuting behaviour. As such, it was expected that some of the variables found significant in S1a may not be in S1b. This first analysis showed that this was the case, as some of the variables that have been included in the core analysis of S1a (and even being significant at some stage), were not included in the S1b core analysis. Some of these variables were such as gender. Out of the 23 variables analysed, 10 were significant.

The core analysis procedure was Multinomial Logistic Regression. The analysis was run in two steps, and it followed the same process as for S1a Survey (see 4.6.2). As in S1a, car was chosen as the comparison group of the DV.

5.2.2. *Removed Items*

Similarly to S1a, the items of the attitudes scale were reviewed to find those that had more than 30% N/A responses. Using this criterion the items identified corresponded to Factor 2 – Mobility and Transportation. However, as the scale had been reduced for S1b (see 4.6.2.1 for details) when removing these items, the factor became problematic. As this specific factor had been the most significant variables across all the analysis of S1a, there was an interest in studying its effect on S1b. Due to this, it was decided to not remove those items with high N/A responses for this part of the study.

5.3 Correlation Analysis

Once all the psychological variables were identified, a correlation analysis was run to test possible correlation between the Psychological and contextual variables. This analysis allowed to identify multicollinearity among variables and to identify which variables should be used for the logistic regression analysis. As none of the correlations was above 0.3, the analysis did not present reasons for concern.

5.4 Multinomial Logistic Regression

5.4.1 *Environmental and Contextual Variables*

First, a regression analysis with the environmental and contextual variables was run in order to identify which of these predicted commuting behaviour. Originally a total of ten variables were included in the analysis, but some of these were removed due to producing problems when running the analysis. First, two variables, “owning an electric bike” and “health issues related to using an electric scooter”, were removed due to most of the participants (91.3% and 86.3% respectively) having the same answer. Three other variables, “having a driving license”, “owning a petrol car”, and “owning a bicycle”, were removed due to presenting quasi-separation for one or more categories of the dependent variable. The final regression analysis of the environmental and contextual variables included four variables. These were as follows:

Age, Staff/Student Status, Access to Bus, Access to Tram.

At this step, the model was statistically significant $X^2(20) = 84.39$, $p < .001$, $R^2 = .42$ (Cox & Snell), .44 (Nagelkerke). Overall, out of the four variables introduced in the analysis, two were significant: Distance, $X^2(4) = 58.27$, $p < .001$; and Staff/Students status, $X^2(4) = 10.77$, $p < .029$. Table 28 presents a summary of the significant parameter estimates (full table in appendix 14).

TABLE 28

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR SIGNIFICANT ENVIRONMENTAL AND CONTEXTUAL VARIABLES

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	9.88(3.15)**			
Distance	-1.61(0.33)***	0.10	0.20	0.39
Cycle vs Car				
Intercept	2.87(4.5)			
Distance	-.74(0.24)**	0.30	0.48	0.76
Staff/Student status	-1.31(0.59)	0.09	0.27	0.85
PTA vs Car				
Intercept	3.92(2.71)			
Age	-.05(0.03)*	0.90	0.95	1
PT vs Car				
Intercept	7.17(2.57)**			
Age	-.06(0.03)*	0.90	0.94	0.99
Note R ² = .42 (Cox & Snell), .44 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

5.1.2 Psychological Variables

Next, a regression analysis with the psychological variables was run. There were a total of 17 Psychological variables (see 4.6.4.1.2 for details). Out of these, one of the attitudes categories, Factor 5: Recycling, had to be removed as most of the participants (97.5%) had given the same answer. In total, the analysis included 16 variables (table 29).

TABLE 29

PSYCHOLOGICAL VARIABLES INCLUDED IN THE MULTINOMINAL REGRESSION ANALYSIS

Values	Beliefs	Personal Norms	Social Norms	Attitudes
- Hedonistic	Beliefs	- Walk/Cycle	- Walk/Cycle	- Energy Conservation
- Egoistic		- Public	- Public	- Mobility and
- Altruistic		Transport	Transport	Transportation
- Biospheric		- Car	- Car	- Waste avoidance
				- Consumerism
				- Vicarious, social behaviours towards conservation

At this step, the model was statistically significant $X^2(64) = 195.48$, $p < .001$. Overall, out of the 17 variables introduced in the analysis, eight were significant. Table 30 shows a summary of the significant variables.

TABLE 30

SUMMARY OF THE SIGNIFICANT VARIABLES

Variables	DF	Chi-Square	p
Biospheric	4	13.22	<.010
Personal Norms related to Public Transport	4	12.38	<.015
Social Norms related to Car	4	20.17	<.001
Social Norms related to Walking/Cycling	4	41.25	<.001
Social Norms related to Public Transport	4	20.58	<.001
Mobility and Transportation	4	18.08	<.001
Waste Avoidance	4	12.68	<.013
Vicarious Social Behaviours towards Conservation	4	17.2	<.002

Table 31 presents a summary of the significant parameter estimates (full table in appendix 15).

TABLE 31

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR SIGNIFICANT PSYCHOLOGICAL VARIABLES

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	3.33(6.83)			
Personal Norms PT	1.49(0.70)*	1.14	4.44	17.33
Social Norms Car	-2.06(0.58)***	0.04	0.13	0.39
Social Norms Walk/Cycle	2.17(0.69)**	2.26	8.75	33.94
Social Norms PT	-1.03(0.52)*	0.13	0.36	0.99
Mobility and Transportation	1.53(0.59)**	1.47	4.62	14.54
Vicarious, social behaviours towards conservation	-2.38(0.83)**	0.02	0.09	0.48
Cycle vs Car				
Intercept	12.13(7.61)			
Personal Norms Car	-1.88(0.78)*	0.03	0.15	0.70
Social Norms Car	-1.65(0.55)**	0.07	0.19	0.56
Social Norms Walk/Cycle	2.59(0.71)***	3.31	13.30	53.53
Vicarious, social behaviours towards conservation	-2.67(0.85)**	0.01	0.07	0.37
PTA vs Car				
Intercept	3.63(6.88)			
Personal Norms PT	1.44(0.67)*	1.13	4.23	15.80
Social Norms Car	-1.22(0.51)*	0.11	0.30	0.80
Mobility and Transportation	1.56(0.57)**	1.56	4.77	14.66
Vicarious, social behaviours towards conservation	-2.41(0.79)**	0.02	0.09	0.42
PT vs Car				

Intercept	4.48(6.32)			
Personal Norms PT	2.02(0.65)**			
		2.11	7.57	27.20
Social Norms Car	-1.62(0.50)**			
		0.07	0.20	0.53
Mobility and Transportation	1.25(0.57)*			
		1.15	3.49	10.60
Vicarious, social behaviours towards conservation	-1.56(0.74)*			
		0.05	0.21	0.90
<i>Note</i> $R^2 = .67$ (Cox & Snell), $.70$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

5.1.3 Two-step Combined Analysis

Once all the significant variables were identified, a final regression analysis was completed following the same process as during S1a (see 4.6.4.1.3 for details).

In the first level of the analysis, two variables were included. For the second level eight variables were added. In total, 10 variables were included at the second level of the model (Table 32).

TABLE 32

VARIABLES INCLUDED IN THE TWO-STEP MULTINOMINAL REGRESSION ANALYSIS.

First Level	Added at Second Level
Distance	Biospheric
Staf/Student Status	PN_PT: Personal norms related to public transport use
	SN Car: Social norms related to car use
	SN Walk/Cycle: Social norms related to walking and/or cycling
	SN_PT: Social norms related to public transport use
	Factor2: Mobility and Transportation
	Factor3: Waste Avoidance

Factor6: Vicarious Social Behaviours towards Conservation

At the first step, the model was statistically significant $X^2(8) = 68.22$, $p < .001$. At the second step, the model was statistically significant $X^2(40) = 203.57$, $p < .001$. Overall, out of the 10 variables introduced in the analysis, nine were significant. Table 33 shows a summary of the significant variables.

TABLE 33

SUMMARY OF THE SIGNIFICANT VARIABLES

Variable	DF	Chi-Square	p
Distance	4	38.9	<.001
Biospheric	4	16.93	<.002
Personal Norms related to Public Transport	4	17.45	<.002
Social Norms related to Car	4	19.22	<.001
Social Norms related to Walking/Cycling	4	26.74	<.001
Social Norms related to Public Transport	4	9.8	<.044
Mobility and Transportation	4	23.63	<.001
Waste Avoidance	4	10.73	<.030
Vicarious Social Behaviours towards Conservation	4	19.39	<.001

Table 34 presents a summary of the significant parameter estimates (full table in appendix 16).

TABLE 34

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	3.39(4.95)			
Distance	-1.34(0.38)***	0.13	0.26	0.55
Personal Norms PT	1.16(0.55)*	1.08	3.20	9.48
Social Norms Car	-1.67(0.53)**	0.07	0.19	0.53
Social Norms Walk/Cycle	1.36(0.60)*	1.19	3.88	12.63
Mobility and Transportation	1.37(0.54)*	1.36	3.93	11.36
Vicarious, social behaviours towards conservation	-1.98(0.81)*	0.03	0.14	0.67
Cycle vs Car				

Intercept	4.91(5.04)			
Personal Norms PT	1.52(0.57)**	1.51	4.57	13.82
Social Norms Car	-1.52(0.51)**	0.08	0.22	0.59
Social Norms Walk/Cycle	2.18(0.61)***	2.66	8.86	29.51
Mobility and Transportation	1.13(0.55)*	1.06	3.09	9.05
Vicarious, social behaviours towards conservation	-2.91(0.80)***	0.01	0.06	0.26
PTA vs Car				
Intercept	-2.61(4.57)			
Personal Norms PT	1.39(0.52)**	1.45	4.01	11.08
Social Norms Car	-1.26(0.44)**	0.12	0.28	0.68
Mobility and Transportation	1.89(0.53)***	2.35	6.61	18.62
Vicarious, social behaviours towards conservation	-2.39(0.74)**	0.02	0.09	0.39
PT vs Car				
Intercept	-.09(4.17)			
Personal Norms PT	1.84(0.50)***	2.35	6.30	16.90
Social Norms Car	-1.54(0.44)***	0.09	0.22	0.51
Mobility and Transportation	1.43(0.52)**	1.51	4.20	11.67
Vicarious, social behaviours towards conservation	-1.78(0.69)**	0.04	0.17	0.65
<i>Note R² = .67 (Cox & Snell), .70 (Nagelkerke). * p < .05, ** p < .01, *** p < .001</i>				

5.5 S1b Survey Discussion

The data showed that overall, people who live further away from their place of work, people with stronger social norms related to car use, and people with more negative attitudes related to vicarious, social behaviours towards conservation are more likely to choose car over other means of transport for their commute. On the other hand, people with stronger personal norms related to PT, people with stronger social norms related to walking/cycling, and people with stronger attitudes related to mobility and transportation are less likely to choose car.

From these findings is interesting the limited significance of contextual and environmental variables (with only distance being significant) as recent studies have pointed at the relevance of these factors on mode selection. Regarding the psychological variables, the limited impact of values while both social and personal norms were significant suggests that values may not be as influencing on mode selection as proposed

by previous research. Additionally, social norms being significant as well falls in line with the results of more recent studies that have pointed at their impact on the behaviour.

5.5.1 Walk

Looking more specifically at each category of the dependent variable, for the walk group, distance, social norms related to car use, and attitudes related to vicarious, social behaviour towards conservation are negatively associated to choosing walking as the mode of transport for the commute. On the other hand, personal norms related to PT, social norms related to walking and/or cycling, and attitudes related to mobility and transportation are positively associated to choosing to walk. In other words, people with stronger norms (whether personal or social) related to greener modes of transport, people with stronger attitudes towards mobility and transportation, people with more positive attitudes regarding conservation, and people whose distance between home and work is smaller, are less likely to choose car for their commute.

However, out of these, attitudes related to mobility and transportation, followed by social norms related to walking and/or cycling and personal norms related to public transport, were the variables that had the stronger impact.

5.5.2 Cycling

The results regarding choosing cycling as a mean for commuting are similar to choosing walking with the exception of distance, which has no effect on choosing cycling over car. This means that, people with stronger personal norms related to PT, people with stronger social norms related to walking and/or cycling, and people with stronger attitudes related to mobility and transportation are more likely to choose cycling over car for their commute, while people with stronger social norms related to car and people with more negative attitudes regarding vicarious, social behaviours towards conservation, are more likely to choose car instead of cycling.

In contrast to the previous group, for cycling it was social norms related to walking and/or cycling that had the stronger influence in choosing cycling over car, followed by personal norms related to public transport. Attitudes related to mobility and transportation was the third most influencing variable. This suggest, that while for choosing to walk your own attitudes are the most relevant, for cycling is other people's opinions that have more influence in the decision.

5.5.3 PTA and PT

Finally, regarding PTA and PT, both showed the same results. Similar to the previous categories, PTA and PT, showed positive relations to personal norms related to public transport and attitudes related to mobility and transportation, while social norms related to car and attitudes related to conservation were negatively related. In other words, the stronger the personal norms related to PT, and the stronger the attitudes related to mobility and transportation the less likely people are to choose car. On the other hand, the stronger the social norms related to car, and the more negative the attitudes related to conservations, the more likely people are to choose car as their mode for commuting.

For the PTA group, it was attitudes related to mobility and transportation that had the stronger impact on mode selection, followed by personal norms related to public transport. On the other hand, for the PT group it was the opposite, with the personal norms related to public transport being the most influential, followed by attitudes related to mobility and transportation.

5.5.4 Demographic and Contextual Factors

Overall, while at the first step both Distance and Staff/Student status were significant, only distance was significant in the final analysis. Additionally, while distance was significant at the general level, it only showed to have an impact on the walking group. This points that the decision of walking as a way of commuting is affected by the distance of said commute, but that distance does not have such a strong influence over other means of transport. It is important to note, that this specific finding could be influenced by the decision of using car as the reference category of the dependent variable, and therefore, distance could also prove to be significant when comparing the different modes against each other (e.g., distance could be significant when comparing cycling vs PT).

5.5.5 Values

Regarding values, only biospheric were predictive of behaviour, and it was only predictive at the general level. While it may seem contradictory at first, previous research has shown that, despite having impact on behaviour, values can be inhibited by other variables (Kiatkawsin & Han, 2017; Lind et al., 2015). The results found in this study, seem to point towards that.

5.5.6 Norms

The results found regarding norms are interesting due to their specificity at the category level. First, social norms related to car was found significant across all category comparisons. This, as previously noted, can be due to having selected car as the category for comparison. In relation to social norms related to walking and/or cycling, it was only significant for the categories of walking, and cycling. This shows that these norms have influence specifically when it comes to choosing the modes they are related to.

On the other hand, personal norms related to PT were significant across all categories. These results are particularly interesting when taking into account that the different categories of the dependent variables were compared against car use, which is the less sustainable of the modes used in this study. As personal norms are often referred as “moral norms”, they provide a moral compass of what one considers right and wrong, and in this case, seem to suggest that having strong personal norms related to PT, impacts several different modes when compared to a less sustainable mode of transport.

5.5.7 Attitudes

Finally, regarding attitudes, out of the five dimensions included in the analysis, three were significant at the general level. First, waste avoidance was significant at the general level but not at the category level, which seems to indicate that, similar to values, its influence is overshadowed by that of other variables. Second, mobility and transportation had an impact both at the general level and at the category level, across all categories. Lastly, vicarious, social behaviour towards conservation was also significant at the general level and across all categories. These results are interesting as they show that having positive attitudes about sustainability and sustainable behaviours affects the decision of how to commute even if those attitudes are not directly related to mobility.

5.5.8 General Discussion

Looking at the theoretical background used for this study, the results partly support the VBN Theory’s proposals. First, biospheric values were found to impact on transport mode selection, which falls in line with previous research’s findings that had pointed at this specific type of value to be predictive of this behaviour. However, the influence of biospheric values was only found at the general level and not when looking at the category level. This seems to suggest that the impact of values is overpowered by other variables.

Beliefs, on their part, was not found to be significant, being the only variable of the theoretical background to not have an impact on behaviour. This, along with the limited

research done by previous studies, brings the question of whether beliefs, as defined so far, plays a role at all on transport mode selection.

Finally, as the last part of the VBN, norms were found to be significant both at the general and the category level. While these results fall in line with those expected by the theory, the more prominent impact of the social norms suggest that a review of the theory to include social norms along with personal norms, may be worthy.

Finally, regarding the Campbell Paradigm, this study has found an important impact of attitudes on behaviour. This paradigm proposes that attitudes related to a specific goal, in this case sustainability, influence behaviour. The results found in this study support this proposal as the different dimensions of attitudes were found to have an impact not only at the general and the category level, but also across all categories. This seems to suggest that having positive attitudes towards the environment, affects the decision on which mode of transport to choose for the commute, regardless of whether those attitudes are specifically related to mobility.

5.6 S1a Survey & S1b Survey Comparison and Discussion

One of the major differences on the results of S1a and S1b is on the contextual and environmental factors found to be significant. First, many of the variables studied on S1a, such gender, were not found to have influence on behaviour on S1b during the first analysis done for variable selection. And of those that had influence, many could not be included on the analysis as they had quasi-separation with the categories of the dependent variable (e.g., everyone in the group cycle had a bicycle). Finally, of the variables finally included in the analysis, the only ones found significant were those that were new for S1b data, although it is worth noting, that the other variables were also not found significant at S1a (with the exception of age at the before Stage). Such huge contrast on the variables significant at S1a vs at S1b suggest that either their significance was artificial or that the overall context in which the surveys happened was very different.

While these results seem inconclusive, the reason for the discrepancies may lay on the timing of the surveys. The data from S1a were collected in the midst of a global pandemic during which travel was highly restricted. At the time of data collection, access to campus was limited and lectures were conducted online with the data being collected at the end of the academic year. This means, that when participants were asked about past behaviour, they were being asked about commuting behaviour in which they had not regularly engaged in over a year. On the other hand, S1b asked participants to think about their commuting behaviour over the previous two months. This brings two potential issues when comparing the data. First, at S1a participants may have misremembered their

commuting behaviour, particularly those who did not always use the same mode or those who had changed homes, or their context may have changed since the behaviour was questioned and the moment at which the survey was answered (e.g., obtaining a driving license, PT modes being accessible due to changing homes, etc.). Both of these could present a discrepancy between behaviour and context. Second, while the S1b data were collected during term time, asking specifically about the previous two months may not be fully representative of usual behaviour as the context of some participants may have been altered (e.g., participating on a project/on-site workshop, roadwork on their commute route, etc.).

Across all time points contextual and environmental variables have proven to be significant. This falls in line with the results found by previous research which pointed towards the importance of these types of variables, such as He's finding regarding the distance at which car users change from active modes to driving (He et al., 2022; Lu et al., 2023). It is also worth noticing the current shift in focus within the study of contextual variables with built environment gaining importance in travel mode selection research in comparison to sociodemographic factors. This change in the area of interest is driven by different perspectives. On the one hand, the increased worry about pollution has raised an interest in sustainable urban planning and in developing and implementing policies for sustainable mobility, which has prompted the need to better understand how the environmental and contextual factors influence behaviour (Maltese et al., 2021). On the other hand, the relatively new access to big data has facilitated the study of these types of factors, as their data can be collected from sources such as ticketing data, which allows for gathering massive amounts of data with little effort (Zhang & Zhao, 2021). As a result of this, some studies have found that non-psychological factors, such as those related to built environment, seem to have the highest influence (He et al., 2022). Part of this influence is that built environment factors, to some extent, affect the options one has regarding transport. In other words, if you don't have the option to choose a mode, the extent to which other variables can prompt you towards that mode is minimal (e.g., if you don't have the option to use public transport, your predisposition to use it has no effect). The results on this study may follow this new trend.

Finally, it needs to be mentioned that the difference in significance of the contextual variables may be due to the pandemic itself. Despite COVID restrictions having been lifted in most places for over a year at the time of S1b data collection, the pandemic has left changes in the way we commute, with the most notable being the increase of remote/hybrid working. With reduced pressure on the need for travelling to work, as working from home is a much more available option, the context in which commute happens has changed, which in turn may have affected the variables that affect the commute itself.

Regarding the theoretical approach, the results of S1a and S1b are slightly more consistent. First, within the VBN Theory, the results on both studies show the significant but limited influence of values, specifically of biospheric values. This type of value has found to be important in relation to sustainable behaviours, including transport mode selection, and the results found in both S1a and S1b support these previous findings. Additionally, the limited impact of values seen in this study, with values overall being significant at the general level but not at the specific (i.e., when comparing the modes against each other), further support the proposals made by previous research that had noted the effect of values to be hindered and limited when introducing other variables. These studies have noted that the effect of values on behaviour appears to be mediated by norms, which in turn have been found to be affected by situational factors (Kiatkawsin & Han, 2017; Lind et al., 2015).

Before moving onto the next construct of the theory, Beliefs, it is important to consider the results found for the altruistic values. While occasionally found to be predictive of pro-environmental behaviours, its impact is often limited when compared to that of biospheric values (Lind et al., 2015). The results found in S1a seemed to challenge the research done so far about values, with altruistic being, overall, more significant than biospheric. It was hypothesized on the discussion of S1a (see chapter 4.7.3) that this heightened impact of altruistic values could be due to the specific timing of the research, during which it was highlighted the importance individual behaviours had on protecting others. The lack of significance of altruistic values at S1b, seem to support that hypothesis.

These results are particularly interesting as Values are often described as to guide behaviour but also to being strong and difficult to change. The findings in these studies seem to suggest that extreme events (such as a global pandemic) influence the impact that values have on behaviour by making some values more salient than others.

Regarding the second construct of the VBN, Beliefs, its influence was found to be non-significant at both S1a and S1b. While the theory argues that norms are influenced by values via beliefs, the research done about how beliefs influence behaviour is limited. The results of these studies, particularly the consistent lack of significance of beliefs may suggest that the chain suggested by the theory is not reflected at an empirical level. These findings may also point towards the impact of beliefs on behaviour to be constrained by other variables. Further research it is necessary to draw definite conclusions.

Moving onto the last construct of the VBN theory, it first needs to be mentioned that while the theory refers specifically to personal norms, this study also included social norms. Looking at the overall results, it is important to highlight the consistent findings

supporting the inclusion of social norms in the study. Both S1a and S1b found one type or other of social norms to be significant across all times, while the case was not the same for personal norms, as none were significant at the during stage of S1a. These findings seem to heavily support the benefits of including social norms within the scope of the VBN.

Looking at specific elements of VBN theory, the results of S1a and S1b were similar. While all six types of norms (three related to social and three related to personal) were significant at S1b, social norms related to walking/cycling were not significant at the Before stage for S1a, and personal norms related to PT were not significant at the After stage (i.e., expected future behaviour) of S1a. The results change further when looking at the category level. Despite the fact that personal norms related to PT was not significant at the After stage of S1a, it was the only type of personal norms to be significant at the category level of S1b being significant across all comparisons. This seems to suggest that there is a disconnection between planning and acting, in which our own personal (or moral, as are often referred to) norms gain importance while performing a behaviour but not necessarily when planning said behaviour.

Regarding social norms, it is interesting the specificity at which they seem to have an impact. Both during S1a and S1b, when looking at the category level, social norms for each mode of transport were significant mostly, and almost exclusively, in regards of the commuters using that mode. Thus, social norms related to walking and/or cycling were significant for the walking, cycling, and walking and cycling groups, but not for the PT & Active, and PT groups. Social norms related to car use are an exception for this, but as car was used as the comparison category, its significance may be artificial.

One apparent contradiction worth commenting on is that for S1b, social norms related to PT, while significant at the general level, it was not significant at the category level. This was not the case for S1a, in which social norms related to PT was found to be significant at the category level. This discrepancy may be, as mentioned when discussing values, due to the specific timing of S1a, during which social responsibility was highlighted. The emphasis on social distancing and crowd reduction during the pandemic, may have increased the salience of social norms regarding to PT, as it is arguably the more socially visible of the modes.

Lastly, in relation to attitudes related to the Campbell Paradigm, the results found here are interesting. Starting with the similarities, the factor related to Mobility and Transportation was significant at almost all times and levels of analysis and was the only variable to show such a pattern. This seems to indicate that the relevance of attitudes on

behaviour is related to the specific scope of the attitudes itself, and that when attitudes and behaviour align, they are very predictive.

However, this is where the similarities between S1a and S1b stop. First, the factor related to Consumerism, which was found significant for the before and after data of S1a, was not found significant at any level of S1b. On the other hand, the factors related to Waste Avoidance and Vicarious, social behaviour towards conservation, were found to be significant at S1b despite not having been so at S1a. Specifically, the factor related to attitudes towards conservation was found to be significant not only at the general level, but also across all categories of the analysis.

It is important to start this part of the discussion mentioning that the scale used to measure attitudes was reduced for the data collection of S1b. Despite previous research supporting the reduction of this scale (Hsu & Feng, 2019; Otto et al., 2018; Taube et al., 2018), the discrepancies on the results found between S1a and S1b may be due to these changes on the scale. Further research without changes on the scale would be needed in order to test both the results found in this study and the decision to shorten the scale for S1b. Consequently, the following part of the discussion is made with caution.

Moving onto the differences between S1a and S1b, the lack of significance at S1b of the factor related to Consumerism may lay in the questions used for the second survey. These questions focused more on the use/purchase of chemical products for the household and may have turned the factor away from pure consumerism and more into attitudes related to pollution. On the other hand, the significance of the factor related to Waste Avoidance at S1b may be due to a new policy announced previous to the data collection. In early autumn 2023, it was announced the introduction of a national return scheme for bottles and cans involving an extra cost to the purchase of products in those containers that would be repaid upon returning them to the store (Maguire, 2023). While the scheme was not yet active during the survey, the announcement and information regarding it may have increased the salience of attitudes regarding waste avoidance.

Finally, in relation to attitudes to Vicarious, Social Behaviours towards Conservation, the results found at S1b are interesting. During the pandemic, many different sources of media highlighted the impact of humans on their environment, particularly, many articles pointed at the reduced pollution on rivers and bodies of water due to the lack of human travel (Watts, 2020). While the attitudes addressed in this factor are not directly related to mobility and transport, the pandemic may have brought focus on the effect people, and specifically their travel, have on the environment, making conservation and environmental protection a more relevant topic than it was before the restrictions.

Lastly, in regards with travel mode selection itself, the results show a slight discrepancy between the expected behaviour and actual behaviour in the future, with participants overestimating their decision to walk, and underestimating the use of PT (Table 35). The data from S1b shows that the distribution of modes is similar to the distribution of the Before time for S1a. In other words, once the restrictions were over and free mobility was reinstated, people mostly returned to their original way of commuting. However, it should be noted that car usage almost doubled from S1a. Part of this increase may be due to participants having changed their place of work/residence in a way that had affected their commute (30.8% of participants from the group car reported this). Another possible explanation of this increase may be due to the increase in remote working. Some recent studies have pointed that, on average, people who work remotely tend to live further away from their place of work, which could make commuting by car a necessity (Zarabi et al., 2024). Additionally, by reducing the number of days one commutes, the cost-per-trip of PT travel bonuses (e.g., monthly pass) increases, to the point where the cost becomes too high to be worth it, which may result in people commuting by car. Further research needs to be done in this area.

TABLE 35

PARTICIPANT NUMBER FOR EACH GROUP AT THE 4 TIME POINTS

	Before	%	During	%	After	%	S1b	%
Walk	169	16.4	190	18.5	234	22.7	32	13.3
Cycle	74	7.2	10	1	67	6.5	26	10.8
Walk/Cycle	23	2.2	6	.6	33	3.2	0	0
Public Transport	249	24.2	29	2.8	147	14.3	39	16.2
Public Transport & Active	155	15.1	23	2.2	101	9.8	67	27.8
Car	61	5.9	35	3.4	45	4.4	26	10.8
Other (excluded from analysis)	298	29	736	71.5	402	39.1	50	20.7
Total sample	1029	100	1029	100	1029	100	241	

Overall, while both studies have pointed at norms, particularly social norms, and attitudes to be predictive of travel mode selection, the results show a shift on the specifics of these variables that are relevant. This study suggests that extreme events, such as a global pandemic, have an impact not necessarily on behaviour itself, but on the variables that influence behaviour. Further research needs to be done, both to test the results found here, but also to test the possible long-lasting changes brought by the pandemic.

5.6.1 Applied Significance

In line with the findings of recent literature, this study has noted the relevance of contextual variables when studying commuting behaviour. Particularly, the contextual factors found to be more relevant in this study are those that are somewhat related to having access to the modes, with the factor of Distance limiting the usability of active modes. At the same time, the influence of Values, which is often considered highly relevant, was considerably limited. When putting these findings together these results fall in line with those that point at the impact of Values to be mediated by other variables. From a practical perspective, these results seem to suggest that increasing access could be a more effective approach to increase the use of sustainable modes than campaigns targeting at the more psychological factors (e.g., values, beliefs).

When looking at the psychological factors, the influence of norms, both personal and social, is quite interesting. First, the impact of social norms, while overall limited to the mode they referred to suggest that improving the society's perspective and favouring of the more sustainable modes could help to steer people away from using personal cars. From an applied approach, campaigns and interventions directed at making those modes more visible and show them as the common modes, could increase the number of people commuting by sustainable means. On the other hand, the impact found for personal norms suggests that increasing one's opinions regarding the more ecological modes could improve their use. As these types of norms are sometimes referred to as "moral norms", interventions focused on presenting the use of sustainable modes as the right thing to do could increase their use.

Similarly, this study found that attitudes regarding mobility and transportation are highly predictive of mode selection. These results suggest that campaigns that either focus on highlighting the benefits of using sustainable modes or the downside of driving could reduce car usage. However, this study's findings regarding other types of attitudes seem to suggest that having positive attitudes towards the environment in general influences the decision on how to commute. At a practical level, this suggests that interventions targeting attitudes related to sustainability could increase the use of more ecological modes, even if the intervention does not specifically focus on them.

While this study has found interesting results regarding which variables influence mode selection, these are still superficial and don't offer in-depth information about how this influence occurs or whether the different variables influence each other, and if so how. The need remains for more targeted, detailed research on the specifics of these variables' impact on the behaviour.

Chapter 6: Study 2 Interviews Methodology

6.1 Introduction

This study was the final step of a three-part study, in which the previous parts consisted of surveys. In contrast to the previous part of the study (S1), this final part used a qualitative approach, specifically interviews. S1 used a quantitative approach in the form of surveys. While this provided a great amount of data, the limited response options did not allow for an in-depth explanation of the effect of the variables found. In order to bridge this issue, this study opted for a more open, flexible approach in data collection. For this, semi-structured interviews were selected as the method to gather information, as it allowed to inquire into the topics of interest without restricting the participants' responses. This more flexible approach was beneficial to both understand the underlying factors that influence travel mode selection, and to identify possible factors that had been overlooked during the previous part of the study. This approach also had the potential to identify the nuances of the decision-making process and how the different factors influence each other and the commuting behaviour itself.

As this study was the conclusion of a larger study, its aim was to build on the information obtained in previous parts in order to paint a clearer picture of how the selected behaviour, Travel Mode Selection, occurs outside of a lab-like setting. Those variables and factors found relevant in S1 were selected as topics of discussion during the interview. Additionally, from S1 two groups of interest merited further investigation. First, the results of S1 showed that some commuters who had not reported a change in residence and/or place of work/study in the time between S1a and S1b surveys had stated a change in mode of transport. This group was considered of interest as they could help identify what factors motivate a change in mode when the commuting requirements (e.g. distance, route) remain intact. This offers the opportunity to study travel mode selection in a real-life setting while still having some control over situational factors. The second group of interest identified from the findings of S1 was those commuters who had changed their place of work/study/residence in a way that had affected their commute (e.g. longer distance, different availability of modes). This group offered a contraposition to the previous one, as it allowed to study the influence of external and situational factors, such as infrastructure, and, when compared to the previous group, offered the opportunity to understand how different factors (personal or contextual) affect mode selection, and the strength of their impact. Furthermore, these groups offered the opportunity to study the decision-making process involved in transport mode selection, as both groups had encountered a situation in which they needed to review their commute.

In previous research the use of interviews to study travel mode selection has been scarce when compared to more quantitative methods (Göransson & Andersson, 2023).

Commonly, the interviews are not so much a proper interactive investigation of the topic, but rather a questionnaire, involving just a list of questions, that has been conducted face-to-face (Guzman et al., 2020; Hsu & Feng, 2019). Some researchers have used interview-like approaches with scenario based methodologies (Guzman et al., 2020). In his study, Guzman conducted a series of face-to-face surveys in several companies across Bogota. The surveys collected demographic information, and information regarding commute and work schedule characteristics (e.g. start/end times, possibility of remote working). The final stage of the survey consisted of a series of scenarios related to possible work mobility plans where the participants were presented with modes of transport and how different potential work mobility plans could affect each mode and were asked to choose a mode. At this stage, the interviewers both presented the options in the different scenarios and explained the mobility plans and their impact on the different modes presented. Overall, the use of interviews is limited, and it's rarely done on its own.

This study employs this under-utilised approach with the aim of deepening the knowledge of how the decision-making process behind travel mode selection occurs. The research questions proposed for this study are as follows:

1. What is the decision-making process behind Travel Mode Selection?
2. What factors influence people's decisions regarding Travel Mode Selection to and from work?
3. How can commuters' mode selection choices be influenced towards more ecological modes?
4. What factors influence Travel Mode Change?

6.2 Thematic Analysis

Thematic Analysis is a type of qualitative analysis that seeks to identify and analyse patterns (Braun & Clarke, 2020). More than a methodology itself, Thematic Analysis offers a method to deal with the data, which opens the scope of approaches where it can be used.

One of the advantages of this type of analysis is that it uses the basics of qualitative analysis, making it a perfect approach for those researchers with limited experience. Some authors argue that Thematic Analysis should be the first method of analysis that a researcher should use when they first work with qualitative data (Braun & Clarke, 2006; Nowell et al., 2017).

Another advantage, and probably the cornerstone of Thematic Analysis, is its flexibility. This analysis is not guided nor grounded in a particular theoretical framework, opening the door for its use within many different approaches within psychology. It is also not restricted to a specific type of qualitative research and therefore can be used with a wide number of methodologies, ranging from more traditional ones, such as interviews (Vlckova et al., 2024), to newer ones, such as story completion (Vries & Flurey, 2024). It can also be used both from a data-driven and a theory-driven approach.

Overall, Thematic Analysis is a very useful method to work on qualitative data, both for new and experienced researchers. Specifically for this study, Thematic Analysis was the most appropriate approach both due to the inexperience of the main researcher with qualitative data, and to the characteristics of the study itself. As the second part of a study that was originally quantitative, the particular interest of this study was to gain in-depth understanding of the topic, for which Thematic Analysis was the best fit. Additionally, as one of the goals of this research was to study, and potentially combine different theoretical approaches, and test whether they were still significant after extreme events, Thematic Analysis was ideal, as it does not follow any specific theory, which could have lead the analysis in a specific direction (Braun & Clarke, 2006).

Regarding the steps of Thematic Analysis, within this approach the analysis is an active and reoccurring process, going from one phase to another and backwards as needed, constantly revisiting and updating the findings (Nowell et al., 2017). This method of analysis proposes six phases, starting with getting familiar with the data and ending when a report has been produced (Braun & Clarke, 2006). The intermediate phases are related to generating codes, finding, reviewing, and naming themes.

6.3 Design

This study used a semi-structured interview design assessing the underlying factors influencing commuting behaviour of staff and students at Trinity College Dublin. The interview was focused on the participants' current commute and the factors involved in the process of transport mode selection, as well as changes on the commute.

The behaviour of interest in this study was current commuting behaviour. While not explicitly part of the study, in some cases, past commuting behaviour was considered as of interest, as it provided insight of the effect of the causal factors (e.g., a change in mode of transport due to reduced distance shows the effect of distance on commuting behaviour). The anticipated causal factors could be separated into contextual (e.g., weather or cost) and psychological (e.g., social norms, beliefs). However, due to the semi-

structured nature of the interview, it was expected that causal factors which had not been pre-selected would emerge.

The commuting behaviour was addressed by asking participants about their most common mode of transport, whether they ever used a different mode, and if so, the frequency. As more than half of the participant from Part 1 were identified as multimodal commuters, these questions allowed to identify the nuances of choices made by these commuters (e.g., participants who used more than one mode for the trip vs those who used different modes on different trips).

Regarding the factors related to the causal factors, they were mostly addressed by asking open-ended questions (e.g., to what extent does safety influence your transport mode selection?). The psychological factors were included based on the results found during Part 1; the contextual factors were chosen based either on the results of Part 1, or those that had been pointed as relevant by previous literature. Due to the semi-structured nature of the interview, not all the participants were asked about all factors (e.g., they had already mentioned a factor to be irrelevant).

6.4 Participants

6.4.1 Recruitment

Participants were recruited from those who had answered the second survey of Part 1 and indicated they were open to be contacted in relation to further research. The selection for the recruitment was done based on changes in commuting and/or residency/work/study of the participants. Due to the reduced requirements of the sample, the recruitment was done in stages, starting with those participants identified as of a higher interest and then moving on to those of lower interest. Firstly, participants who had not changed their place of residency/work/study between S1a and S1b but whose mode of transport had changed were considered as of the highest interest. These participants were identified from within the sample and contacted. Next, as a lower interest, participants who had changed their place of residency/work/study in a way that had affected their commute (e.g., longer distance) were identified. As this group was quite large and the necessary sample for the interviews was small, these candidates were selected randomly. The interviews were conducted during June and July 2024.

The recruitment was done via email to the address provided during Part 1. Candidates were reintroduced to the study and invited to take part in the interviews. Participants were compensated with a €15 voucher.

On the recruiting email, candidates were provided an information leaflet (appendix 17). Once a candidate agreed to participate in the study, they were asked to complete a consent form (appendix 18).

6.4.2 Sample

A total of 25 participants initially agreed to take part in the interviews, four of which failed to arrange a meeting. Of the 21 remaining participants, one did not attend to the agreed meeting. The final sample consisted of 20 participants.

Of the 20 participants, 16 (80%) were female and four (20%) male. Their age ranged from 22 to 64, with a mean age of 49 years. 15 were staff at Trinity, one was both staff and student, three were students at the time of S1b Survey, and one was employed somewhere not in Trinity. One participant had completed secondary education, six had completed a bachelors, six a master's, and seven had completed a doctorate. This is similar to the demographics of S1a and S1b surveys, with a larger percentage of women taking part on the interviews. Table 36 shows a summary of the participants' characteristics.

TABLE 36 SUMMARY OF DEMOGRAPHICS

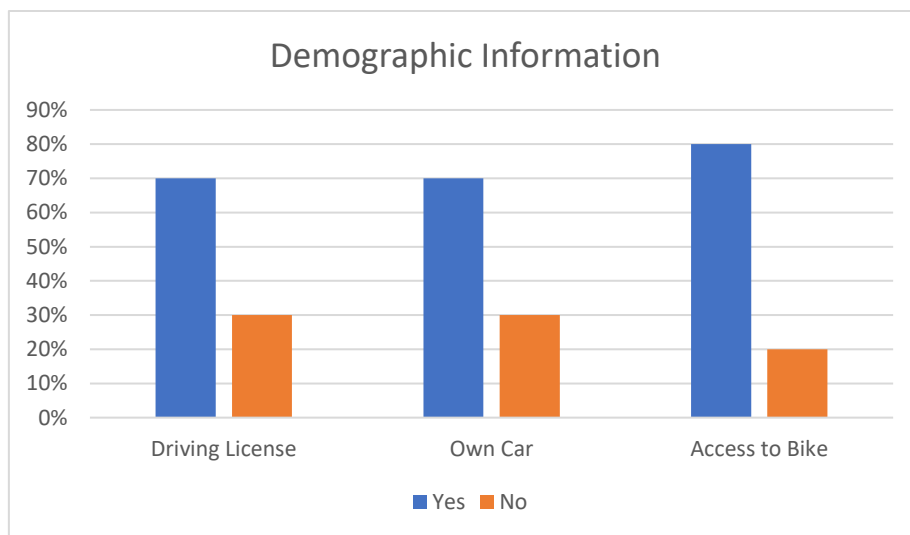
Participant Number	Age	Gender	Education Level	TCD Status	Distance
2	43	Female	Master's	Staff	4-6Km
3	51	Male	Bachelor's	Staff	11-15Km
4	N/A	Female	Bachelor's	Student	26-50Km
5	26	Female	Bachelor's	Student	0-3Km
7	51	Female	Master's	Staff	4-6Km
8	44	Female	Doctorate	Staff	51Km+
9	59	Female	Doctorate	Staff	4-6Km
10	55	Female	Secondary	Staff	26-50Km
11	48	Male	Doctorate	Staff	11-15Km
12	66	Female	Master's	Staff	7-10Km
13	63	Female	Master's	Staff & Student	26-50Km
15	22	Female	Bachelor's	Student	51Km+
16	N/A	Female	Doctorate	Staff	4-6Km
17	57	Female	Doctorate	Staff	16-25Km
18	33	Female	Bachelor's	Staff	0-3Km
19	54	Male	Master's	Employed Elsewhere	11-15Km
22	57	Female	Master's	Staff	51Km+

23	45	Male	Bachelor's	Staff	51Km+
24	50	Female	Doctorate	Staff	4-6Km
25	N/A	Female	Doctorate	Staff	11-15Km

Of the participants interviewed, seven lived under 6km of their workplace, five between 7-15km, one between 16-25km, three between 26-50km, and four lived further than 50km away from their workplace. 70% had a driving license, 70% owned a car, and 80% had access to a bike (Figure 3).

FIGURE 3

DEMOGRAPHIC INFORMATION SUMMARY



As the demographic data was taken from their responses to the second survey several months earlier, some of it may not completely match their situation at the time of the interviews.

6.5 Materials

For this study an interview script was created (Appendix 19). Due to the specificity of the sample (case study of Trinity College) the script was created from scratch instead of being based on existing interview scripts. Additionally, the low usage of interviews on this topic, severely reduced the availability of suitable scripts. Furthermore, the interest in studying multimodal commuters and the lack of focus on this type of commuters by previous research, meant that utilizing scripts used by previous studies would not have provided the scope intended for this study.

Similarly to the surveys in Part 1, the interview script could be separated into three categories: commuting behaviour, contextual or situational factors, and psychological factors.

The questions regarding commuting behaviour inquired about the modes the participants used, the frequency, whether they ever used different modes, and if they had always commuted in the same way. The contextual and situational factors category included questions about the effect of numerous variables, such as weather, health, cost, or people present in the household. Finally, the psychological factors category included questions regarding norms.

However, due to the semi-structured nature of the interview, some questions were too open-ended to be properly placed in a category. Notably, there were questions about the lack of use of a bicycle or PT respectively which, while inquiring about the use or lack of those modes, it also inquired about the possible factors influencing their use.

The script was designed using a funnel approach, in which broad questions are asked first, and more specific questions are reserved for later (Roller & Lavrakas, 2015). Specifically in this study, the first few questions inquired about the participants' commute broadly, allowing participants to go into as much or as little detail as they wanted. Subsequently, the following questions focused on obtaining both clarifying information and to inquire about things the participants had not mentioned. The benefits of this approach are that, on the one hand, it avoids leading participants' responses as the specific questions are asked after the participant had the chance to speak freely. On the other hand, as participants are allowed to discuss whatever they consider relevant, they may bring up factors that had been overlooked, and therefore not included in the script, by the researcher. This approach not only offers an opportunity to study unexpected variables, but the open-ended, broad start helps putting participants at ease, increasing their engagement.

6.6 Procedure

The interviews were completed online via Microsoft Teams. To ensure the analysis could be conducted freely and to avoid the need to take notes, the interviews were recorded and transcribed using the Microsoft Teams' built-in tools for recording and transcription. All participants had been made aware of the recording and signed a consent form. The consent form was sent via email when scheduling the interview, and participants were asked to fill it out and return prior to the interview. Regardless, before starting the interview, and

at the end of it, participants were asked to confirm their consent. The interviews lasted between 16 and 36 minutes, with an average duration of just under 22 minutes. Prior to the interview, participants consented for the researcher to collect their basic demographic information from the dataset of S1b Survey.

During the interviews, not all the participants were asked all the questions in the script, as some may have been irrelevant due to the nature of their commute. Instead, the topics of interest were identified and used as a guide during the interviews. This approach was deemed the most optimal for a semi-structured interview as it allowed to address the relevant variables without limiting the participants' responses and avoiding becoming repetitive and losing the participants' engagement (Roller & Lavrakas, 2015).

6.7 Ethics

This study underwent ethics approval. As this study required collecting personal information, such as video recordings of the interviews and email addresses for the payment, a Data Protection Impact Assessment (DPIA) was carried. The letters of approval can be found in Appendix 20 and Appendix 21. To ensure Data Protection, once participants agreed to take part in the study, they were assigned a participant number. Providing a participant number allowed to reference the participants when presenting the results.

6.8 Results of Interview Study

For this study, Thematic Analysis was chosen as the qualitative method to analyse the data. This type of analysis was selected over other more commonly used types, such as content, as it follows a more in-depth approach of the patterns within the data, rather than quantifying the patterns (Braun & Clarke, 2006; Nowell et al., 2017).

In order to mitigate possible bias, no information aside basic demographic information (e.g., educational level, age, staff/student status) of the participants was reviewed before the interviews to avoid leading questions. Similarly, all participants were asked roughly the same questions in roughly the same manner, which avoided only collecting self-affirmatory information (e.g., not asking cyclists about road safety could lead to the conclusion that it was not a problem for them while it may actually be a central factor).

Regarding the interviewer, no personal information or feelings were shared with the participants during the course of the interview. This measure was actively taken through

all the interviews, to not give a sense of judgement towards the participants or their decisions (Roberts, 2020). Some participants indirectly enquired about the interviewer's information, particularly commuting choices (i.e., "I hope you are not a cyclist" as the participant was criticising cyclists). The reasoning for this measure was that if participants were aware of the interviewer's choices, they may be reluctant to share their honest opinion (e.g., participants may avoid voicing their disagreement about driving if they know the interviewer commuted by car).

In order to mitigate bias during the analysis, two researchers coded the data to ensure homogeneity among the codes and themes. This was done by having each of the researchers independently review and code the transcripts, and later compile the codes into the themes and subthemes. Afterwards, the results were shared between the researchers and compared. This allowed to differentiate between discrepancies between the codes or mere differences in naming (i.e., one researcher used "time efficiency and duration" while the other used "time & speed"). While there was an overall agreement on the themes, there were some discrepancies on their classification and the subthemes classification. After discussing these differences, a new theme was created and some of the subthemes were relocated to it.

6.8.1 Description of the Data Analysis & Preliminary Discussion

The analysis to identify key themes and subthemes was guided by Braun and Clarke's (2006) framework. NVivo software was used to help find recurring patterns within the data. Following this framework, the first step is to familiarize oneself with the data. In this study the approach to this step was slightly different for each researcher as only one had been present during the data collection and was familiar with the background of the study. In this sense, the researcher who had conducted the interviews familiarised themselves with the data by reviewing and correcting the transcripts of the interviews, as well as reading them over once they were reviewed. The second researcher was familiarised with the data by being informed about the background and aims of the study, given a summary of the characteristics of the participants, and later by reading over the transcripts of the interviews.

The second step of this framework is generating initial codes. For this, both researchers followed a similar approach which involved reviewing the interviews in more detail to identify and highlight interesting and/or relevant ideas within the data. The third step, searching for themes, consisted of reviewing the codes that had emerged during the previous step and grouping them in broader categories (themes). The fourth step involved reviewing the themes found and consisted of two levels. In the first level, the researchers reviewed the codes within each theme to find if they provide a coherent picture or if they need to be further refined or reorganized. The second level involved comparing the

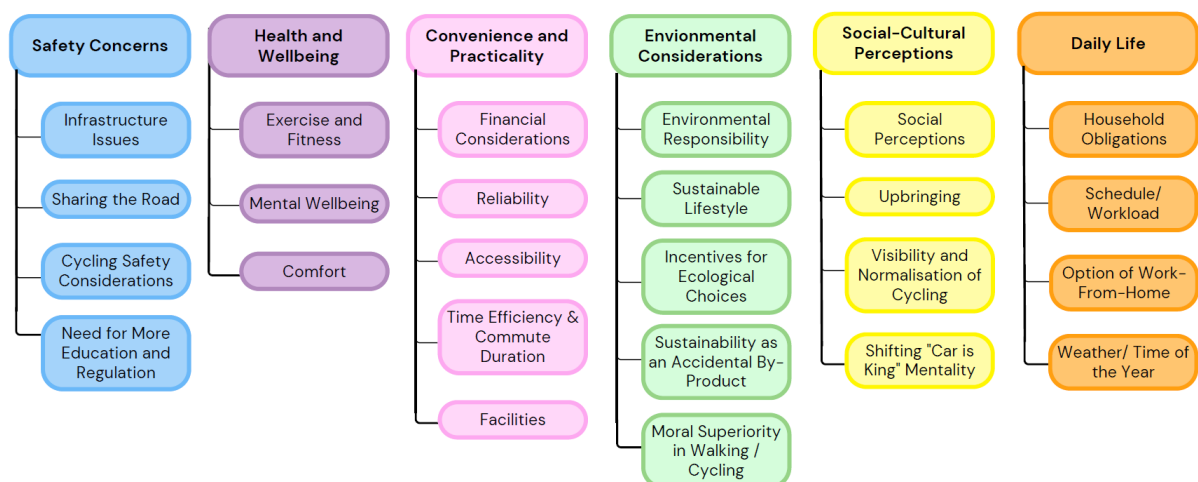
themes with the data set as a whole to check that they represent the findings accurately. At this step, the themes were given a preliminary name. For the fifth step, naming and refining the themes, the researchers put together their respective findings. This allowed to check that both researchers had reached similar findings and to discuss the discrepancies.

At this stage both researchers had found similar themes and subthemes, with the exception of one theme (Daily Life) and the distribution of the subthemes included under it. This discrepancy was due to the data found on the quantitative study (S1) that had informed this qualitative study, which the second researcher was not aware of. After discussing the discrepancy and the results of S1, both researchers agreed to maintain the extra theme and the re-distribution of the subthemes. The subthemes included in the extra theme had been found by both researchers but categorized under different themes by the second researcher. The final distribution consisted of six main themes and 25 subthemes (Figure 4).

Finally, the last step of the framework consisted of writing the report presented below. This was done only by the main researcher.

FIGURE 4

THEMES AND SUB-THEMES DEVELOPED THROUGH THEMATIC ANALYSIS



The research found that participants reported both personal and contextual factors as to having a major impact in the travel mode decision making. The key themes emerging

around travel mode selection include safety concerns, health and wellbeing, convenience and practicality, environmental considerations, social-cultural perceptions, and daily life.

People report selecting modes of travel based on factors like weather, cost, reliability, and the availability of infrastructure. Making ecological choices are often hindered by poor infrastructure, personal safety concerns and convenience. Cultural shifts toward cycling and walking were seen as slowly taking hold, especially with greater visibility of these practices in urban areas. Daily life activities, such as taking children to school or carrying equipment to work, often influence changes in the mode of transport, both permanent and temporal.

6.8.1.1 Theme 1: Safety Concerns.

When thinking about travel modes, participants largely focused on the dangers of cycling, seldom considering the safety elements of other modes. Interestingly, safety in regards with cycling showed a marked contradiction between cyclist and non-cyclists, with safety having little impact on cyclists but had a major effect on others. While both cyclists and non-cyclists were overall aware of the risks of using a bike, cyclists often chose to ignore those risks in their decision of mode selection.

Those who had grown up cycling, felt more confident on the bike and more prepared to address its associated dangers and therefore were less likely to be deterred from cycling due to the risks. On the other hand, for those who had little experience cycling or did not cycle for their commute, safety had a major impact on turning them away from the bike. Some people who were open to cycling were not willing to do so in city centre due to the perceived increased risk. This again highlights the influence of built environment and urban planning on mode selection.

6.8.1.1.1 Infrastructure issues – “the road is in bits. It’s a massive thing”.

Participants highlighted issues related to bike lanes, such as the lanes appearing and disappearing and not being linked together, lack of segregated cycle lanes and illogical infrastructure, and the road being in a bad state.

- P2: “And, cycle lanes need to be joined up. They can't just randomly start and then randomly stop, and then I don't know, you know, like I just get thrown out into traffic - if I wanted to ensure that I was safe every moment, you know, from here into work, I wouldn't be able to”.
- P7: “and the road is in bits. It's a massive thing or even on Pearse St, right beside college, there's loads of the roads, they're just, in bits. So, it's the road surface quality and then also just the space for bikes.”
- P8: “I don't think it's safe for biking. It's very hilly. Twisty. Yeah. Like it's country road. It's not this, it's constantly, accidents or near accidents on the roads.”

- P15: “I feel like especially in Dublin, it's very difficult to get a cycling, a cycling lane on the road, you either have to be on the road or you go through the people like there's no there's no in between, so it would be nice to have a separate lane just for cycling”
- P25: “I think the roads are in a really bad state in places, so that's why it took me about a week or two of cycling that route, to really know where all the potholes are, and, you know, where, and feel confident that I knew where I was on the road, in order to keep myself safe”

Outside of cycling, participants mentioned the presence of streetlights and pavements making an area safe. Participants also mentioned concerns when commuting after dark.

- P2: “I used to study over during COVID. I studied and in the evening so I would get on the bike at half nine at night and do you know in winter you're cycling on your own. Half 9 at night, you know, as a woman, I think then I felt unsafe, but for different reasons. Just because you don't know what kind of lunatics are out there so.”
- P8: “there might be, like times of, like saying if it was late at night, I don't if, and I was getting to Luas back out to, you know, to the car. I might keep that in the back of my mind, that it might not be so safe like, it was particularly late at night or something”.
- P9: “I live in a in a in a safe, secure environment, lots of street lights, I don't worry about walking home from town”
- P10: “One of them would probably be about 1/2 an hour walk, maybe a little bit more, but it's on a very small, very windy country road, and especially in the winter, I don't, I would not feel safe going that way at all”

6.8.1.1.2 Sharing the road – “there's almost a built-in conflict on the roads”.

Participants were worried about cyclists and drivers sharing physical space on the road. They showed concerns about lack of space for both bicycles and vehicles and about drivers invading the bike lanes.

- P2: “There's no space for all of us. That's the problem.”
- P3: “It's drivers habits. It's some it, not all of it is. In my case it would be, it would be cars, buses, trucks, taxis. They're the risk for me.”
- P5: “I mean, it's not super safe in Dublin and I did see a van reverse into someone when I was cycling home once. Like we were both in the cycle lane and this van was just like reversing into the cycle lane.”
- P23: “I mean like there is bike lanes. Right? There is bicycle lanes, up and down the keys, but again I'm not, I'm not massively confident in driver's abilities to respect those lanes.”

Participants also mentioned concerns about attitudes to and from both drivers and cyclists, and the relationship between them. Participants discussed animosity between cyclists and drivers and how it increases the dangers for cyclists. Participants who were cyclists mentioned experiencing negative feelings, such as stress, anger, or hate, about drivers.

- P2: “I can't, you know, get past the stress of motorist yelling at me to get off the road or get on the other side of the road or whatever ridiculous things that they say, you know, so.”
- P11: “, I don't really like driving in Dublin with the car 'cause everybody just jumps on the road whenever they feel like it, and the cyclists are even worse. They come out of nowhere.”
- P19: “As a cyclist I have ongoing, an ongoing war with taxi drivers, and bus drivers, because of the crazy idea of shared lanes between bicycles, taxis, and buses. So, I hate taxi drivers”
- P19: “I would have to say, if it helps, that the people who are terrorising cyclists, and other road users, are taxi drivers and bus drivers. And there there's almost a built-in conflict on the roads, that's not being addressed, even with cycle lanes. So, without blaming individual taxi drivers, or bus drivers, or cyclists, there are points in the city where conflict conflict seems to be built into the road system. And, that is why cyclists and taxi drivers are like cats and dogs. Hate each other.”
- P23: “I have 100% control over my safety, and ability to navigate, but I have 0 control over others. Ehm. And if the last 40 years have taught me anything, is that not everyone is as conscientious as everyone on the road. And when you're in a vehicle that's very flimsy, like a bicycle or a, or an electric scooter, you're kind of handing over your safety to everyone else, and I'm not comfortable with that.”

6.8.1.1.3 Cycling safety considerations – “I would commute not necessarily the fastest way, but the safest way”.

When asked about the safety measures they take when cycling, participants mentioned choosing the commuting route that felt safer rather than the one that was the shortest. They also mentioned investing in safety gear and bike maintenance.

- P2: “I wear the stupid HVs and I use the helmet and I signal, and I have the lights and all this crack and it means nothing. I don't think it does anything”
- P7: “part of the tendency is to choose your route because to avoid hills and stuff like that. But a major factor would be choosing, you know, the quieter roads, the safer roads, the road of the bike lane, you know, the road where you're not going to have, like generally at least in Dublin city centre, you don't have too many trucks and that kind of thing. But still just buses and I mean most bus drivers are actually quite good, but it's just the unpredictability of bus. So safety is definitely a factor in the route you choose.”
- P11: “I always wear helmets. I always wear high visibility vest and I always have my lights on. I try to follow the rules of the road as much as possible”

- P16: “I wear, you know, helmet, bright cycling gear. I try and, if I'm not going when, well, even with my normal route, I'll try and make sure that I'm on cycle paths as much as possible and you know, try and stay away from main roads where I can.”
- P19: “So, I would commute, not necessarily the fastest way but the safest way. So, they're not the same thing.”
- P25: “I've also invested in the most visible kind of, you know, cycling jacket or fluorescent with long sleeves. And and I kept myself out very carefully, and with lights and on my bike. I spend the money to have my bike maintained, so that it shouldn't fail and the brakes and all of that stuff. So, I do take that very seriously because I know that, particularly in a city like Dublin, accidents do often happen. And I've cycle very defensively, I would say.”

6.8.1.1.4 Need for more education and regulation – “as part of your driving license you should spend month cycling so you understand what it's like on the other side”.

Participants mentioned the need to educate people in order to make cycling safer and more accessible. They also discussed the wish for better enforcement of road regulation and laws.

- P2: “There needs to be enforcement when you park in a cycle lane”
- P2: “But I think like in just the education of motorists as to what it's like to cycle, to try and get around would be absolutely great. I really think that, umm, people need to as part of your driving license you should spend a month cycling just before you get your driving license so that you understand what it's like on the other side. More people need to get on their bikes, you know, more people need to experience it.”
- P7: “I think when kids are going to schools, that a school can create kind of an environment, or a neighbourhood can create an environment where you kind of have campaigns to get good drivers to slow down in a particular neighbourhood or that kind of thing where it's it's just it's a visual of it is there. So they know it's, it just feels safer.”
- P11: “the one thing that might need to be done there is to actually train people how to cycle and to behave as a, as a traffic.”

6.8.1.2 Theme 2: Health and Wellbeing.

Many participants mentioned taking their health and wellbeing into consideration when thinking about their commute. Some participants would choose the mode in order to do some exercise, while other participants mentioned avoiding a particular mode to avoid stress. The discomfort of crowded modes and the worry about virus was also a concern for some participants.

When deciding between similarly suitable options, choosing an active mode was often preferred as it provided the opportunity to get some exercise, particularly for those who otherwise do not have many opportunities to work out. In other instances, the benefits associated to the selected mode, such as being pleasant or having the opportunity to do something enjoyable while commuting was seen as a “nice bonus” of the mode chosen.

6.8.1.2.1 Exercise and fitness – “my commute is my basic exercise for the day”.

Commuting by foot or bike was seen as a good way to get some exercise, particularly amongst those who lead otherwise sedentary lives or who do not have time to work out.

- P3: “I think, in the morning because my house is on a hill, I get to walk down. You know, you're probably exercise one part of your legs and then on the way home, when I get off the train and I'm walking back up the hill, it's certainly at the end of the day, it just, it definitely exercises another part of your legs.”
- P3: “And it is a thing I think about. Sometimes I think about maybe getting off at an earlier stop. So if I have to get off at Pearse St. to maybe get off at Tara St and walk. Even if it's only you know 5 or 600 metres or something like that, but you just get a bit more start. Start moving yourself a little bit.”
- P5: “when I was living quite like further away you, I wouldn't have time to like like go for runs or whatever during the week that much. So cycling would have been like an easy way to at least have some kind of activity during the day”
- P7: “I am a tremendously lazy person, and it's the only exercise, I get.”
- P9: “my commute is my my basic exercise for the day”
- P24: “it's a good way of keeping fit. Ehm, incorporating it into the commute, as I did before with walking. You can do it without having to make, set aside time, especially for doing some horrible, boring keep fit task.”
- P25: “when I go home in the evening it's uphill and I use it as my weekly exercise regime.”

Some participants showed concerns about how reduced mobility could affect their commute.

- P4: “my fitness will have played a role into day-to-day life because we need to be able to walk 20 minutes to the train and then 15 minutes from the train station to my job.”
- P19: “cycling has never been a problem. I don't what to do if I if I couldn't cycle.”

6.8.1.2.2 Mental wellbeing – “I've got in the habit of walking and I quite like the mental headspace”.

Walking and cycling were perceived as pleasant activities that contribute to mental clarity, offer a way of stress relief, and allow time for self-reflection or to have a break from work.

- P3: “but walking to the railway station is just easier. You know, you get your head together for 10 minutes, listen to some music or some podcast or something. And it's just, you know, your day starts.”
- P5: “at the minute. I'm still like walking to work. And I quite, I quite enjoy it.”
- P7: “it is nice to walk as well because I I wouldn't tend to use headphones when I'm cycling, whereas I would if I was walking. So if I want to listen to a book or something.”
- P18: “I've got into the habit of walking and I quite like the mental headspace, just the time to just think.”
- P19: “I mean, obviously I prefer cycling in a nice calm summer's day, but I kind of enjoy cycling in a cold winter morning in December, as well. It kind of makes me feel like I'm doing something brave or something like that. And it makes it makes the other days nicer as well.”

Some participants mentioned that using public transport gave them time to relax and do other activities.

- P3: “You can sit there and listen to music, or read, or do some work. If you're catching up or something.”
- P9: “I love being on the bus, you can do things when you're on the bus. You can look out the window when you're on the bus. You can, you know, you're relaxed.”
- P15: “So I wouldn't be interested in driving if I lived near the like Dublin itself. I like taking the bus.”
- P17: “whereas if I'm on the train and I can be reading a book or something.”
- P25: “If I have a lot of work pressure, I will opt for the Luas because I can sit, generally on the Luas and read or or use the time for work. if the work commitment that I have, is really, really important and I need to get my mind prepared, and maybe even look at something on the computer before I get there, or read something before I get there, to be well prepared in the minute, then I will take the Luas and I will just leave earlier from home”

On the other hand, car, and for some participants cycling, were seen as stressful or a waste of time that could be used to do other things.

- P9: “You don't get any exercise, you don't get to hear the birds singing. You don't get to, you know, if you're on the bus, you can do useful things. I really hate, I hate being in the car”
- P10: “I mean, I could potentially, if I had a parking space, I could drive more, but I don't really approve of that.”
- P11: “I mean, if the roads were empty, I'd take the car, but I think I'd still take the bike instead 'cause I feel it is a bit of a waste having one person driving a car into town”
- P12: “Consider driving. No way, wouldn't drive into town.”

- P15: “I feel like driving in itself can be well, it can be tiring. If you're driving for two hours and then you go into work like, it can be tiring, and then you finish at 8:30 and it just kind of continues.”
- P17: “I hate sitting behind the wheel of the car when I don't need to. I find that's just wasted time”
- P22: “I just found the driving, personally, I found it very tiring, but it just, it really wasn't worth it. I just found the drive too stressful, you know the traffic was just horrendous, it, you could be stuck in a traffic jam. Yeah. It just really it it. I really did not want to drive.”

6.8.1.2.3 Comfort - “train always really busy and there was no seats”

When thinking about commuting, participants considered the disadvantages of crowded public transport, both regarding comfort and the concerns of viruses. Having to deal with cycling equipment and the need of showering/changing clothes discouraged some participants from using the bike.

- P3: “most of the time I wear a suit in the office. Not really sure where I could, keep the suit.”
- P8: “Train always really busy and there was no seats. And I remember the early stages of pregnancy when I was feeling a bit sick in the morning and it just it was a really uncomfortable situation to be”
- P18: “I do actually avoid the bus, a lot, is like in the winter or on a rainy day, everyone's coughing and sneezing and they've got a cold. So, I actually actively avoid the bus to try and maintain my health. It's quite tight packed sometimes.”
- P25: “cars at traffic jams, I don't see why I should be waiting behind the exhausts of a car and breathing in all of that pollution, when, you know, I'm making the decision to cycle for environmental and health reasons.”

6.8.1.3 Theme 3: Convenience and Practicality.

Overall, traffic and public transport routes and schedules were noted as important factors when choosing the mode of transport for the commute. Cost, while not a major point in the decision-making process for most of the participants, was still taken into account, particularly when choosing between two modes. Lack of access to secure parking discouraged people from driving and cycling.

6.8.1.3.1 Financial considerations – “the cost of public transport hasn’t been a significant piece of the puzzle”.

For most of the participants the cost of transport only actively influenced the mode selection when two modes were equally convenient. Some participants reported that cost was mostly only impactful when considering occasional changes in mode, with some people deciding against changing to a non-active mode as active modes were often perceived as being free. For others, the reduced cost of public transport often increased

sustainable commuting by making the least sustainable option (car) be seen as unnecessary. On the other hand, a hypothetical increase of cost of public transport was noted as potential deterrent to choose those modes, particularly among those for who commuting by car or public transport is similar in terms of cost and convenience.

In general, low transport cost was seen as “a bonus” rather than the deciding point in how to commute. Several participants mentioned being happy about the reduced leap card fare introduced in the last few years.

- P3: “it's cheap as well. You know, I think. Compared to, if I sit in the car and have to park a car and all those other things buying the, with the LEAP card, you still got a good discount. OK, it's not the cheapest in the world, but it's really cheap.”
- P7: “when I'm making the decision whether I'll go in the car or on the bike, that's, it's not based on price.”
- P9: “for me, the cost of public transport hasn't been, you know, it hasn't been significant piece in in the whole puzzle”
- P13: “with the student card for the train, fares were, much cheaper, so I kind of switched to the train then ‘cause the journey's much faster.”
- P18: “ I don't think about the cost when I do decide to get on the bus because it's 1.30 each way, so it's negligible to me. But I do. Yeah, I do think about the fact that walking is cheaper, so I'll I'll if I walk, if I walk it's free. It encourages me to walk more. But I do think that transport in Dublin is very reasonably priced, so it doesn't put me off too much.”
- P24: “And then there's the cost. I can get on my bike for free and go door to door, within reason”
- P25: “when I get on the bike, I think “OK, I'm saving myself €4.00” because, you know, that's what I'm not spending on the Luas. But then, I very quickly remember that it does cost me a few 10s of euros to maintain and service my bike. Over time. But that does come into it. Yeah. I feel quite pleased that I don't have to use my Luas card when I cycle. But not a massive, you know, it's not, again, I'm quite privileged in that I can afford the Luas.”

For those participants that mentioned the cost of commuting to be a burden, most of them did not have an alternative.

- P10: “The bus is quite expensive, to be honest, it's about approximately, it's a little over €16 both ways. So I I budget €60-70 from my bus ticket every month. Which is just once a week, you have to remember that, that's just once a week. It's ridiculously expensive here in Ireland to commute like that. I could probably, if you'd if I didn't have, if I had the parking on campus, it would probably be overall cheaper for me to drive”

- P15: “it was mostly uh, just finances, how much it costs. So it was cheaper for me to get just a normal bus.” [...] “There isn't really any other options where I live at the moment to for any other means. The fastest way would be the private bus”
- P23: “So it's €50 to come into the office. And there's, and that's probably, I suppose, I don't how much it would be on petrol if I was to drive, but it probably wouldn't be €50 a day. I know that much. But again, it's one of those same answers as before, I don't really have a choice.”

Some participants discussed how the chance of working remotely made the seasonal travel tickets not worthwhile and made the cost of commuting more bearable.

- P8: “if I was going five days a week, the train was what I would use and I could get, you know, a season commuter ticket or something, which is a reasonable price.”
- P18: “Yes, I think if I had to go if, I had to go to the office every day and I wanted to get the bus both ways every day, that would have a big impact on my outgoings, obviously. Because I only go into the office a few days a week and I so rarely get the bus, I don't think about the cost when I do decide to get on the bus”

6.8.1.3.2 Reliability – *“there is no kind of traffic or the bus doesn't come. You're in charge”.*

Participants discussed how the traffic makes motorised modes of transport unreliable as you do not know when you will reach your destination. Having to wait for public transport, with schedules being unpredictable particularly for buses, made it an unattractive option.

- P7: “It's just when I leave my house, I know when I'll reach my destination. There's no, variables really. There's no kind of traffic or the bus doesn't come or any of that. You just you're in charge so.”
- P9: “driving can take nearly as long as walking, in bad, in bad traffic and you, you have no predictability about how long it will take, which is the worst”
- P12: “Bike you're not depending on anyone, you have control.”
- P13: “there's a lot of room for improvement on the frequency of public transport”
- P16: “Cycling the timing is reliable, so I know it's going to take me 25 minutes. You know, it doesn't matter what the traffic's like, it's always going to take the same length of time”
- P18: “And like walking is very easy you don't have to wait for anything. You don't have to do anything. You can just go. And I have made sure to live in walking commutable areas. That was very important to me when I moved that I could still walk as my commute”
- P24: “I prefer not to get the bus, if I can avoid it because I've got used to not being reliant on a third party, to knowing roughly when I leave the house, when

I will arrive, you just have more control over it that way, I used to get the bus for years, but that's that is stressful and it's a little bit unpredictable because the traffic on the main road near us is can be very, very bad. In the mornings”

6.8.1.3.3 Accessibility – *“I have no choice. I have no choice. I have no choice”.*

Accessibility was noted to be a major influence in mode selection. The results of this study show a stark contrast between Dublin City and the countryside, with the availability to different ways of commuting being severely restricted the farther you are from city centre. This lack of access is notorious enough that even those who were not affected by it were aware of the issue it presented and mentioned how lucky they felt of their options. Many participants mentioned their commute being restricted due to lack of options. Other participants discussed being lucky to live close to city centre and having the option to commute in different ways.

- P8: “like you have to have a car to live where we live, So I think driving is like the typical thing to do”
- P9: “But I'm very, I also recognise I'm very, very lucky where I live. I'm very, very lucky to to have options.” [...] “you know, all the whole business of of low density housing and suburban sprawl and all of that, it's such a shame, so many, so many people who don't really, genuinely, have an option to to do anything other than drive it's it's it's terrible”
- P10: “I'm very lucky, Trinity's central, I can take a bus and walk.”
- P12: “If you lived in the country, you'd have to drive to work. So. It's just where we are lucky enough to live.”
- P15: “With time, yes, we are looking to relocate and move closer to Dublin and maybe then we'd only use one mode of transport.”
- P23: “But in Ireland. I mean, public transport is is very lagging. So, unfortunately most of my answers to your questions were “I have no choice. I have no choice. I have no choice”, despite whatever my thoughts are, or feelings might be about the situation. It kind of, it is what it is. I don't really have a huge amount of leverage or options.”
- P25: “I would never have bought a a house, with my family, anywhere where I wouldn't have been able to get to work by public transport or cycle. I'm privileged enough to have been able to do that. I know a lot of people can't.”

6.8.1.3.4 Time efficiency & commute duration – *“the bus makes a lot more sense, but it just takes too long”.*

Overall, participants stated to favour the fastest mode, even if there were more convenient modes. Modes that facilitate traffic avoidance were preferred. As such, for short distances, active modes, particularly walking at very short distances, were the most common choice. Regarding public transport, the Luas was often considered more favourably, as buses were more likely to be affected by traffic. Car was overall avoided, even when on-campus parking was available, as not only it was heavily impacted by

traffic, but it did not allow to do any other activities (such as work or read). In other words, not only the time spent on the commute but what you can do with that time heavily impacted modal choice.

- P4: “I consider which one is faster, which gets me to the place I need to go. That's my main important.”
- P5: “during rush hour definitely. Is much faster to cycle”
- P11: “I do have a parking permit for Trinity College, so I could actually drive in and park on campus, but getting into College in the morning would take double the amount of time as the bike would take me”
- P11: “The bus makes a lot more sense, but it just takes too long and it's, even though it's very frequent, goes every 15 minutes I think, but it just you can't predict how long it's going to take, it's anywhere between an hour and 2 hours, and that's just not usable”
- P12: “The Luas is quick, convenient and and it comes so often. So it's kind of the best option from where I live.”
- P13: “One of the advantages of a car is that you can probably get there faster that going by public transport, the car can often be quicker and it's more direct and you don't have stops. Emh. So sometimes that would influence.”[...] “convenience is the other part. The length of the journey, and uh, you know how many times you have to change buses or trains or whatever, to get from A to B.”
- P17: “by the time I've got my my bike unlocked and everything, then I'd nearly be at the station on on foot.”
- P19: “a bicycle is always the quickest way.” [...] “Buses, because I just don't think they're very, they're very efficient. They get stuck in traffic as well, despite the bus lanes. I think the Luas is good”
- P22: “I could use a coach or a bus from my hometown, but it's not feasible. It's it's irregular, it's the journey takes too long. I think it's about 2 hours, 2 1/2 hours, because it stops on lots, at lots of different villages on the way into Dublin, you know. So, it's just not feasible”

6.8.1.3.5 Facilities - *“I think having a secure lock up is a really good incentive”.*

The lack of secure parking for bikes and convenient car parking discouraged participants from using those modes. Some participants voiced their desire for on-campus changing facilities/showers, and for some shuttle bus/carpooling system so they could avoid using their own car for commuting.

- P8: “if Trinity could improve, like having some changing facilities, have some showers for people who cycle.”
- P10: “I've considered biking to the bus, but we've had two bikes stolen already. here's no bike parking in our village, you basically have to tie it up somewhere and we've lost two bikes to that already”
- P12: “I think having the secure lock up is is a really good incentive”

- P13: “unless I know that I’ve somewhere really secure to leave my bike, I’m nervous to take my bike and leave it somewhere, because I’ve had a bike stolen in the past, so I’m I’m sort of careful about where I leave a bike”
- P17: “Trinity used to have a bike repair man. I don’t know if we still do, but obviously that’s a really positive thing. I mean, it’s, there’s nothing worse than having a puncture and not being able to get home.”
- P18: “I know that there’s cycles storage. Showers would obviously help, I think there is maybe some scheme of showers.”
- P24: “I mean, what would influence me maybe is if I wasn’t happy to leave my bike; if it was there wasn’t secure enough place to leave my bike wherever I’m going. Might influence me.”
- P25: “And I take my bike into my office because I don’t believe Trinity has bike storage close enough to the museum building that is safe enough for me to use.”

6.8.1.4 Theme 4: *Environmental Considerations.*

For some participants, sustainability was a core factor, not only being a driving force in choosing the mode of transport, but also extending to other areas of their life. For these participants, the environmental impact of certain modes of transport removed them as options for commuting. For others, choosing sustainable modes was incidental, reassuring them of their choice of mode rather than guiding it or pushing them towards one mode when considering between two similar options. In some cases, there was a conflict between what participants would want to do and what they could do, limiting the scope of this theme’s impact on commuting transport mode selection. In this case participants openly expressed disagreement between their preferred choice and their available choice and wished for better options.

6.8.1.4.1 *Environmental responsibility – “it’s a decision I’m making because it’s better for the environment”.*

Reducing the environmental impact of commuting was often perceived as a personal responsibility. Some participants expressed feelings of pride when they used sustainable modes while others expressed feeling guilty when choosing less sustainable modes (mostly car).

- P3: “but for to a very small amount, it’s a decision I’m making because it’s better for the environment than sitting in a car. And even if I was going at 6:00 o’clock in the morning, where it would take me 20 minutes to drive from, even if I had free car parking space in Trinity, I would probably still get the bus, all right, train, public transport.”
- P7: “I know it’s it’s better for the environment and I, and that is definitely an influence and a push”
- P11: “I feel it is a bit of a waste having one person driving a car into town”

- P12: “Yeah, I do, actually. I think, you know? it makes sense to take to take the Luas. It does make sense to walk and take to Luas, sometimes I feel a bit guilty that I take the car, but I'm also lazy, so. So, I do think about it, but I don't necessarily do too much about it”
- P13: “I’m a member of a walking club, and you know, we carpool so, to save the environment; and we take public transport if we can, but if we can't, we we'll carpool, you know.”
- P16: “That's partly why I cycle, you know, too. I mean, yeah, not to have a car, another car on the road. It could. Well, we could drive our kids to school, but we don't, because we don't want to be contributing to pollution.”
- P17: “I think a lot of people think that they should use their cars less than they do. I mean, people like the freedom. I mean, I think I, I use the car more than I, even though I commute by train every time, I use the car more than I feel I should”
- P23: “I think people who get mass forms of transport, understand that they're doing a little better for the environment than people who are driving in a single user mode of transport.”

6.8.1.4.2 Sustainable lifestyle – “it’s generally something I do consider. It’s travelling, recycling”.

For some participants, sustainability extended beyond commuting transport mode selection. In some cases, participants had updated their home to be more sustainable (e.g., installing solar panels or changing their petrol car for an electric one). For others, this commitment to sustainability was seen in daily life actions, such as recycling or choosing more sustainable modes even if they were inconvenient.

- P11: “are not commuting most days by car, it sits in the driveway lot and if we need to charge it, we can charge it off the sun as we do right now. So we have we have a bit of an sustainability approach there as well.”
- P15: “I feel like it is generally something that I do consider so. It's it's the travelling, recycling, even with the weather, how it changes all the time. It's something that it's good to consider and you know think about.”
- P25: “That's the main reason [the environment], other than health and fitness, that's the main reason. That's, actually, the primary reason, I would say.”

6.8.1.4.3 Incentives for ecological choices – “with the student card for the train fares were much cheaper”.

Financial incentives were often mentioned as drivers of more sustainable choices. The introduction of the reduced Leap Card fare and the 90 minutes fare introduced over the last few years were noted as positive measures to increase the use of public transport. Several participants also mentioned the Bike to Work Scheme as beneficial to promote cycling.

- P9: “the fact that you can hop on a bus and then another bus and and it's €2.00 that that really, that really means for me, cost is not a reason why I wouldn't take the bus”
- P11: “I first bought a bike of that bike to work scheme couple of years back, I kind of calculated how long it will take me to pay off the bike, if I was taking the bus. then it was only like 2 months. After two-month, the bike would have been free as compared to public transport.”
- P12: “I can do the bike to work scheme. So, it's a matter of going down picking one out, and organising it so.”
- P12: “I am very happy with the new €2.00 fare. That's fabulous.”
- P13: “And then, with the student card for the train, fares were more, more, much cheaper.”
- P13: “But one good thing that's happened in recent years is the travel 90; so that you can use the 1 ticket, does you have on multiple modes of transport, once you start the second or third journey within 90 minutes at the start of your journey. So that's a big improvement.”
- P17: “I mean it, obviously it helps that you can get the the tax saver tickets, I was very glad when that came in.”
- P22: “I think if there was a decent, reliable, cheap public transport service people would use it.”

Infrastructural and accessibility incentives were also mentioned. Some participants discussed the wish for a carpooling system, while others commented on the possible benefits of a better route into work.

- P13: “So like there's there's a lot of room for improvement on the frequency of public transport.”
- P15: “I know some biking schemes you pay for the amount of time you take it with you. It would be nice to kind of have a scheme where if it does happen that you need to bring it home with you, that you're not like, you know, paying for that time that's just sitting down and you don't use it.”
- P22: “I think in general, I think if there was a decent, reliable, cheap public transport service people would use it. In general.”
- P23: “If Trinity could organise a localised shuttle system from easy to get to areas, that would influence it.”
- P24: “•And of course the more infrastructure that's there, it makes it easier for people to use public transport. If there's a better, more cost effective, more efficient transport system. “

6.8.1.4.4 Sustainability as an accidental by-product – “I’m doing it kind of for virtuous reasons, but also it’s just practical”.

In contrast with the previous subtheme, for some participants choosing an environmentally friendly mode of transport was a somewhat unintended benefit. For these participants sustainability was not the driving force of the decision, merely a side effect of it. In these cases, comfort, accessibility, or practicality were the motivator of choosing one mode over others. In these cases, sustainability acted as a reassurance of the choice they had made.

- P2: “It’s whatever gets me into work or whatever gets me into town rather than the environmental factor.”
- P5: “I don’t know if that’s really an environmental decision or if it’s just like an easy an easy way to be like, “Oh yeah, I’m also being good for the environment”, when, actually, it’s like I don’t particularly like having to wait for buses or trams and then like.”
- P7: “I’m doing it kind of for virtuous reasons to some degree, but it also it’s just practical.”
- P18: “Environment and sustainability... that’s kind of been an accidental byproduct of walking. So that’s been lucky, but I suppose my lifestyle is fairly sustainable that I don’t drive anyway. So yeah, I don’t really think about the sustainability of walking. It would, it wouldn’t put me off getting on a bus, which would be slightly higher carbon footprint footprint, so not particularly.”
- P24: “We use our car relatively little. And that’s partly for environmental reasons, and partly because there are good alternatives, most of the time.”

6.8.1.4.5 Moral superiority in walking/cycling – “it’s a little pat in the back”.

Choosing the most sustainable options was linked to a feeling of self-righteousness or moral high ground. Participants felt good about themselves when choosing to walk/cycle over using the car, reporting a sense of “doing the right thing”.

- P3: “you have the inner sense of a little bit of moral high ground or smugness that you’re sitting in public transport but it’s not available to everybody. But it makes you feel that little bit better that you’re doing something less damaging to the environment.”
- P7: “Oh, you definitely kind of feel like I’m being really good now, 'cause I’m using the bike.”
- P7: “It’s a little pat in the back. I mean, I’m, yeah, you’re. I’m doing it kind of for virtuous reasons to some degree.”
- P18: “If public transport was free, maybe I could consider using it on a rainy day, but then I’d feel disappointed in myself”

6.8.1.5 Theme 5: Socio-Cultural Perceptions.

The results found related to this theme were particularly interesting. While most participants reported that the perceptions regarding the different modes of transport

encouraged or discouraged them in their use, it was observed that for some participants the influence of social and cultural perceptions came in the form of core values and/or childhood/life-long experiences. This deeper influence was often unconscious. In this sense, it was noted that the modes that were prominent in use or encouraged during childhood tended to be preferred in adulthood over other modes. People who grew up cycling or using public transport, were more likely to use those modes for their commute to work. Similarly, the use of modes in the closest geographical area (e.g., neighbourhood, town) seemed to create a guide of what is accepted and what is not. People who live in rural areas were more likely to use the car, not only due to lack of access, but also because driving was seen as the common thing to do. On the other hand, people who lived closer to city centre were less likely to drive as using the car was seen as wasteful.

From this, it was particularly interesting that while most people were aware of those perceptions, they often failed to notice their impact on their own behaviour. When asked about how other people influenced their transport choice, most participants answered that it did not, despite having already acknowledged the impact society had on their commuting choices.

On a more conscious level, people often referred to the visibility of certain modes and their impact on one's decision. This was particularly relevant for cycling. The more people are cycling, the more it is perceived as a suitable alternative, which creates a sense of security that encourages parents to allow their children to travel by bike. In time, this feeds into the previously mentioned unconscious level as it creates the idea of "the common thing to do". On the other hand, car use had suffered a decline over the last couple of decades as its social perception had become more negative, with people often noticing how commuting by car is no longer seen as right, despite having been the norm just a decade ago.

Overall, society's view of the different modes of transport, whether directly or indirectly, was noted to impact the use of those modes. On the one hand, this impact came by discouraging the use of some modes as they were perceived as negative. On the other hand, the visibility of some modes promoted their use, as they were perceived as "the norm". In some cases, specific modes were strongly linked to a class or social status, which could either encourage or discourage their use.

6.8.1.5.1 Social perceptions – "people are very anti driving".

Participants discussed how different modes of transport have different public images, with cars often being perceived as negative, while active modes were seen positively.

- P5: "among my friends or people I would work with, like cycling would be seen as like a part, like a good form of transportation like, you know, useful and handy."

Whereas maybe among some of, like some of my aunts and uncles, they're like, oh, all these cyclists getting in the way. So I don't know. I think it depends."

- P8: "You know people are very anti driving."
- P15: "I feel like, sometimes cycling is more, or walking is preferred more than you know, driving yourself into like a specific place, just because of the CO2 and just it's it's not really ideal."
- P18: "Yeah, I think it would overall be seen reasonably negatively to drive to work every day."
- P18: "people perceive me walking to work very positively. They they often comment on it that "it's wow! I can't believe you walk to work". So I suppose people do perceive them differently. I think people are particularly impressed by people who cycle to work, especially very far. Yeah, it's a bit of a physical feat."

The social perception of public transport was split between the modes. Tram (Luas) was often viewed as positive, although some participants noted that one of the lines was better considered than the other. Buses in general had a negative public image as they were seen both as for lower class and potentially dangerous.

- P9: "certainly there are people who think buses are for poor people or buses are for, you know, other people. - I definitely know that there are people who just think buses are for other people. And the buses are smelly, and and wet, and and steamy."
- P12: "I think that the Luas is seen as nicer than the bus and also the green Luas is nicer than the red Luas."
- P17: "And in the bus, maybe people think of the bus as a less, I don't know, maybe look, whether it's lower class, I don't know, but something less comfortable, mode of transport. I don't much like travelling by bus, I have to say, I find it a bit uncomfortable and everyone's a bit too, sort of, packed together."
- P19: "I think it's probably changing slowly, but I know, I know when I was younger that buses were for poor people. And, that, there was probably some truth in that, it was a class thing, that people who were, could afford it, had a car. Trains. Trains, not, not so much anymore. I think everybody gets the train, including the dart or the Luas. So, I think that's changed a bit."

Participants often dismissed a direct impact of other people's perception, although some acknowledged a possible influence.

- P2: "I think maybe I do wonder if because I was on social media more so I could see everybody else's. I follow an awful lot of people who are like, you know, Dublin bikes, cycling, Twitter, you know that group. And like I think the more I was hearing these upsetting stories as well, the more stressed to get. So, I don't think the social media helped because I think it fed into the stress I already had."

- P16: “I think, probably a little bit, so you know, be quite pro environmental issues, so and generally most people I know would. So, I guess that does have a small impact.”
- P17: “suppose I mean, my work colleagues at, as a kind of group of people, are quite environmentally conscious, so maybe that affects me a bit though. I mean, I think to be honest, the decisions about commuting are much more about my own conscience and convenience than than what other people think.”
- P18: “I suppose that everyone, because I've always walked to work, everyone expects me to walk to work and they ask about my walk and things. So. Emm. So yeah, I that's that's probably the only influences, that if I feel really lazy and I don't feel like walking into work, I'm kind of known for it now, so, I try and I try and do it because people ask about things, so I don't want to, err, get lazy. So I that's the only influences that I feel that people might ask me about.”
- P24: “I mean, I have friends who are, who be environmentally aware, so you know, that would have influenced me over the years different behaviours.”
- P25: “I'm in a job where, if I were to commute by car, I would probably get criticised. You know? I can't, I can't teach what I teach at university, and I can't debate and take part in in recommendations at national, at government level, and so on, with the the the things that I contribute there, if I was to drive everywhere. That would be a contradiction in terms.”

6.8.1.5.2 Upbringing - *“it's an ingrained lifestyle in a way”*.

This subtheme was noted to have a big influence on peoples' choices of mode. Choosing the mode they often used in childhood was a common occurrence among the participants, especially cyclists. Those who had used the bike growing up were more likely to use it as an adult, both for commuting and in their daily life. They mentioned being confident cycling, even in traffic, and feeling safe. Some participants reflected on how their commuting choice was modelled by the values and beliefs learnt from their family.

- P3: “I live in Howth all my life. So the train has been there. So it's just seems like a normal thing to do. If I'm going into the city centre to meet my friends or something, that's always the train. Well, pretty much always. It's just. It's there.”
- P9: “I've always been a cyclist. I've always lived in this part of Dublin. And since I was a child I was cycling around; I've never considered it dangerous. “
- P11: “So ever since we were kids, we were cycling to school, or to university, or wherever we'd have worked. So, it's not really. I think it's an ingrained lifestyle in a way.”
- P16: “I've always cycled wherever I've lived. [...] I haven't really thought about it. Like cycling would always be my main priority so. Pretty one-dimensional.”
- P18: “I think that does influence people just the way that, like, things have been done before and the way that people do things, there's a lot of people who live a lot closer to the office than I do, who can't believe. I walk and I say “well, how long does it take to get the bus and things?” And they'd get there quicker if they walked, but they'd never really thought otherwise.”

- P19: “because I've been cycling since I was, like 4, and I'm sort of familiar with cycling and I'm pretty street aware.”
- P25: “So, I think in my case, the biggest influence is not in any influence now, but it is the influence I have had when I was young. [...] So. It is a kind, for me, it's a core fundamental ethical choice. But that comes from other people. It comes from my family. It comes from my parents, largely.”

In line with this, participants often felt it was important to “pass it on” to the younger generations, with some having started to use the bike as a way to get their children used to cycling. There was a general agreement that to have an adult cyclist, you need to have children cycling.

- P7: “Especially people with families, I think, you know, when you get older, it might be more difficult to influence people, but I think when kids are going to schools, that a school can create kind of an environment, or a neighbourhood can create an environment where you kind of have campaigns to get good drivers to slow down in a particular neighbourhood or that kind of thing”
- P7: “It means that by the time the kids get to a certain age, they're independent, they can go on their own. [...] So, if they're trained to get there on the bike, it's optimal.”
- P25: “Because I do think it's, you know, the biggest influence can be when you get children when they're young and then you have to wait till they're in adults to for that, to actually make a difference in their everyday lives.”

6.8.1.5.3 Visibility and normalisation of cycling – “there's a lot more awareness, there are more bikes on the road”.

The more cyclists are seen, the more likely is for other people to start cycling. Seeing cyclists on the road creates a domino effect in that as the number of cyclists increases, the infrastructure changes to cater for them, which in turn encourages other people to cycle. Cycling becomes “the norm”.

- P11: “I feel like in the last couple of years at least, Dublin's been getting a lot better catering for cyclists, there's a whole lot more cyclists on the road”
- P24: “I used to cycle years ago when I was a teenager and compared to what it was like then, there's a lot more awareness, there are more bikes on the road; so pedestrians and drivers are more aware of cyclists. And there are cycle lanes, even though they're not, far from being perfect. It's that's more than there was 30 years ago, so. While it could be better, it could also be a lot worse. I've experienced worse.”

Similarly, as cycling becomes more common and it is made easier, parents are more likely to have their children cycling, which translates into more adults cycling as those children

grow up. This creates a cultural shift in which cycling is seen as a viable and respectable option.

- P7: “If they see loads of kids cycling to school and cycling on their own, potentially it just feels, I think other parents then feel safer letting their own kids do it and encouraging their own kids to do it. As well as it just being, you know, something that people talk about, it's like it's not just word of mouth, but that you actually just see it in action.”

6.8.1.5.4 Shifting “car is king” mentality – “12 years ago it was more acceptable to drive to work”.

Many participants identified a clear shift in the public perception of cars over the last couple of decades. Nowadays, while it is seen as convenient with many participants stating that they owned a car, it is often seen as negative to drive to work, particularly when it is single occupancy.

- P7: “I think like there are cities where, if you were to say you drove to work, they'd think you were crazy, I don't think we quite have that mindset here yet”
- P8: ” people are very anti driving”
- P18: “Yeah, I think it would overall be seen reasonably negatively to drive to work every day. “
- P22: “12 years ago, I think it was more acceptable to drive to work. Personally, I don't think it's acceptable to drive to work now if there's an alternative. If you have public transport or other modes, I don't think. I think driving into the city is perceived as is negative, as a negative connotation to it. And I think that's a good thing.”

Commuting by car is not only bad for the environment and frowned upon, but it is also inconvenient and wasteful.

- P3: “I mean also I could drive, but that's just, that would be a insane - traffic builds up. So that's a total waste of time. Unless I really need to. I don't use the car.”
- P9: “Being in a car means you've got to deal with traffic, you have to find a parking space. You're not contributing to the the pleasure, the pleasure of the of the environment. You know, it's it. Yeah. So, I'm really quite anti cars.”
- P17: “I mean, one is that I hate sitting behind the wheel of the car when I don't need to. I find that's just wasted time.”
- P18: “I could never see myself commuting in a car because it just wouldn't make any sense, I wouldn't have anywhere to park it, it would take me twice as long to get there, I think with the way that the traffic is. So, I can't see myself ever commuting in a car, I suppose.”

On the other hand, there is still a lingering perception of cars as the “apex predators” of the road, particularly when compared to cyclists.

- P2: “It’s just about holding motorists accountable. And no one’s ever going to do that because you know, the car is king so.”
- P19: “I still think the older generation relate car ownership to status. And I also think that that perception of car owners being the the, the apex predators on the road, I think that impacts the safety of cyclists and other road users.”

6.8.1.6 Theme 6: Daily Life.

Daily life factors were noted to influence occasional or short-term changes in mode. For some participants, the influence of some of the sub-themes, mostly in regards of the benefits or incentives of the mode change, eventually turned the temporary change into a permanent one. Particularly, family members, specifically the presence of children in the house, prompted both occasional and more long-term changes in mode. In some instances, some participants reported avoiding a specific mode entirely due to household members, such as avoiding bus in order to do the before-school routine.

Changes in work conditions (e.g. earlier start, possibility of working remotely) and weather were also noted to have a major impact. Participants reported deciding to change their mode “on the spot” due to bad weather or increased traffic.

Interestingly, some of these occasional changes had a lasting effect even after the original motivator of the change had been removed. Some participants that stated having changed their mode in order to take children to school reported to still use that mode even after the children had grown and no longer required to be accompanied. This shows how contextually bound influences, may produce long-lasting changes in mode selection.

6.8.1.6.1 Household obligations – “when I have to take my son to school it’s a bit different”.

This subtheme was noted to have a big impact on mode selection, with different household obligations often prompting a change of mode, both long and short term/occasional. This influence came from different angles, such as household chores or family members, although the latter was the most commonly reported one. Family members were often mentioned as the reason for changing the mode of transport. Many participants stated that having children had influenced their decision of how to commute. Needing a suitable mode to drop or pick children from school was often a central point in the decision of what mode to use for the commute, sometimes influenced by a need for flexibility in order to be able to leave work during the day in case of emergencies. In some cases, the choice of mode was not driven by necessity but by the desire to instil certain values or independence on the children, or by the desire to spend time with them.

Some participants discussed that sharing the commute with a family member often influenced the mode of choice. These participants reported that the decision to use a different mode to share the commute was often done spontaneously.

- P7: “And then there were other times where I have a teenager who will occasionally complain that she's not feeling very well, or that she's pain in her stomach or whatever, and will look like she's going to refuse to go to school. So sometimes then I just kind of go just get in the car.”
- P8: “If I was ever tempted to hop on a bus because I'm being lazy, but if I'm walking in with my husband, then I'm I'm more likely to walk.”
- P9: “but a bicycle was the sort of first choice of of getting anywhere for, for me. Unless I had to carry children with me, which meant I had to have, I might have had to have a car. I guess when, I'm sorry now if I think about it, when I was, when the children were going to school, I would walk them to school.”
- P11: “The car is the most spontaneous issue. My wife decides to take the car, which she also very rarely does, I sometimes I'll come along.”
- P17: “I should say, at some point, that on days when I have to take my son to school, it's a little bit different. So he, he could get the bus to school, but there's always so much to carry, and he would have to start very early.”
- P22: “My children were very small, at the time, and I felt there was a sense of security that I was able to leave work and drive directly home, if there was an emergency. As opposed to depending on either public transport.”

However, for single-car households, this influence was noted to be related with the need to leave the car available for other family members, almost completely removing car as a viable option for commuting. For some participants this restriction was linked to whether other household members required the car for errands and chores. Other participants, even those who did not share the household obligations, reported the influence of needing to run errands to have different levels of impact, with some participants discussing how they may decide on an alternative mode based on whether or not they needed to run errands, while some participants reported how the easiness or difficulty of running errands when using a specific mode, encouraged or discouraged its use.

- P5: “Walking is a bit more convenient or was a bit more convenient for me because I could, like if I needed to pick stuff up in the supermarket, it's easier or it's faster to just like go in while you're walking than it is to have to, like, cycle.”
- P8: “doing just household tasks, picking up the groceries, picking up something from the hardware shop. They're just part of weekly life, really. And and it does dictate then, if you have the car with you, it's easier to get that kind of those goods, yeah.”
- P12: “we're a 1-car family. So if if the car is in use, we have to walk.”

- P23: “But if if my wife needs to do shopping, you know, or something like that, I’ll have to leave her with the car. There’s no other way.”

6.8.1.6.2 Schedule/workload – *“if I finish late I have to take a train because the last bus is around 6”.*

Changing the mode of transport, either temporarily or permanently, based on the schedule was a common occurrence. Some participants mentioned altering their mode due to an earlier/late start. Changing the mode due to a social events (both for work and leisure) was often discussed.

- P8: “Sometimes if I’m driving, if I know that I’ll have to leave the city at a busy time where the traffic will be bad, I do drive to the red cow and get the Luas into into the city.”
- P9: “Sometimes in the evening, if I’m running a bit late, I might. I might choose the bus”
- P15: “Once I started working, because it’s like impossible to get in to work early with the train, the first train is at like 6,6:45, so I wouldn’t have time enough to get into work, change, get ready for work.”
- P16: “Very odd occasion might get the bus if I’m staying in town after work for something.”
- P18: “If it is very late, if I’ve been at a late work event, then it would influence. So, if it was a much later time of day, which does happen in some of the area after work events, then I would not walk anymore. I would get the bus or the Luas or the train home after an event if it if it ended and it was dark outside.”
- P22: “Sometimes I use the train. Sometimes. Instead of getting the bus, it depends on what time I finish. Sometimes I finish late, and if I finish late I have to get a train because my bus, I think the last bus is around 6 o’clock or half six. Umm, so, you know, if I’m in Dublin beyond that point, I have to get a train.”

Needing to carry or collect equipment was often a motivator for a temporary change of mode of transport. However, some participants reported an impact more in regards of workload. Being able to work while in transit was often mentioned as a benefit of choosing public transport over other modes, with some participant stating that their decision whether to use public transport or not was motivated by their workload and need to prepare for work. From this perspective, the possibility of multitasking while commuting encouraged the participants to use public transport over other modes.

- P8: “Sometimes I have to, you know, carry things to work, you know, like your laptop or papers, whatever. And then the car is easier for that reason”
- P11: “I’m not taking the car into work ever, just for work. Sometimes I’m taking it because I need to pick up something heavy from work.”
- P13: “On a very, very rare occasion, but it’s not, I haven’t done it recently, I would have driven in when I had to bring a computer in or bring something home,”

- P24: “but I have to bring my laptop in and out of the office, so, if I didn't, if I'm carrying the laptop, I'd try to avoid walking because it's too heavy”
- P25: “So, I have to travel to remote places on the coast, for putting in data recorders and making environmental observations, bringing heavy pieces of equipment to those places. And then I have to come onto campus pick those up and go to the field site where we need to deploy them.”
- P25: “Sometimes I just need to get to work quickly, and I don't need that time that I take to get to work to prepare myself for what I, what commitment I have when I get there. [...] would then cycle. But if the work commitment that I have, is really, really important and I need to get my mind prepared, and maybe even look at something on the computer before I get there, or read something before I get there, to be well prepared in the minute, then I will take the Luas.”

6.8.1.6.3 Option to work-from-home – *“if there is a problem with the train I just walk back up and work remotely”*.

Since COVID, many participants had the opportunity of remote working, which had caused a change in commuting habits as people have the option to commute fewer days. Overall, having the option to not commute seemed to increase the importance of convenience. For some people, particularly those who lived in the countryside, commuting to work less frequently made them less likely to choose an inconvenient mode (e.g., longer commute) for the days where they did commute. Some participants discussed that public transport was now a worse option, as travel bonuses are not worth the money. The increase of remote working has caused a change in travel patterns, with less frequent use of public transport and more willingness to consider alternative modes.

- P2: “since COVID and you know I'm no longer in the office five days a week. So I mean, far less twice a week maybe. And so and I would prefer to cycle more.”
- P8: “But then, with COVID and after COVID I don't travel in five days a week to to work. I work from home, maybe two days a week. So it's it probably comes down to convenience just to get into the car, it it, traffic can be fairly hectic getting into the city, but the time it takes is probably a little bit less and sometimes it would take me to commute by by train.”
- P10: “I am very lucky since COVID I've been able to work from home a lot. so I commute once a week.”
- P12: “I used to have a monthly bus pass, or the bus-and-Luas pass, but because now we're not in the office the whole time, so that didn't work.”

On the other hand, for some people, particularly those who lived closer, the decision of changing the mode, or rather not commute, was made spontaneously prompted by disturbances on the regular commute. These participants stated that if they could not commute on their usual mode of choice, they would rather work remotely for the day and not commute at all than using a different, less convenient mode or commute in unfavourable conditions.

- P3: “I would get the bus if there was a problem with the train, but you know if there's a problem with the train and if the bus is going to take too long, then I just walk back up and I can work remotely.”
- P18: “I've got very flexible work from home. So, if there's, if there's a reason to not go into the office because of like expected additional traffic or weather or anything, I can just work from home as well. Is my other option.”

6.8.1.6.4 Weather/time of the year – *“if the weather is bad, the roads are full and the bus is even slower”*.

Weather, and more specifically bad weather, created a paradox where people preferred to use non-active modes (as you are protected from the weather), which created more traffic making those modes less attractive. Overall, cycling and walking were noted to be heavily influenced by weather conditions, with this type of commuters switching to public transport, and to some extent car, during bad weather. However, some participants discussed how that increase in motorised traffic worsened the road congestion, therefore making those mode a worse option, which discouraged its use.

- P3: “Occasionally, if it's really, really, really terrible weather, I'll drive to the railway station, you know when it's really bad or the forecast is really, really bad, then I'll just sit in the car. Or, or if I'm late.”
- P5: “I would say like if it was very heavy rain, I would probably prefer not to cycle.”
- P9: “Weather would be the biggest thing to put me off my bicycle. It's not nice on a bicycle in the rain or wind.”
- P11: “If the weather is bad, the roads are full and the buses are even slower. So no, definitely not the bus when the weather is worse.”
- P24: “The traffic is worse when it's raining anyway. And you, you know, the buses are more full, there are more people in cars. So, it's worse.”

The time of the year also affected their commute, mostly altering the route or time of commute rather than influencing the mode of transport. Participants mentioned having to take a longer route due to parks closing earlier in winter or being able to leave their house later in summer due to reduced traffic outside school season.

- P3: “The only thing it would change, during school year, would be that I would get an earlier train just so the train isn't so packed.”
- P5: “For the walk home, like the park would close earlier. So then I would go like a further like a longer way around.”
- P8: “It's certainly easier to drive in during the summer because, like the schools are, there's no schools on.”
- P10: “It's eases up during the summer, during the holiday season, between summer holidays, when the students are off the roads. It's a little bit faster in the mornings

then. And a little bit, there's a there's a, this is ironic, there's a bus that's an hour after my bus in the morning that if I take that, I only get in 1/4 an hour later during the summer.”

6.8.1.7 Description of the Hierarchy.

Throughout the analysis it was noted that participants had reported different stages of impact for the different variables. Interestingly, the analysis found that some variables, particularly accessibility, efficiency, and family obligations, were the main driving force in choosing a mode, while other factors, such as cost or fitness, were often seen as “a bonus”. This suggests a hierarchy in which the different variables can be separated into three stages (Figure 5). Some recent research has also pointed at the apparent presence of a hierarchy in the way the different variables influence mode selection (Götschi et al., 2017).

Regarding this research is important to notice that this proposed hierarchy, as well as the distribution of the different factors, is highly flexible, not only among people but also across situations and context. As the present study focused on commuting behaviour the bellow discussed hierarchy concerns this type of travel. However, it was often mentioned that the reported impact of the factors on mode selection pertained only to commute, and the influence was different for other types of travel. For example, an early start at work made certain public transport modes unavailable, as the lines did not run at that time of the day, forcing the participant to choose a different mode. However, for leisure trips that had not such time limitation, those first modes were preferred. Similar findings have been reported by other authors in which the factors influencing mode selection varied across trip purpose (e.g., commute, leisure) (Arbués et al., 2016; Jeong et al., 2022). This flexibility in the hierarchy is not only found across trip context but also within the same trip across time. Participants discussed that changes in their personal lives, such a change of job or having children, made some factors more salient at different stages, showing that this distribution is a somewhat dynamic process that can vary over time.

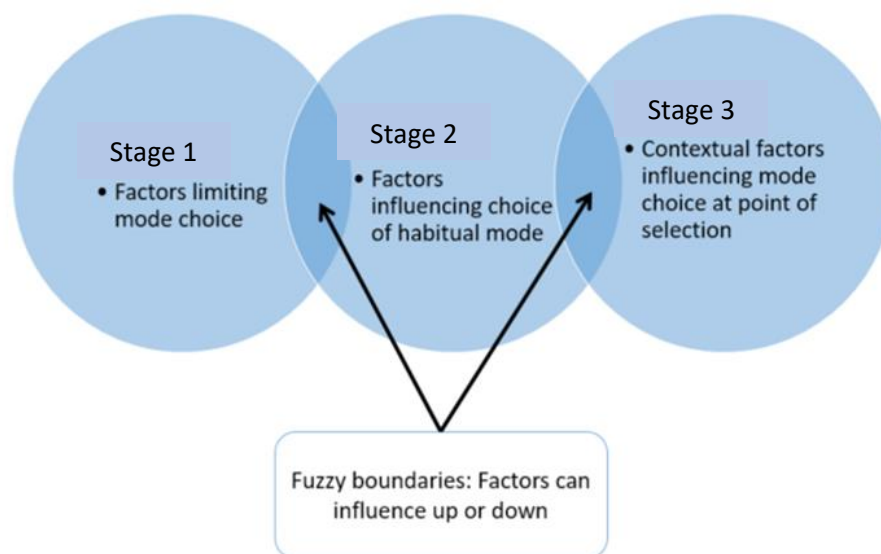
Circling back to the hierarchy found in this study, the distribution of the factors across the three stages is not rigid and it may be different for each person. This proposed hierarchy has been formed based on the overall reported influence of the factors across the participants. While some of the factors were heavily noted to have a consistent, strong influence at a specific stage, many of them were reported at different stages by different participants, showing that the influence of the factors is, to some extent, highly personal. Similarly, even those factors that were highly influential in one stage, were often mentioned to also have some level of impact at the other stages; in other words, a factor that may have a major impact for someone at stage 1, for another person it may also have an impact at stage 2.

Moving onto the stages proposed by this research, at Stage 1, these factors influence mode selection by removing modes from the participants' set of options (e.g., you cannot take a bus if there is not one available). At Stage 2, the factors influence the choice of the habitual mode by encouraging or discouraging the use of the different modes (e.g., heavy traffic may discourage the use of car). In some cases, these factors did not influence the choice of mode but acted as a reinforcement on the decision (e.g., doing exercise reassures you of choosing to cycle). At Stage 3, these factors mostly affect the mode selection at the point of selections, particularly when there are several options available, and are often involved in occasional changes related to a specific situation (e.g., changing the mode because of a later end time due to a work event). Most of the factors found in this study can be labelled under Stage 3, although it is important to notice that these categories, and the factors they contain, are somewhat flexible, with some factors being in one stage for some participants and in a different one for others.

FIGURE 5

HIERARCHY OF FACTORS INFLUENCING COMMUTING MODE CHOICE

Three levels of factors influencing commuting mode choice



6.8.1.7.1 Stage 1.

One of the variables that was more consistently reported at this stage was the subtheme of accessibility, particularly in relation to distance. In fact, the influence of this factor was such, that even those who were not affected by it (e.g., those participants who had many different means to access their workplace) discussed how problematic the lack of access to modes of transport could be, especially in more rural areas. The variable was placed at

Stage 1 as it eliminated the modes that were not accessible as an option for commuting. Some participants reported this lack of access to be influential at this stage only for commuting, as the accessibility issues were schedule-related (e.g., first bus starts later than their work's start time), which further demonstrates the fluidity and flexibility of the boundaries between the levels.

From a more person-specific approach, fitness was reported as relevant at Stage 1 among those who used active modes of transport. These participants reflected on how they needed to have a minimum level of fitness to use their preferred mode. In this sense, is the lack of fitness that acts as a barrier and limits which modes can be chosen.

Another health-related subtheme noted as influencing at Stage 1 was mental wellbeing. It was often discussed the negative effects of the heavy traffic that commonly occurs at peak time, which was more prevalent for driving as you cannot invest the time on other activities. This heavy traffic was also noted to impact cycling, as it increased the sense of danger. For some participants, these negative feelings and concerns were such that they completely removed those modes as options for commuting, as they did not want to deal with them.

Also at Stage 1, for some participants was the subtheme of sustainable lifestyle. In these cases, sustainability was a central point in the participant's life which guided their judgment of which modes were seen as viable options for commuting, often removing the less sustainable ones from the pool of potential choices, regardless of convenience.

Somewhat related to the above subtheme, Upbringing was often noted to have a major impact at Stage 1. On the one hand, guiding principles, such as the above-mentioned sustainable lifestyle, dictated which modes were perceived as acceptable or unacceptable to use for commuting. On the other hand, the modes used during childhood tended to be favoured in adulthood, often to the point that alternative modes were not even considered as options.

Finally, Household obligations, particularly those involving other family members, was noted to have a significant impact at Stage 1 on commuting choices. The need to leave a particular mode, oftentimes the car, available for other members completely removed it as an option for commuting for some participants. Others reported how the need for flexibility or childcare made some modes unsuitable.

6.8.1.7.2 Stage 2.

The theme Safety Concerns, as well as its subthemes, was quite consistently noted to have an impact at this level. Overall, this theme was related to the dangers of cycling, with the participants rarely considering the risks of other modes. Interestingly, this impact was mostly only present to those who did not commute by cycling. For these participants, the risks related to cycling acted as a deterrent to choosing this mode, as they perceived that the dangers surpassed the benefits. To those who used the bicycle for commuting, even if it was occasional, this impact was not present in relation to mode selection, despite them reporting being aware of the risks. However, some of these participants discussed the theme having influence on the specifics of their commute (e.g., altering the route in order to stay safe). This, once again, shows not only the complexity of the behaviour and the variable involved but also the flexibility of the presented hierarchy.

Although it was discussed in the previous point the impact of this subtheme at Stage 1 for some participants, for others this influence was noted to be at Stage 2. For these participants the health benefits associated with active modes of transport were seen as a positive that encouraged their use of these modes for commuting, particularly among those participants that reported not having the time or motivation to do other types of exercise during the day.

Financial Considerations was also noted to have influence at Stage 2 for some participants. For this subtheme, participants reported how reduced travel costs encouraged them to use the modes. Particularly it was discussed how the TFI 90-minute fare initiative had made public transport more attractive. This influence was also reported to work in the opposite direction, with some participants discussing that if the cost of public transport were to increase, it would discourage them from its use and into an alternative mode (most likely car).

Also, with the theme of Convenience and Practicality, the subtheme of Time Efficiency & Commute Duration was noted to have some influence at Stage 2. Overall, participants reported that a shorter time of commute encouraged them to use the mode while longer commute times often discouraged them from the mode. Although driving was often considered the slowest mode, and therefore usually avoided, this preference for faster modes was also reported when comparing public transport vs active modes, but also when comparing the different types of public transport. In this sense, active modes were often preferred, followed by Luas, and then bus. On the other hand, for those participants who valued more being able to make use of their commute time, the ability to multitask during the commute (e.g., read a book, answer emails) encouraged them in favour of public transport.

Environmental Considerations as a theme, as well as several of its subthemes, were noted to have an impact at Stage 2, mostly in two different ways. On the one hand, some participants reported that the sustainability of a mode encouraged its use, particularly when deciding among modes. On the other hand, some participants reported that while the sustainability of the mode itself did not have much of an impact when making the decision, choosing more sustainable modes reassured them of their decision and made them feel good, making them more likely to continue to use that mode.

Regarding the theme of Socio-Cultural Perceptions, it is interesting to consider its impact at Stage 2. While most participants denied other people's perceptions and opinions to play a role in their decision, they often discussed how some specific modes were deemed as more or less acceptable depending on where you lived and the people around you. In this line, some participants commented on how the people close to them (e.g., coworkers, neighbours, friends) frowned upon driving to work, which discouraged them from commuting by car. In contraposition, other participants, particularly those who lived in rural areas, discussed that in their area driving was very common, and therefore they did not feel judged or discouraged from it, even to the point that they could even be encouraged to drive.

Finally, the theme of Daily Life was noted to be highly person-specific, with the impact of the subthemes varying across all three levels depending on the participant. Regarding the subtheme of Household Obligations, the impact at Stage 2 was often related with the need of running errands or childcare. In this sense, some participants discussed how the easiness to stop and pick something from a store encouraged the use of one mode over others, to the point where some participants reported to changing their preferred mode for the commute.

Interestingly, within this theme, an impact at Stage 2 was noted for two of the subthemes related to work. On the one hand, participants reported that when their workload was high, being able to work during the commute (e.g., grading, preparing for a meeting) encouraged the use of public transport while discouraging other modes, particularly car. On the other hand, participants that had the option of working remotely discussed how their preference for convenient modes had increased. These participants reported that being able to choose whether to commute or not discouraged the use of the modes they deemed as inconvenient or undesirable as it gave them more control over their commute and allowed to bypass barriers. For example, some participants reported that bad weather, which would have previously prompted them to change their mode, had no longer an impact on their mode of choice, as they could simply not commute if the weather was unfavourable.

6.8.1.7.3 Stage 3.

Lastly, many of the themes and subthemes found in this study were noted to have an impact at Stage 3. From these, the majority were person-specific, with some of the subthemes having been reported at Stage 1 and/or 2 by other participants. At this level, the influence was mostly for occasional or temporary changes, often context-restricted, and it often involved “on the spot” decisions.

One of these is the subtheme of Exercise and Fitness that has already been discussed on the two previous levels. At this level, the influence of this subtheme was mostly noted with participants deciding to get on the public transport at a later stop or get off at an early one in order to do some exercise or to decide to forgo a motorized mode in favour of an active one.

Similar as in Stage 1, the subtheme of Mental Wellbeing, also within the Health theme, was also noted to have influence at Stage 3. In this case, participants reported sometimes changing their mode in order to take advantage of the benefits of the particular mode they were choosing. In some cases, participants reported choosing public transport in order to get ahead of work and ease the pressure of deadlines. Some other participants reported deciding to walk for the day so they could relax during the commute by listening to a podcast or audiobook.

The subtheme of Financial Considerations was also noted to have influence at Stage 3 for some participants. This was noted to be mostly related to active modes as these participants discussed that occasionally when considering changing from an active mode to a non-active mode, particularly public transport, the cost of it would steer them away from the change, as active modes were often perceived as free. This mostly happened when the suitability (e.g., time, comfort, etc) of both modes was similar.

For some participants an influence at Stage 3 of the subtheme Time Efficiency and Commute Duration was also noted. In these cases, it seemed that participants had a pool of suitable mode options and the choice of which one to use was based on whichever mode allowed them to arrive the fastest. In some cases, the different public transport stops were nearby, and the participants used the mode that arrived earlier. In some other cases, the participants chose the mode that allowed them to avoid rush hour’s traffic.

Finally, the theme of Daily Life was the one that had the most influence at Stage 3, as all its subthemes were noted to have influence at this level. Regarding the subtheme of Household Obligations, the influence was noted to come from two different areas. On the one hand, some participants reported that day-to-day tasks, such as running errands or

picking up things, prompted a temporary change in their regular mode for one more suitable to their needs. For example, some participants reported choosing the car over public transport if they needed to go to the hardware store while other participants stated that they changed cycling for walking when they needed to buy groceries as they were more difficult to carry on the bike.

On the other hand, some participants discussed how other household members influenced their mode of choice at this level. Some participants commented on spontaneously changing their mode in order to share the commute with a family member, while other discussed choosing a different mode from their usual one in order to make the school drop easier. In some cases, an overlap of these two areas was also noted, particularly regarding car usage. In these cases, the participants discussed being a single-car household in which the use of the car was restricted to who needed it the most. In regards of this, some participants explained that one family member needed to use the car for work and therefore on those days commuting by car was not an option. Other participants commented that if errands needed to be done during the day, they could not commute by car as it needed to be available for other family members.

The subtheme of Schedule/Workload was also noted to have influence at this level. For this subtheme, a tendency to altering the mode due to an earlier start or a later ending was noted. Particularly, staying in the city centre later for a social event, either work or leisure related, often prompted a change of mode for the day. Sometime this changes in mode were due to a mismatch on the schedule (e.g., an afterwork social event runs pass the departure of the last bus), other times the change was due to the usual mode being unsuitable for the specific requirements of the activity (e.g., wearing formal dressing for a meeting makes it uncomfortable to cycle). Within this subtheme, it was also reported that needing to carry equipment for work or having to work at a different location (e.g., doing field research) often lead to a temporary change in the mode of transport.

Regarding the subtheme of Option to Work-From-Home, the influence at this stage was related to the one explained in the above Stage 2. While in the previous stage the influence was more related to the decision-making process in which the option of not commuting allowed to discard as a choice those modes deemed unsuitable, the influence at Stage 3 was more related to deciding on the moment to not commute. In other words, being prepared to commute and choosing not to on the day. Some participants even discussed starting to commute and deciding to turn around and return home to work remotely. This decision was often prompted by bad weather or disruptions on the route (e.g., accident on the road, delayed trains). This subtheme is a perfect example of the flexibility of the hierarchy, as it easily influences at both Stage 2 and 3.

Finally, the subtheme of Weather also had an influence at Stage 3. For this theme participants discussed deciding to use a different mode based on the weather of the day. Regarding bad weather, the participants discussed opposed reactions, with some participants stating that they preferred to use motorized transport rather than active modes, while other participants discussed that they would avoid motorized transport at all costs during bad weather due to the increased traffic. Interestingly, some participants reported being influenced by good weather, preferring to use active modes when the weather is nice.

6.9 Discussion of Interview Study

Before starting to discuss the results found in this qualitative study is important to first address the specifics of the sample. This study is a case study of Trinity College. As explained in the introduction chapter, the location of the university's main campus heavily influences the commuting options of Trinity's members. Its central location makes it accessible through a wide number of public transport routes, while at the same time, the limited car parking spaces, both within and around the campus, discourages the use of cars. However, this central location also means very heavy traffic around the campus, particularly during peak time, which makes commuting via motorised modes a complicated task. Additionally, Trinity has several campaigns and plans to promote sustainable, and more specifically, active travel.

This means that the target sample is biased towards using the more sustainable modes for the commute, and therefore the results found in this study may not be completely representative of the general population.

On top of that, while the effect has been somewhat limited, previous studies have noted the influence of educational level on transport mode selection. As the focus of this study being a university, an important part of the sample recruited had achieved high levels of education, which could translate on a target population who is already prone to specific travel patterns.

Overall, while the results found in this study reflect to some extent those found by previous studies and offer interesting answers to the gap of knowledge in regards of what influences travel mode selection, it is important to keep in mind that its replicability to a larger, less specific context may be limited. Further research, both in similar contexts and with the general population, needs to be done in order to fully understand the impact of the factors highlighted in this study, and whether or not these results are representative beyond its specificity.

Moving onto the specific results found, this study clearly points towards the presence of a hierarchy on how the different factors influence mode selection. As such, the different variables can influence at three levels, going from variables which completely remove a mode as an option, to variables that influence mode selection at the point of selection, often under context-specific circumstances. However, this separation is not necessarily strict or straightforward. While the variables influencing at Stage 1, such as distance or accessibility, tend to be quite stable across different people, their impact may bleed onto the other levels. As such, better access to a specific mode (for example by having more regular schedules) may encourage the use of that mode rather than excluding others as options.

In regards of the Stage 2 and 3 variables, the distinction between them is less clear, often changing from person to person. For example, in regards of cost, for some participants a reduced cost of public transport encouraged them to use it over private cars, while for those who commuted by walking or cycling, which were often perceived as “free”, the cost of public transport only became relevant when they were considering an occasional change in mode.

Additionally, this study found that this hierarchy not only involves the strength in which the different variables influence behaviour, but also how the variables themselves influence each other. As such, variables that are at a higher stage (e.g., Stage 1) often may conflict, and eventually overpower, the influence of lower-stage factors. As such, for people who value comfort over speed of commute, bad weather may push them towards public transport, even if the commute is longer, while someone who gets greatly discouraged by being stuck in traffic, may prefer to use active modes even when the weather is unfavourable.

Related to this, it is interesting to notice the influence of norms. While many participants dismissed other people’s opinions as influencing their behaviour, they would often discuss how they tended to use the modes they, and their peers, used while growing up. While these results reflect those found by previous research that highlight the impact of social norms on mode selection, they point towards this influence being mostly unconscious. Following these results, it could be argued that social norms, particularly those present in childhood, influence transport mode selection by creating habits, in which the modes perceived as “the norm” are favoured over others until the decision of which mode to use becomes automatic. Some studies in the area of physical activity had noted the relation between social norms and the formation of habits (Avraham et al., 2024).

This study offers a new perspective of how the decision-making process of transport mode selection occurs, and how the different variables involved interact with each other to influence the behaviour. This approach steps out of the most commonly used one in which the influence of the variables is perceived as “one or the other” in which the different factors either have an impact or not, but do not influence the other factor’s impact, nor are they subjected to the influence of other variables.

Chapter 7: Final Discussion

This research consisted of two studies based on two methodological approaches with the goal of gaining a deeper understanding of the variables influencing Commuting Transport Mode Selection and their strength. Overall, the studies found that both contextual factors, such as distance or infrastructure, and psychological factors, particularly norms, had influence in the decision of which mode to use for commuting. However, it is interesting to look at these results in more detail, specifically at the discrepancies found.

First, looking at the contextual factors, those related with accessibility and infrastructure were significant, although this was not the case for S1b. However, during the interviews conducted for the second study, the theme of accessibility was noted to be one of the more relevant, both in regards of modes used and not used. Infrastructure, while having a more limited influence, was also found to be relevant during the second study. It was discussed on a previous chapter (see 5.6) that the discrepancy in the significance of the contextual variables between the two steps of Study 1 (S1) could be due to the specific timing of S1b and the limited timeline of data collection, in which participants were asked about their most recent commutes. The findings of Study 2 (S2), with the contextual variables being noted as highly significant, seem to further agree that the lack of relevance of these variables in S1b was artificial.

Regarding the demographic variables, their significance was limited across all steps of the research. On the first study, at S1a, none of the demographic variables were significant for the three time periods measured, nor were they significant at S1b. For S2, while these types of variables were not explicitly investigated, they were not reported to be relevant either. While these results are somewhat unexpected, it is important to keep in mind that this research was a case study and the sample consisted of university students and staff. As such, the demographic data of the sample was limited in variability due to the homogeneity of the group, which could have skewed the results.

Finally, in regards of the psychological variables, both norms and attitudes were found to be highly significant across all three stages of the research. In fact, there were the only variables to always be significant to some extent. Regarding the other psychological variables studied, the influence of values was rather limited in S1, and although its impact appeared to be stronger in S2, it seemed to be closely linked to norms and attitudes. The impact of beliefs was close to non-existent across all stages of the research.

7.1 Analysis of Factors

Moving onto how these results fit with those of previous research, the findings of this research do not necessarily dispute the existing literature but adds to the overall understanding. Starting with the non-psychological variables, the findings related to the demographic variables is quite interesting. Sociodemographic factors, such as age, gender or educational level, have often been found to be predictive of transport mode selection (Arbués et al., 2016; Jing et al., 2018; Lu et al., 2023), yet this research failed to find significance for these type of variables across almost all points. While age and gender were found significant at some of the time-points of S1a, staff/student status was loosely noted to be somewhat influential through cost during S2 (i.e., reduced public transport fares for students).

Looking at age, it is important to note that in S1 age and staff/student status were confounded, with older participants being mostly staff and younger participants mostly students. The influence of age on mode mediated by cost found in this research has also been noted by other authors (Arbués et al., 2016; Jing et al., 2018). Aside from cost, this influence of age could also be linked to modal choice in relation to family obligations. (e.g., older participants had adapted their mode of choice based on their children's ages/needs vs younger participants who did not have a family yet or whose children were still young).

In regards of gender, while is often reported to influence mode selection, the direction of this significance is not clear. Some authors have found women to be more likely to use public transport or non-motorized modes over car (Jeong et al., 2022), while others reported the opposite, in which women were less likely to cycle (Akter & Alam, 2024) or more likely to use car (Chaudhry et al., 2023). Research on the influence of gender has reported that women experience more violence while traveling (Leva et al., 2021), and that women are more concerned about possible health problems when using public transport (Zarabi et al., 2024). Similar to the age, the influence of gender on mode appears to be influenced by other variables.

Overall, the general influence of sociodemographic variables found in this research was minimal and often mediated by other variables.

Although this lack of influence found in here may seem to contradict previous research, that is not necessarily the case. Some previous studies also reported a lack of significance of some sociodemographic variables or a significance that went in the opposite direction of what had been reported previously (e.g., women more likely to drive vs the usual men more likely) (Chaudhry et al., 2023; Guzman et al., 2020; Mehdizadeh et al., 2020). Some other authors also reported that the impact of sociodemographic factors on mode selection appeared to be influence by other variables, such as cost (Arbués et al., 2016; Jing et al.,

2018). With this in mind, these findings do follow those presented by previous research, and seem to support the proposal of sociodemographic factors to influence mode selection indirectly, and to this type of variables to be sensitive to the influence of other variables.

Regarding infrastructure and the built environment, the findings of this research fall in line with those reported by more recent research that has highlighted the importance of these types of variables and has focused on better understanding how they affect modal choice (He et al., 2022; Jeong et al., 2022). In this research, S1 focused mostly on the contextual variables that were more closely related to access (e.g., availability of public transport stops, access/ownership to bicycles and/or cars, etc), although the results showed some discrepancy in their influence, which has already been addressed in an earlier section (see Chapter 5.6). These initial findings followed those presented by previous research in which having access to modes and distance (either to the modes or to the place of work) have been noted to have a major impact on mode selection (He et al., 2022). However, when introducing the results of S2 in this comparison, there is a clearer picture of how the contextual variables influence mode selection. During the analysis of S2, other contextual factors, along with the ones found on S1, were noted to be influential. Poor urban infrastructure or lack of facilities (such as secure bike parking or changing rooms) were often reported to influence the decision on which modes to commute. Once again, these results fall in line with the findings of previous studies that reported the impact of such factors on mode selection (Göransson & Andersson, 2023; Lu et al., 2023).

Finally, before moving onto the psychological variables, it is interesting to mention the influence of cost. In this research, its impact was noted to be quite limited, being mostly overshadowed by other variables. However, previous studies have also noted that cost often interacts with other variables in its impact of mode selection, particularly sociodemographic variables such as income or age (i.e., due to reduced PT fares for students/elderly people) (Arbués et al., 2016), and that the existence of financial incentives can help promote the use of sustainable modes (Zimmermann et al., 2024). While the findings of this research are supported by previous studies, this reported link between the cost and sociodemographic variables could also explain the reduced impact that this study found for cost, as the target sample was highly specific (university staff/students), and potentially biased towards a particular sociodemographic population (e.g., highly educated, higher economic status).

Moving onto the psychological variables, the findings of this research mostly follow those reported by previous studies. Starting with values, while this research has found a rather limited impact in relation to transport mode selection, the combined approach used has provided interesting information on how this influence appears to occur. However, before going into the specifics, it is worth discussing how the results on this research relate to

those of previous studies. The influence of values was most directly studied in S1, which found some interesting results. Based on the results of previous studies (e.g., Price et al., 2014), the significance of both biospheric and altruistic values found in this research was expected. Despite this, the second step of Study 1 (S1b) only found significant biospheric values, not altruistic, and although some authors have pointed at biospheric values to be the most predictive of environmental behaviours (Steg, 2016), these results seem to point towards some other factors influencing the impact of values. While this influence on values has also been noted by other authors (Lind et al., 2015), it is the results of S2 that provide a deeper insight here. During this second step of the research values were often reported to be instilled by other people, usually family members, and thus heavily connected to norms in which family members modelled the behaviour that was considered “right” (the norm), which in turn created the guidelines that would form the values. These findings offer a new understanding of not only how values influence behaviour, but of the relationship between values and norms.

Regarding the variable of beliefs, the results found in this research seem to contradict to some extent those reported by previous research. Overall, this variable was not found significant in this research, despite its influence on behaviour having been noticed by other authors (Göransson & Andersson, 2023), although it is important to mention that some authors have pointed that changes in beliefs is unlikely to translate into change in behaviour (Hiselius & Rosqvist, 2016), which was to some extent the focus of this study. However, it is important to mention that beliefs have often been studied in combination with attitudes, to the point that sometimes the same scale is used to measure both (Bernstein & Szuster, 2019). As this research also studied the influence of attitudes in behaviour, the lack of significance of beliefs could mean that those two concepts (beliefs and attitudes) are close enough that attempting to measure both is redundant. It is also worth noticing that some authors had pointed at the cultural impact of beliefs (Price et al., 2014), as such, due to the specifics of this sample, the environmental cultural beliefs shared by the participants could have been homogeneous enough to render this variable insignificant.

Moving onto the psychological variables that were found most significant in this research, the influence of norms followed those reported by previous studies. While the overall results are as expected in which norms are found to have a major impact on mode selection (Zhang et al., 2015), it is in the more specific and detailed findings where this research offers novelty. First, the results of S1 showed that the impact of norms, both social and personal, appear to be highly specific to the mode they relate. In other words, norms related to public transport are mostly influential in regards with public transport but do not have much impact on other modes. However, it is important to notice that other studies often follow a more limited or general approach, either in the number of modes studied (e.g., only looking at car or public transport use) or in the way norms are studied (e.g., not looking at norms related specifically to a mode), hence, these findings could be due to the more detailed approach used for this study.

Second, the results of S2 showed interesting findings in regard to norms and transport mode selection. During this study, it was noted that many of the participants seemed unaware of the actual impact that norms had on their behaviour, often denying such influence despite having indirectly mentioned it. Some participants discussed choosing a specific mode (e.g., cycling) in order to set an example for their children, others explained that they used the mode of transport that everyone around them used but denied other people's opinions to influence their choice. It was also noted that some participants linked their values to norms as they often mentioned having developed certain values through seeing how other people behaved. Due to the limited use of qualitative methods in the study of mode selection, the results found in here not only present a new, deeper understanding of how norms influence behaviour, but also offer a new perspective of the relationship among the different psychological variables, particularly norms and values. While the overall results related to norms were as expected, the combined approach used in this research has offered a newer, deeper understanding of the influence of norms on mode selection.

Finally, while the significance of attitudes was also expected as previous studies had reported a link between attitudes and mode selection (Göransson & Andersson, 2023; Zarabi et al., 2024), it is, once again, the specific findings that offer a novel perspective. In this case, S1 found that the impact of attitudes on mode selection was highly specific, with the attitudes more related to mobility being the ones that had influence on the behaviour. However, it was also noted during the second step of S1 that attitudes related to waste avoidance and vicarious social behaviours had an influence that was not present during the first step. While this sudden emergence of their influence could be explained by increased media and social awareness towards behaviours related to these attitudes (see 5.6 for more detail) it suggests that increasing the salience of pro-environmental and sustainable attitudes overall, has an impact on mode selection, even if the attitudes do not specifically target mobility.

In regard to S2, although attitudes were not explicitly studied, a connection between attitudes related to specific modes and the use of those modes was found. As such, people with negative attitudes towards cars, were less likely to drive for their commute. While these findings fall in line with those of previous studies (Nordfjærn, Lind, et al., 2019), it is interesting that participants differentiate among the different types of public transport rather than considering them all as one. As such, participants often reported different attitudes between tram and bus, with participants often discussing more negative attitudes towards bus. This could be due to the target population, specifically with the geographical location of the sample and the perceived differences regarding the different types of public transport (see 1.2.2, 5.8.1.3.4, and 6.8.1.5.1). Additionally, these findings could also be due to the methodology used in this research. As participants were asked to report the frequency of use of the different modes rather than forcing them to choose one

preferred mode, the dataset of people's commuting behaviour produced was richer. This could have allowed the emergence of a more nuanced relationship between attitudes and behaviour that a more restrictive approach would have hindered.

7.2 Methodological Considerations

This research used a combined approach of quantitative and qualitative methodologies. This approach offers the advantage of studying the chosen concept, in this case Commuting Transport Mode Selection, at a deeper level allowing to gain a more thorough understanding of the topic at hand. For this research, the quantitative methodology was used first, using it to study a wide number of variables at a superficial level in order to identify those that were more relevant. Following this, the qualitative methodology was employed to study those reduced variables at a deeper level in order to understand how they influence behaviour. This approach allows not only to identify the variables that have an impact on mode selection, but also to understand the strength of this impact and the role the variables play on the decision-making process. This combined approach helps bridge the gap left by previous research as the understanding of “the how” the influence occurs offers a possible explanation for the inconsistency of the impact of some variables.

Focusing on the specifics of this research, the quantitative methodology was based on a survey collected at two points in time (initial and follow-up). The quantitative methodology has been the most commonly used approach in the study of travel mode selection (Göransson & Andersson, 2023), and within it, this type of survey-based methodology has often been the preferred method of data collection (Chaudhry et al., 2023), although the repeated measure methodology used for this research is not used often. In this sense, this research does not offer much novelty in regards of data collection itself.

However, it is in the content of how the data, or more specifically Commuting Transport Mode Selection, was gathered that this study steps away from previous studies. When studying mode selection, previous research has mostly inquired about preferred mode, often simply asking whether the different modes were used or not or about the main mode used. Some authors have conducted travel diaries, although this approach is not commonly used (Arroyo et al., 2020). This study, however, focused on the frequency of use of the different modes, allowing participants to provide more detail about their commute rather than restricting their responses. This change offers a more nuanced understanding of the behaviour as it allows to identify multi-modal commuters and to study whether single and multimodal commuters are influenced equally by the same variables.

However, before moving onto the other type of methodology used it is important to discuss the limitations of this approach. First, while the repeated measured design used offered the opportunity to study how extreme events (i.e., COVID-19 pandemic) influenced the behaviour, this same influence may be exclusively linked to the context of the pandemic and thus the findings may not be representative. Additionally, the timing of the data collection, which lasted just a couple months for both steps, combined with the restricted response options of this type of methodology mean that changes on mobility patterns due to temporal changes related to daily life events (e.g., road works, off-site placement) would not had been distinguished from actual changes in behaviour.

Regarding the second approach used, qualitative methodologies are not often employed in the study of mode selection (Göransson & Andersson, 2023). Some studies (e.g.,Guzman et al., 2020) have used interview-like approaches using scenario-based methodologies to collect data. However, the use of qualitative methodologies is not widely employed. While this offers the freedom of designing and tailoring the research as needed, it also has the disadvantages of lacking guidelines and tested measurement tools. Within this qualitative method, this study used interviews as the means of data collection. The approach used was semi-structured interviews. This has the advantage of allowing the participants to elaborate on their answers, which offers the opportunity of identifying the more nuanced aspects of the decision-making process that a more restricted approach often would miss. Additionally, the script of questions followed a funnel-approach in which the questions go from more general to more specific (Roberts, 2020). This gives the participants the opportunity to discuss what they consider relevant without guiding their responses. However, it is important to consider two things that could had potentially biased the data. First, the participants were recruited from those that had participated on both steps of S1, which could mean that the participants were already inclined or interesting on commuting behaviour and/or sustainability. Second, since the participants of Study 2 were offered an economic reward, they may have felt the need to “perform” and thus overly elaborated on their answers beyond what they do in real life.

Overall, while the use of this combined approach is not completely new and some authors had employed it before (Caulfield et al., 2021), it is still rarely used. However, due to the complexity of the behaviour and the lack of in-depth understanding of how it is influenced, this approach offers an ideal solution to overcome the gap in knowledge.

7.3 Understanding Commuting Behaviour

This research was based on two theoretical approaches, the Values-Belief-Norms Theory, and the Campbell Paradigm. The first one argues that those three concepts influence each other in sequence (values influence belief, beliefs influence personal norms) which eventually influences behaviour. Additionally, for this study social norms were also

included. The second theory proposes that attitudes influence behaviour via two compensatory effects, the likelihood of engaging in the behaviour vs the cost of the engagement.

While the findings of this research do not necessarily disagree with these theories, since most of the psychological variables were significant at some point, they seem to point towards a different pathway of how the variables influence behaviour. First, under the VBN approach and following the results reported by previous studies, values and personal norms were predicted to have influence on mode selection. Although the theory discusses that values, beliefs, and personal norms influence each other in a causal chain that ends in behaviour, and that all three of them influence behaviour itself. The research regarding the impact of beliefs has provided somewhat contradictory results, with some authors reporting influence on behaviour while others failed to find significance (Göransson & Andersson, 2023; Hiselius & Rosqvist, 2016). The results of the present research were as expected with both values and norms from the VBN, as they were found to be significant, although the influence of values was limited. However, what is interesting is the results regarding social norms. While the VBN only considers personal norms, other authors and theories have noted the relevance of social norms, to the point of even updating their approach (e.g., Extended Theory of Planned Behaviour). The findings of this study seem to suggest that a similar update on the scope of the theory could provide greater explanatory power.

The final concept from this theory, beliefs, was not found significant at any point of this research, being the only one of the psychological concepts to fail to show significance. When looking at the literature, the influence of this variable is not clear, with some authors reporting it significant (Göransson & Andersson, 2023) while others discussed a lack of influence (Hiselius & Rosqvist, 2016). While this lack of consistency of the influence of beliefs on behaviour could be related to cultural differences, it could also mean that beliefs is not as impactful on behaviour as proposed by the VBN. On their study of travel mode selection based on the VBN, Lind et al. (2015) measured separately the three concepts of beliefs (i.e., NEP, awareness of consequences, and ascription of responsibility). They found that the theory predicted mode selection through personal norms. Regarding the three concepts of beliefs, they found that the NEP was indirectly associated with personal norms while ascription of responsibility was negatively associated with mode selection. These results, despite finding the concepts of beliefs significant, were not in line with those in line with the VBN and discussed that the discrepancy could be explained by the influence of other factors. The findings in the present research could provide an answer to this issue. S2 found a hierarchical system on the way the different variables influence behaviour (see 6.8.1.7). Based on this idea, the discrepancies on the significance of beliefs could be explained by them being located at a lower impact stage on the hierarchy and being overshadowed by higher impact variables.

Regarding the second theoretical approach used in this research, the Campbell Paradigm, this theory proposed that attitudes influence behaviour mediated by the cost of performing said behaviour (Kaiser et al., 2018). Based on this model, the influence of attitudes found in the present research was as expected. Following the specific relationship proposed by the paradigm, this interaction between attitudes and cost of performing the behaviour was mostly noted in regards of car and bicycle use. It is important to mention, that this study noted that the apparent “cost” discussed in the paradigm can involve a wide number of different factors, ranging from economical cost, but also comfort or family time.

In these cases, participants that reported positive or neutral attitudes towards cycling but that considered the costs (e.g., safety risks) as too high were less likely to use the bike for commuting, even if they were otherwise willing. In regards of driving, some participants reported that commuting by car “wasn’t worth it”. For some of the participants this was due to the heavy traffic around city centre or the lack of parking spaces, for others it was because they found driving stressful and tiring. In this sense, these results point towards the compensatory effect is not necessarily the cost of performing the behaviour but of barriers to it.

Similar findings have been reported by other authors. In a 3-study research related to attitudes Taube et al. (2018) found that reducing the cost of conducting the behaviours studied (i.e., choosing sustainable modes, turning off car engine at traffic lights) increased the likelihood of performing the behaviours. Regarding their results related to mode selection, they found having access to a car increased the likelihood to commute by driving. They argued that owning a car increased the cost of using alternative modes, as their use involved additional planning (e.g., alternative routes, cost of maintenance of several modes). The findings in the present study do not completely match this, as participants that owned cars often commuted by other means, which suggest that the perception of the behavioural cost can vary across populations. While not a contradiction, this discrepancy shows that further research is needed.

Slightly unrelated to the paradigm, it was interesting how specific the influence of attitudes appeared to be, not only in regard to attitudes related to the modes, but in a more general sense. The results of S1 showed that attitudes more closely related to the behaviour (e.g., mobility related attitudes) are the ones that influence the behaviour itself.

Overall, while these results do not oppose the relationship and effects proposed by the theories used, they show that, on the one hand, the sequence of the variables and the interactions among them are not as straightforward as presented by the theories. On the

other hand, these results suggest that the scope and approach used by the theories is too narrow.

Before presenting a new proposal of how Commuting Transport Mode Selection is influenced, it is important to mention that although not explicitly included as part of the theoretical approach, the non-psychological variables, particularly those related to the built environment, were found to be highly influential on behaviour. Previous studies have reported similar findings, which suggest that the study of this type of variables should be included in the theoretical models when researching mode selection.

An initial attempt to this is the PASTA Model. This model presents a framework of how travel choices are made. It differs from previous models as it does not make quantitative predictions of the relationship between variables. Instead, this framework integrates a wide range of variables, including psychological, sociodemographic, and built environment, into a hierarchy system in which the different factors not only influence travel behaviour but also each other (Götschi et al., 2017). On a study in Seoul, Jeong et al., (2022) tested, and found, that variables such as trip characteristics, socio-economic characteristics or built environment are different hierarchical levels. They also found that the relevance of the difference variables is not stable (e.g., public transport is preferred for commute due to punctuality but for shopping due to health benefits), which shows a relationship of not only the variables to behaviour, but also among the different variables.

Finally, based on the results of the present research, a new approach of a hierarchical system based on three stages is proposed. This approach does not reject the contributions of previous theories but instead adds to them. The idea behind this new approach to Commuting Transport Mode Selection is that the different variables involved in guiding the decision-making process influence the behaviour at different stages and with different strengths (see 6.8.1.7). While some variables tend to be more stable in regards of the stage in which they become important, there is some flexibility and variability from person to person. This approach moves away from the usual proposals in which the variables affect each other in a linear manner ending in behaviour or in which they have contrasting effect that hinder or promote their effect on behaviour. These more traditional approaches often assume that the impact of all the variables occurs simultaneously, and that this impact occurs in a stable way over time. Instead, the present approach proposes that this influence is not “all at once” but rather that it occurs at different points in time (Table 37). Additionally, not only the influence of the variables occurs at different points in time, but the strength of this influence and the way it occurs is different at each time. These different influences at different times are not only in regard to the variables and the behaviour, but also regarding the interactions among the variables.

TABLE 37

INFLUENCE OF FACTORS AT DIFFERENT STAGES

	Stage 1: Ensuring sustainable options are on the menu	Stage 2: influencing habitual choice	Stage 3: Ensuring resilience of sustainable options to contextual variables
Infrastructure	***	**	**
Schedule	*	**	***
Costs	*	**	***
Values	**	**	*
Beliefs	*	***	*
Personal Norms	**	***	*
Social Norms	***	**	**
Attitudes	**	***	*
Safety	*	***	*
Health & Wellbeing	**	***	*
Household Obligations	**	*	***
Sustainability	***	**	*
Social perceptions	**	***	*
Remote Working	*	**	**
Weather	*	*	***
<i>Note: * represent overall strength of the factor at each stage. * Minor impact, ** Medium impact, *** Major impact</i>			

This proposed approach follows in line with the PASTA Model which offers a hierarchical framework integrating psychological, infrastructural, socio-economical, and policy factors. This new model proposes that the influence of the different factors on Commuting Transport Mode Selection follows a hierarchical system, in which each variable influence behaviour, and each other, in different ways at different points in time. this model separates the hierarchy into three stages of influence. At Stage 1, the variables limit the possible modes for commuting by removing as options those modes that are not available or are perceived as unacceptable by the person. At Stage 2, the advantages and disadvantages of each mode are assessed based on the different variables (e.g., the factor of cost discourages the use of the more expensive mode). Finally, at Stage 3, the different variables influence the choice of mode mainly at the point of decision, and it is often related to temporal and/or contextual changes (e.g., roadworks). However, these stages and the variables included in them are flexible, varying from person to person, although some variables appear to be somewhat consistent.

Using examples from this research to illustrate this proposed hierarchy, it is seen that participant 22 lives more than 50km away from college. Everyday, they drive 20km, walk a few minutes to the bus stop and take a private bus into city centre. They mention that they live too far away to consider active modes (Stage 1), and that they choose bus over train, even if there is a train stop closer to their home, because the bus is cheaper (Stage

2). They mention that they used to drive all the way when their children were younger as it gave them a sense of security (Stage 2) but eventually stopped because it was too stressing (Stage 2). However, they mention that occasionally, as the bus finishes earlier than the train, if they are staying in city centre late (e.g., meeting with friends), on those days they would commute by train rather than bus (Stage 3).

On the other hand, participant 8 also lives over 50km away from college, but drives all the way into campus. They live too far away to walk, and the area does not feel safe enough to cycle (Stage 1). They mention that while they are not opposed to parking their car earlier and cycling the last part in city centre, the lack of changing facilities discourages them (Stage 2). When thinking about public transport, they discussed that occasionally, if they are going to be driving through city centre during peak time, they may park earlier and take the Luas into town (Stage 3). They mention that they used to take the train, but pregnancy, a later start of work, and getting a permit to park on campus pushed them to change to car (Stage 2).

These examples, show how the variables influence different people in different ways. While one participant stopped driving because it was stressing, the other started driving partially due to health discomfort. While this example shows that for participant 22, the presence of young children impacted them at Stage 2 by encouraging the use of car due to convenience, for participant 7 it had an impact more at Stage 1, as the desire to instil sustainable values and independence made car a disagreeable option (see 6.8.1.3.4).

Circling back to the previously discussed theories, this new approach could help to explain some of the issues reported and the discrepancies noted among studies. First, values would have an influence mostly at Stage 1 in which the modes considered unsuitable or unacceptable are rejected as options for the commute. Following this idea, as values' influence is present in regards of removing options rather than choosing a specific mode, they become more relevant at the beginning of the decision-making process. However, for some people, values also have an impact at Stage 2 in which the possible options are weighed and a decision in regards of the habitual mode of transport to be used is made. At this stage, values compete with the other variables for their impact on the behaviour, and the strength of the different influencing variables changes from person to person. As such, for some people their own values regarding sustainability (biospheric values) or comfort (hedonic values) could prompt them towards a specific mode, while for other people the need to engage in household chores (e.g., grocery shopping) could surpass the desire to comply with their values.

Similarly to this, beliefs would be relevant at both Stage 2 and Stage 3, during which contextual and/or time-specific events or variables require a reassessment of the mode to

use for the occasion. As with values, at these stages the influence of beliefs would be diluted by the influence of other variables, both opposing and supporting the choice of mode. Additionally, the impact of beliefs could be rendered void by the influence of variables at Stage 1 (e.g., beliefs supporting the use of a specific mode cannot promote the use of it if the mode is not available).

Regarding personal norms, their influence is mostly noted at Stage 2 in that personal norms are linked with the sense of an individual responsibility to choose more sustainable modes. As previously noted, at this stage the impact of personal norms is mediated by the influence that other variables have on behaviour and the strength of each of them. In this sense, people who feel a strong moral obligation towards protecting the environment may choose a more sustainable mode even at the expense of other factors, such as their comfort, while people who do not feel as strongly may choose other more convenient modes even if they are less sustainable. At this stage, personal norms also act as a reinforcement if the chosen mode aligns with the norms.

Although neither of the theories used in this research includes social norms, the results of this study strongly highlight their influence and, therefore, they have been included in this proposed approach. Interestingly, this variable is noted to have impact at all three Stages. At Stage 1, social norms, which appear to be closely connected to values instilled by others, particularly in childhood, create the pathway of how to behave. In this sense, social norms, the idea of what everyone else does, acts as a guide of what modes are suitable or not for commuting. At Stage 3, for some people the expectations that others have of them may discourage them from choosing a mode that does not fit with that expectation.

However, the influence of social norms at Stage 2 does not just involve the social guidelines that define this variable but also involves a sense of morality related to personal norms. In this sense, some people choose their mode based on the desire to create guidelines for other people, usually children, in order to mark some modes as “the right choice”.

Finally, within regards to attitudes, while their influence is mostly at Stage 2, making some modes more attractive than others, for some people, they also have an impact at Stage 1. In these cases, very strong attitudes towards a specific mode, usually in a negative sense, can make this mode an unacceptable option for commuting.

Lastly, the present proposal includes the presence of contextual variables, particularly those related to access to modes. These variables influence all three stages, changing their stage of impact and strength from person to person. However, it is important to notice that

having access to modes, has a major impact at Stage 1, as the lack of access to a specific mode removes it as an option for commuting.

7.4 Applied Implications

The results from this research present a new perspective on how Commuting Transport Mode Selection is influenced. From a practical approach, this research offers a new pathway for interventions.

At Stage 1, governments, cities, and transport companies are the more suited to promote the use of sustainable modes by improving the infrastructure available. Particularly increasing and improving the access to public transport, both in regards of coverage and frequency, as the inability to commute by public transport has been noted to be a major issue. People often report being willing to use public transport instead of the car, if it was available and a suitable option (Göransson & Andersson, 2023; He et al., 2022). Some people even report avoiding car even when the economic and time cost is very high. This shows that just having the opportunity to not commute by car is a major contributor of choosing sustainable modes, meaning that improving the transport infrastructure alone could be a massive promotor of sustainable travel (Ben-Elia & Shiftan, 2013).

Somewhat related, poor, unsafe cycling infrastructure heavily reduces the likelihood of choosing the bicycle as a means of commuting (Zarabi et al., 2024). Similar to public transport, improving the infrastructure (e.g., creating more cycling lanes) and increasing the perception of safety could prompt people into choosing active modes as part of their commute.

At this stage, increasing the social visibility of certain modes, making them seem as the normal thing to do, could promote the use of these modes. This can be achieved from different approaches. First publicity campaigns can be created in order to improve the visibility of sustainable modes, highlighting them as what most people use. Second, while lower cost of public transport does not seem to have a great impact in promoting its use, a high cost does turn people away from it. As such, reducing the cost of public transport fares could prevent people from changing towards less sustainable modes, which would in turn increase the visibility of the use of the modes, as more people would be using them.

From a more local perspective, the modes used in childhood are noted to be preferred during adulthood. Following this idea, increasing the education towards sustainable

modes and promoting their use among children (e.g., creating cycling/walking routes to school) could have a long-term effect as those children would turn into adults who use sustainable modes, which increases the visibility of these modes for future generations.

Finally, as negative attitudes towards a mode of transport can push people away from their use, improving the perception of public transport (e.g., highlight the positive aspects) while highlighting the negative aspects of car, could prompt a change from driving towards public transport.

At Stages 2 and 3, facilitating the use of sustainable modes could nudge people towards them and away from driving. During these stages people are weighing the different options available, and therefore making the sustainable modes an easy, suitable alternative could prompt people towards their use. A possible way to approach this from a practical perspective would be implementing a ticketing system for public transport in which different types can be used within a time frame without extra cost (e.g., taking a bus and then a tram with the same ticket). This type of measure could prompt the people who do not have a direct public transport route to avail of it for the commute instead of driving. Reduced public transport fares has been noted to increase the use of sustainable modes (Akter & Alam, 2024)

At a more local level, workplaces could implement a flexible start/end time in order to allow their employees to avoid commuting during peak time, create changing facilities for those that use active modes, or offer travel bonuses for those who use public transport (Guzman & Hessel, 2022). Such measures could nudge people towards sustainable transport as some of the barriers or disincentives of their use, such as the need to change clothes after cycling or the cost of public transport, are eliminated.

7.5 Limitations and Future Research

This research has presented a more in-depth, thorough understanding of how commuting transport mode is chosen, based on which it has proposed a new approach as to how this behaviour is influenced by different variables.

However, is important to mention some limitations. First, in regards of the sample, this research is a case study of Trinity College and as such, the sample studied may not be representative of the general population. The results of this research, while promising, need to be interpreted with caution when extrapolating them to a wider population. In this

line, future research needs to be done, both with other university samples and with the general population.

Second, it needs to be discussed that while the scale used to measure beliefs has often been used for this purpose, it has also been used to measure attitudes. As attitudes were also being studied in this research through a different scale, the lack of findings in regards of the beliefs could be simply due to the scale measuring attitudes and thus losing relevance in favour of the other attitudes scale. Future research needs to be done measuring beliefs through different scales to test their significance and measuring both beliefs and attitudes in order to test whether they constitute different concepts related to commuting modal choice.

Next, as this study is mostly done with a Western population, mostly European, further research in other countries and cultures needs to be done to test whether the findings replicate across cultures.

Finally, as the proposed hierarchical approach is relatively new, more research is needed to test the robustness of the model. In a similar line, due to the recent changes on commuting, or rather the reduced need to commute due to the possibility of remote work, there needs to be more research done to test if the previously reported influencing variables still remain relevant under new commuter patterns.

Focusing specifically about the hierarchical system proposed in this research, future research should test the approach presented. A possible way to do this could be by separating Commuting Transport Mode Selection into the three stages and asking participants about each stage. This could be done via surveys or through interviews. As such, for each stage participants could be asked about the modes they have selected as possible option and those that have been discarded and the reason behind those decisions. For Stage 3, participants could be asked about what factors may prompt changes in their normal mode and why.

A different approach could be to present participants with scenarios and ask them to rank the modes in order of preference. Participants could be asked about the reasons for the ranking and about the influence, and strength of the influence, of the different variables. A different approach to this could be to request participants to voice out loud their decision-making process rather than having the researcher ask about it.

From a real-time approach, a study could be conducted on universities during the first couple weeks of the school year. In this case, non-local students who have moved in order to attend university could be identified and asked to keep a travel diary in which they detail the process through which they decide on the mode of transport they will use for their commute. From this perspective, as new students potentially unfamiliar with the city, it could be expected that the participants need to research the different modes available, test their suitability (e.g., schedule, travel time, parking options), and decide which mode is deemed as preferable. For an extended research, the same participants could be contacted at the end of the school year and inquired about their commute during the year (e.g., did they change their mode, why/when).

7.6 Conclusions

This research has offered an in-depth, thorough study of how commuter modal choice occurs. The research has not only employed new ways of approaching data collection, but it also has used a combined approach of quantitative and qualitative methodologies in order to gain a wider understanding of the topic. The results presented offer a new perspective on how commuting behaviour is influenced by the different variables and has proposed a new approach to understand and study this influence.

While the research has limitations, both in the procedure employed and in the population targeted, it has yielded promising results. Further research needs to be done to test the findings and the proposed approach.

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Appendices

Appendix 1. S1a Questionnaire

Study 1: Commuting travel mode selection

Start of Block: Default Question Block

Q1 Hello, my name is Leyre Alonso Valdivia, I am a postgraduate student in the School of Psychology, Trinity College, Dublin (TCD). We are inviting you to take part in this survey aimed at understanding the factors influencing transport choices among commuters. It takes about 20 minutes to answer. You will be asked questions about your commuting behaviour, possibilities and constraints, values and attitudes. We will follow up with similar surveys in a few months' time. By participating you will be helping us understand what influences peoples' choice of transport mode and how to encourage more sustainable travel. The researchers responsible for this study are: Leyre Alonso Valdivia, PhD student, and Prof. Samuel Cromie as supervisor. We are available to answer any questions you have. This is completely voluntary and can withdraw at any point before we de-identify your data and combine it with others'.

Please, click "Next" to start the questionnaire.

End of Block: Default Question Block

Start of Block: Consent Form

Q2 Before you start the questionnaire take a moment to read this consent form. You will not be able to continue with the questionnaire until you fulfil this section.

This study has received ethical approval by the Research Ethics Committee of School of Psychology. Your participation is entirely voluntary, you can withdraw at any point before we de-identify your data and combine it with others'. Our contact details are below.

The only personal information that will gather is your email address in order to contact you for the second survey. This will be kept securely and only shared with the core research team in TCD. If you wish to opt out of receiving any further communications from the study team please contact us at email presented at the end. Before analysis of the data we will remove email addresses so that it will be completely anonymous. We will only publish the results in de-identified or aggregated form. Under data protection legislation you can have access to any identifiable information the study team stores about you, if requested. For questions

regarding the research, the questionnaire or to withdrawn, contact
at: Leyre: alonsovl@tcd.ie or +353 1 896 2738. Sam: sdcmromie@tcd.ie or +353 1 896 2426

	Yes (1)
I confirm I have read and understood the Information Leaflet for this study. (1)	☐
I understand that participation in this study is entirely voluntary, and if I decide that I do not want to take part, I can stop taking part in this study at any time without giving a reason. (2)	☐
I understand that • I will not be paid for taking part in this study (3)	☐
I agree to being contacted by researchers by email as part of this research study. (4)	☐
I agree to take part in this research study having been fully informed of the risks, benefits and alternatives which are set out above (5)	☐
I know how to contact the research team if I need to. (6)	☐
I give my permission for my data to be processed in line with the aims of the research study, as outlined in the information leaflet. (7)	☐
I understand that there are no direct benefits to me from participating in this study (8)	☐
I understand that results from analysis of my personal information will not be given to me. (9)	☐
I understand that under data protection legislation I can have access to any identifiable information the study team stores about me, if requested. (10)	☐
I understand that the personal information collected in the study will be kept strictly confidential and will only be made available to qualified scientists who are part of the study team (11)	☐
I understand that I can withdraw my permission to take part in this study at any time up until the data are anonymised and combined without giving a reason. I understand that in this case, the researchers will delete all information related to me and I will be removed from the study. (12)	☐
I understand that personal (identifying) information about me, including the transfer of this personal information about me outside of the EU, will be protected in accordance with the General Data Protection Regulation. (13)	☐

End of Block: Consent Form

Start of Block: General Information

Q4 First, we would like for you to complete some general questions. These will **not** be used to identify you, but for general analysis.

Q3 Age

18 26 34 43 51 59 67 75 84 92 100

Age ()	
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Q5 Gender

☐ Male (1)

☐ Female (2)

☐ Other (3) _____

Q15 What is the highest education level you have completed?

▼ No education (1) ... Doctorate (9)



Q48 In which country do you currently reside?

▼ Afghanistan (1) ... Zimbabwe (1357)

End of Block: General Information

Start of Block: Pre COVID behaviour

Q11 Next, we will ask some questions regarding your daily life **before** the COVID-19 restrictions. Please, answer honestly, and answer all the questions. If a question does not have an exact answer, mark the option that is closest



Q25 Before COVID-19 restrictions, how frequently did you use the following travel modes for commuting:

End of Block: Pre COVID behaviour

Start of Block: Lockdown behaviour

Q21 Next, we will ask some questions regarding your daily life **during** the COVID-19 restrictions. Please, answer honestly, and answer all the questions. If a question does not have an exact answer, mark the option that is closest



Q31 How frequently did you use the following travel modes for commuting during COVID-19 restrictions:

End of Block: Lockdown behaviour

Start of Block: Post lockdown behaviour

Q39 Next, we will ask some questions regarding your daily life **after** the COVID-19 restrictions are removed. Please, answer honestly, and answer all the questions. If a question does not have an exact answer, mark the option that is closest.



Q42 How frequently do you plan to use the following travel modes in your daily commuting after COVID-19 restrictions are removed?

End of Block: Post lockdown behaviour

Start of Block: General commuting questions

Q43 We will ask you know some questions regarding your daily commute. Please, answer honestly, and answer all the questions. If a question does not have an exact answer, mark the option that is closer to you.

Q12 Click to write the question text

	Yes (1)	No (2)
Do you have a current driving license (1)	☐	☐
Do you own or have access to a petrol/diesel car (2)	☐	☐
Do you own or have access to an electric car (3)	☐	☐
Do you have access to a shared car service (e.g. goocar) (4)	☐	☐
Do you own a bicycle (5)	☐	☐
Do you have access to a shared bike service (6)	☐	☐
Do you own or have access to an electric bike/scooter (7)	☐	☐
Are there public transport stops near where you live (less than 15 minutes walk) (8)	☐	☐
Are there public transport stops near your work place/college (less than 15 minutes walk) (9)	☐	☐
Do you have free public transport suitable for your commuting (10)	☐	☐

Q24 Which of the following modes of public transport are near (less than 15 minutes walk from) your home and/or work place/college

	Only close to home (1)	Only close to work/college (2)	Close to both (3)	Far from both (4)	N/A (5)
Bus (1)	☐	☐	☐	☐	☐
Tram or Underground (2)	☐	☐	☐	☐	☐
Train (3)	☐	☐	☐	☐	☐
Other (4)	☐	☐	☐	☐	☐

Q16 What is the distance (roughly) between your home and your work place/college?

- ☐ 0-3km (1)
- ☐ 4-6km (2)
- ☐ 7-10km (3)
- ☐ 11-15km (4)
- ☐ 16-25km (5)
- ☐ 26-50km (6)
- ☐ + 51km (7)

Q23 Do you have any health issue or disability that limits your ability to commute using the following travel modes?

	Never (1)	Only for long distances (2)	For medium distances (3)	Sometimes (4)	Always (5)
Walking (1)	☐	☐	☐	☐	☐
Cycling (2)	☐	☐	☐	☐	☐
Public transport (3)	☐	☐	☐	☐	☐
Car (4)	☐	☐	☐	☐	☐
Electric Scooter/ skate (5)	☐	☐	☐	☐	☐

Q27 How important to you are the following considerations when choosing your travel mode for commuting?

	Not important at all (1)	Not important (2)	Neither unimportant or important (3)	Important (4)	Very important (5)
Environmental impact (1)	☐	☐	☐	☐	☐
Cost (2)	☐	☐	☐	☐	☐
Travel time (3)	☐	☐	☐	☐	☐
Speed (4)	☐	☐	☐	☐	☐
Start/finish time of work/classes (5)	☐	☐	☐	☐	☐
Overall travel distance (from home to work/college, including distance to your chosen mode of transport) (6)	☐	☐	☐	☐	☐
Travel distance to/from your chosen mode of transport (e.g. distance to the public transport stop, distance to the car/bike parking) (7)	☐	☐	☐	☐	☐
Availability of parking at/near work/college (8)	☐	☐	☐	☐	☐
Availability of parking at/near home (9)	☐	☐	☐	☐	☐
Availability of showers/changing rooms at work/college (10)	☐	☐	☐	☐	☐

Necessity to make stops in between home and work/college (e.g. dropping/ collecting children from school, grocery shopping) (11)	☐	☐	☐	☐	☐
Compensations (e.g. tax breaks for using certain travel mode) (12)	☐	☐	☐	☐	☐
Fitness, health and well-being (13)	☐	☐	☐	☐	☐
Mental health (14)	☐	☐	☐	☐	☐
COVID-19 safety (15)	☐	☐	☐	☐	☐
Distrations of working from home (16)	☐	☐	☐	☐	☐
Frequency/reliability of transport mode (17)	☐	☐	☐	☐	☐

Q18 Do you need to make stops in the way between your home and you work place/college (e.g. to drop or pick up children from school)?

- ☐ Always (1)
- ☐ Often (2)
- ☐ Sometimes (3)
- ☐ Rarely (4)
- ☐ Never (5)

Q19 If you answered "yes" to the previous question; do these stops influence in your choice of transport (e.g. choosing different transport modes when you take your children to the school than when you go straight to work/college)?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Sometimes (3)
-

Q48 Do you have the chance to work from home?

- ☐ Yes (1)
- ☐ No, I have to be onsite (2)
- ☐ Sometimes (3)

End of Block: General commuting questions

Start of Block: Knowledge



Q30 Please, arrange the following modes of transport from more environmentally friendly (less CO2 emissions) to less environmentally friendly (more CO2 emissions).

- _____ Working/studying from home (1)
- _____ Bicycle share (2)
- _____ Ride sharing petrol/diesel car (3)
- _____ Electric bicycle/scooter (4)
- _____ Driving alone petrol/diesel car (5)
- _____ Public transport (6)
- _____ Driving alone electric car (7)
- _____ Motorcycle (8)
- _____ Ride sharing electric car (9)
- _____ Walking (10)
- _____ Cycling (11)

End of Block: Knowledge

Start of Block: Values

Q7

Below you will find 16 values. Beside each value there is a short explanation concerning the meaning of the value. Could you please rate how important each value is for you AS A GUIDING PRINCIPLE IN YOUR LIFE?

The rating scale is as follows:

- 0 means the value is not important at all; it is not relevant as a guiding principle in your life
- 3 means the value is important
- 6 means the value is very important

- 1 means the value is opposed to the principles that guide you
- 7 means the value is of supreme importance as a guiding principle in your life; ordinarily there are no more than two such values

Your scores can vary from -1 up to 7. The higher the number (-1, 0, 1, 2, 3, 4, 5, 6, 7), the more important the value is as a guiding principle in YOUR life. Try to distinguish as much as possible between your ratings of the values by using different numbers.

PROTECTING THE ENVIRONMENT: preserving nature (11)	☐	☐	(	(	(	(	(	☐	☐
INFLUENTIAL: having an impact on people and events (12)	☐	☐	(	(	(	(	(	☐	☐
HELPFUL: working for the welfare of others (13)	☐	☐	(	(	(	(	(	☐	☐
PREVENTING POLLUTION: protecting natural resources (14)	☐	☐	(	(	(	(	(	☐	☐
SELF- INDULGENT: doing pleasant things (15)	☐	☐	(	(	(	(	(	☐	☐
AMBITIOUS: hard working, aspiring (16)	☐	☐	(	(	(	(	(	☐	☐

End of Block: Values

Start of Block: Beliefs

Q8 Listed below are statements about the relationship between humans and the environment. For each one, please indicate whether you STRONGLY AGREE, MILDY AGREE, are UNSURE, MILDY DISAGREE or STRONGLY DISAGREE with it.

	Strongly Agree (1)	Midly Agree (2)	Unsure (3)	Midly Disagree (4)	Strongly Disagree (5)
We are approaching the limit of the number people the earth can support (1)	☐	☐	☐	☐	☐
Humans have the right to modify the natural environment to suit their needs (2)	☐	☐	☐	☐	☐
When humans interfere with nature it often produces disastrous consequences (3)	☐	☐	☐	☐	☐
Human ingenuity will insure that we do NOT make the earth unlivable (4)	☐	☐	☐	☐	☐
Humans are severely abusing the environment (5)	☐	☐	☐	☐	☐
The earth has plenty of natural resources if we just learn how to develop them (6)	☐	☐	☐	☐	☐
Plants and animals have as much right as humans to exist (7)	☐	☐	☐	☐	☐

The balance of nature is strong enough to cope with the impacts of modern industrial nations (8)



Despite our special abilities humans are still subject to the laws of nature (9)



The so-called "ecological crisis" facing humankind has been greatly exaggerated (10)



The earth is like a spaceship with very limited room and resources (11)



Humans were meant to rule over the rest of nature (12)



The balance of nature is very delicate and easily upset (13)



Humans will eventually learn enough about how nature works to be able to control it (14)



If things
continue on
their present
course, we will
soon
experience a
major
ecological
catastrophe
(15)



End of Block: Beliefs

Start of Block: Norms

Q13 (PN) Please, read the following statements carefully and select the option that relates most closely to you. 1 is for statements you STRONGLY DISAGREE with, while 5 is for statement you STRONGLY AGREE with.

	1 Strongly Disagree (1)	2 (2)	3 (3)	4 (4)	5 Strongly Agree (5)
I (would) feel good about driving to work (1)	☐	☐	☐	☐	☐
I (would) feel guilty about driving to work (2)	☐	☐	☐	☐	☐
I feel (or would feel) a moral obligation to reduce my car use for commuting (3)	☐	☐	☐	☐	☐
I (would) feel good about walking/cycling to work (4)	☐	☐	☐	☐	☐
I (would) feel guilty about walking/cycling to work (5)	☐	☐	☐	☐	☐
I (would) feel good about using public transport to go to work (6)	☐	☐	☐	☐	☐
I (would) feel guilty about using public transport to go to work (7)	☐	☐	☐	☐	☐

Q28 (SN) Please, read the following statements carefully and select the option that relates most closely to you. 1 is for statements you STRONGLY DESAGREE with, while 5 is for statement you STRONGLY AGREE with.

	1 Strongly Disagree (1)	2 (2)	3 (3)	4 (4)	5 Strongly Agree (5)
I believe my family/ friends expect me to drive to work (1)	☐	☐	☐	☐	☐
I believe my coworkers expect me to drive to work (2)	☐	☐	☐	☐	☐
I believe my family/friends expect me to walk/cycle to work (3)	☐	☐	☐	☐	☐
I believe my coworkers expect me to walk/cycle to work (4)	☐	☐	☐	☐	☐
I believe my family/friends expect me to use public transport to go to work (5)	☐	☐	☐	☐	☐
I believe my coworkers expect me to use public transport to go to work (6)	☐	☐	☐	☐	☐

End of Block: Norms

Start of Block: Attitudes

Q9 For the following 32 behaviours, please indicate how often you perform them. Choose NA (not applicable) if you are unable to give an answer.

I kill insects
with a
chemical
insecticide
(30)

☐☐☐☐☐☐

In winter, I
turn down the
heat when I
leave my
apartment for
more than 4
hours (31)

☐☐☐☐☐☐

I drive to
where I want
to start my
hikes (32)

☐☐☐☐☐☐

Q10 For the following 18 behaviours, please indicate whether you perform them or not. Choose the answer that fits your situation closest. Again, choose NA (not applicable) if you are unable to give an answer.

	Yes (1)	No (2)	NA (3)
I reuse my shopping bags (1)	☐	☐	☐
In the winter, I keep the heat on so that do not have to wear a sweater (2)	☐	☐	☐
I use fabric softener with my laundry (3)	☐	☐	☐
I put dead batteries in the landfill bin (4)	☐	☐	☐
After meals, I dispose of leftovers in the toilet (5)	☐	☐	☐
I use a chemical air freshener in my bathroom (6)	☐	☐	☐
I am a member of an environmental organisation (7)	☐	☐	☐
In hotels, I have the towels changed daily (8)	☐	☐	☐
I own energy efficient household devices (9)	☐	☐	☐
After a picnic, I leave the place as clean as it was originally (10)	☐	☐	☐
I have purchased solar panels to produce energy (11)	☐	☐	☐
I have looked into the pros and cons having a private source of solar power (12)	☐	☐	☐
I requested an estimate on having solar power installed (13)	☐	☐	☐
I use renewable energy sources (14)	☐	☐	☐
I refrain from owning a car (15)	☐	☐	☐

I am a member of a carpool (16)	☐	☐	☐
I drive in such a way as to keep my fuel consumption as low as possible (17)	☐	☐	☐
I own a fuel-efficient automobile (more than 33 miles per gallon) (18)	☐	☐	☐

End of Block: Attitudes

Start of Block: Block 14

Q49 Finally, we have a couple more questions for you. These questions are completely **voluntary**, if you do not wish to answer, you can skip to the end of the survey.

Q6 Email. This will be used **only** in order to contact you for the follow-up questionnaire. It will **not** be used to identify you. This question allows us to contact you for the second questionnaire. Answering this question does **not** mean you must answer the second questionnaire, you will always be able to withdraw your participation.

Q32 Where do you work/study? Please click on the name of your company/college. This question is not compulsory but it will allow us to give feedback on possible improvements to your company.

▼ AECOM (4) ... Other (7)

Q45 If you selected "Other" in the previous question, please write the name of your college/company.

End of Block: Block 14

Start of Block: End

Q33 Thank you for answering the questionnaire. All your answers will be anonymous and will not be shared outside the research team. You can withdraw at any point before we de-identify your data and combine it with others'. Remember you will be contacted to answer a second survey in a few months time.

For questions regarding the research, the questionnaire or to withdrawn, contact at:
Leyre: alonsovl@tcd.ie or +353 1 896 2738.
Sam: sdcromie@tcd.ie or +353 1 896 2426

End of Block: End

Start of Block: Country

Appendix 2. S1b Questionnaire

Survey: follow up

Survey Flow

Block: Introduction (1 Question)
Standard: Constant form (1 Question)
Standard: Email (1 Question)
Standard: General Information (5 Questions)
Standard: General Commuting Questions (12 Questions)
Standard: Commuting (3 Questions)
Standard: Psychological variables (7 Questions)
Standard: Block 7 (1 Question)

Page Break

Start of Block: Introduction

Q1 Hello, my name is Leyre Alonso Valdivia, I am a postgraduate student in the School of Psychology, Trinity College, Dublin (TCD).

We are inviting you to take part in this survey aimed at understanding the factors influencing transport choices among commuters. It takes about **15** minutes to answer. This is the follow-up of a survey you participated in the summer of 2021. You will be asked questions about your commuting behaviour, alternative options and barriers to change.

By participating you will be helping us understand what influences peoples' choice of transport mode and how to encourage more sustainable travel.

The researchers responsible for this study are: Leyre Alonso Valdivia, PhD student, and Prof. Samuel Cromie as supervisor. We are available to answer any questions you have.

This is completely voluntary and you can withdraw at any point prior to submission of your data. After this point your data will be anonymised and it would not be possible to withdraw.

Please, click "Next" to start the questionnaire.

End of Block: Introduction

Start of Block: Constant form

Q2 Before you start the questionnaire take a moment to read this consent form. You will not be able to continue with the questionnaire until you complete this section, and it requires a "Yes" answer to the statements.

This study has received ethical approval by the Research Ethics Committee of School of Psychology. Your participation is entirely voluntary; you can withdraw at any point before we de-identify your data and combine it with others'. Our contact details are below.

The only personal information that will be gathered is your email address in order to match your answers with the ones on the first survey you completed. This will be kept securely and only shared with the core research team in TCD. If you wish to opt out of receiving any further communications from the study team please contact the email presented at the end. Before analysis of the data, we will remove email addresses so that it will be completely anonymous. We will only publish the results in de-identified or aggregated form. Under data protection legislation you can have access to any identifiable information the study team stores about you, if requested.

For questions regarding the research or the questionnaire, contact at:

Leyre: alonsovl@tcd.ie or +353 1 896 2738.

Sam: sd Cromie@tcd.ie or +353 1 896 2426

	Yes (1)
I confirm I have read and understood the Information Leaflet for this study (1)	☐
I understand that participation in this study is entirely voluntary, and if I decide that I do not want to take part, I can stop taking part in this study at any time without giving a reason. (2)	☐
I understand that • I will not be paid for taking part in this study (3)	☐
I agree to being contacted by researchers by email as part of this research study (4)	☐
I agree to take part in this research study having been fully informed of the risks, benefits and alternatives which are set out above (5)	☐
I know how to contact the research team if I need to. (6)	☐
I give my permission for my data to be processed in line with the aims of the research study, as outlined in the information leaflet (7)	☐
I understand that there are no direct benefits to me from participating in this study (8)	☐
I understand that results from analysis of my personal information will not be given to me (9)	☐
I understand that under data protection legislation I can have access to any identifiable information the study team stores about me, if requested (10)	☐
I understand that the personal information collected in the study will be kept strictly confidential and will only be made available to qualified scientists who are part of the study team (11)	☐
I understand that I can withdraw my permission to take part in this study at any time up until the data are anonymised and combined without giving a reason. I understand that in this case, the researchers will delete all information related to me and I will be removed from the study (12)	☐
I understand that personal (identifying) information about me, including the transfer of this personal information about me outside of the EU, will be protected in accordance with the General Data Protection Regulation (13)	☐

End of Block: Constant form

Start of Block: Email

Q22 Please, enter your email you were contacted at so we can match your responses with the ones on the previous survey. Be assured that the email will be removed from the survey on the first step of the data analysis so your responses cannot be tracked back to you.

End of Block: Email

Start of Block: General Information

Q3 Age

18 26 34 43 51 59 67 75 84 92 100

Age ()	
--------	--

Q4 Gender

- ☐ Male (1)
- ☐ Female (2)
- ☐ Non-binary / third gender (3)
- ☐ Prefer not to say (4)
-

Q5 What is the highest education level you have completed?

- ☐ No Education (1)
 - ☐ Primary Education (2)
 - ☐ Secondary Education (3)
 - ☐ Non-University Higher Certificate (4)
 - ☐ Bachelor's Degree (5)
 - ☐ Master's Degree (6)
 - ☐ Doctorate (7)
-

Q23 Are you currently a staff member or student at Trinity?

- ☐ TCD Staff (1)
 - ☐ TCD Student (2)
 - ☐ Employed elsewhere (not TCD) (3)
 - ☐ Student elsewhere (not TCD) (4)
 - ☐ Unemployed (5)
-

Q24 At the time of the first survey (summer 2021) were you a staff member or students at Trinity?

- ☐ TCD Staff (1)
- ☐ TCD Student (2)
- ☐ Other (3)

End of Block: General Information

Start of Block: General Commuting Questions

Q6 We will now ask you some questions regarding your daily commute. Please, answer honestly, and take the time to answer all the questions. If a question does not have the corresponding correct answer, mark the option that is closest to you.

Q7 Click to write the question text

	Yes (1)	No (2)
Do you have a current driving license (1)	☐	☐
Do you own or have access to a petrol/diesel car (2)	☐	☐
Click to write Statement 9 (3)	☐	☐
Click to write Statement 6 (4)	☐	☐
Do you own a bicycle (5)	☐	☐
Do you have access to a bicycle (Dublin Bikes or any other short-term bike acces) (6)	☐	☐
Do you own an electric scooter/skate (7)	☐	☐
Are you eligible for free public transport suitable for your commuting (8)	☐	☐

Q8 Which of the following modes of public transport are less than a 15 minute walk from your home and/or workplace/college

	Only close to home (1)	Only close to work/college (2)	Close to both (3)	Far from both (4)	N/A (5)
Bus (1)	☐	☐	☐	☐	☐
Tram or Underground (2)	☐	☐	☐	☐	☐
Train (3)	☐	☐	☐	☐	☐
Other (4)	☐	☐	☐	☐	☐

Q9 What is the distance roughly between where you live and your workplace/college?

- ☐ 0-3km (1)
- ☐ 4-6km (2)
- ☐ 7-10km (3)
- ☐ 11-15km (4)
- ☐ 16-25km (5)
- ☐ 26-50km (6)
- ☐ + 51km (7)
-

Q10 Do you have any health issues or disability that limits your ability to commute using the following travel modes?

	Never (1)	Only for long distances (2)	For medium distances (3)	Sometimes (4)	Always (5)
Walking (1)	☐	☐	☐	☐	☐
Cycling (2)	☐	☐	☐	☐	☐
Public transport (3)	☐	☐	☐	☐	☐
Car as a driver (4)	☐	☐	☐	☐	☐
Car as a passenger (5)	☐	☐	☐	☐	☐
Electric Scooter/ skate (6)	☐	☐	☐	☐	☐

Q11 How important to you are the following considerations when choosing your travel mode for commuting?

	Not very important (1)	Not important (2)	Neither unimportant or important (3)	Important (4)	Very important (5)
Environmental impact (1)	☐	☐	☐	☐	☐
Cost (2)	☐	☐	☐	☐	☐
Travel duration (3)	☐	☐	☐	☐	☐
Start/finish time of work/classes (4)	☐	☐	☐	☐	☐
Travel distance (5)	☐	☐	☐	☐	☐
Travel distance to and from the mode of transport (e.g. distance to/from the public transport stop, distance to the car/bike parking (6)	☐	☐	☐	☐	☐
Availability of parking at/near work/college (7)	☐	☐	☐	☐	☐
Availability of parking at/near home (8)	☐	☐	☐	☐	☐
Availability of showers/changing rooms at work/college (9)	☐	☐	☐	☐	☐
Necessity to make stops in between home and work (e.g. dropping/ picking children from school, grocery shopping) (10)	☐	☐	☐	☐	☐
Compensations (e.g., tax breaks for using certain travel mode) (11)	☐	☐	☐	☐	☐

Fitness, and physical health (12)	☐	☐	☐	☐	☐
Mental health (13)	☐	☐	☐	☐	☐
COVID-19 safety (14)	☐	☐	☐	☐	☐
Frequency/reliability of transport mode (15)	☐	☐	☐	☐	☐

Q12 How often do you need to make stops in the way between your home and you workplace/college (e.g., to drop or pick up children from school, do shopping)?

- ☐ Always (1)
- ☐ Often (2)
- ☐ Sometimes (3)
- ☐ Rarely (4)
- ☐ Never (5)
-

Q13 If you answered "yes" to the previous question; do these stops influence your choice of transport (e.g., choosing different transport modes when you take your children to the school than when you go straight to work/college)?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Sometimes (3)
-

Q15 Since you answered the first survey (summer 2021) have you changed the place you live/work/study in a way that alters your overall commute? (e.g. moved to an apartment further/closer, moved back to your childhood home in a different city/part of town, etc.)

- ☐ Yes, and it has affected my commute (1)
- ☐ Yes, but has not affected my commute (2)
- ☐ No (3)

Display This Question:

If Q15 = Yes, and it has affected my commute

Q27 If in the previous question you answered that a change in the place you live/work/study has affected your commute, what was the distance between the place you lived and your work/study place in summer 2021

- ☐ 0-3 km (1)
- ☐ 4-6 km (2)
- ☐ 7-10 km (3)
- ☐ 11-15 km (4)
- ☐ 16-25 km (5)
- ☐ 26-50 km (6)
- ☐ + 51km (7)

Display This Question:

If Q15 = Yes, and it has affected my commute

Q28 If in the previous question you answered that a change in the place you live/work/study has affected your commute, what was the duration of your commute in summer 2021

- ☐ 0 minutes (work/study from home) (1)
- ☐ 1-10 minutes (2)
- ☐ 11-20 minutes (3)
- ☐ 21-40 minutes (4)
- ☐ 41 minutes -1 hour (5)
- ☐ more than 1 hour (6)

Display This Question:

If Q15 = Yes, and it has affected my commute

Q29 If in the previous question you answered that a change in the place you live/work/study has affected your commute, what was/were your most common mode(s) of transport for your commute in summer 2021 (select all that apply)

- ☐ No commute (work/study from home) (1)
- ☐ Walking (2)
- ☐ Cycling - own bike (3)
- ☐ Cycling - bike share (4)
- ☐ Electric bike (5)
- ☐ Electric scooter or similar (6)
- ☐ Public transport (bus/luas/dart/train/other) (7)
- ☐ Moped (8)
- ☐ Driving alone - petrol/diesel car (9)
- ☐ Driving alone - electric car (10)
- ☐ Ride sharing - petrol/diesel/electric car (11)
- ☐ Taxi (12)
- ☐ Other (13)

End of Block: General Commuting Questions

Start of Block: Commuting

Q16 Next, you will be asked about your daily commuting. Please, carefully consider your commute and answer only in relation to the travel modes you use in your commute. Do not include the modes of transport you use in other situations. If you walk in order to make use of

other modes of transport (e.g., walking towards the bus stop) only include walk as a mode of transport if you need to walk for more than 15 minutes.

[illegible]

Q21 If you use more than one mode of transport for your most common commute, select how much time (in minutes) on average you spent on each mode. If working/styding from home is your most common option, select N/A.

End of Block: Commuting

Start of Block: Psychological variables

Q30 You are halfway through the questionnaire. You will now be asked about your values, beliefs, and attitudes. There are no right or wrong answers. Answer all the questions and answer the option that is most related to you.

Q7

Below you will find 16 values. Beside each value there is a short explanation concerning the meaning of the value. Could you please rate how important each value is for you AS A GUIDING PRINCIPLE IN YOUR LIFE?

The rating scale is as follows:

- 1 means the value is opposed to the principles that guide you
- 0 means the value is not important at all; it is not relevant as a guiding principle in your life
- 3 means the value is important
- 6 means the value is very important
- 7 means the value is of supreme importance as a guiding principle in your life; ordinarily there are no more than two such values

Your scores can vary from -1 up to 7. The higher the number (-1, 0, 1, 2, 3, 4, 5, 6, 7), the more important the value is as a guiding principle in YOUR life. Try to distinguish as much as possible between your ratings of the values by using different numbers.

PROTECTING THE ENVIRONMENT: preserving nature (11)	☐	☐	(	(	(	(	(	☐	☐
INFLUENTIAL: having an impact on people and events (12)	☐	☐	(	(	(	(	(	☐	☐
HELPFUL: working for the welfare of others (13)	☐	☐	(	(	(	(	(	☐	☐
PREVENTING POLLUTION: protecting natural resources (14)	☐	☐	(	(	(	(	(	☐	☐
SELF- INDULGENT: doing pleasant things (15)	☐	☐	(	(	(	(	(	☐	☐
AMBITIOUS: hard working, aspiring (16)	☐	☐	(	(	(	(	(	☐	☐

Beliefs Listed below are statements about the relationship between humans and the environment. For each one, please indicate whether you **STRONGLY AGREE**, **MILDY AGREE**, are **UNSURE**, **MILDY DISAGREE** or **STRONGLY DISAGREE** with it.

	Strongly Agree (1)	Agree (2)	Unsure (3)	Disagree (4)	Strongly Disagree (5)
We are approaching the limit of the number people the earth can support (1)	☐	☐	☐	☐	☐
Humans have the right to modify the natural environment to suit their needs (2)	☐	☐	☐	☐	☐
When humans interfere with nature it often produces disastrous consequences (3)	☐	☐	☐	☐	☐
Human ingenuity will ensure that we do NOT make the earth unliveable (4)	☐	☐	☐	☐	☐
Humans are severely abusing the environment (5)	☐	☐	☐	☐	☐
The earth has plenty of natural resources if we just learn how to develop them (6)	☐	☐	☐	☐	☐
Plants and animals have as much right as humans to exist (7)	☐	☐	☐	☐	☐

The balance of nature is strong enough to cope with the impacts of modern industrial nations (8)



Despite our special abilities humans are still subject to the laws of nature (9)



The so-called "ecological crisis" facing humankind has been greatly exaggerated (10)



The earth is like a spaceship with very limited room and resources (11)



Humans were meant to rule over the rest of nature (12)



The balance of nature is very delicate and easily upset (13)



Humans will eventually learn enough about how nature works to be able to control it (14)



If things
continue on
their present
course, we will
soon
experience a
major
ecological
catastrophe
(15)



Q13 (PN) Please, read the following statements carefully and select the option that relates most closely to you. 1 is for statements you STRONGLY DISAGREE with, while 5 is for statement you STRONGLY AGREE with.

	1 Strongly Disagree (1)	2 (2)	3 Neither agree or disagree (3)	4 (4)	5 Strongly Agree (5)
I (would) feel good about driving to work (1)	☐	☐	☐	☐	☐
I (would) feel guilty about driving to work (2)	☐	☐	☐	☐	☐
I feel (or would feel) a moral obligation to reduce my car use for commuting (3)	☐	☐	☐	☐	☐
I (would) feel good about walking/cycling to work (4)	☐	☐	☐	☐	☐
I (would) feel guilty about walking/cycling to work (5)	☐	☐	☐	☐	☐
I (would) feel good about using public transport to go to work (6)	☐	☐	☐	☐	☐
I (would) feel guilty about using public transport to go to work (7)	☐	☐	☐	☐	☐

Q28 (SN) Please, read the following statements carefully and select the option that relates most closely to you. 1 is for statements you STRONGLY DESAGREE with, while 5 is for statement you STRONGLY AGREE with.

	1 Strongly Disagree (1)	2 (2)	3 Neither agree or disagree (3)	4 (4)	5 Strongly Agree (5)
I believe my family/ friends expect me to drive to work (1)	☐	☐	☐	☐	☐
I believe my co-workers expect me to drive to work (2)	☐	☐	☐	☐	☐
I believe my family/friends expect me to walk/cycle to work (3)	☐	☐	☐	☐	☐
I believe my co-workers expect me to walk/cycle to work (4)	☐	☐	☐	☐	☐
I believe my family/friends expect me to use public transport to go to work (5)	☐	☐	☐	☐	☐
I believe my coworkers expect me to use public transport to go to work (6)	☐	☐	☐	☐	☐

Attitudes 1 For the following behaviours, please indicate how often you perform them.
Choose NA (not applicable) if you are unable to give an answer.

At red traffic
lights, I keep
the engine
running (10)



I kill insects
with a
chemical
insecticide
(11)



I drive to
where I want
to start my
hikes (12)



Attitudes 2 For the following behaviours, please indicate whether you perform them or not. Choose the answer that fits your situation closest. Again, choose NA (not applicable) if you are unable to give an answer.

	Yes (1)	No (2)	NA (3)
After meals, I dispose of leftovers in the toilet (1)	☐	☐	☐
I use a chemical air freshener in my bathroom (2)	☐	☐	☐
In hotels, I have the towels changed daily (3)	☐	☐	☐
After a picnic, I leave the place as clean as it was originally (4)	☐	☐	☐
I have purchased solar panels to produce energy (5)	☐	☐	☐
I have looked into the pros and cons of having a private source of solar power (6)	☐	☐	☐
I requested an estimate on having solar power installed (7)	☐	☐	☐
I use renewable energy sources (8)	☐	☐	☐
I refrain from owning a car (9)	☐	☐	☐

End of Block: Psychological variables

Start of Block: Block 7

Q37 You have reached the end of the survey. Finally, if you would be willing to take part in future follow-up studies, enter your email in the box:

End of Block: Block 7

Appendix 3. S1 Information Leaflet

Information Leaflet

You are being invited to take part in a research study that is being done by Trinity College Dublin by Leyre Alonso Valdivia under the supervision of Samuel Cromie.

Before you decide whether or not you wish to take part, please read this information sheet carefully. Contact Leyre or Sam for any questions.

The Study

We are doing this research to study what factors affect people's decision to choose different traveling options in their daily life. The research is aimed to study the reasoning behind the decision to choose one or another way of transport to and from work. Its focus is on people who go to work everyday and once there they do not do additional trips. If you travel for work or your job requires you to do trips during the day, please refrain from taking part in the study.

Participation is voluntary and you may withdraw at any point as long as your answer has not been processed. Take note that in order to analyse the data, the answers will be de-identified, therefore making impossible to know which answer belongs to each participant. To withdraw from the study, contact the researchers at: alonsovl@tcd.ie and sd Cromie@tcd.ie

If you decide to take part, you will be sent an email with a link to a questionnaire. You will be asked to answer the questions in the questionnaire. The questionnaire is online, and it can be fulfilled where and when it suits you best. It takes around 20 minutes to complete the questionnaire. You will be asked to answer the questionnaire two times with a few months period in between. We may also need you to answer more surveys aside those first ones, in such case you will be communicated of it in advance. If you agree to take part in the study, you will receive an email that give you access to the first questionnaire. For the second part you will receive a second email with a new questionnaire. You can withdraw from the study at any point. Answering the first questionnaire does not force you to answer the second one, but it is encouraged as it will allow for an accurate comparison of the answers.

Participation is voluntary and will not be paid, however participants will enter in a draw for one of three €50 Amazon vouchers.

Data Protection

The only identifiable personal data that will be gathered is the email, necessary to contact participants for the follow-up questionnaires. Other potential personal data needed will be asked in a general manner avoiding specifics.

All answers will be de-identified in order to be analysed. Only the research team, the researcher Leyre and the supervisor Sam, will have access to the data. The data will not leave Ireland and will only be kept for the necessary time, a period of 5 years to allow follow-up analyses and to complete the thesis. After that period, the data will be destroyed.

All data will be kept in a password protected file and de-identified in order to be analysed. Only the research team will have access to the file and the data. Any file containing personal information will be encrypted.

This study has received ethical approval by the Research Ethics Committee of School of Psychology.

Further Information

You will be contacted again a few months after receiving the first questionnaire asking you to answer the follow-up questionnaire. You may be contacted again after this second questionnaire. In such case you will be notified beforehand. Answering the first questionnaire does not force you to answer the following ones, although it is very encouraged.

If you have any question you can contact the researchers at:

Postgraduate student	Supervisor
Leyre Alonso Valdivia School of Psychology Trinity College Dublin 2 alonsovl@tcd.ie +353 1 896 2738 •TCD identity card attached later.	Prof. Sam Cromie Director of the Centre for Innovative Human Systems https://www.tcd.ie/cihs/ Assistant Professor of Organisational Psychology School of Psychology Trinity College Dublin 2 sdcmie@tcd.ie +353 1 896 2426

Appendix 4. S1 DPIA Approval



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

14/09/2020

Study Title: Commuting travel mode selection study 1

Supervisor: Samuel Cromie

Lead Researcher: Leyre Alonso Valdivia

To Whom it May Concern

I have reviewed the Data Protection Impact Assessment (“**DPIA**”) and supporting documentation and provided feedback as part of the review process. Following a review of the information provided by study stakeholders I am satisfied that the intended processing of personal data for the purposes of this study is in compliance with data protection legislation, specifically the EU General Data Protection Regulation (“**GDPR**”), Data Protection Acts 1988 - 2018 and Health Research Regulations 2018.

Please note that the completion of a DPIA is not a one-time exercise, but a continual process. If at any stage there are changes to the processing envisaged by this DPIA please contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'A. L. V.'.

John Eustace, Data Protection Officer.

Appendix 5. Multinomial Logistic Regression Full Table

TABLE 38

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES.
BEFORE DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	2.85(2.31)			
Age	-.03(0.02)	0.93	0.97	1.00
Gender	-.07(0.42)	0.41	0.93	2.11
Education Level	.07(0.16)	0.79	1.07	1.46
Driving license	1.45(0.69)*	1,09	4,25	16,56
Access petrol/diesel car	1.73(0.59)**			
		1,76	5,61	17,90
Access ride share	-1.24(0.68)			
		0.08	0.29	1.09
Access bike share	-.9(0.52)			
		0.15	0.41	1.13
Access to Bus	-.34(0.37)	0.34	0.71	1.48
Access to Tram	.12(0.28)	0.66	1.13	1.94
Access to Train	.33(0.25)	0.86	1.39	2.26
Health affecting walking	-.69(0.34)*			
		0,26	0,50	0,99
Health affecting cycling	-.14(0.24)			
		0.55	0.87	1.38
Cycle vs Car				
Intercept	.51(2.54)			
Age	.02(0.02)	0.98	1.02	1.05
Gender	-1.02(0.45)*	0,15	0,36	0,87
Education Level	.15(0.18)	0.82	1.16	1.64
Driving license	1.18(0.75)	0.75	3.27	14.26
Access petrol/diesel car	1.93(0.63)**			
		1,99	6,90	23,89
Access ride share	-.78(0.72)			
		0.11	0.46	1.89
Access bike share	-1.14(0.55)*			
		0,11	0,32	0,94
Access to Bus	.00(0.44)	0.43	1.00	2.35
Access to Tram	0.21(0.30)	0.68	1.24	2.24
Access to Train	.26(0.27)	0.76	1.30	2.22
Health affecting walking	-.75(0.53)			
		0.17	0.47	1.33

Health affecting cycling	-.43(0.33)			
		0.35	0.65	1.23
Walk/Cycle vs Car				
Intercept	-3.87(3.47)			
Age	-.06(0.03)*	0,88	0,94	1,00
Gender	-1.52(0.58)**	0,07	0,22	0,69
Education level	.48(0.25)	0.99	1.62	2.67
Driving license	1.39(0.88)	0.72	3.99	22.29
Access petrol/diesel car	1.77(0.76)*			
		1,32	5,88	26,24
Access ride share	-1.49(0.87)			
		0.04	0.23	1.24
Access bike share	.86(0.82)			
		0.48	2.37	11.78
Access to Bus	.44(0.71)	0.39	1.55	6.26
Access to Tram	.39(0.40)	0.68	1.48	3.23
Access to Train	.39(0.37)	0.72	1.47	3.03
Health affecting walking	-.93(0.73)			
		0.10	0.40	1.66
Health affecting cycling	.13(0.36)			
		0.57	1.14	2.30
PTA vs Car				
Intercept	-.15(2.34)			
Age	-.02(0.02)	0.95	0.99	1.02
Gender	-.05(0.42)	0.41	0.95	2.17
Education level	-.13(0.16)	0.65	0.88	1.20
Driving license	2.40(0.69)***	1,32	5,88	26,24
Access petrol/diesel car	1.03(0.60)			
		0.86	2.79	9.00
Access ride share	-.85(0.71)			
		0.11	0.43	1.70
Access bike share	-.43(0.53)			
		0.23	0.65	1.84
Access to Bus	-.20(0.37)	0.39	0.82	1.70
Access to Tram	.37(0.27)	0.84	1.45	2.47
Access to Train	.20(0.25)	0.75	1.23	1.99
Health affecting walking	.08(0.27)			
		0.64	1.08	1.81
Health affecting cycling	-.33(0.23)			
		0.46	0.72	1.14
PT vs Car				
Intercept	-.59(2.27)			
Age	-.01(0.02)	0.96	0.99	1.02
Gender	-.11(0.40)	0.41	0.89	1.96
Education level	-.06(0.15)	0.70	0.94	1.27
Driving license	1.96(0.68)**	1,89	7,11	26,83
Access petrol/diesel car	1.01(0.59)			
		0.87	2.73	8.61

Access ride share	-.44(0.69)	0.17	0.65	2.50
Access bike share	-.20(0.52)	0.30	0.82	2.25
Access to Bus	-.04(0.36)	0.47	0.96	1.95
Access to Tram	.12(0.26)	0.67	1.12	1.88
Access to Train	.29(0.23)	0.85	1.34	2.12
Health affecting walking	.08(0.25)	0.67	1.08	1.75
Health affecting cycling	-.32(0.21)	0.48	0.73	1.11
Note $R^2 = .31$ (Cox & Snell), $.32$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

Appendix 6. Multinomial Logistic Regression Full Table

TABLE 39

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR PSYCHOLOGICAL VARIABLES. BEFORE DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-4.22(3.27)			
Hedonic	.11(0.15)	0.84	1.11	1.49
Egoistic	-.14(0.15)	0.65	0.87	1.17
Altruistic	-.12(0.20)	0.60	0.89	1.30
Biospheric	-.03(0.18)	0.68	0.98	1.40
Beliefs	-.40(0.20)*	0.45	0.67	0.99
PN Car	-.19(0.20)	0.56	0.83	1.23
PN Walk/Cycle	.43(0.22)*	1.00	1.53	2.34
PN PT	.15(0.22)	0.75	1.16	1.79
SN Car	-.39(0.16)*	0.50	0.68	0.92
SN WalkCycle	.67(0.21)**	1.30	1.94	2.92
SN PT	-.09(0.17)	0.66	0.92	1.27
Factor 1: Energy Conservation	.34(0.34)	0.72	1.41	2.75
Factor 2: Mobility and Transportation	1.83(0.32)***	3.31	6.24	11.77
Factor 3: Waste avoidance	.08(0.52)	0.39	1.08	3.02
Factor 4: Consumerism	.27(0.24)	0.82	1.31	2.09
Factor 5: Recycling	-.07(0.28)	0.54	0.93	1.61
Factor 6: Vicarious, social behaviours towards conservation	-.54(0.34)	0.30	0.58	1.14
Cycle vs Car				
Intercept	-5.01(4)			
Hedonic	.02(0.18)	0.71	1.02	1.46
Egoistic	-.10(0.18)	0.64	0.91	1.30
Altruistic	-.63(0.23)**	0.34	0.53	0.84
Biospheric	.56(0.24)*	1.10	1.75	2.79
Beliefs	-.69(0.24)**	0.31	0.50	0.80
PN Car	-.80(0.27)**	0.27	0.45	0.76
PN Walk/Cycle	.38(0.28)	0.85	1.46	2.51
PN PT	-.18(0.26)	0.50	0.84	1.41
SN Car	-.66(0.23)**	0.33	0.52	0.82

SN WalkCycle	1.41(0.25)***	2.49	4.08	6.69
SN PT	-.68(0.24)**	0.32	0.51	0.81
Factor 1: Energy Conservation	.40(0.41)	0.67	1.49	3.34
Factor 2: Mobility and Transportation	1.71(0.35)***	2.75	5.50	11.00
Factor 3: Waste avoidance	-.06(0.63)	0.27	0.95	3.27
Factor 4: Consumerism	.61(0.31)*	1.01	1.83	3.33
Factor 5: Recycling	.22(0.38)	0.59	1.25	2.65
Factor 6: Vicarious, social behaviours towards conservation	-.10(0.41)	0.40	0.91	2.03
Walk/Cycle vs Car				
Intercept	-8(5.41)			
Hedonic	-.23(0.23)	0.51	0.79	1.24
Egoistic	.24(0.24)	0.79	1.27	2.03
Altruistic	-.38(0.32)	0.37	0.69	1.28
Biospheric	.27(0.32)	0.70	1.31	2.45
Beliefs	-.74(0.31)*	0.26	0.48	0.87
PN Car	-.63(0.36)	0.26	0.53	1.07
PN Walk/Cycle	.86(0.45)	0.99	2.37	5.70
PN PT	-.64(0.34)	0.27	0.53	1.03
SN Car	-.46(0.31)	0.35	0.63	1.15
SN WalkCycle	1.09(0.31)***	1.59	2.96	5.53
SN PT	-.38(0.31)	0.37	0.69	1.26
Factor 1: Energy Conservation	.58(0.53)	0.64	1.79	5.04
Factor 2: Mobility and Transportation	1.94(0.41)***	3.11	6.94	15.52
Factor 3: Waste avoidance	-.27(0.83)	0.15	0.76	3.92
Factor 4: Consumerism	1.44(0.48)**	1.65	4.22	10.80
Factor 5: Recycling	-.20(0.49)	0.31	0.82	2.15
Factor 6: Vicarious, social behaviours towards conservation	-.09(0.54)	0.32	0.91	2.62
PTA vs Car				

Intercept	-2.41(3.22)			
Hedonic	-.05(0.15)	0.71	0.95	1.27
Egoistic	-.08(0.15)	0.69	0.93	1.24
Altruistic	-.22(0.20)	0.55	0.80	1.18
Biospheric	.17(0.19)	0.82	1.18	1.70
Beliefs	-.32(0.20)	0.49	0.72	1.07
PN Car	.06(0.20)	0.71	1.07	1.59
PN Walk/Cycle	.32(0.21)	0.91	1.38	2.09
PN PT	.23(0.22)	0.82	1.26	1.95
SN Car	-.30(0.16)	0.54	0.74	1.00
SN WalkCycle	.22(0.20)	0.84	1.25	1.86
SN PT	.33(0.16)*	1.02	1.40	1.91
Factor 1: Energy Conservation	.39(0.34)	0.76	1.48	2.90
Factor 2: Mobility and Transportation	1.99(0.32)***	3.88	7.32	13.81
Factor 3: Waste avoidance	-.28(0.51)	0.28	0.76	2.06
Factor 4: Consumerism	-.06(0.24)	0.59	0.94	1.50
Factor 5: Recycling	-.24(0.27)	0.46	0.78	1.34
Factor 6: Vicarious, social behaviours towards conservation	-.57(0.34)	0.29	0.57	1.11
PT vs Car				
Intercept	-.81(3.06)	0.75	0.98	1.28
Hedonic	-.02(0.14)	0.71	0.94	1.23
Egoistic	-.07(0.14)	0.62	0.90	1.31
Altruistic	-.10(0.19)	0.75	0.98	1.28
Biospheric	.06(0.18)	0.75	1.06	1.49
Beliefs	-.20(0.19)	0.57	0.82	1.19
PN Car	-.20(0.19)	0.56	0.82	1.20
PN Walk/Cycle	.08(0.19)	0.74	1.08	1.57
PN PT	.24(0.21)	0.84	1.27	1.91
SN Car	-.47(0.15)**	0.47	0.63	0.84
SN WalkCycle	.01(0.20)	0.69	1.01	1.49
SN PT	.38(0.15)*	1.09	1.46	1.97
Factor 1: Energy Conservation	.39(0.33)	0.79	1.48	2.80
Factor 2: Mobility and Transportation	1.68(0.32)***	2.89	5.38	10.01
Factor 3: Waste avoidance	-.31(0.49)	0.28	0.73	1.93

Factor 4:	.03(0.22)			
Consumerism		0.67	1.03	1.60
Factor 5:	-.17(0.26)			
Recycling		0.51	0.85	1.41
Factor 6:	-.25(0.33)			
Vicarious, social behaviours towards conservation		0.41	0.78	1.48
<i>Note</i> $R^2 = .39$ (Cox & Snell), $.41$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

Appendix 7. Multinomial Logistic Regression Full Table

TABLE 40

SUMMARY OF MULTINOMIAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS.
BEFORE DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.84(2.74)			
Age	-.05(0.02)***	0.93	0.95	0.99
Gender	-.35(0.41)	0.31	0.70	1.58
Education level	-.07(0.15)	0.70	0.94	1.26
Driving license	.80(0.70)	0.56	2.23	8.84
Access petrol/diesel car	.82(0.63)	0.65	2.26	7.82
Access bike share	-.54(0.47)	0.23	0.58	1.46
Health affecting walking	-.31(0.21)	0.48	0.73	1.11
Altruistic	-.08(0.21)	0.62	0.93	1.39
Biospheric	.13(0.19)	0.79	1.14	1.66
Beliefs	-.39(0.20)	0.45	0.68	1.00
PN Car	-.37(0.21)	0.46	0.69	1.05
PN PT	.41(0.23)	0.96	1.50	2.33
SN Car	-.48(0.17)**	0.44	0.62	0.86
SN WalkCycle	.61(0.21)**	1.22	1.83	2.75
SN PT	-.08(0.17)	0.66	0.93	1.30
Factor 2: Mobility and Transportation	1.29(0.38)***	1.74	3.64	7.60
Factor 4: Consumerism	0.23(0.25)	0.77	1.25	2.03
Cycle vs Car				
Intercept	.54(3.15)			
Age	-.004(0.02)	0.96	1.00	1.03
Gender	-1.55(0.47)**	0.08	0.21	0.54
Education level	-.003(0.18)	0.70	1.00	1.43
Driving license	.64(0.78)	0.41	1.90	8.86
Access petrol/diesel car	.60(0.71)	0.45	1.83	7.42
Access bike share	-.63(0.54)	0.19	0.53	1.53
Health affecting walking	-1.02(0.46)*	0.15	0.36	0.88
Altruistic	-.64(0.25)**	0.33	0.53	0.85

Biospheric	.77(0.25)**	1.32	2.16	3.52
Beliefs	-.51(0.25)*	0.37	0.60	0.98
PN Car	-.92(0.28)***	0.23	0.40	0.68
PN PT	.01(0.26)	0.61	1.01	1.69
SN Car	-.71(0.24)**	0.31	0.49	0.79
SN WalkCycle	1.42(0.26)***	2.49	4.14	6.89
SN PT	-.75(0.25)**	0.29	0.47	0.78
Factor 2: Mobility and Transportation	1.45(0.42)***			
		1.88	4.27	9.70
Factor 4: Consumerism	.60(0.32)			
		0.97	1.82	3.41
Walk/Cycle vs Car				
Intercept	-4.53(4.08)			
Age	-.07(0.03)*	0.88	0.93	0.99
Gender	-1.79(0.60)**	0.05	0.17	0.54
Education level	.30(0.26)	0.81	1.34	2.22
Driving license	.81(0.90)	0.39	2.25	13.03
Access petrol/diesel car	.77(0.82)			
		0.44	2.16	10.66
Access bike share	1.06(0.79)			
		0.61	2.87	13.51
Health affecting walking	-.54(0.55)			
		0.20	0.59	1.71
Altruistic	-.30(0.34)	0.38	0.74	1.43
Biospheric	.48(0.33)	0.84	1.61	3.08
Beliefs	-.79(0.31)*	0.25	0.45	0.83
PN Car	-.84(0.36)*	0.21	0.43	0.88
PN PT	-.25(0.34)	0.40	0.78	1.51
SN Car	-.59(0.32)	0.30	0.55	1.03
SN WalkCycle	.98(0.33)**	1.41	2.66	5.04
SN PT	-.34(0.33)	0.38	0.71	1.35
Factor 2: Mobility and Transportation	1.38(0.48)**			
		1.56	3.97	10.10
Factor 4: Consumerism	1.29(0.48)**			
		1.41	3.63	9.34
PTA vs Car				
Intercept	-3.39(2.76)			
Age	-.03(0.02)*	0.94	0.97	1.00
Gender	-.48(0.41)	0.27	0.62	1.39
Education level	-.14(0.15)	0.64	0.87	1.17
Driving license	1.60(0.70)*	1.25	4.95	19.59
Access petrol/diesel car	.49(0.64)			
		0.47	1.63	5.72
Access bike share	.02(0.48)			
		0.40	1.02	2.61

Health affecting walking	.01(0.18)	0.71	1.01	1.44
Altruistic	-.20(0.21)	0.55	0.82	1.23
Biospheric	.26(0.19)	0.89	1.29	1.88
Beliefs	-.27(0.20)	0.51	0.77	1.14
PN Car	-.14(0.21)	0.58	0.87	1.31
PN PT	.46(0.23)*	1.02	1.59	2.47
SN Car	-.44(0.17)*	0.46	0.65	0.90
SN WalkCycle	.18(0.20)	0.81	1.20	1.79
SN PT	.29(0.17)	0.96	1.33	1.85
Factor 2: Mobility and Transportation	1.44(0.38)***	2.02	4.23	8.85
Factor 4: Consumerism	-.07(0.24)	0.58	0.94	1.51
PT vs Car				
Intercept	-1.58(2.65)			
Age	-.03(0.01)*	0.95	0.97	1.00
Gender	-.59(0.40)	0.26	0.55	1.20
Education level	-.10(0.14)	0.69	0.91	1.21
Driving license	1.32(0.69)*	0.97	3.76	14.56
Access petrol/diesel car	.45(0.63)	0.46	1.56	5.34
Access bike share	.09(0.46)	0.44	1.10	2.72
Health affecting walking	.06(0.16)	0.78	1.07	1.47
Altruistic	-.09(0.20)	0.62	0.92	1.35
Biospheric	.14(0.18)	0.81	1.16	1.65
Beliefs	-.18(0.19)	0.58	0.84	1.22
PN Car	-.34(0.20)	0.49	0.72	1.05
PN PT	.41(0.21)	0.99	1.51	2.29
SN Car	-.57(0.16)***	0.41	0.57	0.78
SN WalkCycle	-.03(0.20)	0.66	0.97	1.43
SN PT	.35(0.16)*	1.05	1.42	1.94
Factor 2: Mobility and Transportation	1.23(0.37)***	1.66	3.43	7.07
Factor 4: Consumerism	.01(0.23)	0.64	1.01	1.59
Note R ² = .45 (Cox & Snell), .47 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

Appendix 8. Multinomial Logistic Regression Full Table

TABLE 41

SUMMARY OF MULTINOMIAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES.
DURING DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.07(1.90)			
Age	-.07(0.02)**	0.90	0.94	0.98
Gender	-.01(0.58)	0.32	0.99	3.11
Education Level	.34(0.22)	0.92	1.41	2.15
Access to Bus	.95(0.43)*	1.11	2.57	5.95
Access to Tram	.58(0.40)	0.82	1.78	3.87
Access to Train	-.44(0.32)	0.35	0.65	1.20
Health affecting cycling	-.11(0.22)			
		0.59	0.90	1.37
Cycle vs Car				
Intercept	.37(4.55)			
Age	-.05(0.44)	0.88	0.95	1.03
Gender	-2.97(1.05)**	0.01	0.05	0.40
Education Level	.23(0.34)	0.65	1.26	2.44
Access to Bus	2.92(1.43)*	1.14	18.59	304.44
Access to Tram	.16(0.70)	0.30	1.17	4.65
Access to Train	-1.73(0.65)**	0.05	0.18	0.63
Health affecting cycling	-.30(0.45)			
		0.30	0.74	1.79
Walk/Cycle vs Car				
Intercept	2.19(3.42)			
Age	-.08(0.05)	0.84	0.93	1.02
Gender	-2.91(1.25)*	0.01	0.05	0.62
Education level	.73(0.45)	0.86	2.07	4.97
Access to Bus	-.05(0.91)	0.16	0.95	5.68
Access to Tram	.29(0.71)	0.33	1.33	5.31
Access to Train	-.25(0.61)	0.23	0.78	2.58
Health affecting cycling	-.05(0.44)			
		0.40	0.95	2.26
PTA vs Car				
Intercept	-.49(2.73)			
Age	-.05(0.03)	0.90	0.95	1.01
Gender	-.39(0.76)	0.15	0.68	3.02
Education level	.05(0.28)	0.61	1.05	1.81
Access to Bus	.62(0.59)	0.58	1.86	5.96
Access to Tram	1.02(0.50)*	1.05	2.77	7.32
Access to Train	-.10(0.42)	0.40	0.90	2.04

Health affecting cycling	-1.23(0.91)	0.05	0.29	1.75
PT vs Car				
Intercept	-.63(2.45)			
Age	-.06(0.03)	0.89	0.95	1.00
Gender	-.25(0.73)	0.19	0.78	3.25
Education level	.16(0.27)	0.69	1.17	1.98
Access to Bus	.65(0.56)	0.65	1.92	5.71
Access to Tram	.67(0.48)	0.76	1.94	5.00
Access to Train	-.31(0.40)	0.34	0.73	1.59
Health affecting cycling	-.20(0.31)	0.45	0.82	1.51
Note R ² = .24 (Cox & Snell), .27 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

Appendix 9. Multinomial Logistic Regression Full Table

TABLE 42

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR PSYCHOLOGICAL VARIABLES. DURING DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-8.16(5.61)			
Hedonic	-.23(0.21)	0.53	0.80	1.19
Egoistic	.20(0.52)	0.82	1.22	1.83
Altruistic	.52(0.24)*	1.06	1.68	2.66
Biospheric	-.09(0.23)	0.58	0.91	1.42
Beliefs	-.46(0.29)	0.36	0.63	1.11
PN Car	-.12(0.29)	0.50	0.89	1.57
PN Walk/Cycle	.48(0.28)	0.93	1.62	2.81
PN PT	.29(0.28)	0.78	1.34	2.30
SN WalkCycle	.40(0.27)	0.88	1.50	2.53
SN PT	.08(0.22)	0.71	1.09	1.67
Factor 1: Energy Conservation	.39(0.49)			
		0.57	1.47	3.81
Factor 2: Mobility and Transportation	2.63(0.65)***			
		3.90	13.81	48.93
Factor 3: Waste avoidance	-.26(0.86)			
		0.14	0.77	4.16
Factor 4: Consumerism	-.21(0.35)			
		0.41	0.81	1.59
Factor 5: Recycling	.08(0.35)			
		0.55	1.08	2.14
Factor 6: Vicarious, social behaviours towards conservation	-.20(0.49)			
		0.32	0.82	2.13
Cycle vs Car				
Intercept	-12.43(17)			
Hedonic	-.38(0.40)	0.31	0.68	1.50
Egoistic	.03(0.47)	0.41	1.03	2.61
Altruistic	-1.15(0.55)*	0.11	0.32	0.93
Biospheric	1.08(0.56)	0.99	2.93	8.72
Beliefs	-.57(0.57)	0.18	0.57	1.74
PN Car	-1.62(0.80)*	0.04	0.20	0.94
PN Walk/Cycle	2.60(2.38)	0.13	13.40	1425.06
PN PT	-.09(0.58)	0.29	0.91	2.84
SN WalkCycle	1.40(0.58)*	1.31	4.05	12.50
SN PT	-1.30(0.70)	0.07	0.27	1.07

Factor 1: Energy Conservation	.80(0.98)	0.33	2.23	15.09
Factor 2: Mobility and Transportation	1.65(0.83)*	1.03	5.19	26.19
Factor 3: Waste avoidance	-2.85(1.67)	0.00	0.06	1.53
Factor 4: Consumerism	1.53(1.01)	0.64	4.64	33.39
Factor 5: Recycling	.51(1.38)	0.11	1.67	24.79
Factor 6: Vicarious, social behaviours towards conservation	.71(1.07)	0.25	2.03	16.57
Walk/Cycle vs Car				
Intercept	-7.38(12.47)			
Hedonic	.18(0.46)	0.48	1.19	2.94
Egoistic	.16(0.42)	0.52	1.18	2.69
Altruistic	.68(0.64)	0.56	1.98	6.94
Biospheric	1.09(0.81)	0.61	2.96	14.41
Beliefs	-1.00(0.70)	0.09	0.37	1.44
PN Car	-1.09(0.78)	0.07	0.34	1.56
PN Walk/Cycle	-.44(0.67)	0.17	0.64	2.40
PN PT	.75(0.62)	0.63	2.11	7.12
SN WalkCycle	.69(0.53)	0.70	1.99	5.62
SN PT	-.34(0.51)	0.27	0.71	1.93
Factor 1: Energy Conservation	-.81(1.04)	0.06	0.45	3.44
Factor 2: Mobility and Transportation	2.75(0.84)**	3.04	15.69	80.90
Factor 3: Waste avoidance	-1.53(1.47)	0.01	0.22	3.84
Factor 4: Consumerism	-.05(0.76)	0.22	0.95	4.17
Factor 5: Recycling	.19(1.01)	0.17	1.21	8.75
Factor 6: Vicarious, social behaviours towards conservation	-.90(1.18)	0.04	0.41	4.11
PTA vs Car				
Intercept	-7.86(7.13)			
Hedonic	-.30(0.28)	0.43	0.74	1.29
Egoistic	.24(0.27)	0.75	1.28	2.18

Altruistic	.41(0.34)	0.78	1.51	2.95
Biospheric	.01(0.34)	0.53	1.01	1.95
Beliefs	-.30(0.38)	0.35	0.74	1.58
PN Car	-.26(0.40)	0.35	0.77	1.67
PN Walk/Cycle	.39(0.46)	0.59	1.47	3.65
PN PT	.71(0.40)	0.93	2.03	4.43
SN WalkCycle	.05(0.34)	0.54	1.05	2.04
SN PT	.47(0.27)	0.94	1.60	2.71
Factor 1: Energy Conservation	.04(0.65)	0.29	1.04	3.74
Factor 2: Mobility and Transportation	2.60(0.69)***	3.52	13.51	51.92
Factor 3: Waste avoidance	-.93(1.09)	0.05	0.40	3.35
Factor 4: Consumerism	.06(0.47)	0.42	1.07	2.69
Factor 5: Recycling	-.41(0.44)	0.28	0.67	1.58
Factor 6: Vicarious, social behaviours towards conservation	.09(0.65)	0.31	1.10	3.92
PT vs Car				
Intercept	-14.02(6.90)*			
Hedonic	.10(0.28)	0.64	1.10	1.89
Egoistic	-.01(0.26)	0.60	1.00	1.66
Altruistic	.44(0.31)	0.84	1.55	2.86
Biospheric	-.02(0.31)	0.54	0.98	1.79
Beliefs	-.42(0.36)	0.32	0.66	1.33
PN Car	-.07(0.37)	0.46	0.93	1.92
PN Walk/Cycle	.17(0.40)	0.54	1.19	2.58
PN PT	.53(0.37)	0.83	1.69	3.47
SN WalkCycle	.10(0.33)	0.59	1.11	2.10
SN PT	.25(0.26)	0.77	1.28	2.15
Factor 1: Energy Conservation	.08(0.61)	0.33	1.09	3.57
Factor 2: Mobility and Transportation	2.90(0.68)***	4.82	18.24	69.02
Factor 3: Waste avoidance	0.83(1.05)	0.29	2.30	18.11
Factor 4: Consumerism	-.56(0.44)	0.24	0.57	1.35
Factor 5: Recycling	.002(0.42)	0.44	1.00	2.28

Factor 6: .08(0.62)

Vicarious, social

behaviours

towards

conservation

0.32

1.08

3.63

Note $R^2 = .53$ (Cox & Snell), $.55$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$

Appendix 10. Multinomial Logistic Regression Full Table

TABLE 43

SUMMARY OF MULTINOMIAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS.
DURING DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-7.09(1.64)***			
Gender	-.03(0.49)	0.37	0.97	2.54
Altruistic	.46(0.17)**	1.14	1.59	2.23
SN Walk/Cycle	.22(0.23)	0.79	1.25	1.98
SN PT	.10(0.20)	0.75	1.10	1.63
Factor 2:	2.52(0.54)***			
Mobility and Transportation		4.27	12.40	35.97
Cycle vs Car				
Intercept	-4.23(2.27)			
Gender	-2.63(0.95)**	0.01	0.07	0.46
Altruistic	.10(0.27)	0.65	1.10	1.87
SN Walk/Cycle	1.22(0.47)**	1.35	3.40	8.52
SN PT	-.91(0.51)	0.15	0.40	1.08
Factor 2:	2.49(0.66)***			
Mobility and Transportation		3.31	12.11	44.39
Walk/Cycle vs Car				
Intercept	-12.16(4.56)**			
Gender	-3.25(1.24)**	0.00	0.04	0.44
Altruistic	1.52(0.69)*	1.20	4.59	17.55
SN WalkCycle	.13(0.52)	0.41	1.13	3.17
SN PT	-.09(0.49)	0.35	0.91	2.38
Factor 2:	2.74(0.70)***			
Mobility and Transportation		3.92	15.45	60.89
PTA vs Car				
Intercept	-8.20(2.11)**			
Gender	-.70(0.65)	0.14	0.50	1.78
Altruistic	.43(0.26)	0.93	1.53	2.52
SN WalkCycle	-.20(0.30)	0.45	0.82	1.48
SN PT	.54(0.25)*	1.06	1.72	2.80
Factor 2:	2.52(0.59)***			
Mobility and Transportation		3.94	12.42	39.19
PT vs Car				
Intercept	-8.82(2.04)***			
Gender	-.35(0.63)	0.20	0.70	2.41

Altruistic	.43(0.24)	0.96	1.54	2.47
SN WalkCycle	-.11(0.29)	0.50	0.89	1.59
SN PT	0.31(0.24)	0.85	1.37	2.20
Factor 2:	2.76(0.58)***			
Mobility and Transportation		5.12	15.86	49.08
<i>Note</i> R ² = .32 (Cox & Snell), .35 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

Appendix 11. Multinomial Logistic Regression Full Table

TABLE 44

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES.
AFTER DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	.49(2.05)			
Age	-.05(0.02)*	0.92	0.96	0.99
Gender	.36(0.43)	0.62	1.43	3.33
Education Level	.30(0.16)	0.99	1.35	1.84
Driving license	1.61(0.54)**	1.73	5.02	14.52
Access /own bike				
Access bike	-.37(0.41)	0.31	0.69	1.55
share	-1.20(0.53)*	0.11	0.30	0.85
Access to Bus	.04(0.36)	0.52	1.04	2.10
Access to Tram	.61(0.32)	0.98	1.83	3.41
Access to Train	.05(0.24)	0.66	1.05	1.68
Health affecting walking				
Health affecting	-.72(0.31)*	0.27	0.49	0.90
cycling	.28(0.28)	0.76	1.32	2.29
Cycle vs Car				
Intercept	5.52(2.65)*			
Age	-.04(0.02)	0.92	0.97	1.01
Gender	-.64(0.49)	0.20	0.53	1.39
Education Level	.46(0.19)*	1.08	1.58	2.31
Driving license	1.01(0.63)	0.80	2.74	9.34
Access /own bike				
Access bike	-4.59(1.09)***	0.001	0.01	0.09
share	-1.36(0.59)*	0.08	0.26	0.81
Access to Bus	.31(0.48)	0.54	1.37	3.48
Access to Tram	.68(0.36)	0.98	1.97	3.99
Access to Train	-.15(0.29)	0.49	0.86	1.53
Health affecting walking				
Health affecting	-.04(0.58)	0.31	0.96	3.00
cycling	-.46(0.58)	0.20	0.63	1.97
Walk/Cycle vs Car				
Intercept	2.00(2.96)			
Age	-.04(0.03)	0.91	0.96	1.01
Gender	-.12(0.56)	0.29	0.88	2.65
Education level	.48(0.23)*	1.04	1.62	2.52

Driving license	.61(0.71)	0.46	1.84	7.46
Access /own bike	-3.18(0.83)***	0.01	0.04	0.21
Access bike share	-.90(0.66)	0.11	0.41	1.49
Access to Bus	.59(0.61)	0.54	1.80	6.00
Access to Tram	.40(0.41)	0.67	1.49	3.31
Access to Train	-.25(0.33)	0.40	0.78	1.49
Health affecting walking	-.51(0.53)	0.21	0.60	1.70
Health affecting cycling	.47(0.46)	0.65	1.60	3.97
PTA vs Car				
Intercept	-1.58(2.25)			
Age	-.03(0.02)	0.93	0.97	1.01
Gender	.13(0.47)	0.46	1.14	2.86
Education level	.01(0.17)	0.72	1.01	1.42
Driving license	1.76(0.57)**	1.90	5.83	17.87
Access /own bike	.52(0.46)	0.68	1.69	4.17
Access bike share	-.53(0.58)	0.19	0.59	1.82
Access to Bus	-.13(0.38)	0.42	0.88	1.85
Access to Tram	.92(0.35)**	1.28	2.51	4.94
Access to Train	-.31(0.27)	0.44	0.73	1.24
Health affecting walking	-.44(0.31)	0.35	0.64	1.18
Health affecting cycling	.29(0.29)	0.75	1.33	2.34
PT vs Car				
Intercept	-.95(2.13)			
Age	-.01(0.02)	0.95	0.99	1.03
Gender	.09(0.44)	0.46	1.09	2.59
Education level	.03(0.16)	0.75	1.03	1.41
Driving license	1.77(0.55)**	1.98	5.84	17.26
Access /own bike	-.27(0.43)	0.33	0.77	1.76
Access bike share	-.38(0.56)	0.23	0.68	2.05
Access to Bus	.09(0.37)	0.53	1.10	2.26
Access to Tram	.62(0.33)	0.98	1.86	3.53
Access to Train	-.28(0.25)	0.47	0.76	1.24
Health affecting walking	-.21(0.29)	0.46	0.81	1.43
Health affecting cycling	.14(0.28)	0.67	1.15	1.99
Note R ² = .38 (Cox & Snell), .39 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

Appendix 12. Multinomial Logistic Regression Full Table

TABLE 45

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR PSYCHOLOGICAL VARIABLES. AFTER DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.95(4.02)			
Hedonic	-.11(0.16)	0.65	0.89	1.22
Egoistic	.11(0.17)	0.81	1.12	1.55
Altruistic	.24(0.21)	0.85	1.27	1.90
Biospheric	-.18(0.20)	0.56	0.83	1.23
Beliefs	-.29(0.23)	0.48	0.75	1.17
PN Car	-.21(0.25)	0.50	0.81	1.32
PN Walk/Cycle	.41(0.23)	0.96	1.50	2.35
PN PT	-.03(0.25)	0.59	0.97	1.59
SN Car	-.71(0.17)***	0.35	0.49	0.69
SN WalkCycle	.52(0.24)*	1.06	1.69	2.69
SN PT	.01(0.19)	0.70	1.01	1.47
Factor 1: Energy Conservation	-.15(0.37)			
		0.42	0.86	1.78
Factor 2: Mobility and Transportation	1.66(0.37)***			
		2.56	5.25	10.75
Factor 3: Waste avoidance	-.21(0.67)			
		0.22	0.81	2.98
Factor 4: Consumerism	.24(0.27)			
		0.76	1.27	2.14
Factor 5: Recycling	-.03(0.32)			
		0.53	0.97	1.80
Factor 6: Vicarious, social behaviours towards conservation	-.34(0.41)			
		0.32	0.71	1.59
Cycle vs Car				
Intercept	-.49(4.76)			
Hedonic	-.37(0.20)	0.47	0.69	1.01
Egoistic	.10(0.21)	0.74	1.10	1.64
Altruistic	-.22(0.25)	0.50	0.81	1.30
Biospheric	.23(0.26)	0.76	1.26	2.08
Beliefs	-.49(0.28)	0.36	0.62	1.06
PN Car	-.80(0.32)*	0.24	0.45	0.84
PN Walk/Cycle	.75(0.36)*	1.04	2.11	4.27
PN PT	-.36(0.31)	0.38	0.70	1.26
SN Car	-.83(0.25)***	0.27	0.44	0.71

SN WalkCycle	1.23(0.28)***	1.98	3.42	5.91
SN PT	-.55(0.25)*	0.35	0.58	0.95
Factor 1: Energy Conservation	-.18(0.45)	0.35	0.83	2.01
Factor 2: Mobility and Transportation	1.54(0.40)***	2.12	4.66	10.24
Factor 3: Waste avoidance	-.88(0.74)	0.10	0.42	1.78
Factor 4: Consumerism	.81(0.35)*	1.14	2.25	4.47
Factor 5: Recycling	.19(0.43)	0.52	1.21	2.80
Factor 6: Vicarious, social behaviours towards conservation	-.06(0.49)	0.36	0.94	2.43
Walk/Cycle vs Car				
Intercept	1.39(5.06)			
Hedonic	-.41(0.22)	0.43	0.67	1.03
Egoistic	.45(0.23)	1.00	1.57	2.47
Altruistic	-.05(0.29)	0.54	0.95	1.66
Biospheric	.50(0.32)	0.89	1.65	3.07
Beliefs	-.56(0.33)	0.30	0.57	1.08
PN Car	-.99(0.38)**	0.18	0.37	0.78
PN Walk/Cycle	.35(0.37)	0.69	1.42	2.92
PN PT	-.15(0.34)	0.44	0.86	1.68
SN Car	-.65(0.26)*	0.31	0.52	0.88
SN WalkCycle	.84(0.31)**	1.27	2.32	4.23
SN PT	-.23(0.28)	0.46	0.80	1.38
Factor 1: Energy Conservation	-.75(0.51)	0.17	0.47	1.29
Factor 2: Mobility and Transportation	1.86(0.42)***	2.81	6.44	14.78
Factor 3: Waste avoidance	-.89(0.77)	0.09	0.41	1.86
Factor 4: Consumerism	.59(0.39)	0.84	1.81	3.91
Factor 5: Recycling	-.01(0.50)	0.37	0.99	2.63
Factor 6: Vicarious, social behaviours towards conservation	-.79(0.56)	0.15	0.45	1.35
PTA vs Car				

Intercept	-.62(4.30)			
Hedonic	-.20(0.18)	0.58	0.82	1.16
Egoistic	.01(0.18)	0.70	1.01	1.44
Altruistic	.31(0.23)	0.87	1.36	2.14
Biospheric	.03(0.23)	0.67	1.03	1.61
Beliefs	-.40(0.25)	0.41	0.67	1.10
PN Car	.04(0.27)	0.61	1.04	1.76
PN Walk/Cycle	.43(0.27)	0.90	1.53	2.61
PN PT	.61(0.28)*	1.05	1.83	3.20
SN Car	-.60(0.19)**	0.38	0.55	0.80
SN WalkCycle	.02(0.25)	0.63	1.02	1.67
SN PT	.46(0.20)*	1.08	1.59	2.35
Factor 1: Energy Conservation	-.33(0.41)	0.32	0.72	1.61
Factor 2: Mobility and Transportation	1.82(0.38)***	2.94	6.17	12.96
Factor 3: Waste avoidance	-.61(0.71)	0.14	0.54	2.19
Factor 4: Consumerism	-.04(0.29)	0.55	0.96	1.70
Factor 5: Recycling	-.39(0.33)	0.36	0.68	1.30
Factor 6: Vicarious, social behaviours towards conservation	-.86(0.45)	0.18	0.43	1.03
PT vs Car				
Intercept	2.48(4.08)			
Hedonic	-.10(0.17)	0.65	0.91	1.26
Egoistic	.04(0.17)	0.74	1.04	1.45
Altruistic	.18(0.22)	0.79	1.20	1.83
Biospheric	-.12(0.21)	0.59	0.89	1.34
Beliefs	-.21(0.24)	0.51	0.81	1.30
PN Car	-.27(0.26)	0.46	0.76	1.27
PN Walk/Cycle	.03(0.24)	0.65	1.03	1.64
PN PT	.66(0.27)*	1.14	1.93	3.29
SN Car	-.64(0.18)***	0.37	0.53	0.75
SN WalkCycle	-.21(0.25)	0.50	0.81	1.31
SN PT	.42(0.19)*	1.05	1.52	2.22
Factor 1: Energy Conservation	-.26(0.39)	0.36	0.77	1.67
Factor 2: Mobility and Transportation	1.63(0.37)***	2.47	5.11	10.57
Factor 3: Waste avoidance	-.76(0.68)	0.12	0.47	1.77

Factor 4:	-.12(0.28)			
Consumerism		0.52	0.89	1.52
Factor 5:	-.17(0.32)			
Recycling		0.45	0.85	1.59
Factor 6:	-.49(0.43)			
Vicarious, social behaviours towards conservation		0.27	0.61	1.42
<i>Note</i> $R^2 = .43$ (Cox & Snell), $.45$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

Appendix 13. Multinomial Logistic Regression Full Table

TABLE 46

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS.
AFTER DATA.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	-.57(2.58)			
Education level	-.04(0.14)	0.73	0.96	1.26
Driving license	.78(0.57)	0.71	2.18	6.69
Access/own bike	-.17(0.38)	0.40	0.84	1.76
Access bike share	-.66(0.50)	0.19	0.52	1.38
Biospheric	-.07(0.14)	0.70	0.93	1.23
PN Car	-.24(0.22)	0.51	0.79	1.20
PN PT	.17(0.23)	0.76	1.19	1.87
SN Car	-.65(0.17)***	0.38	0.52	0.72
SN WalkCycle	.43(0.23)	0.98	1.53	2.39
SN PT	.02(0.19)	0.70	1.02	1.48
Factor 2: Mobility and Transportation	1.35(0.38)***			
		1.84	3.87	8.16
Factor 4: Consumerism	.18(0.25)	0.73	1.20	1.97
Cycle vs Car				
Intercept	4.12(3.27)			
Education level	.10(0.18)	0.77	1.10	1.57
Driving license	.37(0.67)	0.39	1.45	5.43
Access/own bike	-4.39(1.08)***	0.00	0.01	0.10
Access bike share	-1.00(0.59)	0.12	0.37	1.17
Biospheric	-.09(0.20)	0.62	0.92	1.35
PN Car	-.82(0.30)**	0.25	0.44	0.80
PN PT	-.12(0.29)	0.50	0.89	1.58
SN Car	-.75(0.25)**	0.29	0.47	0.78
SN WalkCycle	1.05(0.28)***	1.65	2.85	4.92
SN PT	-.52(0.26)*	0.36	0.60	1.00
Factor 2: Mobility and Transportation	1.32(0.43)**			
		1.61	3.73	8.65
Factor 4: Consumerism	.71(0.35)*	1.02	2.03	4.02
Walk/Cycle vs Car				
Intercept	-.94(3.59)			
Education level	.05(0.20)	0.70	1.05	1.56

Driving license	-.42(0.75)	0.15	0.66	2.83
Access/own bike	-2.87(0.82)***	0.01	0.06	0.28
Access bike share	-.32(0.66)	0.20	0.73	2.64
Biospheric	.33(0.26)	0.85	1.40	2.30
PN Car	-.85(0.35)*	0.22	0.43	0.85
PN PT	-.07(0.33)	0.49	0.93	1.77
SN Car	-.55(0.27)*	0.35	0.58	0.97
SN WalkCycle	.64(0.29)*	1.06	1.89	3.36
SN PT	-.15(0.27)	0.50	0.86	1.47
Factor 2: Mobility and Transportation	1.79(0.45)***	2.48	6.00	14.55
Factor 4: Consumerism	.39(0.40)	0.68	1.48	3.21
PTA vs Car				
Intercept	7.93(2.88)**			
Education level	-.24(0.15)	0.58	0.79	1.06
Driving license	1.28(0.60)*	1.10	3.58	11.70
Access/own bike	.76(0.42)	0.93	2.13	4.88
Access bike share	.14(0.55)	0.39	1.16	3.42
Biospheric	.14(0.16)	0.84	1.15	1.58
PN Car	-.07(0.24)	0.59	0.93	1.48
PN PT	.87(0.27)**	1.42	2.39	4.05
SN Car	-.60(0.19)**	0.38	0.55	0.79
SN WalkCycle	-.08(0.24)	0.58	0.92	1.48
SN PT	.44(0.20)*	1.06	1.55	2.28
Factor 2: Mobility and Transportation	1.38(0.40)***	1.83	3.97	8.61
Factor 4: Consumerism	-.08(0.28)	0.54	0.93	1.59
PT vs Car				
Intercept	-3.25(0.28)			
Education level	-.15(0.15)	0.65	0.86	1.15
Driving license	.86(0.59)	0.74	2.37	7.59
Access/own bike	-.06(0.39)	0.44	0.94	2.04
Access bike share	.33(0.54)	0.49	1.40	4.01
Biospheric	-.04(0.15)	0.72	0.96	1.30
PN Car	-.34(0.23)	0.46	0.71	1.11
PN PT	.78(0.25)**	1.33	2.19	3.59
SN Car	-.64(0.18)***	0.37	0.53	0.75
SN WalkCycle	-.34(0.24)	0.45	0.71	1.14
SN PT	.41(0.19)*	1.04	1.51	2.19

Factor 2:	1.33(0.39)***			
Mobility and Transportation		1.77	3.79	8.13
Factor 4:	-.22(0.26)			
Consumerism		0.48	0.81	1.35
<i>Note</i> $R^2 = .51$ (Cox & Snell), $.53$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

Appendix 14. Multinomial Logistic Regression Full Table

TABLE 47

SUMMARY OF MULTINOMIAL LOGISTIC REGRESSION FOR ENVIRONMENTAL AND CONTEXTUAL VARIABLES.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	9.88(3.15)**			
Age	-.05(0.03)	0.89	0.95	1.02
Distance	-1.61(0.33)***	0.10	0.20	0.39
Staff/Student				
Status	-.59(0.48)	0.22	0.55	1.41
Access to Bus	-.43(0.69)	0.17	0.65	2.51
Access to Tram	-.42(0.47)	0.26	0.65	1.64
Cycle vs Car.				
Intercept	2.87(4.50)			
Age	-.04(0.03)	0.91	0.96	1.02
Distance	-.74(0.24)**	0.30	0.48	0.76
Staff/Student				
Status	-1.31(0.59)*	0.09	0.27	0.85
Access to Bus	1.40(1.38)	0.27	4.05	60.84
Access to Tram	-.32(0.44)	0.31	0.73	1.73
PTA vs Car				
Intercept	3.91(2.71)			
Age	-.05(0.03)*	0.90	0.95	1.00
Distance	-.08(0.17)	0.66	0.92	1.29
Staff/Student				
Status	.02(0.42)	0.43	0.98	2.23
Access to Bus	.09(0.57)	0.36	1.09	3.31
Access to Tram	-.47(0.39)	0.29	0.63	1.35
PT vs Car				
Intercept	7.17(2.57)**			
Age	-.06(0.03)*	0.90	0.94	0.99
Distance	-.28(0.17)	0.54	0.75	1.04
Staff/Student				
Status	-.30(0.39)	0.34	0.74	1.60
Access to Bus	-.57(0.50)	0.21	0.57	1.50
Access to Tram	-.23(0.35)	0.40	0.80	1.59
Note R ² = .42 (Cox & Snell), .44 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

Appendix 15. Multinomial Logistic Regression Full Table

TABLE 48

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION FOR PSYCHOLOGICAL VARIABLES

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	3.33(6.83)			
Hedonic	.55(0.39)	0.80	1.74	3.75
Egoistic	-.31(0.39)	0.35	0.74	1.57
Altruistic	-.27(0.45)	0.32	0.77	1.84
Biospheric	-.19(0.46)	0.34	0.83	2.04
Beliefs	.31(0.57)	0.44	1.36	4.15
PN Car	-.65(0.70)	0.13	0.52	2.05
PN Walk/Cycle	-.44(0.62)	0.19	0.65	2.18
PN PT	1.49(0.70)*	1.14	4.44	17.33
SN Car	-2.06(0.58)***	0.04	0.13	0.39
SN WalkCycle	2.17(0.69)**	2.26	8.75	33.94
SN PT	-1.03(0.52)*	0.13	0.36	0.99
Factor 1: Energy Conservation	-.22(0.35)	0.41	0.81	1.60
Factor 2: Mobility and Transportation	1.53(0.59)**	1.47	4.62	14.54
Factor 3: Waste avoidance	.85(0.93)	0.38	2.34	14.35
Factor 4: Consumerism	.05(0.52)	0.38	1.05	2.91
Factor 6: Vicarious, social behaviours towards conservation	-2.38(0.83)**	0.02	0.09	0.48
Cycle vs Car				
Intercept	12.13(7.61)			
Hedonic	.02(0.40)	0.46	1.02	2.25
Egoistic	-.07(0.41)	0.42	0.93	2.07
Altruistic	-.71(0.52)	0.18	0.49	1.36
Biospheric	.85(0.56)	0.78	2.33	6.95
Beliefs	-.71(0.59)	0.16	0.49	1.57
PN Car	-1.88(0.78)*	0.03	0.15	0.70
PN Walk/Cycle	.20(0.66)	0.34	1.22	4.40
PN PT	1.11(0.69)	0.78	3.03	11.79
SN Car	-1.65(0.55)**	0.07	0.19	0.56
SN WalkCycle	2.59(0.71)***	3.31	13.30	53.53
SN PT	-.93(0.54)	0.14	0.40	1.13

Factor 1: Energy Conservation	-.34(0.39)	0.34	0.72	1.53
Factor 2: Mobility and Transportation	.92(0.59)	0.78	2.51	8.00
Factor 3: Waste avoidance	1.56(0.96)	0.03	0.21	1.36
Factor 4: Consumerism	-.02(0.57)	0.32	0.98	2.98
Factor 6: Vicarious, social behaviours towards conservation	-2.67(0.85)**	0.01	0.07	0.37
PTA vs Car				
Intercept	3.63(6.88)			
Hedonic	.36(0.37)	0.69	1.44	2.99
Egoistic	-.41(0.38)	0.32	0.67	1.40
Altruistic	-.26(0.45)	0.32	0.77	1.87
Biospheric	.44(0.45)	0.64	1.55	3.76
Beliefs	-.77(0.56)	0.16	0.47	1.39
PN Car	-.83(0.67)	0.12	0.44	1.64
PN Walk/Cycle	-.50(0.59)	0.19	0.61	1.94
PN PT	1.44(0.67)*	1.13	4.23	15.80
SN Car	-1.22(0.51)*	0.11	0.30	0.80
SN WalkCycle	.48(0.63)	0.47	1.61	5.57
SN PT	.21(0.43)	0.53	1.23	2.87
Factor 1: Energy Conservation	.10(0.34)	0.57	1.11	2.15
Factor 2: Mobility and Transportation	1.56(0.57)**	1.56	4.77	14.66
Factor 3: Waste avoidance	-.27(0.89)	0.13	0.76	4.39
Factor 4: Consumerism	.33(0.51)	0.51	1.40	3.79
Factor 6: Vicarious, social behaviours towards conservation	-2.41(0.79)**	0.02	0.09	0.42
PT vs Car				
Intercept	4.48(6.32)			
Hedonic	.12(0.34)	0.58	1.13	2.20
Egoistic	-.43(0.36)	0.32	0.65	1.31
Altruistic	-.10(0.39)	0.42	0.91	1.95
Biospheric	-.34(0.38)	0.34	0.71	1.50
Beliefs	-.42(0.52)	0.24	0.66	1.80

PN Car	-.49(0.61)	0.19	0.62	2.03
PN Walk/Cycle	-.41(0.58)	0.21	0.66	2.06
PN PT	2.02(0.65)**	2.11	7.57	27.20
SN Car	-1.62(0.50)**	0.07	0.20	0.53
SN WalkCycle	1.07(0.62)	0.87	2.90	9.66
SN PT	.12(0.42)	0.50	1.13	2.56
Factor 1: Energy Conservation	-.32(0.31)	0.40	0.73	1.34
Factor 2: Mobility and Transportation	1.25(0.57)*	1.15	3.49	10.60
Factor 3: Waste avoidance	.40(0.82)	0.30	1.49	7.43
Factor 4: Consumerism	-.01(0.49)	0.38	0.99	2.61
Factor 6: Vicarious, social behaviours towards conservation	-1.56(0.74)*	0.05	0.21	0.90
Note $R^2 = .67$ (Cox & Snell), $.70$ (Nagelkerke). * $p < .05$, ** $p < .01$, *** $p < .001$				

Appendix 16. Multinomial Logistic Regression Full Table

TABLE 49

SUMMARY OF MULTINOMINAL LOGISTIC REGRESSION IN THE SECOND STEP OF THE TWO-STEP ANALYSIS.

		95% CI for Odds Ratio		
	B(SE)	Lower	Odds Ratio	Upper
Walk vs Car				
Intercept	3.39(0.45)			
Distance	-1.34(0.38)***	0.13	0.26	0.55
Staff/Student Status	-.59(0.49)			
		0.21	0.56	1.46
Biospheric	.08(0.33)	0.56	1.08	2.08
PN PT	1.16(0.55)*	1.08	3.20	9.48
SN Car	-1.67(0.53)**	0.07	0.19	0.53
SN WalkCycle	1.36(0.60)*	1.19	3.88	12.63
SN PT	-.37(0.44)	0.29	0.69	1.65
Factor 2: Mobility and Transportation	1.37(0.54)*			
		1.36	3.93	11.36
Factor 3: Waste avoidance	.43(0.85)			
		0.29	1.54	8.13
Factor 6: Vicarious, social behaviours towards conservation	-1.98(0.81)*			
		0.03	0.14	0.67
Cycle vs Car				
Intercept	4.91(5.04)			
Distance	-.46(0.29)	0.36	0.63	1.12
Staff/Student Status	-1.01(0.52)			
		0.13	0.36	1.02
Biospheric	.50(0.38)	0.79	1.66	3.49
PN PT	1.52(0.57)**	1.51	4.57	13.82
SN Car	-1.52(0.51)**	0.08	0.22	0.59
SN WalkCycle	2.18(0.61)***	2.66	8.86	29.51
SN PT	-.62(0.47)	0.21	0.54	1.35
Factor 2: Mobility and Transportation	1.13(0.55)*			
		1.06	3.09	9.05
Factor 3: Waste avoidance	-1.56(0.80)			
		0.04	0.21	1.00
Factor 6: Vicarious, social behaviours	-2.91(0.80)***			
		0.01	0.06	0.26

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conservation

PTA vs Car				
Intercept	-2.61(4.57)			
Distance	.32(0.21)	0.91	1.38	2.10
Staff/Student	-.06(0.46)			
Status		0.39	0.95	2.31
Biospheric	.19(0.30)	0.67	1.21	2.19
PN PT	1.39(0.52)**	1.45	4.01	11.08
SN Car	-1.26(0.44)**	0.12	0.28	0.68
SN WalkCycle	.42(0.54)	0.52	1.52	4.39
SN PT	.34(0.37)	0.68	1.41	2.93
Factor 2: Mobility and Transportation	1.89(0.53)***			
		2.35	6.61	18.62
Factor 3: Waste avoidance	-.03(0.75)			
		0.22	0.97	4.22
Factor 6: Vicarious, social behaviours towards conservation	-2.39(0.74)**			
		0.02	0.09	0.39
PT vs Car				
Intercept	-.09(4.17)			
Distance	.11(0.20)	0.75	1.11	1.65
Staff/Student	-.31(0.43)			
Status		0.32	0.73	1.71
Biospheric	-.46(0.27)	0.38	0.63	1.07
PN PT	1.84(0.50)***	2.35	6.30	16.90
SN Car	-1.54(0.44)***	0.09	0.22	0.51
SN WalkCycle	.83(0.52)	0.83	2.30	6.38
SN PT	.25(0.35)	0.65	1.29	2.54
Factor 2: Mobility and Transportation	1.43(0.52)**			
		1.51	4.20	11.67
Factor 3: Waste avoidance	.38(0.69)			
		0.38	1.47	5.70
Factor 6: Vicarious, social behaviours towards conservation	-1.78(0.69)**			
		0.04	0.17	0.65
Note R ² = .67 (Cox & Snell), .70 (Nagelkerke). * p < .05, ** p < .01, *** p < .001				

Appendix 17. Interview Study Information Leaflet

Information Leaflet

You are being invited to take part in a research study that is being done by Trinity College Dublin by Leyre Alonso Valdivia under the supervision of Samuel Cromie and Michael Gormley.

Before you decide whether or not you wish to take part, please read this information sheet carefully. Contact Leyre or Sam for any questions.

The Study

We are doing this research to study what factors affect people's decision to choose different traveling options in their daily life. The research is aimed to study the reasoning behind the decision to choose one or another way of transport to and from work, and the decision-making process that occurs.

Participation in this study will entail an interview. During this interview you will be asked about your commute, the mode(s) of transport you use for it, and other factors involved in it. Questions will be general in nature, and you will not be asked to provide any information that may be used to identify you or your place of residence. For analysis purposes, and to avoid errors and misrepresentation, the interview will be recorded and transcribed. Any potentially identifying information you disclose during the interview will be erased from the recordings and the transcripts. A pseudonym will be used so neither the interview, recording, nor transcripts will be linked to you.

Participation is voluntary and you may withdraw at any point as long as your answer has not been processed. Take note that in order to analyse the data, the answers will be de-identified, therefore making impossible to know which answer belongs to each participant. To withdraw from the study, contact the researchers at: alonsovl@tcd.ie and sd Cromie@tcd.ie

If you decide to take part, you will be sent an email with an invitation for an online interview. It will be a one-off interview and will not require follow-ups. The duration of the interview will depend on your answers and the complexity of your commuting behaviour, but it will not last more than 1 hour. There will be no disadvantages to you for participating in this study. There will also not be any penalties or disadvantages for withdrawing from the study.

A 15€ Tango Gift card will be given as compensation for participating in this study. This is subject to Trinity's Gift Card Policy. As such in a calendar year, (1) no employee of Trinity can receive more than 2 gift cards and (2) the total amount any employee receives should not exceed €1000. You can read the full university gift card policy [here](#).

Data Protection

The only identifiable personal data that will be gathered is the email, necessary to contact participants for the online invitation for the interview. Other potential personal data needed will be asked in a general manner avoiding specifics.

All answers will be de-identified in order to be analysed. Only the research team, the researcher Leyre and the supervisors Sam and Michael, will have access to the data. The data will not leave Ireland and will only be kept for the necessary time, a period of 7 years, in line with college policy, to allow follow-up analyses and to complete the thesis. After that period, the data will be destroyed.

All data will be kept in a password protected file and de-identified in order to be analysed. Only the research team will have access to the file and the data. Any file containing personal information will be encrypted.

This study has received ethical approval by the Research Ethics Committee of School of Psychology.

If you have any questions, you can contact the researchers at:

Postgraduate student	Supervisor
Leyre Alonso Valdivia School of Psychology Trinity College Dublin 2 alonsovl@tcd.ie +353 1 896 2738 •TCD identity card attached later.	Prof. Sam Cromie Director of the Centre for Innovative Human Systems https://www.tcd.ie/cihs/ Assistant Professor of Organisational Psychology School of Psychology Trinity College Dublin 2 sdromie@tcd.ie +353 1 896 2426

Appendix 18. Interview Study Consent Form

Title of study: Commuting mode selection. Study 2

Consent Form

STUDY: Commuting mode selection. Study 2 Recruitment Site: Trinity College Dublin (Online)	
There are two sections in this form. Section 1 contains statements of understanding and asks you to tick each if you understand. Please ask any questions you may have when reading each of the statements. Section 2 asks for your informed consent. Please select either 'yes' or 'no' to indicate your choice. Thank you for participating. The end of this form is for the researchers to complete.	
1. General Understanding	Tick
I confirm that I have read and understood the Information Leaflet for the above study. The information has been fully explained to me and I have been able to ask questions, all of which have been answered to my satisfaction.	
I understand that taking part in this study is entirely voluntary. I understand that not taking part will have no negative impact on me.	
I understand that I can leave this study at any time up until the information has been anonymised without giving a reason. I understand that leaving this study will not affect me now or in the future.	
I understand that I will not receive any benefits from any products developed as a result of this research study.	
I understand that a one-off gift card payment will be given subjected to Trinity's Gift Card policy.	
I understand that my interview will be recorded and transcribed. I understand that all identifying information will be removed and anonymised.	
I understand that the recording and transcript of the interview will be looked at by the researcher (Leyre Alonso Valdivia) and the supervisors (Sam Cromie & Michael Gormley) when is relevant to the study. I agree	

that these individuals can access said information. I understand that all information will be kept private, confidential, and anonymised.	
I know how to contact the research team if I need to.	
By ticking each box above and choosing my options below <u>and</u> signing this document I agree to participate in 'X' study as described in the Participant Information Leaflet.	
2. Consent	
I agree to take part in this research study, having been fully informed of the risks and benefits in the participant information leaflet provided to me.	Yes No ☐ ☐
I agree to the use of information about me (personal data) including (e.g., recordings/transcripts of the interview) being used by the research team for this research study as described in the participant information leaflet.	Yes No ☐ ☐
I agree to the recording and transcription of the interview.	Yes No ☐ ☐
I agree for all the data (e.g., recordings, transcripts) to be kept for 7 years.	Yes No ☐ ☐
I agree for the researcher to access the data from the previous survey to gather my demographic information.	Yes No ☐ ☐

Participant Name (Block Capitals)

Participant Signature

Date

To be completed by the Principal Investigator or nominee.

I, the undersigned, have taken the time to fully explain to the above participant the nature and purpose of this study in a way that they could understand.

I have explained the risks and possible benefits involved. I have invited them to ask questions on any aspect of the study that concerned them.

I have given a copy of the participant information leaflet and consent form to the participant with contact details of the study team.

Researcher name _____

Title and qualifications _____

Signature _____

Date _____

Two copies to be created and retained: 1 for Participant, 1 for PI.

Appendix 19. Interview Script

Interview Script and Questions

Intro

Hi, thank you for participating in this interview.

How is the summer going so far? Any interesting plans for the holidays?

Before we start I just want to go through a couple things. Regarding the compensation for participation, are you staff at Trinity? Have you received any compensation for participating in studies this year? Are you aware that you can only receive up to 2 vouchers each year for participating in studies?

Regarding the interview, the interview is anonymous, you have been given a participant number and no personal information will be linked to the responses or data collected from the interview. However, for research purpose, the interview will be recorded and transcribed. You can withdraw your consent to participate at any point up until we finish the interview. After that, it will not be possible to identify and remove your answers. Are you happy to continue? Do you have any questions?

Main Mode of Transport

Can you describe your commute from start to finish? What mode of transport do you use?

What is the starting point of your commute? Does it start when you leave the house or earlier?

Why did you decide to use X for your commute?

You mention that you use different modes of transport, could you elaborate? (e.g., do you use them in the same trip or alternate them?)

When/how do you decide which mode do you use?

How many days a week do you commute using that/those modes?

Did you consider other modes? Why did you not choose them?

How would have changed your commute if you had chosen a different mode?

Changes in MoT

Do you ever use a different mode?

On the days you use a different mode? Why do you change?

How often do you use a different mode?

Have you always commuted in the same way?

Why did you change the way you commute?

Would you/are you considering changing your commute?

If yes: How? Why?

If no: Why would you not change?

Alternatives

You haven't mentioned cycling. Have you ever considered using a bike for your commute?

Would you ever consider commuting by bike?

How would your commute be different if you chose to cycle?

Do you have access to a bike (owning or bike share)?

What is keeping you from using the bike?

Is there anything Trinity could do to make you consider cycling?

Is there anything the city could do to make you consider cycling?

Why did you stop cycling?

To what extent does safety affect your decision (not) to cycle?

Is there any particular time/area/moment that you feel is more unsafe?

Have you ever felt unsafe while cycling?

Do you take any safety precautions?

You haven't mentioned using public transport. Have you ever considered using PT for your commute?

Would you ever consider commuting by PT?

What is keeping you from using PT for your commute?

How would your commute be different if you chose PT?

Why did you stop using PT?

Influences

Think about back when you first started your commute. How did you decide on the mode you use?

Is there anything in particular you took into account when you decided for your mode?

Is there any particular mode that you (would) never consider? Why?

How do you take the environment into consideration when choosing your commute?

Does your commute change during the year? If Yes: Why/How?

How do other people in your household influence your commute?

You did not mention price/speed/weather, do they not influence your commute?

Tell me about how you take into consideration your fitness/general health when choosing your commute?

Do you have any health concerns/issues preventing you to use any mode of transport?

If yes, which ones and how?

To what extent does safety influence your decision of transport mode?

Is there any particular mode that you think is unsafe? Why?

Have you personally felt unsafe with any mode of transport?

What steps do you take to feel safe?

If safety was not a concern, would you change your commute in any way?

Norms

To what extent do the opinions of others influence your commute decisions?

Who influences you?

Do you think different modes are perceived differently?

To what extent do society (e.g., country, neighbourhood) influence your transport mode choice?

Check list of factors to have approached at the end of the interview:

Current commute (modes involved, description of commute)

Decision-making process (MOT considerations, when is decided, how, why, external factors considered)

Bike Use

Road Safety

PT Use

Occasional changes in MOT

Environment

Contextual factors (weather, price, speed, season, schedule, household members/duties)

Health

General safety

Norms

Appendix 20. DPIA Approval Interview Study

20/05/2024

Title: Commuting mode Selection Study 2

REAMs No: 3307

Dear Leyre Alonso Valdivia,

Your application has been reviewed by the relevant Research Ethics Committee (REC) and we are pleased to inform you that the above project has been approved.

Please note that any documents submitted for GDPR purposes in association with your ethics application are approved by the REC from an ethical perspective only (GDPR compliance is assumed, as per your uploaded letter of approval from the DPO).

It is the responsibility of the researcher/research team to ensure that, if applicable, all aspects of the study are executed in compliance with the General Data Protection Regulation (GDPR), the Health Research Regulations, Data Protection Act 2018, particularly regarding the storage and destruction of data arising from the research, and adhere to any relevant Health & Safety regulations.

Please note the reporting requirements outlined, in particular the need for:

- An immediate report of any serious or unexpected adverse event should be sent immediately to your REC via email. The Procedures for Reporting Adverse Events are outlined in the application. The Adverse Event form are available [here](#).
- Any other unforeseen events should also be reported using this form and sent to your REC via email. The Adverse Event form are available [here](#).
- An end of project report is due one year from the end of project date. The form is available [here](#). This should be sent to your REC via email.
- If the data collection period is longer than 1 year, an annual report should be submitted. The form is available [here](#). This should be sent to your REC via email.

You, and your research team (where applicable), are responsible for conducting the research strictly in the manner outlined in your application and supporting documentation, and in compliance with it. Proposed changes or amendments to the approved study must be submitted to the REC for approval in advance of any changes or amendments being implemented. In the event that the changes or amendments are significant, the REC may

require a new submission. This ethical approval expires with the end dates of the project as stated in the application.

If you have any queries regarding this decision, please contact the Chair of your REC.

We wish you all the very best with your research project.

Kind Regards,

The REC

NB. If your study is to be conducted outside TCD, e.g. in a hospital site, please note that Trinity College REC approval does not of itself entitle you to conduct research in an external site. In this regard, the onus is upon you - the researcher, to ensure that all permissions have been obtained, and that any other requirements of the study site have been satisfied

NB. If your study involves a trial of medicinal products or medical devices, apps on humans you must provide a copy of your Clinical Trial Sponsorship from TCD - indicating that you have the appropriate trial insurance and sponsor oversight".

Appendix 21. Ethics Approval. Interview Study

20/05/2024

Title: Commuting mode Selection Study 2

REAMs No: 3307

Dear Leyre Alonso Valdivia,

Your application has been reviewed by the relevant Research Ethics Committee (REC) and we are pleased to inform you that the above project has been approved.

Please note that any documents submitted for GDPR purposes in association with your ethics application are approved by the REC from an ethical perspective only (GDPR compliance is assumed, as per your uploaded letter of approval from the DPO).

It is the responsibility of the researcher/research team to ensure that, if applicable, all aspects of the study are executed in compliance with the General Data Protection Regulation (GDPR), the Health Research Regulations, Data Protection Act 2018, particularly regarding the storage and destruction of data arising from the research, and adhere to any relevant Health & Safety regulations.

Please note the reporting requirements outlined, in particular the need for:

- An immediate report of any serious or unexpected adverse event should be sent immediately to your REC via email. The Procedures for Reporting Adverse Events are outlined in the application. The Adverse Event form are available [here](#).
- Any other unforeseen events should also be reported using this form and sent to your REC via email. The Adverse Event form are available [here](#).
- An end of project report is due one year from the end of project date. The form is available [here](#). This should be sent to your REC via email.
- If the data collection period is longer than 1 year, an annual report should be submitted. The form is available [here](#). This should be sent to your REC via email.

You, and your research team (where applicable), are responsible for conducting the research strictly in the manner outlined in your application and supporting documentation, and in compliance with it. Proposed changes or amendments to the approved study must be submitted to the REC for approval in advance of any changes or amendments being implemented. In the event that the changes or amendments are significant, the REC may

require a new submission. This ethical approval expires with the end dates of the project as stated in the application.

If you have any queries regarding this decision, please contact the Chair of your REC.

We wish you all the very best with your research project.

Kind Regards,

The REC

NB. If your study is to be conducted outside TCD, e.g. in a hospital site, please note that Trinity College REC approval does not of itself entitle you to conduct research in an external site. In this regard, the onus is upon you - the researcher, to ensure that all permissions have been obtained, and that any other requirements of the study site have been satisfied

NB. If your study involves a trial of medicinal products or medical devices, apps on humans you must provide a copy of your Clinical Trial Sponsorship from TCD - indicating that you have the appropriate trial insurance and sponsor oversight".

Appendix 22. Ethics Approval. S1

FW: Ethics approval new amendments  Inbox x



psyeth <psych.ethics@tcd.ie>
to me ▾

27 Jan 2021, 11:47



On the basis of the information that has been provided concerning the requested amendments to a previously approved Ethics Application by Leyre A. Valdivia, I am pleased to recommend that this be approved.

Best regards,
Richard

Appendix 23. Interview Transcripts – Participant 2

Commuting Study Interview-20240611_120452-Meeting Recording

June 11, 2024, 11:04AM

24m 17s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:07

That would so, umm, so as this study, this whole study is about the commuting behavior.

So on the survey you first, uh answer, it was more general information about factors influencing the commuting, and these interviews are to go more in depth of those behaviors of those factors.

So to a start, can you describe me a bit your commute from start to finish?

Like where?

Where does this start?

What sort of mode of transport do you use?

Participant #2 0:48

As in, do you want to know the location from from home to work?

Leyre Alonso Valdivia 0:53

No. Like what?

What bull do you consider the starting point of your commute?

What would be the the ending point of do?

You don't need to give me allocation, but when you're you're think about commute.

Where does it start?

Participant #2 1:10

Ohh OK alright.

When?

But when I cycle I suppose it starts from the gate, you know, from the gate of my house when I cycle.

Leyre Alonso Valdivia 1:16

Yeah.

Participant #2 1:17

But when I take the bus so I.

So if when I cycle it's from the gate of the house up until, I suppose the gate of Trinity, because I go in the front gate and then get off the bike and walk.

Leyre Alonso Valdivia 1:27

Right.

Participant #2 1:28

So I would consider my commute the cycle route rather than the whole thing.

And because I don't think I count walking as commuting.

Leyre Alonso Valdivia 1:36

Yeah.

Participant #2 1:38

But then when I take the bus, I would count the commute as starting from the bus stop and then finishing at the bus stop before I get off the bus to walk all the way down into Trinity.

Leyre Alonso Valdivia 1:49

OK, so so you consider that your cycling is starting when you get on the mode of transport.

Participant #2 1:50

Yes, exactly.

Leyre Alonso Valdivia 1:59

OK.

OK, OK.

So you mentioned cycle.

Umm, bus uh, how did you decide of those modes?

Participant #2 2:07

Yeah.

Leyre Alonso Valdivia 2:12

How do you decide when you use one and when you use the other?

Participant #2 2:17

Yeah, usually the weather, if it's really if it's really wet, you know when it's really windy and usually when it's darker outside, I get on the bus because it's safer and and then for the bus again, yeah, the weather or if I was, if I had to get in really early to do, you know, to do whatever and I get the bus.

Leyre Alonso Valdivia 2:29

Yeah.

Participant #2 2:38

If I was bringing equipment with me or you know, anything heavy because I only have a small bag on the bike, so things like that.

Leyre Alonso Valdivia 2:41

Yeah.

OK, OK.

And so you use them depending of the weather of.

Yeah, you change one or the other, OK.

Participant #2 2:55

Yes.

Leyre Alonso Valdivia 2:58

And So what, of those, would you say one is your main mode and the other is when you cannot use that one or will you use them like quite interchangeably?

Participant #2 3:14

I suppose I would probably take the bus more and I I used to be great at cycling like I would cycle. You know, I would cycle at the weekends, so if I was going into town, I used to cycle but. But since about COVID and you know for now I just, I've become a bit afraid. I suppose I've become a bit stressed, stressed by cycling, so at the weekends I get the bus into town, you know?

Leyre Alonso Valdivia 3:42

OK, so you.

Participant #2 3:42

So yeah, I used the bus more than I should, than I cycle; which is terrible. It really is.

Leyre Alonso Valdivia 3:50

Did you at any point consider any other mode of transport?

Participant #2 3:59

No, because it's just not available to me.

Leyre Alonso Valdivia 4:02

OK.

Participant #2 4:03

You know, the Luas is a 20 minute walk from my house, so no.

Leyre Alonso Valdivia 4:09

OK. And so I assume you've always used either bus or cycling, right? You've never used any other, OK?

Participant #2 4:18

Yeah.

Leyre Alonso Valdivia 4:20

And did you think you used to be better on cycling?

Would he?

Was it more like cycling was your main and slowly you got into bus or was it just you use them one or the other, depending of the circumstances

Participant #2 4:38

No, I I used to cycle loads and I used to go like on at the weekends.

If I wasn't going into town on the bike, I would go to the Phoenix Park for example.

You know, like I'd go just cycle like, not not as a commute, but like to cycle.

Leyre Alonso Valdivia 4:47

Hmm.

Participant #2 4:52

And now I've just stopped, just since I think, around since COVID I've just, I can't. I can't deal with the stress anymore.

Leyre Alonso Valdivia 5:01

OK, and you, you're talking about the stress, I guess, safety plays, a role when it comes to cycling, right?

Participant #2 5:23

Yeah, huge role, yeah.

Leyre Alonso Valdivia 5:25

Is there any particular like time or moment or area you feel is more unsafe?

Participant #2 5:34

There are points on my journey that I would worry about, and there's there's like pinch points. I suppose that I know I'm gonna have a problem on the bike at. And that there's like 3 or 4 on my way in, and there's about three or four on my way out.

Leyre Alonso Valdivia 5:54

And when you do cycle, do you take any sort of particularly particular safety measures like are you particularly safe concern at some points or anything that you do that otherwise wouldn't, like safety related.

Participant #2 6:16

Ahmm. I was thinking I was thinking about getting off the bike at a certain point because, uhmm, because it I've had a few instances with motorists where they're like, you know, get off the road and it's a point where I'm on the, I'm practically on the Luas tracks. But so are they, and there's no space, so I just thought maybe I should make it easier for, like, easier for myself and just get off the bike and walk that section. And then get back on. But that's also fills me with anger because I'm the one that has to consider the safety element where there's some asshole in a car, you know, is just tired. Like it's fed up because they've been delayed by two seconds.

So but really like I do the rest of it. I wear the stupid HVs and I use the helmet and I signal, and I have the lights and all this crack and it means nothing. You know, it's like it just. I don't think it does anything.

Leyre Alonso Valdivia 7:13

Yeah. OK. And so I want you to go back and, I know I'm going a bit in circles. So when you try to think about when you started using bus more than second than the bike, you said it's around COVID. Can you remember what kind of made you stops using the bike? You said you something failing. It was maybe more unsafe, or you could just used to using the bus. Or is there anything you can think that ohh this was it?

Participant #2 8:02

I don't think there.
Well, no, I don't think there was one particular incident.
There was a few and I think eventually I thought this isn't worth it and you know, I experienced a punishment pass on my way into work during COVID and like, I'm still angry.
I'm still angry about that.
And so there was just like I just felt that you were in COVID people got worse in terms of their driving.
It wasn't because the roads were empty, so it should have been safer.
And yet I felt just people were so reckless and.
Yeah.
And I think maybe I do wonder if because I was on social media more so I could see everybody else's.
I follow an awful lot of people who are like, you know, Dublin bikes, cycling, Twitter, you know that group.
And like I think the more I was hearing these upsetting stories as well, the more stressed to get.
So I don't think the social media helped because I think it fed into the stress I already had.
Umm, because it was definitely like 2021.
I really considered giving it up, giving up cycling and then I thought, no, how dare they. You know, I just wanna.
I just want to get around.

Leyre Alonso Valdivia 9:11

So it's a bit of being fed up of just a lot of things, but it's still saying this is my right to do it.

Participant #2 9:19

Yeah.

Yeah, but I just, I don't want to get injured as well.

Like I don't want to be so stubborn that I'll end up injured.

So you know, because I don't know how I'd get around then.

Leyre Alonso Valdivia 9:26

Yeah.

So is there anything do you think Trinity or or Dublin City, the the Council, the neighborhood could do to get you back on the bike again?

Participant #2 9:49

Oh, I think there's loads, but I just don't think they'll do it.

So I think that there's a lot of streets that should either be one way or should be pedestrianized, not pedestrianized, but it should be, there should be no traffic because there's no space.

There's no space for all of us. That's the problem.

And, cycle lanes need to be joined up. They can't just randomly start and then randomly stop, and then I don't know, you know, like I just get thrown out into traffic and.

Oh God, there's so much.

There needs to be enforcement when you park in a cycle lane you know, I think that like I, this makes me so mad.

And when you park in a cycle lane, I really think they should take your car and crush it like this is how mad it makes me.

There is a new bollards near where I live on along the cycling, so technically it's supposed to be a cycle, it's supposed to be a protected cycle lane and I've come across people who have parked between the ballards. Like they don't care, so there's no enforcement.

And I think Trinity, the Trinity campus is a bit unfriendly towards cyclists, particularly the East End of campus.

I think that's just a is a disaster for cyclists and pedestrians because of the construction that's going on.

Leyre Alonso Valdivia 10:56

Hmm.

Participant #2 11:02

So I think there could have been more done to protect cyclists and pedestrians from all

of the heavy machinery that was coming in and out.
 But there's there's loads and it's just about holding motorists accountable.
 And no one's ever going to do that because you know, the car is king so.

Leyre Alonso Valdivia 11:22

Yeah. OK so I am I want you to think back when you first started your commute, how did you decide on..., Back then you were doing more cycling. Now you're doing more, you are using more the bus.

How did you decide on those models transport?

Is there anything in particular that pushed you towards one or the other or like anything that push towards cycling instead of something else or bus instead of something else?

Participant #2 12:09

Ohh when I start like when I started, it's like cycling in 2017. Uhm, oh well, OK, so where I lived in 2017 at that stage and, there's only the bus, you know?

So I kind of had. I had no choice in terms of public transport, cause there really was only the bus there.

I mean, I was, you know, ages away, miles away from a Luas, or even a dart.

So I there's no choice really.

A lot of the time in Dublin it's only the bus.

Leyre Alonso Valdivia 12:38

OK.

Participant #2 12:38

Umm, but then I thought I thought I had, because I had a bike and I thought, when I had moved out I just thought, oh, maybe I should use it and it'll, and it's faster. It's faster than the bus because the bus took 40 or 50 minutes, whereas I cycled in, I think it was like 25 minutes or 30 minutes, you know?

So it was way faster.

Leyre Alonso Valdivia 13:02

Yeah. OK. So it is. It was more of lack of of options and also that it was just faster.

Participant #2 13:11

Yeah.

Leyre Alonso Valdivia 13:12

OK, OK.

And is there any if you have the options to use whatever mode of transport you could. If you have Luas, if you have everything, is there anything you will never choose?

Participant #2 13:33

Well, I well, I don't.

I don't drive so that are already eliminates the car.

You know, I actually think it might be if I did drive, I wouldn't drive in Dublin. I wouldn't drive from, you know, here into work.

So I think I if I drove, I'd eliminate that, but everything else is just it's whatever is closest to me and at the moment it's only the bus.

Leyre Alonso Valdivia 13:54

OK. And when you, when you decide of what mode of transport you use, how does the environment and environmental impact play a role into that decision, if it any.

Participant #2 14:10

Ohh, I'd be honest, it doesn't.

I just think whatever is the closest you know, and because the bus is at the top of the street, then that's what I would take.

I and they're mostly electric now, although I'll be honest, it's not really, it's not really a factor.

It's whatever gets me into work or whatever gets me into town rather than the environmental factor.

Leyre Alonso Valdivia 14:28

Hmm.

Participant #2 14:29

I mean, it's public transport, so it's already environmentally friendly, right? Think.

Leyre Alonso Valdivia 14:32

Yeah. OK. And is there any time during the year that you might change your commute?

Do you always bus? It's always a combination of cycling and bus.

If some some people, when they when the weather gets better, they might decide to walk into work even if it's a lot longer.

Participant #2 15:01

Ohh, em, no, I live too far away.

Do you know it's an, It's like an hour and 10-20 minutes to walk.
 So no, it's it wouldn't be an option if I lived closer to the city, I'd walk away more.
 But no, it's. I'm too far away. I'm, you know, I just, I don't think I have the energy to walk into work during the summer.
 So nice idea, but no.

Leyre Alonso Valdivia 15:25

OK. Does anyone in your household, or maybe your close family that influenced your commute decision like you have you mentioned having to maybe carry things into word that you will rather take the bus.
 It's something similar like not like someone, someone's presence in your life that you go like ohh, I'm gonna take this mode of transport because I I have this person that I need to take care of or I need to take kids into school.
 Something like that.

Participant #2 16:00

Ohh no, just about me. It's just that there isn't because I don't have any. I don't have any caring responsibilities, so I don't have that pressure, I suppose.

Leyre Alonso Valdivia 16:12

OK, OK. And OK, You mentioned earlier safety, comfort, speed, whether does price influence your, why did you choose?

Participant #2 16:28

Not, not really.
 No, I just want to get there safely and you know, like as fast as possible.
 So those two things in particular, unless the price went up, do you know, unless it became like ridiculously expensive, that would.
 But at the moment, no price really isn't a factor.

Leyre Alonso Valdivia 16:47

OK. And do you think about your fitness or your general health when you choose your commute and you said it's too far to work, yes you do.

Participant #2 17:02

Yes. Yeah. Yes, because OK, since COVID and you know I'm no longer in the office five days a week. So I mean, far less twice a week maybe.
 And so and I would prefer to recycle more.
 But, I I really can't get away from the stress and anxiety that I feel about cycling, so I I'd

love to cycle more and because my fitness is just like gone down the toilet over COVID and but I just can't.

Like I can't, you know, get past the stress of motorist yelling at me to get off the road or get on the other side of the road or whatever ridiculous things that they say, you know, so.

Leyre Alonso Valdivia 17:49

OK. And going back to safety again, more right in there, so much Rd safety safety in as a general, is there any safety concern like some people feel fully transport is on save some people feel like maybe get the car is in safe is as if you put aside road safety.

Participant #2 18:16

So. Ohh no, I've never felt unsafe on the bus for example, and those rare times that I've taken the Luas not really.

And the only time that suppose I was, I felt unsafe on the bike.

Besides, you know, idiot motorists is. I used to study over during COVID.

I studied and in the evening so I would get on the bike at half nine at night and do you know in winter you're cycling on your own. Half 9 at night, you know, as a woman, I think then I felt unsafe, but for different reasons.

Just because you don't know what kind of lunatics are out there so.

Leyre Alonso Valdivia 18:55

Yeah. OK. And is there anything in particular you did to feel safer or do you just went with it? Try to go home faster.

Participant #2 19:09

Yes, it's cycle as fast as possible.

You know, like just got home.

Leyre Alonso Valdivia 19:12

OK, OK, we are almost done.

So yeah, so uh.

How does the opinions of other people influence your commute?

If if any, do you think other people's opinions affect no.

Participant #2 19:35

No, they don't.

The only thing I feel is disappointed, you know, because people say ohh cycling is really unsafe.

Well, it's not.

You're the person in the car.

You're the one that's unsafe for me. So they don't because, usually I think they're opinions are wrong.

Leyre Alonso Valdivia 19:49

OK,. And do you think any, is any mode that is perceived more negatively or more positively, by people in general. By the society, your coworkers?

Participant #2 20:08

I think that, ohh. I think cycling is perceived really negatively.

You know, I I think I don't know what people think cyclists are doing and I think that driving is perceived as like one of the best things in the world.

I just don't think people understand the damage that drivers do.

More people need to get on their bikes, you know, more people need to experience it.

Umm. And then you can then you're allowed to comment on cycling in Dublin.

Leyre Alonso Valdivia 20:40

And finally, is there do you think or to what extent do you think society that maybe your neighborhood Dublin city, the country, my influence, your commuting.

So for example, in America, in the states, people use the car mode, but in in Europe, especially in northern Europe like Netherlands, Germany, they cycle a lot.

How do you think that influence your commute here in Dublin, your neighborhood in Ireland?

Participant #2 21:07

Yeah.

Ohh as in like the infrastructure cause I think the difference between the US and the Netherlands is there's the infrastructure, there's no infrastructure for cycling and walking in the US.

Like in Dublin, there's the infrastructure makes no sense, you know it's, it's just illogical. None of it is linked up.

If I actually wanted to, if I were really obsessed and wanted to ensure that I was safe every moment, you know, from here into work, I wouldn't be able to.

But it that trip would take me 50 minutes, you know?

Like it would, it would send me off on this like massive.

I don't know loop and I would like it it just nothing is joined up. But I'm really stubborn so I just I take the route that's like 25 minutes.

But there is absolutely no safety.

There's no protections.

There's a there's 500 meters of a protected cycle lane cause it's near a school and that's it.

And then the rest is like good luck to you, you know.

Leyre Alonso Valdivia 22:19

Umm, so so you you.

Participant #2 22:21

I don't know.

I don't know if that answers your question.

Leyre Alonso Valdivia 22:23

Yes. So you think is Dublin is not particularly uh bike friendly?

Participant #2 22:33

No, it really isn't.

I don't know who's designing the the bike lanes, but I don't think they know what they're doing.

None of it is joined up and paint on a road is not a bike lane.

It's just, you know, wishful thinking.

Leyre Alonso Valdivia 22:46

Hmm. OK so. Those are all my questions.

Is there anything you like to maybe expand a bit more?

Something like you think "I want to, I have more things to say about this", something that I didn't ask that you think is important.

Participant #2 23:13

No 'cause I think I mentioned it.

It's safety is my #1 concern.

You know, I just wanna get from A to B safely and I want to get. I wanna get there without being shouted at by some idiots.

So, and it's usually a man. I think there's a huge gender difference in motorists in women driving and men driving because I've experienced so much aggression from male drivers, and I don't get the same. I get some impatience from female drivers, but I don't get the same aggression.

But I think like in just the education of motorists as to what it's like to cycle, to try and get around would be absolutely great.

I really think that, umm, people need to as part of your driving license you should

spend a month cycling just before you get your driving license so that you understand what it's like on the other side.
But I I don't think anyone got introduced that.

Leyre Alonso Valdivia 24:06

OK.

No, that was that was grand.

I'm gonna stop the recording now.



Leyre Alonso Valdivia stopped transcription

Appendix 24. Interview Transcripts – Participant 3

Commuting Study Interview-20240621_111318-Meeting Recording

June 21, 2024, 10:13AM

24m 57s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:08

So. To start, could you describe me your commute from a start to finish? Like where? Where does it start? Where does it finish? How do you commute?

Participant #3 0:21

OK.

I live in Howth in North County Dublin, so I walk approximately 10 minutes, maybe a little bit less, to the railway station and then it takes approximately 30 minutes to get to either Tara Street or to Pearse St and my office is in Trinity Central besides Tbsi. So it takes me maybe 100 seconds to get from the platform to my desk.

Leyre Alonso Valdivia 0:52

OK.

Participant #3 0:53

That's exaggeration. Maybe a couple of minutes from the platform to my desk. And the same on the way back. It's exactly the same in return.

Leyre Alonso Valdivia 1:00

OK. What would you consider the starting point? Will it be when you leave the house, when you get to the training station? Will it be while you are planning your commute for the day? When you take what you need to car, what you need to?

Participant #3 1:17

It's, it's the house. Start at the house.

So that's the few minutes to walk to the railway station.

Leyre Alonso Valdivia 1:27

And how did you decide for, for those modes of transport. For walking to the station and then taking the train?

Participant #3 1:37

Well, it's a very short walk. Occasionally, if it's really, really, really terrible weather, I'll drive to the railway station, but I prefer to... The parking at the railway station is free, you know, around the railway station is free, so it's not really a deterrent, but walking to the railway station is just easier. You know, you get your head together for 10 minutes, listen to some music or some podcast or something. And it's just, you know, your day starts.

Leyre Alonso Valdivia 2:09

OK. And how do you decide for the train?

Participant #3 2:13

It's it's really straightforward.

Very reliable as far as I'm concerned. You know, occasionally there are some hiccups or something happens, but for the most part, for me it's very reliable. I could choose the bus because it's the bus stop is right beside the railway station, but it just takes.

There are more stops. It takes a little bit longer and the end point is not as near as where I as the as the end point where my office is.

Leyre Alonso Valdivia 2:44

Hmm.

Participant #3 2:45

I could cycle.

But that involves some motivation. In the morning. I think, particularly in Ireland.

Anyway, I don't if cycling is a later part of the discussion.

Or is it part of the decision making?

Leyre Alonso Valdivia 3:03

If if you if you have things to say about it, you can say them.

Participant #3 3:05

OK. Yeah. I I could cycle. It's it's probably one of the best cycle routes in the whole country because I can cycle down a lane way where I walk to the railway station, cycle down there and then there's segregated cycle lane between the railway station and Howth and.

All the way to pretty much, you know Clontarf and then they're making a segregated cycle way between Clontarf and the city centre. But at the moment what puts me off, cycling OK, is the motivation in the morning, Irish weather, and the last piece of the journey between the totally segregated cycle way at Clontarf and the city centre where it's just, I just think it's a little bit too. A bit too much risk at the moment.

Leyre Alonso Valdivia 3:52

Mm hmm. So you would say that road safety, particularly regarding city centre, is something that is keeping you away.

Participant #3 4:00

Yeah, absolutely. I used to do it when I was younger, when there was less traffic and maybe I was a little bit more naïve. But when you're, you know, grown up and you've got responsibilities and you think a little bit differently about things.

Leyre Alonso Valdivia 4:15

And is there anything the city or Trinity could make to prompt you towards the bike?

Participant #3 4:24

I don't, from Trinity's point of view, I don't think so because uh, we have pretty good cycling.

The the bike parks or you can there are secure bike parks. As secure as anywhere else. Probably better than most places and.

In TBSI, I could cycle. You know, I could park my bike in the basement.

Possibly having more shower facilities, would be useful 'cause they're it's not really

obvious where they are. I know there's one underneath the railway arches.

Yeah, but down near my office, I'm not really sure where they are.

I don't think you you know, I I, most of the time I wear a suit in the office. Not really sure where I could, keep the suit.

You know, it's a little bit, some of the, some of the people in the states, because I work in states and facilities and some of us wear suits. That's fine. Some other people wear suits, some people don't wear suits, but I wear a suit. I'm not sure exactly where I'm going to hang the suit, but that's a really, really minor part of it. What puts me off mostly is the safety.

Leyre Alonso Valdivia 5:15

Hmm. OK. You were mentioning different ways you could commute aside from the train.

Were those things something you actually consider, when you were thinking about how commute.

Participant #3 5:54

Yeah, I mean also I could drive, but that's just, that would be a insane. I mean, you can go. I can go from from my house to, probably about half the journey and depending on the time, then the traffic builds up. So that's a total waste of time. Unless I really need to. I don't use the car.

So that's but that's another option, but do I, did I think, did I weigh them all up? All the options? Yeah, it's pretty easy option though, to get the train from Howth because, it's just 25 minutes. You can sit there and listen to music, or read, or do some work. If you're catching up or something. So it's. And also where I get on the train and there's, there's nobody else, not nobody else but the train is pretty much empty at that stage. So you can get a seat.

It's convenient.

Leyre Alonso Valdivia 6:46

K and you mentioned that sometimes if the weather is very, very bad, you will drive to the station. Do you ever do use any different modes? Like maybe driving further away away or taking the bus to a later train stop?

Participant #3 7:06

Uhn, no, if I'm travelling. I'm not sure of the question, but if I'm if I'm going to the railway station 99% of the time it's walking and 1% or whatever, really small percentage I'm I'm driving, but that's that's the only way I get to the railway station. Is that answering your question?

Leyre Alonso Valdivia 7:25

And do you, is that always how you commute or do you sometimes do something different?

Participant #3 7:36

Very rarely, I would get the bus if there was a problem with the train, but you know if there's a problem with the train and if the bus is going to take too long, then I just walk back up and I can work remotely.
But that's the other option.

Leyre Alonso Valdivia 7:51

OK. And have you always commute that way, walking to the station, taking the train to the station?

Participant #3 7:55

Yeah. Yeah.

Leyre Alonso Valdivia 8:02

Yeah. And when, back when you started, thinking about how to commute. That you were saying that the train was just what make, made more sense? Is there anything in particular that you took into account when you decided, or something that was the driving decision point for taking the train?

Participant #3 8:36

I think just the speed. You know, it's it's 28 minutes or something like that.

Leyre Alonso Valdivia 8:49

OK. And did the environment, or sustainability was something that played a role into that decision?

Participant #3 9:00

No, I don't think so.

I mean, I live in Howth all my life. So the train has been there. So it's just seems like a normal thing to do. If I'm going into the city centre to meet my friends or something, that's always the train. Well, pretty much always. It's just. It's there. It's, it's, it's cheap as well. You know, I think. Compared to, if I sit in the car and have to park a car and all those other things.

You see. You know, it's still pretty cheap even. I think it was even better value when I had an annual train ticket, when everybody was in the office the whole time.

Leyre Alonso Valdivia 9:38

Yeah.

Participant #3 9:38

But now that there is an option to remote work, buying an annual commuter ticket is not so good value. But still buying the, with the LEAP card, you still got a good discount. And it's like, I mean, I don't know is it 2,50 or something like that each way, something like that, that's that's really. OK, it's not the cheapest in the world, but it's really cheap.

Leyre Alonso Valdivia 10:03

OK and does your commute change during the year? Like some people prefer to walk more in summer and some people change the mode of transport during the school year to avoid the school drop off?

Participant #3 10:21

No, it the only thing it would change, during school year, would be that I would get an earlier train just so the train isn't so packed. That's about it. I mean, when you get on at the first stop, you can get your, whatever seat you want, nearly anyway. But just if you get on.

The 8:00 o'clock train from Howth to the city centre, is the busiest train in the country. It's just the number of people that get on it. That's just, it's one of those facts, that it is the busiest train.

When I get on at Howth it's it's it's pretty much empty. Two stops down the way. It's

really filling up, but uh, the only reason I would get an earlier train is just sort of, the train is a little bit calmer, you know, not everybody is standing in the. Particularly in the winter when it's

school term and in winter and it's raining and blah blah blah and you get. Just it's more uncomfortable environment. And then now, that, when, it, because people are more conscious of having some fresh air, with, you know, because we know so much more about viruses. Well, we think we do. Just having that bit more fresh air. Not as busy train, the windows open. It's a bit more, you know, it's better. So that's the only reason I would change the, the habit of going. School term in bad weather to get an earlier train.

Leyre Alonso Valdivia 11:40

OK, OK. And you mention that you take the train 'cause, it's, it's faster than the bus. It's cheaper on the car, and it, sometimes you when, if the weather is very bad, you will drive. It's weather something that, plays a heavy role into how you commute?

Participant #3 12:03

Only between my house and the railway station.

Leyre Alonso Valdivia 12:06

OK.

Participant #3 12:06

By the time I've driven from my house to the railway station and found a space and walked to the railway station, there's probably not much difference between the distance walking to the all the way to the railway station. Just you know. 75 or 80% of it is in a dry car, not walking down a wet footpath. There lots of trees and everything, so you just get drenched.

It's when it rains, it rains. I don't mean, you know, putting up an umbrella and and walking when it's drizzly, but something, you know when it's really bad or the forecast is really, really bad, then I'll just sit in the car. Or, or if I'm late, but that's.

More often to do with the weather.

Leyre Alonso Valdivia 12:53

Yeah. And is fitness and health in general something you take into account when you decide when you decide how to commute?

Participant #3 13:04

Yeah, a little bit. It probably should more, but a little bit it's, I think, in the morning because my house is on a hill, I get to walk down. You know, you're probably exercise one part of your legs and then on the way home, when I get off the train and I'm walking back up the hill, it's certainly at the end of the day, it just, it definitely exercises another part of your legs. But so I'm, I'm, I've lived on a hill all my life, so I don't mind walking up and down hills, but it's it. I'm, the older, I get, the more I think about. OK, well, you know, this is only, 10 minutes down and 10 minutes up, but it's still 20 minutes of reasonable exercise. Guaranteed every day. See. Because it's easy to sit in your ass, I suppose. But yeah, it is. And it is a thing I think about. Sometimes I think about maybe getting off at an earlier stop. So if I have to get off at Pearse St. to maybe get off at Tara St and walk. Even if it's only you know 5 or 600 metres or something like that, but you just get a bit more start. Start moving yourself a little bit.

Leyre Alonso Valdivia 14:13

OK. And is safety in general, not just road safety, something you take into account?

Participant #3 14:25

In, in general terms or?

Leyre Alonso Valdivia 14:27

Yes, in general terms.

Participant #3 14:30

Yeah, I think so. I mean, I'm a, I'm an engineer, so. I, we have this, whatever goes on in our head, we think about risks. That's what I do in college. I'm responsible for capital projects, so everything is about a risk of some sort. And safety is obviously a risk on a construction site.

So I, you know, if I'm walking around, I am pretty safety conscious.

Probably annoying sometimes, but yeah.

Leyre Alonso Valdivia 14:59

OK. And how, how in particular will that cautioness present? Like what sort of things you take into account, what sort of things you do?

Participant #3 15:16

So. outside commuting you mean?

Leyre Alonso Valdivia 15:19

During the commute.

Participant #3 15:21

During the commute? Well, certainly.

Let's see, in safety on the commute, what would I think about?

Hmm. There's probably, you know, maybe some pedestrian crossings or something like that.

I don't have too many safety concerns on the commute. The the commute that I do, however the commute I could do on the bicycle. As we said, that would be far more risky.

Weather plays a little part in it, not so much, because if you're cycling from Howth to the city centre, you're really not worried about getting wet because you're probably going to be sweaty anyway, so that's not too much of a concern.

It's 13 kilometres, so you know, if you. If you want to stay dry between, in that distance, it's not going to happen even in the middle of the summer.

But definitely when you get to, when you get, is more, when you get closer to the city centre, it's just for me, it's a risk too much to take at the moment.

I'm, I'm sure it would be perfectly safe but, other people's driving, it it's drivers habits.

It's some it, not all of it is. In my case it would be, it would be cars, buses, trucks, taxis.

They're the risk for me. If you're, if you're, if you're a car driver, the risk for you can often be the cyclist, not obeying the rules. But in my, my analysis of a risk, it would definitely be vehicles.

That are the biggest risk, followed by maybe pedestrians with earphones walking out in front of you. But one way or another, you're going to land and and hurt yourself so.

Leyre Alonso Valdivia 17:04

OK, and is there any particular mode, aside from cycling and all the road safety issues that comes with it, is there any other mode that you feel it's unsafe? That maybe because the route might be a bit sketchy or goes through area that might not be safe?

Participant #3 17:29

Uhm no, the options I have are pretty safe. The train is safe.

A car, even if I was to do it, is pretty safe because you're in a metal box and you're really not travelling that fast. I mean, it's not. It may be not good for your mental health sitting in a car, but. Walking is just for the entire commute, it's just obviously too far. I could walk a little bit more, but even walking that little bit more at either end, either the beginning or the end of the commute, it's pretty safe. You're walking on foot paths the whole time. I don't have to walk down country roads, so walking is OK.

The bus is the same as the car. You're in a box. You're safe.

You're more probably more safe in the bus because you can you can be distracted by all sorts of things, and there's one person responsible for the safety of everybody, so you know.

I don't have any safety concerns otherwise.

Leyre Alonso Valdivia 18:27

OK and is there is anyone in your household or your close family that affects your commute?

In deciding how to commute, some people need to drop kids off at school, stuff like that.

Participant #3 18:38

Yeah. No. No, there are two people in my house, me and my wife and we.

She commutes to a relatively close place, but she needs to drive cause the bus connection isn't good. But our our decisions are our commute doesn't affect each other, no.

Leyre Alonso Valdivia 19:00

OK. We are nearly done.

Participant #3 19:05

OK.

Leyre Alonso Valdivia 19:06

So, to what extent, if at all, does the opinion of other people affect the way you commute?

Participant #3 19:17

0.

Leyre Alonso Valdivia 19:18

OK.

Participant #3 19:20

Not at all.

I'm probably one of the luckiest people in the country that I have a railway station so close to my house and it takes me 28 minutes to get, you know, it could take me 30 minutes to get in. In total, it could take me. 10, 30, maybe 50 minutes, maybe 45 minutes to go from my door to my desk. In, in, it's calm, it's reliable, it's safe. I can do stuff on the way, so I realise I'm really lucky.

Leyre Alonso Valdivia 19:56

And do you think?

Different modes of transport are perceived differently, like some might be seen as more positive than the than others.

Participant #3 20:08

Yeah, sure. I think, starting with public transport, that's a really positive thing.

Where it's possible for people. And also you know when you get closer to the city centre that they become more congested and it's not so convenient for some people, you might if you live closer to the city centre. It's not, it doesn't have a positive as much of a positive influence, because the train might be full, or the bus might be full and just drive past. So I get that. But for me that's, that's, that's not too bad.

I think, sitting in the car, for some people it's it's OK. It's for like, it's if they go early enough, it's fine. Excuse me, it's fine for them. It doesn't have a good public image, but it's not possible for everybody to go from A to B and public transport.

Cycling has, probably a really good image, insofar that it's healthy. The negative would be the safety element of it. And the perception of other people, of how cyclists behave on the road. I have zero. No, not zero. I probably have very little faith in how other cyclists. And people on scooters, and scooters actually cause more, more recent thing. Cyclists, less, not so much faith. Scooters, probably 0. Because I don't if they're going to go from the foot past the road to wherever. They're generally it's got a really bad image.

I'm from my friend's point of view, because we chat about some of them, drive to work, some of them absolutely hate bike, bicycle lanes. We have WhatsApp group, we just laugh about cycle lanes and people. There is perfectly good cycle lanes between, for example between, Baldwin and Port Marin. There's a totally segregated cycle in there. Metres away. In a nice green area, away from the road, the road is just a single carriageway with no side, no verge, no media, no shoulder and still people cycle on the road. So that drives people crazy. And that's one of the that's why when they drive, when they're driving to the city centre, they hate bicycles the whole time. So cyclists have a good, public. Most people think cycling is great, but when they when they experience cyclist behaviour it drives them nuts.

Leyre Alonso Valdivia 22:45

OK.

Participant #3 22:47

Hope you're not a cyclist.

Leyre Alonso Valdivia 22:47

OK. OK. And to, to, to finish, to what extent again, if at all does society influence your commune society? Might be your neighbourhood, your coworkers, the city?

Participant #3 23:06

Hmm. I think I'm probably more influenced by the convenience of my commute. The way I commute than what society is doing. But I suppose, to some a small, very small

amount.

It should be more, but just cause it's convenient for me, but for to a very small amount, it's a decision I'm making because it's better for the environment than sitting in a car. And even if I was going at 6:00 o'clock in the morning, where it would take me 20 minutes to drive from, even if I had free car parking space in Trinity, I would probably still get the bus, all right, train, public transport.

So, so society doesn't influence my decision as much, but it it's definitely when I think about it. You know, you have the inner sense of a little bit of moral high ground or smugness that you're sitting in public transport but it's not available to everybody. But it makes you feel that little bit better that you're doing something less damaging to the environment.

Leyre Alonso Valdivia 23:53

Hmm. OK. Well, that's everything from me. Is there anything I might not have asked that you would like to say something? You may you might have mentioned that you like to talk more about.

Participant #3 24:41

I don't think so.

No, I don't think so there.

Leyre Alonso Valdivia 24:50

OK, well I'm gonna stop the recording then.



Leyre Alonso Valdivia stopped transcription

Appendix 25. Interview Transcripts – Participant 4

Commuting Study Interview-20240613_130331-Meeting Recording

June 13, 2024, 12:03PM

15m 35s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:06

OK. So, so well, my my PhD where I'm a study is about commuting behaviour. The surveys you you filled previously were about general behaviour and in this interview I'm going to try to get a bit more in depth or in depth details about committing behaviour, about how the decision making process of the decision of day of commuting, sorry, happens.

So to start, could you describe your commute from start to finish? I don't need you to tell me "Well, I start in this place", but like, when you think about your commute, where does your start commute and where does it finish?

Participant #4 0:56

Umm. Well, I only recently moved. Before I use to solely rely on a bus to get me to and from places, college, work, everything. But I've moved to Maynooth and there's much better, there is buses and trains, which is much better. And you know, just better access to rotations.

Leyre Alonso Valdivia 1:18

OK, so you commute by bus and train now.

Participant #4 1:23

Yeah.

Leyre Alonso Valdivia 1:24

OK. And, when do you think about your commute? What do you consider the starting point of your commute? Is it your house? Is it the, is it the public transport? Stop? Is it

before you leave the house when just start thinking about how are you going to commute?

Participant #4 1:49

Uhm. I guess it starts from the house of me, 'cause I have to walk maybe 20 minutes to the train station. So the walking is still 20 minutes. You know my life. My, my planning of arriving to certain areas after plan ahead. So yeah, I consider it.

Leyre Alonso Valdivia 2:07

OK. And how, you said you commute by bus and train, how did you decide about for those?

Participant #4 2:16

Well, it's just the necessity for it, and the location where they arrive.

Uhm, I to work I take train because arrives closer to my work, but to go to, let's say, city centre, I take bus 'cause I arrive, it's faster and in the right location.

Leyre Alonso Valdivia 2:38

And, so you mentioned bus and train, you don't use them on the same commute is depending of if where you're going to work or where you're going to city centre?

Participant #4 2:49

Yes, yes, yeah.

Leyre Alonso Valdivia 2:55

And did you, when you were starting to plan your commute, did you consider any other mode of transport?

Participant #4 3:07

Well, I would, if they were available, but there isn't any others. Like for example, sometimes let's say I need to go, I will probably roughlining let's say and there is the option of the bus or Luas. Then I probably would consider the one that's faster. So I

would choose the Luas. But if I have no other options, I just have to go with what I have.

Leyre Alonso Valdivia 3:20

Mm hmm. OK. And do you always, in this commute, you've always use train. Have you ever used any different mode? You said it's not available, so you've never, only train.

Participant #4 3:46

No, only train.

Leyre Alonso Valdivia 3:47

OK. Mm hmm, you've always commuted in the same way, right? It does never be any other option, OK. And how about cycling? Have you ever considered cycling?

Participant #4 4:07

Yeah, well, I'm looking for a bike at the moment that will fold up to be able to cycle that, we reduce again for 20 minutes, walk from my house to the train station, which would be great. So I do consider it's just now the factor of money and having the actual bike.

Leyre Alonso Valdivia 4:23

OK, OK. So you are, so you are thinking of changing those 20 minutes walking for cycling?

Participant #4 4:31

Mm hmm mm hmm.

I've also considered like scooters and stuff, but again the problem is money, I guess.

Leyre Alonso Valdivia 4:45

And do you know if that is any sort of availability for like Dublin Bikes or Bleeper, or any sort of no, no. Would you consider it then?

Participant #4 4:56

No, no, not.

I would, say, if they were available to me, but no, they're not available here. I know in other places they are and you can rent them, but that's great. But I wish there are more spread out to different counties and towns, not just main city.

Leyre Alonso Valdivia 5:11

And do you, does, regarding cycling, does road safety play any role when you are when you are thinking about cycling or if you are starting to prepare to get a bike and to cycle to those 20 minutes?

Participant #4 5:31

I'd said so, 'cause I I'm quite, quite anxious about the cycle in the middle of the road. (undiscernible) Cycle lanes to consider, I guess.

Leyre Alonso Valdivia 5:51

And is there anything you might be thinking, safety wise, that you might need something that you are particularly worried about?

Participant #4 6:09

Not really. It's just I just got another bit of anxiety. If I'm on the road, like main roads and there's no cycle lane, I just have to kind of guess where I have to go, like on the sides almost because if it's a very busy road, I probably won't be able to cycle (indiscernible).

Leyre Alonso Valdivia 6:28

OK. OK. Yeah. Uhm, when you, when you are thinking about your community, where where are what you commune? Sorry. When you are planning it? Does the environment or the sustainability take any role into your decision do you even consider it?

Participant #4 7:05

And what do you mean by sustainability?

Leyre Alonso Valdivia 7:08

Think when you are planning on on there different mode of transport you might be able to use. Do you think "oh, well, this is more sustainable", "this is not as sustainable" and do you consider that?

Participant #4 7:27

Not really. Just because I walk a lot. So I know that walking, but there's nothing for me just walking. So it's kind of for me, I guess for other people that can drive, they probably should, but I personally don't because I'm using the sustainable option already.

Leyre Alonso Valdivia 7:51

And does your commute ever change during the year? So, for example some people might walk more during the during the summer or where the weather is better, or some people might use cycling if they have to take kids to school. Does your commute, is the same every year, during the year, or does it change?

Participant #4 8:18

And before it, yeah, before it's let's say it, if it was raining or just not other, felt very tired. I would. I had to take two buses so I would arrive on my first location, and then there's a bus stop right there. So then I take the rest of the to my work. But then now, that I've changed where I live and I have cheaper train, I I don't have any buses, so it won't change depending on the weather. I just have to go through it.

Leyre Alonso Valdivia 8:47

You said before you used, you used to take during your previous,. You used to take two buses. Did that change like, when you walk more in summer?

Participant #4 8:55

Yeah. Yeah. Yeah. Like I I'd try walk more if it was not raining or whatever, but if I was extremely tired or if I was just, like lashing rain, I would not be bother to walk 20 minutes. And for events I take the bus.

Leyre Alonso Valdivia 9:15

OK and do you, if you had all the different modes available, would you prefer using them, using one over the other for any reason safety or or because do you think it's more sustainable, because you are more comfortable?

Participant #4 9:43

Yeah, I guess the fact is that I consider which one is faster, which gets me to the place I need to go. That's my main important. And maybe cost of usage. So whichever is cheaper, I can get me there using the fast. I will go with that one. Currently I think trains are fine. If there was like, you know more railways like more locations to get a train to that I would probably not go to just because it's convenient, cheap and fast and also it's sustainable. I think to some degree.

Leyre Alonso Valdivia 10:20

And is there any mode of transport you will never use?

Participant #4 10:28

I don't know. I'll never say never, so I'm not a fan of ships. I guess boats. It was quite reminiscent.

Leyre Alonso Valdivia 10:41

OK. Is there anyone in your household or in your close family that influence the way you commute?

Participant #4 10:55

Not really. No.

Leyre Alonso Valdivia 11:01

And does health or fitness play a role in the way you commute?

Participant #4 11:03

I'd say so, yes, I would any if I was, gonna, say injured, I probably will not be able to walk as much as probably yes, what I could do, I'll put a lot slower or you know it'll be more time. Because the medical issues I cannot drive myself. If I could drive, you know,

I'd probably if I am lazy or whatever we'll go for that for my fitness will have plays a role into day-to-day life because we need to be able to walk 20 minutes to the train and then 15 minutes from the train station to my job.

Leyre Alonso Valdivia 11:54

OK, we are almost done. I just have a few more questions.

Do you or to what extent do the opinions of other people influence your commuting decisions, if at all?

Participant #4 12:12

Not at all. 'cause. I'm a very yeah. I I really don't care what someone has to say. I have to get (indiscernible)

Leyre Alonso Valdivia 12:14

OK. And do you think some modes of transport are perceived more positively or negatively than others?

Participant #4 12:43

Not really. I I don't think there's a full (indiscernible) in Ireland. I know that in other countries there is negative image to take the public bus. But were here, I don't think so. Like maybe the only thing I've probably looked at someone and judge them that they're constantly taking a taxi and something.

Leyre Alonso Valdivia 13:10

OK. Last question. So to what extent do you think society, that might be neighbourhood the city, the country influence in your transport mode? Do you think it plays any role?

Participant #4 13:30

Sorry, just repeat that again, do you?

Leyre Alonso Valdivia 13:33

Like do you think, society that could be neighbourhood or the city of the OR the

country if it influences the way you commute, if it plays any role in your decision of how you commute.

Participant #4 13:48

I guess so. Like I actually moved to be able to commute better. So for me it's a big thing because I can't. Again, I can't drive. It's commuting with public transport for me is my main way, whereas other probably would not care as much because they could just drive anywhere where I can't. So I need to plan myself.

Leyre Alonso Valdivia 14:10

OK. OK so. OK, that's all my questions. Do you, is there anything you would like to say that maybe something you I didn't ask that you think I you would like to say or something. Do you do you will maybe to like to talk a bit more about.

Participant #4 14:45

Not particularly now.

Leyre Alonso Valdivia 14:47

OK. OK, then OK then. This this is all from me. We are currently trying to sort out the the gift card, that you can get them, so you would probably get yours in the next couple of weeks.

Participant #4 15:12

That's no problem. Thank you.

Leyre Alonso Valdivia 15:19

I'm gonna stop the recording and, are you, are you happy with me using this data and this recording and the transcript for my for my study, OK?

Participant #4 15:31

Yeah. Yep, Yep, no problem.



Leyre Alonso Valdivia stopped transcription

Appendix 26. Interview Transcripts – Participant 5

Commuting Study Interview-20240619_173358-Meeting Recording

June 19, 2024, 4:33PM

16m 40s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:08

OK, so so this study is about how it community behaviour. The the interviews were a bit more general questions about the commuting and and with this interview I'm trying to get a bit more in depth on what goes behind all that the commute itself. So if you could describe me your your commute from start to finish. Like what would you consider the starting point of your community and what your ending point, how did you commute?

Participant #5 0:46

Yeah. So I didn't live very far away from Trinity for like last. (recording glitched)
Normally go through St Stephen green 'cause, that was my, you know, makes it nicer.
And then like.
Yeah. Endpoint would be my office I guess, but yeah.

Leyre Alonso Valdivia 1:17

It's OK.

Participant #5 1:18

Sorry.

Leyre Alonso Valdivia 1:18

Think that's right. And why did you decide for walking instead of the Luas or bicycle?

Participant #5 1:31

Uhm like, honestly. 'Cause, I lived on like the first floor and cycling probably took as

long as walking because I'd have to, like, carry down the bicycle and then like cycle there and then.

The way I would cycle wouldn't be the same way I'd walk cause of like all the busy streets and stuff I wouldn't feel comfortable. So like, it basically took almost as long. But I did when I like first moved there, I did used to cycle but it's a bit more relaxing to walk.

So I would walk like 99% of the time. And then again with like the Luas, it was only like maybe a 25 minute walk, so it, yeah. Basically, it didn't. The only reason I would get the Luas would be if I like, finished really late and I was really hungry.

Leyre Alonso Valdivia 2:28

OK.

Participant #5 2:30

Yeah.

Leyre Alonso Valdivia 2:33

OK. You mentioned briefly the LUAS, the the bike. How often do you use or or why would you use them?

Participant #5 2:48

So I'd use the bike if I was in a rush. So, like if I forgot my laptop at home, which didn't happen that often. But if I did, I would like walk in, realise I'd done it and walk back and then I'd cycle in because like I'd already wasted basically like the best part of an hour. But. Yeah. And then the reason I would choose the Luas would be if it was like really late and the Luas was like literally at the platform and I could just hop on it. Otherwise, like, if there was more than a 2 minute wait for the Luas, I would also just walk.

Leyre Alonso Valdivia 3:27

OK.

Participant #5 3:29

Yeah.

Leyre Alonso Valdivia 3:30

Did you consider any other mode, like maybe the bus or something?

Participant #5 3:37

Mmm. Yeah, I it wasn't that, the bus that I would get, that it would be like easiest to get, I would have to like my office is at the back like basically on Mason Rd. So I'd have to walk to like Dane St and then at that point you're basically like, that's like nearly a 10 minute walk. So it would be as quick to just walk and not be stuck in traffic, then it would be to get the bus like I I really I I really lived quite close, so it wasn't. Wasn't really.

Yeah, I mean like I used to live, I used to live in Shankill, so that was quite a lot further away and then I would get the the bus or cycle, but that was. Like way before.

Leyre Alonso Valdivia 4:29

Mmm. Did you always commute in the same way or did you start one way and then change to walking?

Participant #5 4:38

I started by cycling and mainly 'cause. I was used to so.

I lived at home, which was like, I don't know, 15 kilometres away and then I would cycle to get into Trinity and then I moved to where I was living for the last, like three years. And then. That was during COVID, so I was mainly working from home anyway and then if I had to go in I would cycle just 'cause that's what I was used to. And then I realised that it was actually quite a nice walk and that was and like that was when I started going in more regularly as well, so.

Leyre Alonso Valdivia 5:13

OK. And aside from being, mm, a good walk, is there anything that turned you away from cycling?

Participant #5 5:29

Yeah. I mean, it's not super safe in Dublin and I did see a van reverse into someone when I was cycling home once. Like we were both in the cycle lane and this van was just

like reversing into the cycle lane. And so that was a bit spooky. I didn't, yeah. After that, I was a bit ambivalent about cycling, like in the city centre.

But I mean, I don't. That didn't stop me from cycling. I still cycled through like a bit longer after that and then then I was like, yeah, I know it's it's just as nice to walk so.

Leyre Alonso Valdivia 6:05

OK. OK. When do you first started that commute you were cycling. Then you decide to walk. What sort of things did you take into account when deciding how to commute?

Participant #5 6:38

I'm not sure. I guess I don't know. Walking is a bit more convenient or was a bit more convenient for me because I could, like if I needed to pick stuff up in the supermarket, it's easier or it's faster to just like go in while you're walking than it is to have to, like, cycle to the supermarket, lock your bike and blah blah blah. And also you can like if you get a box of eggs, you can just like carry them in your hand, you don't need to bounce them on your bike or whatever.

So I guess that's a factor, but I don't think I like. I don't think I thought about it that deeply to be honest.

Leyre Alonso Valdivia 7:15

It just happened.

Participant #5 7:17

Yeah, yeah, yeah, yeah.

Leyre Alonso Valdivia 7:21

And maybe that you realise that you could enjoy the scenery.

Participant #5 7:27

Yeah, mm hmm.

Leyre Alonso Valdivia 7:30

And is there any particular mall you will never use?

Participant #5 7:41

I think it depends on where I live. I mean at the minute. I'm still like walking to work. And I quite, I quite enjoy it. But I don't think there's anything I'd like definitely realise, but also I can't drive. So like I guess that rules out that rules out driving for it now.

Leyre Alonso Valdivia 8:04

OK.

Participant #5 8:06

But like you know, ideally I should learn how to drive, that's all.

Leyre Alonso Valdivia 8:10

OK. And do you take the environment into consideration, when you are thinking on how to commute?

Participant #5 8:22

Yeah. Yeah, I do.

Leyre Alonso Valdivia 8:24

OK.

Participant #5 8:25

But also it's kind of easy to say that when I'm actually not able to do the most polluting thing you know so but like I mean it is a factor.

Leyre Alonso Valdivia 8:35

OK. How would you? How would you? How would it play a role into the decision when you're thinking about it?

Participant #5 8:49

I don't know. I think like when I'm thinking about how to get to somewhere, I would always prefer to to walk or to cycle. I don't like I. I just don't really like, enjoy. Well,

yeah, I don't know if that's really an environmental decision or if it's just like an easy an easy way to be like, "Oh yeah, I'm also being good for the environment", when, actually, it's like I don't particularly like having to wait for buses or trams and then like.

Yeah, I don't know. Sorry, yeah.

Leyre Alonso Valdivia 9:24

No, OK. And did your commute change during the year? Like maybe during summer you will take the luas more often, during the winter you would take the luas more often or.

Participant #5 9:40

Mmm, I guess for the walk home, like the park would close earlier. So then I would go like a further like a longer way around. But no, I don't really change.

Leyre Alonso Valdivia 9:51

OK. And did anyone else in your household, or maybe your your close circle of people that influence your commute?

Participant #5 10:08

No, I don't. Yeah, I don't think so.

Leyre Alonso Valdivia 10:10

OK. OK. Mmm. Did price take, the money that cost? Did it play a role into why did you decided to walk or cycle over all the things?

Participant #5 10:28

Yeah, definitely. I mean, I guess it was us. It played less of a role more recently because like, like a student leap card would only be a euro or less than a euro.

So I didn't like feel like it was a big expense, but I think when I started my PhD I was, I was spending like €20 a week on getting buses. Yeah. And then I was like, oh, OK, well, this is really expensive. So I decided to like for more.

Leyre Alonso Valdivia 11:04

OK.

Participant #5 11:06

But yeah.

Leyre Alonso Valdivia 11:08

OK, so at the beginning the the the money pushed you towards cycling more than public transport?

Participant #5 11:08

Yeah. Well, I think the money and also the fact that, like I would prefer 45 minutes on a bike to an hour on a crowded bus.

Leyre Alonso Valdivia 11:24

Yeah.

Participant #5 11:26

So yeah.

Leyre Alonso Valdivia 11:27

OK.

And so the the speed of how fast you could get into Trinity also.

Participant #5 11:35

Yeah, during rush hour definitely. Is much faster to cycle, or it was.

Leyre Alonso Valdivia 11:43

And how about weather?

Participant #5 11:49

Yeah, that would that would impact, I mean less less so when I lived closer because was like it, it didn't matter. But I would say like if it was very heavy rain, I would probably prefer not to cycle. But also again like during COVID, I would cycle no matter what, which end up recycling in snow, which was kind of stupid in retrospect, but, yeah.

Leyre Alonso Valdivia 12:26

So you were a bit concerned about health and fitness for something was something that you took into account.

Participant #5 12:38

Yeah. I mean, I think during COVID, definitely health, I was working quite a lot with someone who had just been diagnosed with breast cancer. So I didn't want to like expose her.

And then. Yeah, I mean, like I I like sports. And when I was living quite like further away you, I wouldn't have time to like like go for runs or whatever during the week that much. So running or not running, cycling would have been like an easy way to at least have some kind of activity during the day as well.

Leyre Alonso Valdivia 13:18

And did safety, was some safety? Something you can you thought about?

Participant #5 13:32

A like a bit, but not that much.

For that commute as well, it was on a separate cycle lane for pretty much the whole thing, so it felt a lot safer than cycling in in the actual, like when I was living closer to the centre.

Leyre Alonso Valdivia 13:48

OK and is there any mode of transport you felt it was more unsafe than others, or more safe than others? Some that you would not like to, you will not feel good safe about using?

Participant #5 14:09

No, not really.

Yeah.

Leyre Alonso Valdivia 14:14

OK. We are nearly done. And and to what extent, if at all, did they opinions of others influence how you commute?

Participant #5 14:31

Ehmm. I I I don't really think they influenced.

Leyre Alonso Valdivia 14:39

OK, OK. And do you think different modes of transport are perceived differently, so might be seen as more positive or more negative than others?

Participant #5 14:59

I think it depends who you're asking.

I think among my like among my friends or people I would work with, like cycling would be seen as like a part, like a good form of transportation like, you know, useful and handy. Whereas maybe among some of, like some of my aunts and uncles, they're like, oh, all these cyclists getting in the way. So I don't know. I think it depends.

Leyre Alonso Valdivia 15:27

OK. And so do you think society that could be the neighbourhood or the place of work or your friends or the city influence your choice of transport?

Participant #5 15:49

Ehm. I don't think so. I don't know. Oh yeah, I don't think so.

Leyre Alonso Valdivia 16:12

OK so this is all from me. Is there anything that I might have not ask that you would like to share something you would like to expand a bit more on?

Participant #5 16:28

No. It's good. Yeah.

Leyre Alonso Valdivia 16:29

No. OK, that's perfect. Well, I'm gonna stop the recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 27. Interview Transcripts – Participant 7

Commuting Study Interview-20240612_100431-Meeting Recording

June 12, 2024, 9:04AM

24m 56s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:05

OK. Yeah. So the interview will last about 20 minutes, no more than an hour, depending what depending of what you have to tell me.

Participant #7 0:18

OK. I'll be really quick, but really specific.

Leyre Alonso Valdivia 0:23

OK, OK. So first, can you describe me your commute from a start to finish? I don't need any specific points of "I live here or whatever". Just when you think about your commute from the.

Participant #7 0:41

Yeah, most most days the kids have school, so I will go from my house. Well, I I the youngest is 11 now. So she she technically could go on her own, but I tend to go with her on we go by bike, normally from house to the school and then into work.

Leyre Alonso Valdivia 0:58

OK.

Participant #7 0:59

And when I come home, she comes home at around. And so when I come, when I go home, I just go straight home. So normally I'm on the bike but, if there is a grumpy teenager or bad weather, we're sometimes in the car so.

Leyre Alonso Valdivia 1:13

OK. OK, OK. Mmm, so you can. So you can, you will consider the starting point when you leave the house or will you consider the pre planning of your commute as part of their commute?

Participant #7 1:35

That's what it does affect things when you're leaving the house, but I would tend to think of it as a, but I walk out the door, I suppose. Now obviously you have to make a decision before then. What mode of transport you're picking, but the default is the bike. But yeah, yeah.

Leyre Alonso Valdivia 1:40

OK. Mmm, why did you decide for producing the bike?

Participant #7 1:56

It's quicker normally. And I am a tremendously lazy person, and it's the only exercise, I get.

So yeah, and it's it. It means that by the time the kids get to a certain age, they're independent, they can go on their own. They don't, because there's no bus for them to get to the school. So they either walk or cycle or get a lift in the car with me. So, if they're trained to get there on the bike, it's optimal

Leyre Alonso Valdivia 2:33

Mm, so you said you use the bike mostly and car sometimes. Can you be elaborate a bit more on that?

Participant #7 2:42

Yeah. So the the usual would be the bike, but then in winter, if it's really bad, this this kind of this maybe four or five or five, our car is not big enough to take five kids, but sometimes we stick them in, if the weather is really bad, the neighbourhood kids we'll will bring them all up to the school in the car. If it's really bad. If it looks like it's going to be raining on the way home it, that's fine. You can be wet coming home, but going to school and sitting in wet clothes all day. So sometimes they're not always we,

sometimes it's not practical but if it's really bad.

And then there were other times where I have a teenager who will occasionally complain that she's not feeling very well, or that she's pain in her stomach or whatever, and will look like she's going to refuse to go to school. So sometimes then I just kind of go just get in the car and we'll go and that doesn't happen too often, but it has been known to happen so.

Leyre Alonso Valdivia 3:46

OK. So is it, you wouldn't say it's, like any pre-decided certain things that you would say, oh, I "two days a week I go this way three days". It's just whatever the weather it says.

Participant #7 3:58

No, that's it. Yeah, yeah, yeah.

And it's and it's literally for those kind of 10-15 minutes in the morning. So normally you know, you get lucky. It's it's fine even if it's kind of raining a little bit when you get up it's it's fine by the time you're going. So yeah.

Leyre Alonso Valdivia 4:17

OK. And did you consider any other mode of transport?

Participant #7 4:23

No, not right. Well, I used to walk into work when I was just coming into work, and I was bringing kids to the crèche, but since they started going to school. The car I used to drive a lot more when they were smaller. But now that they're older, I kind of we're on the bike much more. And there are bike lanes actually, is the other thing, they've put in bike lanes on the on main, on the main roads to the school. So that makes a big difference.

Now the teenager has decided that she would prefer to walk. So, it's like a 40 minute walk, which is it's it's long enough, like you can't kind of leave it till the last minute, but that's why we kind of run out of time sometimes, if she's saying "I'm not well", you know, and then I kind of go "OK, just get in".

So that she sometimes walks to school, but myself and the younger one would be on the bikes.

Leyre Alonso Valdivia 5:15

OK. And how did you decide to make that shift from walking and the car when they were younger to cycling?

Participant #7 5:25

There was a bunch of kids in the neighbourhood who are all going to the same school, so it's it's a gaelscoil, so it's it's not necessarily the nearest school to the house, it's maybe 2 kilometres. So, it was kind of, of once there was kind of a bunch of kids going at the same time. It was kind of nice. It was a few parents got started talking together and it's kind of like it was when they were a little bit younger, it was more like a cycling bus kind of cycling together.

So I suppose that was part of it.

I mean it's, I used to cycle to school as a kid myself to secondary school. So and to college, so, it was kind of an easy enough decision. I'm just, traffic is just so bad. It's just a pain in the neck. I was kind of, there was one point where I could actually read in the car because the you were just sitting there so.

It's just time, timing as as much as anything.

Leyre Alonso Valdivia 6:27

Yeah. And would you consider changing your commute? Now, maybe that your kids are are getting older, like going back to working. Or are you happy enough with cycling?

Participant #7 6:47

I'm happy with cycling. If the kids were, now in two years time, the youngest will be in secondary school and I probably won't cycle with her. That would probably be very embarrassing.

But I would think I would probably still cycle to work.

It's a pretty easy cycle. It's only a couple of kilometres, so, It's not very hilly. There are bike lanes most of the way, you know, it's pretty easy. Now, it is nice to walk as well because I I wouldn't tend to use headphones when I'm cycling, whereas I would if I was walking. So if I want to listen to a book or something.

I suppose maybe, but so I don't know, but I suspect I would still cycle.

Leyre Alonso Valdivia 7:31

OK. Ehm, I want you, specifically about bikes, I will, I want you to tell me about a bit how safety might affect your decision of cycle, particularly road safety? Is it is a concern of yours?

Participant #7 7:51

It it is absolutely, absolutely it's it's there there I. I live on the north side and, this is personal information, but it doesn't matter, in Marino. So that the road from the city centre to kind of Clontarf is completely under construction at the moment. So certain parts of it are OK, but some of it when you're cycling and there's buses and trucks beside you, you and the road is in bits. It's a massive thing or even on Pearse St, right beside college, there's loads of the roads, they're just, in bits. So it's the road surface quality and then also just the space for bikes.

And having a segregated-ish bike lane between our house and the school. So particularly for the kids, is a massive issue. I would definitely. Now, the footpaths are very wide so that when there was before the bike lane was there, we cycled on the footpath because there was, there was plenty of room, but having a segregated barriered cycle lane, it's definitely a factor in letting the kids cycle to school on their own. I wouldn't be very happy otherwise. But like it's OK on on small on smaller roads, but on the bigger roads it's kind of freaky, yeah.

Leyre Alonso Valdivia 9:10

And is there anything in particular that you do to try and make you or your kids feel safer?

Participant #7 9:21

I would choose my route depending on. I mean obviously, you know, part when you're cycling, part of the tendency is to choose your route because to avoid hills and stuff like that. But a major factor would be choosing, you know, the quieter roads, the safer roads, the road of the bike lane, you know, the road where you're not going to have, like generally at least in Dublin city centre, you don't have too many trucks and that kind of thing. But still just buses and I mean most bus drivers are actually quite good, but it's just the unpredictability of bus. So safety is definitely a factor in the route you choose.

Leyre Alonso Valdivia 10:03

You have not mentioned public transport.

Why didn't you so? Have you ever considered using it?

Participant #7 10:11

Well, it's for me to go come into town, it's maybe a 20 minute half, half an hour walk, 1/2 an hour walk so it doesn't seem worth it to get like unless it was. I used to get the bus into work, but.

It's it kind of doesn't say in in terms of time it you could be standing there waiting for awhile and then. It's just, it's as quick to walk nearly. It takes a little bit longer but not that much. So I would tend to walk. If I were going to see friends on the other side of town, sometimes I would cycle, excuse me, sometimes I would take the bus if I'm going to go, if I'm going to have a drink, I would definitely take the bus or I mean or occasionally if there's a couple of people, we might take a taxi or something or if it's late, we might take a taxi, but.

I mean, I do definitely also use the bus and have a leap card that is fully active and loaded, and certainly if the kids are coming into town on their own, the teenager or the older ones, they would be using the bus. They wouldn't cycle into town.

But but for me I would kind of, yeah, I would tend to if it's cyclable I will cycle. But if it's kind of, if I'm going over to Rathmines, I will get the bus, because there is a bus that goes kind of from where I live all the way. Like it's there's an ideal one bus that goes the whole way so.

Yeah.

Leyre Alonso Valdivia 11:37

So taking the bus will be more depending on what's the plan after?

Participant #7 11:44

Kind of, yeah. And it's normally for something social. It's not for work. I wouldn't bother taking a bus to work, so yeah.

Yeah.

Leyre Alonso Valdivia 11:56

OK, Mm, OK, So, I how does, if at all, do the the environment and the environmental impact take half an influence in your decision of mode of transport?

Participant #7 12:21

That's definitely a factor. Oh, you definitely kind of feel like I'm being really good now, 'cause I'm using the bike. But you know. I, I mean, even as a teenager, I used to cycle to school and to college. So that I've always cycled to some degree. Now, I would have gone through, when the kids were very, when the eldest was small, certainly I used to drive more, but I've always cycled on and off. So, before people were really, I'm old enough that people weren't always, I suppose we've always talked about the climate, but they weren't necessarily telling you to get on your bike because of the climate, to use public transport because of the climate.

But it's definitely there in your mind, that kind of not only is this good for me, it's good for the planet so.

Leyre Alonso Valdivia 13:00

That says it's not so much when making the decision, but when reassuring you of having done that decision right, OK.

Participant #7 13:07

That's this? Yeah. It's a little pat in the back.

I mean, I'm, yeah, you're. I'm doing it kind of for virtuous reasons to some degree, but it also it's just practical. It's just when I leave my house, I know when I'll reach my destination. There's no, variables really. There's no kind of traffic or the bus doesn't come or any of that. You just you're in charge so. But also, also you're being really good.

Leyre Alonso Valdivia 13:34

OK. OK. You mentioned earlier that in winter because of the weather, you might tend to use more the car, right? Is is that something else that you've noticed is are there any other changes in your commute maybe when your when the the the school is over you might use more the bike. So did you commute change during the year?

Participant #7 14:01

Well, no. And it's, I suppose in Ireland it could rain anytime, but I suppose there is more rain in the wet, in the winter.

So, the thing is, yes, if I weren't bringing the kids to school, I think I would still cycle in the rain more so than.

Emh, I mean, we all have the gear, the, like, the wet gear and stuff. It's just a pain to put on and take off and stuff.

So no, I think, like during the summertime when the kids aren't in school, I would still, I would still be on the bike. It's just a shorter journey 'cause. I don't have to go to the school on my way to work.

Leyre Alonso Valdivia 14:52

OK. And you've mentioned that you use the the bike for speed, the car for weather. Does price influence your community choices at all?

Participant #7 15:06

Not really. No, no, no, no.

Leyre Alonso Valdivia 15:07

Not really.

OK.

Participant #7 15:12

Yeah. I mean, it's, yeah, it's I used to drive all the time. So I suppose I'm spending less money now. Oh, sorry, I went through a phase of of driving all the time. And I know, like. We did switch to a car that was more fuel efficient. So is that now when we do drive it costs less. But when I'm making the decision whether I'll go in the car or on the bike that's it's not based on price.

Leyre Alonso Valdivia 15:38

Emh. Does your, well, you said your, you prefer to take the bike 'cause it's the only exercise you you do so. So does that influence your your commute, or that your your fitness or your health?

Participant #7 15:55

Yeah. Yeah, it's definitely a factor, because I mean, often the kids will be there kind of "Can we not just go in the car?" and I'm kind of going "No, this is the only exercise I get. You run around. I don't". So. You know. So no, it is that is definitely a factor.

Leyre Alonso Valdivia 16:13

Sometimes even at the expense of your kids, right?

Participant #7 16:16

Yeah, exactly. It's good for them anyway.

Leyre Alonso Valdivia 16:21

OK. We were talking earlier about road safety, but, as safety in general, does your, does it influence choosing the cycling, the, the bike, the car instead of the public transport, maybe even when you or the kids come to city centre? Does a safety, something that you think about?

Participant #7 16:49

Oh, it's definitely something I think about and not so much necessarily. For myself, I I find it unpleasant when it's kind of dodgy roads and stuff like that, but I kind of feel like I'm a grown up. I can handle it.

But certainly with the kids, I don't know that I would be thrilled for my 14 year olds to be cycling into town. Now there are bike lanes and and the bike lanes will be massively improved within the next three or four months between where we live and the city centre. But I don't think they would be interested in cycling and I think they'd prefer to take the bus.

Because then a whole bunch of them go on the bus together and it's again, it's a social thing, so.

Leyre Alonso Valdivia 17:29

Yeah.

Participant #7 17:31

But safety for me, as the parents safety is definitely a factor.

Leyre Alonso Valdivia 17:37

And is there any mode of transport, bus, luas, anything that you think is particularly unsafe?

Participant #7 17:50

Well, I know I've heard things about particular luas lines, but I don't. We're not. We're on the north side, so, it's not really a big thing on our radar.

And, personally, again, as an adult, I would be perfectly happy getting a bus, any time of the day or night you might get a lunatic every now and then but, mostly I would find it pretty safe and the darts as well. Sometimes you get people who are noisy, or who are drinking or who are making a mess or whatever, but I generally don't personally feel unsafe.

Leyre Alonso Valdivia 18:32

Ok. We are almost done, so just a few more questions.

Participant #7 18:33

Oh wow.

Leyre Alonso Valdivia 18:38

We were talking about how your kids influence your commute, but does the opinion of other people influence, maybe coworkers, your family friends?

Participant #7 18:51

Just a bit. Yeah. Yeah, yeah. Well, I mean, as I say, it was kind of a bunch of parents.

Well, three families, in the neighbourhood who kind of started saying, well, if we all, we in the beginning when the kids were smaller, we shared the cycling in a way like that, like an adult would always, because there was no bike lane, so an adult would always have cycled up with them and collect and brought them home again. So we had to kind of a little rota going between the three families. So that was definitely a factor.

But if that just kind of encouraged us and made it feel like it was good, safe even for small kids.

And then obviously, yeah, it'd like you. Yeah, it's that kind of, you wanna feel like you're

you're not a social, you're not a pariah and kind of, you know, killing the planet. You know that, like, I would have friends who would kind of be like, oh. Well, not my friends, my friend's kids who look at you, kind of, you know, "driving your car again. It's a disgrace". You know, "you're getting on a plane again. It's a disgrace". Well, I haven't been on a plane in ages, but I'm going on a plane soon. But, you know, they I do kind of think of it, and it does, it does have an influence.

The guilt.

Leyre Alonso Valdivia 20:02

OK. OK. And do you think that different modes of transport are perceived different? You are saying how, your friend's kids like look a bit down on you, like, "oh, you're taking the car". So do you think that is something that happens that people are like, "hmm"?

Participant #7 20:23

I some people now. I mean, I'm thinking about one particular kid and he's he's autistic and he's very, very willing to give his opinion and he's very, I mean, he's, he's very sociable and polite and lovely and everything, but he's very strong on the environment. It's his thing and. So that he will that he's he's kind of, he's, he's mellowing how he presents it, but he's very strong. And it's good 'cause it does make you think and make you think twice about kind of well, "I can do this or I can do that". And you know "this one is slightly more difficult but it's better in the long run. So I'll do that one". You know, so it does have an influence, but in general, there aren't necessarily. Most people, it's like, you know, politics and religion, they won't kind of go on about it all the time, but. Some people will and some people won't. Yeah.

Leyre Alonso Valdivia 21:11

But in general there is no ready adjustment of the amounts of transport, they just happen.

Participant #7 21:19

Kind of. Yeah. Yeah, yeah. I kind of it's. It's kinda like to a large degree. Well, I know it's it's better for the environment and I, and that is definitely an influence and a push. It's also just, it's practical. If it was completely impractical for me to cycle, I don't know

that I would go the extra mile to do it. 'Coz, like if I lived further out of town or something, or maybe I'd get an E bike, but like it is also easy for me. To do it. So. Yeah.

Leyre Alonso Valdivia 21:52

They are all as well. The they comfort and easiness of.

Participant #7 21:54

Yeah. Yeah, yeah.

Leyre Alonso Valdivia 22:05

And just one last question. So you were talking about how other families, other parents, influence your commute. So, will you say that, or to what extent, do you think society, that be that your neighbourhood, Dublin, Ireland, might influence, your mode of transport, your decision of 1 mode over the other?

Participant #7 22:30

I think it's massive. I think it's massive. I think it's, ehm, I think if if people see more people, cycling or taking a bus. I think like there are cities where, if you were to say you drove to work, they'd think you were crazy, but that everyone just takes the bus or the train or whatever. Like that, everyone, just that, when you're going to work, you use public transport. Ehm. And I think that, I don't think we quite have that mindset here yet, really, that it's that it's kind of universal.

So, and certainly, kind of for people if they see loads of kids cycling to school and cycling on their own, potentially it just feels, I think other parents then feel safer letting their own kids do it and encouraging their own kids to do it.

And then their kids are more independent as they grow older and it's just the kind of they'll see the knock on benefits of it. So that absolutely the visibility of that kind of thing.

As well as it just being, you know, something that people talk about, it's like it's not just word of mouth, but that you actually just see it in action.

But, yeah. Especially people with families, I think, you know, when you get older, it might be more difficult to influence people, but I think when when kids are going to schools, that a school can create kind of an environment, or a neighbourhood can create an environment where you kind of have campaigns to get good drivers to slow

down in a particular neighbourhood or that kind of thing where it's it's just it's a visual of it is there. So they know it's, it just feels safer.

Leyre Alonso Valdivia 24:11

OK, so that was all from me. Is there anything you think that I didn't ask, but I should have and you want to tell me about? Something that you think "oh, I want you to say a bit more on this".

Participant #7 24:15

OK. Oh. I don't know. I don't know. I can't think of much. I mean, see, I'm thinking about, I mean, your your study is on commuting, so that's, that's I think I've said everything about the way we commute, you know, like there's other trips that we make that are not commuting. So it's not really relevant. So no, I think I think we're all good. Yeah.

Leyre Alonso Valdivia 24:47

OK, that's. Yeah, OK. I'm gonna stop the recording now.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 28. Interview Transcripts – Participant 8

Commuting Study Interview-20240613_150616-Meeting Recording

June 13, 2024, 2:06PM

33m 37s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:04

Oh. OK, that's good. OK. Well, first, the previous the surveys were a bit about commuting behaviour. General information about commuting behaviour and this interview is to try and get a bit more in depth into what goes behind. So this the will be about your commuting and how you commute and all that. OK, so just that.

Participant #8 0:32

Sure.

Leyre Alonso Valdivia 0:36

Could you describe your commute from start to finish? Like I don't need you tell me "I start in this place". But like, where would you consider your starting point, your ending point when you think about your commute.

Participant #8 0:51

Yeah. So I suppose it starts from outside my my door at home here because I I tend to drive to college. So, I live in the countryside, so I don't have, and I live in County Kildare so I don't live within easy, it's not as easy to commute as it would be if I lived even in the local town or something like that. So regardless of where, where, sometimes I will commute on the train, haven't done that in a while, but even if I'm commuting on the train, I still have to leave my house and drive to the train station. I can't cycle or walk, it's about 10 kilometres away. But typically I, yeah, take my car and I'd drive into Trinity. I have parking on campus. So it's the commute. Yeah, it's, it's by car primarily.

Leyre Alonso Valdivia 1:44

OK, maybe you will consider it from your door to Trinity.

Participant #8 1:48

Mm hmm mm hmm.

Leyre Alonso Valdivia 1:53

Mmm. Why did you decide for the car? You said it's, it's a bit too far. Did you consider or did you thought about any other, maybe, combinations of public transport that you could take?

Participant #8 2:10

Yeah. So what I did for many years was I would commute on the train to to work. So that would involve me driving from my house for about 20 minutes, almost in the opposite direction of where I need to go to get to the train station and I would park there and then get the train to to the city. So that takes about, maybe 40 minutes, 45 minutes.

But at the time, I I gather things have improved quite a lot, but at the time where I would park, there was never any parking. It was just really difficult to get parking. So you could drive in and not, you know, it was hard to get parking at the train station. The trains at the time also were, tend to be late quite a lot or delayed in various ways. Emh, And always really busy where I got on; seems to be one of the peak places for getting on. So I think when I started going travelling to Dublin less often, so I used to if I was going five days a week, the train was what I would use and I could get, you know, a season commuter ticket or something, which is a reasonable price.

But then, with COVID and after COVID I don't travel in five days a week to to work. I work from home, maybe two days a week. So it's it probably comes down to convenience just to get into the car, it it, traffic can be fairly hectic getting into the city, but the time it takes is probably a little bit less and sometimes it would take me to commute by by train.

And I understand actually the place where I used to park the car, they've built a new car park, so parking isn't such an issue anymore. The train is quite busy, but not that really would bother me. It was like a combination of multiple things. The time, the parking,

the, the business of the train and always, you know, you'd never get a seat or nothing on the train. So I think that's why, yeah, I decided to to drive the last number of years.

Leyre Alonso Valdivia 4:12

OK. And when do you when do you decide to take the train rather than driving the whole way up to Dublin? How do you decide when or why?

Participant #8 4:28

I think sorry when in terms of how many, how long ago or?

Leyre Alonso Valdivia 4:34

Like, do you decide on the moment or how many times? How usually, is it something that you do often and it's like kind of their routine?

Participant #8 4:45

Yeah, it would be more. I I don't think about it that much. It's like if I'm in Dublin, I will drive the car now. Mostly. Sometimes if I'm driving, if I know that I'll have to leave the city at a busy time where the traffic will be bad, I do drive to the red cow and get the Luas into into the city. So I sometimes do that. But that's almost sometimes I'll, I'll decide that as I'm driving up, because I'm thinking "OK, I'm going to hit the city at peak driving time now, so it would be quicker and easier if I got the Luas", Or I'm thinking, "you know what? I'm not going to get to leave work till five and traffic will be so bad if I drive the car, I'll get the Luas in". So sometimes it's a it's, on this, in the moment decision almost, you know.

Leyre Alonso Valdivia 5:36

OK. And when you decide to take the train, it's something you decide before? Or is it also something you decide on the moment?

Participant #8 5:47

No, if I'm taking the train I would plan it in advance, I think. Like it could be the night before and, ehm. Yeah. Like if. Sometimes I have to, you know, carry things to work, you know, like your laptop or papers, whatever. And then the car is easier for that reason.

But if I, you know, had, yes, say, I'm meeting friends after work for dinner, for example, I might get the train then, but it's usually a night before decision.

Leyre Alonso Valdivia 6:16

OK. And you decide it based on what you're going to do after work or is?

Participant #8 6:23

Yeah, it's usually based on the times that I will be travelling in and out of the city and I'm thinking about the traffic. Or it could be based on, yeah, if I'm going somewhere after work and I don't want to drive home, I can get the train home then. Although where I live you don't actually get the train home, you get the train and somebody has to drive 20 minutes to collect you. It's never that straightforward, really. And actually, that's probably a factor as well. You know, if I was to get the train, it's it's, yeah, you'd be thinking about getting in and out of the train station, "Will I drive myself? Will someone drop me in if somebody drops me in? Who collects me to bring me home?" It's there's a there's more thinking involved, I think, when I have to get the train.

Leyre Alonso Valdivia 7:12

And did you consider any other mode of transport?

Participant #8 7:21

Not really, no. Like it's possible to get a bus from a local town, but the problem again is because I have to drive from my house to the bus station. There's no way to park your car. I'm sorry, there's no bus station, it's just the bus pulls in on the street. So it's been a long time since I got the bus to to Dublin, and again it can take a long time too, so it's it's easy. Just car, train, or car and train, or car and the luas.

Leyre Alonso Valdivia 7:54

OK. And have you ever consider cycling towards a closer public transport stop or getting early, off earlier in Dublin and take the bike the last couple miles or something?

Participant #8 8:14

Yeah. To go from my house to public transport in the country, I like I have considered it.

I think I did it a long, when I was a student I cycled on a couple of occasions into the train station, but not in, not in years. It's just it's about 10 kilometres away and usually in the morning, I have to two, two boys now. So usually it's, you know, you're up, you're busy, you're getting the boys ready for school and there there isn't that time I suppose to.

And probably I'm not that fit anymore. Like I have to go over quite a, it's quite a hilly road as well, so I'm it's fitness and time will prevent me from cycling from the house. And, emh, in the city. No, I've never considered getting the parking somewhere outside city and biking in.

Again, it's it comes down to if I was to park somewhere outside the city, where would that be and. That would be a great idea actually. If there was play. Like, say for example, I mentioned the red cow, you know, you can get luas, but there's great parking there, so you don't have to worry about, you know, your car is safe, there's always parking spaces. But yeah, if there was something another kind of car park that you could leave your car in safely close to the city and then biking, that would be a great idea, you know. Like I do cycle. I cycle around for leisure around this area the whole time. But just yeah, I don't commute by bike.

Leyre Alonso Valdivia 9:40

Hmm. OK. And when you used to cycle before or when you might be thinking of "I might take the the bike", does road safety play any role into that decision?

Participant #8 10:03

Yeah, yeah. You know, yeah, it would.

Yeah, so like I mentioned time and I mentioned, primarily time and my fitness, but yeah, the road I would travel, I would have travel to get the train station. It's I I don't think it's safe for biking. It's very hilly. Twisty. Yeah. Like it's country road. It's not this, it's constantly, accidents or near accidents on the roads. So yeah, that would be consideration.

Leyre Alonso Valdivia 10:38

OK. When you first started your commute, you said you still use the train more. You used to cycle up to the training station when you were younger.

How did you decide on the modes when you decided to change more into car? What

sort of things did you took into consideration when you say, like, "I'm gonna start using more of the car? I'm not gonna cycle anymore"?

Participant #8 11:12

Yeah, I think I can almost pinpoint it to the year it happened so.

So when I was expecting my first baby, like 11 years ago, I was commuting on the train at that point and, I mentioned that it was, it's always really busy and there was no seats. And I remember the early stages of pregnancy when I was feeling a bit sick in the morning and it just it was a really uncomfortable situation to be, and I suppose. So that's when I would have started driving more, I think, because that same year, I didn't have, I didn't have so many early start, you know, sometimes you might just drive in and you could be in for 10:00 o'clock or something. I didn't have to be in there at 9:00 or half eight, I think. So, there was more flexibility with the car, I think. And equally so, when you're finished work, you get into your car, you drive home. So, that was, I suppose, the the primarily when I started driving more.

Also at the same time I got a permit for Trinity College ,around the same time, because I didn't have a parking permit before that. So I have one where I can park on campus. So I think I was working with Trinity for about five or six years before I got the permit. So that made it easier, as well, when you get to the city. And certainly then, with COVID, I would like I would never drive in five days a week. That's just, it's tiring. It's too much. And I would be conscious as well of, adding to the cars already on the road and you know, climate crisis and all that kind of thing.

But then with COVID and then more flexibility around working from home, because I only travel in three days a week for example, it's, it's not, it's it's a, it's a. It's more convenient, I suppose, to to bring the car and yeah.

Leyre Alonso Valdivia 13:01

OK. And if you could use, if you had the option to use any mode of transport? You could have a bus line, bus route straight from your home to Trinity; you have trains, everything. Is there any mode of transport you will never consider or one that would you consider above all the others?

Participant #8 13:29

No, I don't think I would rule anything out. Like considering the distance, you know it's it, I'm about 50 kilometres away from from work, so I would suppose cycling would not

be an option for me to to go directly from home to to work. But yeah, if the bus line or the train.

Were were closer to home, that would be an ideal situation because. You know, sometimes I'm in traffic driving and I'm really conscious that, like it can take me 2 hours to get home sometimes, and I'm thinking "I could write so many emails or do so much work at this time". Whereas if so, if you're on the bus or you're on the train, that's time you could use to do some work, or read a book, or listen to music or whatever it is, you know.

Leyre Alonso Valdivia 14:13

OK. Ehm. Do you mention the environmental concerns. Is that something you you actively think about when you are thinking about your commute?

Participant #8 14:28

Yeah. Uf so it, no, it would be, yeah and that's why I think I I wouldn't want to do it five days a week because I just think that's too much and I'm very conscious sometimes when I'm driving and for example, you're stuck in traffic and there's lots of cars like mine with one person in the car and, ehm, like I know that's not a good thing. So that's why sometimes it's handy to maybe park at the red cow and get at least you're getting the luas into the city centre, you know. And I think it isn't my intention in the months ahead, I'm, I am gonna shift how I travel to work, and I think that's the way it's going to be. I think I'll. I'll drive as far as to Luas and then get the Luas in.

It just feels like I'm cutting back a little bit on the fumes I might emitting by driving in myself. And also I just feel the city is getting very busy and very, like it's very it's hard, it's it takes a long time to negotiate, the late, the streets sometimes at certain times of the day because of is too many cars, like mine, on the road. So I just think if we all start using public transport where we can, it'll help a little bit in that respect, you know.

Leyre Alonso Valdivia 15:42

And I think you mention price as well, is something you consider?.

Participant #8 15:48

The price.

Leyre Alonso Valdivia 15:49

Yeah, the, the, the, the money you have to spend for the.

Participant #8 15:54

Yeah, like I think. Yeah. So, I think that the way I used to travel up, if you're paying per day, it's something like €20 per day, like it can be quite expensive just for your tickets in the city. But if I drive closer to the city and get the Luas, for example, I don't know. It's like a €5 Max., you know, for your parking and your ticket, which is very reasonable. So I suppose it is.

It wouldn't be the main factor, but I suppose, it, for to not use a train, it kind of adds adds up with all the other reasons that I don't do that so.

Yeah.

Leyre Alonso Valdivia 16:35

OK. Ehm. OK. And do you think about weather, when you decide on how to commute?

Participant #8 16:49

Yeah, I do, yeah. In, in yeah, in different ways. So for example, if it's raining, and if I have like important meetings or I'm dressed up and I I need not to look like I do right now, like coming in from the rain, I, you know, you don't want to be standing around waiting for your bus or waiting for your, for your train. But equally so, I always consider if it's raining., the streets are much busier in the city, so it's it's it's takes you longer to get in. But weather will be a little bit of a factor I suppose. But because I'm not typically I don't cycle or or

walk like obviously, if I get to train and I'll walk from the train station or from the Luas stop in, but it wouldn't be. It is a consideration, but not, I suppose, a main one for me.

Leyre Alonso Valdivia 17:43

And does your commute change during the year? Like maybe, you drive more during the winter time, or you might take more, the public transport in summertime, once the school is over.

Participant #8 18:01

Yeah, yeah, it it it possibly. I I tend not to travel, I tend to work more from home during the summer months. So when you know, because it's college and it's quieter during the summer, I tend not to be commuting as much in any, using any mode of transport in the summer months. I find I just get more work done at home and I save the time that I normally spend commuting.

But for the rest of the year.

I'm not sure really. Yeah, like, It's certainly easier to drive in during the summer because, like the schools are, there's no schools on. So that's what one plus point, it's a little bit easier, but, because the roads are quieter. But otherwise I don't think the time of year would dictate maybe how I get to work. Interesting question actually.

Leyre Alonso Valdivia 18:59

OK. And how about the speed of the commute? Of how long does it take you to actually get work? It's something you think about when you decide that "I'm gonna drive? I'm gonna try to take the train"?.

Participant #8 19:15

Yeah. So yeah, sometimes. It's funny, like you mentioned the weather earlier on, sometimes it's going to be very wet. I know the roads will be busy, so I will take the train, but then the weather is frustrating because you get wet while you're waiting or whatever for the train.

But, hey, sorry. What was the angle of that question again, I I I was thinking.

Leyre Alonso Valdivia 19:40

So if if, when when you're thinking when you're deciding how to get to work.

Participant #8 19:45

Oh, time.

Leyre Alonso Valdivia 19:48

Do the time it will take you to get to work, is something that you think about. Like they, I drive because it will be one hour or I don't mind taking the train even if it's hour and a half. It's something you think about?

Participant #8 20:02

Yeah. Yeah. And it's probably say if there's a day, for example, where I have a meeting, at 12:00 o'clock or something in the day in the day, I would probably drive be more likely to drive then, because I know I can leave my house and be there in one hour because it's not peak commuting time. So, I suppose speed is a factor. So the train usually takes the same amount of time all the time, whereas I can get to work a little bit faster or get home a little bit faster if I leave at off peak off whatever less busy travel times.

Leyre Alonso Valdivia 20:36

Hmm. So you also think about, whether is off peak, will get you peak time at train at at getting to city, is something you think about?

Participant #8 20:48

Yes, yeah, yeah.

Leyre Alonso Valdivia 20:50

OK. And does anyone in your household or in your close family influence the way you commute?

Participant #8 21:04

You mean in a practical way or in in terms of.

Leyre Alonso Valdivia 21:06

Yeah, so for example, if you need to take kids to school, you will take the car around the cycling. Or if you need to do some grocery shopping, you might want to just not take the train at all.

Participant #8 21:20

Yeah. Yeah, those two examples are perfect examples. So I bring my children's school most mornings and then I'm on the road in the car. And, and their school is also in the opposite direction to where the train station is. So it's almost like you feel like you're going backwards to go get the train. So that would be a factor. And like you say, doing

just household tasks, picking up the groceries, picking up something from the hardware shop. They're just part of weekly life, really. And and it does dictate then, if you have the car with you, it's easier to get that kind of those goods, yeah.

Sometimes when, my my husband, sometimes, works on the way that I travel, so sometimes I'll drive, because I can drop him to work as well then, and then I can get back on the road. So that's another practical consideration too, you know.

Leyre Alonso Valdivia 22:18

Ehm. You mentioned earlier about not feeling quite fit anymore to cycling. I guess that's some, also something you think about, particularly if you're thinking going back to cycling something you do keep in mind your fitness, your general health?

Participant #8 22:36

Yeah, yeah, yeah. And like, I think if you like, if you could commute to work by bike. You're squeezing in an extra fitness session during the day, so it's it's you're killing two birds with the one stone. But I think, I just think the distance I've to travel, no, 10 kilometres isn't particularly long distance, but it's a mixture of the distance, the road I have to get to get there. Like I said, it's up a very significant hill and twisty road. Like it's a mixture of safety and fitness. Like I can cycle 10K flat, I'm not sure how easily I'd cycle ten kilometres up and down hills and arrive in a sweaty mess, you know, to work. But I would, yeah, it would be a consideration as well, you know. Like the fact that when we get to work, we have to look a certain, well, we don't have to look a certain way, but like yeah, you don't want to be showing up sweaty, and dishevelled looking, because you've been cycling a path mountain that morning, you know.

Leyre Alonso Valdivia 23:33

Hmm. Do you think if Trinity could improve, like having some changing facilities, have some showers for people who cycle. Do you think that will be something that would push you into cycling more into into city centre?

Participant #8 23:57

Yeah, yeah. I think that would be good. Yeah, that's great idea.

Leyre Alonso Valdivia 24:02

Ehm. And does safety in general influence how you commute? So, for example, maybe you want to avoid the LUAS or the train at a specific times of the day, or a specific day or or on days you might not feel safe enough to drive because the weather is very bad or and you will rather take the train. Is something you consider?

Participant #8 24:35

Maybe I'll actually, apart from like road safety, there might be, like times of, like saying if it was late at night, I don't if, and I was getting to Luas back out to, you know, to the car. I might keep that in the back of my mind, that it might not be so safe like, it was particularly late at night or something, but it's not so much for a road safety perspective, but from a, do you know, you might meet people who are not up to the best of intentions on the on the Luas. But it wouldn't be primary concern, I have to say, but it's probably something in the back of my mind occasionally.

Leyre Alonso Valdivia 25:14

OK. So do you think there are some modes of transport that are more unsafe than others?

Participant #8 25:24

Yeah, I suppose, from a road safety point of view, like I'd be conscious of cycling and and the facilities for cyclists, not facilites, but like even in the city, I see a lot of roads are are. I actually would be quite nervous to cycle in the city like, so I live in the country, the roads aren't great here in terms of like I live on a main road in the country outside and I don't know if you can hear it, but there's lorries going up and down really like constantly. It's quite busy. But then I'll do the roads off or tend to be a little windy, twisty roads. So, they're not the safest for cycling, but in the city I do see their cycle lanes, which should make it easier, but as a motorist I see, sorry, which should make it safer, but as a motorist, almost everyday, I see cars cutting on those lanes. I see cycle lanes that are there and then they kind of just disappear. I don't like it's. So I think I'd be nervous to cycle in the city. I haven't actually cycle in the city in years, you know.

Leyre Alonso Valdivia 26:22

Hmm. OK. OK, we're almost done. OK. Ehm. So, to what extent do you think the opinion of others might influence your commute? If at all.

Participant #8 26:49

Ehm. Yeah, I suppose to some extent it would so.

Like, sometimes, my husband, for example, would say, you know, if I like, if I mentioned earlier on if I was meeting people after work, he'd say "oh, why don't you, you know, leave the car, get the train and I'll pick you up from the train station so we can have a glass of wine or something with your friends after work". Or if I have some kind of lunch or, you know, like an event something. It's almost like he would be thinking, so you can just kind of relax, and on the way home, you don't have to be worrying about driving or anything like that.

And probably also. Yeah, like I would be conscious of driving to work by car and the environmental impact of that too, so.

Yeah, like so other people's opinions would have. Like I have that opinion myself. So yeah, no, I think it would to some extent, yeah, for those two reasons as examples, yeah.

Leyre Alonso Valdivia 27:52

You think particularly the environmental part of, people might have stronger opinion about some commutes and that, modes of transport, that might push you towards something or the other.

Participant #8 28:06

Yeah. And like I would agree with them as well. You know people are very anti driving. Like I I I I had those beliefs myself. Hence I used to travel by train so much.

But some, I think the way I am now, it's like I don't have a whole lot of viable, there's other, there's options available to me, but there, I don't know how viable they are sometimes. So like I say, to get the train, I still have to drive. I have to drive in the opposite direction, probably adds an extra half an hour to the overall commute. So it's not practical. I suppose, you know, that's probably the reason. But but I would certainly be conscious of other people's views on that issue, because I probably hold them myself, you know.

Leyre Alonso Valdivia 28:49

So you do seeing some mode of transport, are perceive more positive or negative than others.

Participant #8 28:57

Yeah. Yeah, yeah, yeah, yeah.

Like I have colleagues at work who cycle, you know, to work every day, and I think that must be lovely. You know, you're not dealing with traffic. I know you have got the weather and there's road safety and there are significant issues too, but I like the idea that you could work close enough to your home, that you can, or live close enough to your work, that you could just cycle, so it's like minimal impact on anybody and you're healthy and fit. And it's like the ideal scenario. Ehm. Like when I used to work, years ago, in the local, local town or local village, I'd cycle, cycle all the time to work and and or to meet people or whatever. It's just. Yeah. I just don't think it's an option for me, so.

Leyre Alonso Valdivia 29:47

And just last question, do you think or to what extent do you think society that might be your neighbourhood, the city, the country, might influence your commute?

Participant #8 30:07

It's probably different depending on how wide the context you're talking about is. So I think in the neighbourhood where I live, because we're all in the country, like you have to have a car to live where we live, really because. You know, most houses have at least one car. So I think driving is like the typical thing to do. And even a lot of students, actually, around where I live, they, our local university would be Maynooth university, which is still maybe 1/2 an hour drive away, but most students would, when if they can, they get their own car and they can carpool and and go to college because it's so, like awkward, to get the bus, you still have to drive probably 15-20 minutes to get the bus, you know? So I think it's, it's almost like a taken for granted thing if you live in this area, people drive, to get where they want to go.

But but I would be conscious of like a in a broader context, societal context, that driving a lot, particularly as I mentioned earlier, one driver per car, is wasteful and it's not perceived to be a good thing. So I am aware and conscious of that.

Leyre Alonso Valdivia 31:27

OK. So OK. That are those are all my questions. Is there anything in particular that you, that I may have not asked about and you would like to talk about? Something you

would like to maybe, expand a bit more you're like "I didn't say everything I have to say about this"?

Participant #8 31:51

I think I said everything I was going to say. I think it's quite interesting to focus on this topic and and yeah, thanks for asking me those questions, because it does make me think. And it, well, I think what's coming to mind is that, I would be conscious that I commute by car primarily, in cost of the environmental impact, but almost in the day, and this is a very, I'm conscious as I'm saying this, it sounds like quite a selfish thing, but in in in day, in the practicalities of day-to-day life when you're thinking about dropping the kids at school and being back to collect them from the child minder, and picking up shopping on the way home, and getting to, all the other things that are going to your head, it's almost like you don't think about it too much because the driving is just something that gets you where you where you need to go in order to tick the box, like I went to work today or whatever so.

It's nice actually to isolate something like commuting and yeah, to think about a little bit more, more depth.

And especially as I mentioned to you earlier on, I I have started the last while, like I say driving towards Dublin and parking and getting to Luas in and because it it seems working out quite well, it almost alleviates a little bit of guilt in some way, actually feel like you're not. I just have a thing about driving my car in the city centre because it's so clogged up and busy as it is.

So it's good to consider these issues when I'm making plans for my future commute to work. So thank you for your questions.

Leyre Alonso Valdivia 33:23

It's good. Well, well, that's all I'm gonna stop there recording now. If I can find my mouse, here it is.



Leyre Alonso Valdivia stopped transcription

Appendix 29. Interview Transcripts – Participant 9

Commuting Study Interview-20240617_100422-Meeting Recording

June 17, 2024, 9:04AM

24m 15s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:06

OK, now. OK, so as I was saying the interview, I'm going to be asking you about, is going to be mostly about your your commute. So can you describe me your commute from start to finish? I don't need when I say start to finish I don't need you to tell me like physically or geographically where it starts. What will you consider your the starting point of your commute?

Participant #9 0:35

Yep. So I start from home.

And my office is 30 minutes walk from home, so I basically walk that's as simple as that. And that's the my current my current most popular way of getting there. And it's, I'm very lucky to live where I do, and it's a it's a pleasant walk. And there's very little else really to say about it. Sometimes I walk with my husband because he walks the same direction, his office. And he goes further than I do. Yeah. So it's pretty straightforward. If it's raining, yeah, you're probably going to ask me al sort of questions, if it's raining, I hop, might hop, I might hop on a bus. If I'm in in a hurry, I might hop on a bus. But basically my, my, my commute is my my basic exercise for the day.

Leyre Alonso Valdivia 1:16

Ehm, why did you decide for for walking?

Participant #9 1:31

Because it's it provides exercise.

Best, best use of, so I suppose you know, if if I have to cover that distance, then walking is the best exercise to get on that distance.

I used to cycle, I used to cycle a lot, but that was useful because in those days when I my children were younger, it was the fastest way to get from from here to office and back. It provided me with less, you know, less delays and more flexibility.

But now that I don't have to rush back for children, walking is the best option. And if I don't walk to and from office then, like today because I'm at home today, you might have worked out. Then I have to find another way to get some some exercise, some walks up.

Leyre Alonso Valdivia 2:16

OK. And you mentioned briefly taking the bus, how, can you tell me a bit more about this?

Participant #9 2:22

Yeah. Yeah. So, so if I'm, if I want to take the bus for some reason, then I walk maybe 7 minutes, I think it's about 7 minutes to the bus stop, and then there is a variety of buses which leave me either on on Dawson St or on Pearse St, they go down Western rowing around to to near the science gallery. So it's quite convenient, and pretty regular, like eh, I could, I can have a bus, I don't need to look at a timetable, there's a bus every, in the morning, there'll be a bus every 3 or 4 minutes.

Leyre Alonso Valdivia 2:55

Yeah, and it's that something. How do you decide on using the bus?

Participant #9 3:00

So yeah, so so if it's very wet, I'll take the bus. And, otherwise, I mean, OK, I'm I'm rarely rushing in the morning that I need to take the bus; and anyway, there's no guarantee the bus is faster in the morning. Sometimes in the evening, if I'm running a bit late, I might. I might choose the bus; in that case I get the boss on Nassau St. And, yeah. Or if I'm very tired for some reason, I might get the bus. But, but essentially, you know, nine, no more than nine times out of 10, you know, maybe twice a month I might get a bus from my commute. I use buses a lot for other things, but for my commute, the bus maybe once or twice a month.

Leyre Alonso Valdivia 3:47

OK. OK. And did you ever consider using any modes of transport, you say, you say earlier cycling, did you consider any other modes transport?

Participant #9 4:00

Yeah, so so I've been working Trinity for a very long time, and I've been living here for 20 years, 21 years now. No. Yes, 21 years now. So, in fact, I used to drive to college because I had, I had, for two, in fact, for two periods. No, is that right? For one period I drove because I had, when I was pregnant with one of my children, I had quite a problem with my my pelvis, and I would drive. But I didn't ever like driving. It's, it for the distance I cover, you, driving can take nearly as long as walking, in bad, in bad traffic and you, you have no predictability about how long it will take, which is the worst. Well, is one of the bad things about it.

You don't get any exercise, you don't get to hear the birds singing. You don't get to, you know, if you're on the bus, you can do useful things. I really hate, I hate being in the car.

And then about six years ago, I had, I guess this is the main reason I used to cycle, six years ago, I had a very bad shin splints and I reached the stage the physio, physiotherapist wanted me to to keep reducing my my my activity until it wasn't a problem, which meant I end up on crutches. So, I used a bicycle in, well it yeah, I I spent a lot of time working from home, but then when I had to go to college I used my bicycle. And as that problem diminished, then I'm I moved back to to walking. I guess, I probably for a little while walked, I walked and took the bus. And then and then I managed now to walk, to walk in and out.

So, walking I guess you would say is my first choice. If there's a reason why my mobility is affected, maybe the bicycle comes next. And at the moment I'm completely out of the habit of taking the bicycle; in fact, I don't think I've been on my bicycle since last October. And so you know, I hop on a bus, if I if I have a reason to, to not walk.

Leyre Alonso Valdivia 6:09

OK. And you just you said earlier, do you you used to cycle when your kids were younger, how did you decide on cycling?

Participant #9 6:19

I've always been a cyclist. I've always lived in this part of Dublin. And since I was a child I

was cycling around; I've never, I've never considered it dangerous. I mean, I have had a couple of minor accidents but they weren't really, they weren't really, you know, cars crashing into me; I hit a footpath once, I did crash into the back of a bus once. Anyway, I I, I, I I guess I'm relatively careful and I haven't, I've been lucky. So I just find cycling a really, really convenient way to get around. Eehm, and when I was in college, when I was an undergraduate, I say "Oh, we cycled" to and from college, similar distance. Cycled, always everywhere, love being on a bicycle. Yeah. So it was a very obvious, obvious way to to, to. I wasn't always, I mean, I wasn't much of a Walker. So I guess, I guess, I've become more of a person who likes walking in in the last 20 years, but but a bicycle was the sort of first choice of of getting anywhere for, for me. Unless I had to carry children with me, which meant I had to have, I might have had to have a car. I guess when, I'm sorry now if I think about it, when I was, when the children were going to school, I would walk them to school. Yeah. So sometimes they will walk to school and then I walked on into campus. Other times, I would put them sitting on the back of the bicycle and walk the bicycle. But, you know, so, so it it, it was always whichever one works best for the for the circumstances, if you have to get kids to and from places, then it may be different, if one of them is able to walk and the other one has can be on a bicycle, then yeah, that works. Otherwise, yeah, never never drove them to school. They were never, ever ever driven to school.

Leyre Alonso Valdivia 7:59

OK. OK. Yeah. And you mentioned that you switched to walk in because of health issue, right?

Participant #9 8:08

Yeah, for for, for, for fitness, I guess, yeah.

Leyre Alonso Valdivia 8:21

Would you consider going back to cycling?

Participant #9 8:30

The reasons I might consider going back to cycling would be for mobility reasons. If I found it more difficult to walk. I think that's really the only reason I would do it. But yes, but but but I have nothing against citing. I mean, I like cycling. It's just I'm out of the habit.

I've become very fond of public transport, by going anywhere, I hop on a bus or dart. I use Google Maps to decide, you know, what's the, how can public transport help me get there?

And I'm I'm out of the habit of cycling. Now, it's, it's strange because whenever I do get on a bicycle, we were away last week and I and I I went cycling or the week before I was on a bicycle. I love being on a bicycle, but you just don't get quite so much exercise for a fixed distance, that's the that's the decision thing in my case, for a fixed distance, my commute to work, you get more exercise walking than you do cycling.

Leyre Alonso Valdivia 9:31

Has, when you are on the on the bicycle, when you're when you're cycling, is, has road safety ever been a concern? Either keeping you from the bicycles, something you were particularly worried about?

Participant #9 9:47

No, no, I I might. I might choose my route based on availability of cycle cycle lanes, well, not exactly cycle lanes, but you know space for bicycle. I might choose, choose a different route, I would avoid going through Ranelagh because it's a bit, a bit tight, I prefer to be on the other road. But, but I would never not go on a bicycle for safety reasons.

Weather would be the biggest thing to put me off my bicycle. It's not nice on a bicycle in the rain or wind, wind, wind and rain, actually wind. Probably more so than rain.

Leyre Alonso Valdivia 10:24

OK. When you are thinking about your commute on off, how to commute, does environment play any role into that decision?

Participant #9 10:49

Definitely. I mean, that's why I don't use. Well, it's a good question, I guess. I mean, I definitely, am very, I'm very conscious of the environment. I've I've significantly reduced flying; I I tried now to fly for personal reasons, you know, once, once a year if I can, if I can, you know, sometimes it's it's difficult, but that's my my aim. So I'm very conscious of environment, and I always was, I grew up in a household where my my mother was a politician and very interested in environment. So so that is in some ways at the root of

it, but actually I, I just think, I think the people who drive, who drive unnecessarily, who drive without really needing to, are really missing out and understanding how much more pleasant life is if you don't take your car. I mean, I just. I'm gobsmacked really. It's on people. People who live on this road with me, who who never leave, this is the road where I live, which is very convenient to everything, they never leave it out except in their cars. Just walk. I mean, this morning I left here at 8:00. O'clock, walked to the supermarket, bought some groceries, OK, it's about 2-2 days worth, and walked home with that on my back.

And other people would drive, well. I just. I just, I find it gobsmacking because really, I just find being in a car means you've got to deal with traffic,. you have to find a parking space.

You're not contributing to the the pleasure, the pleasure of the of the environment. You know, it's it. Yeah. So, I'm really quite anti cars. I mean, I have a car and I drive. I drive but I'm quite anti cars. So. So yes, it's it's definitely a part of it.

But also it just there would be no reason for me to to drive. I I no longer have an; we changed our cars, I have a, you know a permit to park in Trinity, which I used to have and I used to use back when I had to, I had a, when I was pregnant and I had that injury, but I was I was I was happy to give it up.

And but, really getting into the car. And so yes, sometimes it's faster, but I love being on the bus, you can do things when you're on the bus. You can look out the window when you're on the bus. You can, you know, you're relaxed. Yeah. Yeah. So I just. I really, really feel people are missing out who don't realise how much more pleasant life is if you leave your car at home. But I'm very, I also recognise I'm very, very lucky where I live. I'm very, very lucky to to have options.

Leyre Alonso Valdivia 13:12

OK.

Participant #9 13:13

And and and, you know, all the whole business of of low density housing and suburban sprawl and all of that, it's such a shame, so many, so many people who don't really, genuinely, have an option to to do anything other than drive it's it's it's terrible.

Leyre Alonso Valdivia 13:31

And does your commute, is your commute the same during the year? Or does it

change depending of? Like some people might decide for public transport more on winter, or some people might decide to walk a bit more in summer? No.

Participant #9 13:45

No, no, no, no.

Leyre Alonso Valdivia 13:48

OK. Ehm. Does anyone in your household or your close family, friends or community. You were saying earlier when your kids were younger it might affect how walking instead of cycling?

Participant #9 14:01

Yeah, yeah, yeah. I mean. Yeah. I mean, clearly when there are children to be brought to school, that may, I can't quite remember now, I'm having some difficulty remembering. I certainly remember at the end, bringing the last child to school when the other two were in secondary, we were, we were, I was walking my bicycle and she was walking with me. So I was still cycling in those days. Ehm. But there were definitely times when I was walking the girl, the girls to school and I didn't have a bicycle. I'm not, I find it, it's quite a long time ago, my youngest daughter is 22.

So yeah, I mean, certainly the choice between walking and cycling, and I probably hopped on a bus, if I had to walk them to school, I might hop on a bus just to make, to shorten the time. But my my memory, my main memory of when the children were small was the bicycle was the best because it gave you, it was quicker, you know, it was a quick to get home and quick if there was a crisis, if they needed, you know, somebody needed to be picked up or somebody was sick. So. So the bicycle for me, as a preference to the to walking was about,

Quick quick, speed, speed.

And now, you know, the, if I was ever tempted to hop on a bus because I'm being lazy, but if I'm walking in with my husband, then I'm I'm more likely to walk. So, you know, being able to walk in with him is, I guess, a little bit of an influence on my behaviour.

Leyre Alonso Valdivia 15:25

OK. OK. And you mention as well that you are a bit concerned mostly when you were cycling about weather, did you prefer walking because it can be faster than or as fast as public transfer and the car? Does price or cost is something you think about?

Participant #9 15:50

Eh, very little. And and gosh, now that they, now that they now, that the standard fare is €2.00. Although for me for me, I think I think I can get a bus from here for less than €2.00. But when I'm all the other things apart from commute, because my commute is so short, it's it's really not very interesting conversation, but, but for all sorts of other decisions, the fact that you can hop on a bus and then another bus and and it's €2.00 that that really, that really means for me, cost is not a reason why I wouldn't take the bus to, you know, to Dún Laoghaire when I go, or to Killiney, when I'm swimming or or whatever it might be, visiting my aunt in Black Rock because it's, you know, it's €2.00, it's it just doesn't seem like. So I really think that helps.

But, yeah, but for me, the cost of public transport hasn't been, you know, it hasn't been significant piece in in the whole puzzle. You're taking three children to town. Then you might suddenly go "umm". But still, I mean, I had friends, a friend, who lived near me, who who would say, "oh, yeah, no, I always take the car into town". I'm going "from here?". Sure. She lives, she lives at my bus stop. She lives where I get the bus. And I would go "but the bus stop right outside and you wouldn't have to park". And she said "no, it's cheaper, cheaper to drive for two children and me to town and park the car, then to take the bus in". Well, she was not short of money, so I just found that was a really strange, really strange decision to make. There you go. So no price has. I'm very lucky again, you know, Price is not an issue.

Leyre Alonso Valdivia 17:17

Ehm. Does safety in general, not road safety in so particular, safety in general.

Participant #9 17:25

Personal personal security. Doesn't bother me either. I'm again lucky I live. I live in a in a in a safe, secure environment, lots of street lights, I don't worry about walking home from town, it doesn't have very often, but at midnight, or or anything. I I I might I might take take a slightly different route, very slightly different route; there's a there's a sort of a back, a back way up to my house, which I don't take at night because it's just just nobody.

But I wouldn't. I'd never make a decision about how to travel based on personal security.

Again, I'm really lucky. Never had any had any issues with being attacked.

Leyre Alonso Valdivia 18:05

OK. OK, OK. We're we're almost done. I only have like 3 questions left, so.

Participant #9 18:15

OK.

Leyre Alonso Valdivia 18:19

To what extent, if any, does the opinion of other people affect your commute?

Not at all?

Participant #9 18:31

Nothing. Not at all.

Leyre Alonso Valdivia 18:33

OK. Do you think different modes are perceived differently, more positively, or more negatively? People.

Participant #9 18:46

By people in general.

Leyre Alonso Valdivia 18:47

Yeah.

Participant #9 18:49

Well, yes, certainly there are people who think buses are for poor people or buses are for, you know, other people.

Definitely there are people who consider road safety a big issue for cyclists. And I I do understand that, I've I you know, I've sort of considered myself lucky, and I guess, 'cause I've been cycling since I was a child, and possibly just a little bit more conscious of of, of how to cycle safely. But I'm very conscious that there are people who consider cycling very, very just mad, madness and dangerous.

And. Sorry, can you just repeat the question? I know it was about positively negatively, but I can't remember do.

Leyre Alonso Valdivia 19:33

Yeah. If different modes are perceived more negatively or more positively than others.

Participant #9 19:41

Yeah. I mean, there are, there are people who just think, you know, I have a car, I'm going to use it.

So everything else is considered, is considered, "Why? Why? Why would you do bother?"

I, you know, amongst my friends, family, most of them would be, you know, would be, would, most of them would be inclined to, you know, try not to use a car if they don't need it, but probably not as much as me. I think my, I think my friends, some of my friends, certainly think I'm a bit extreme in terms of taking public transport when, well, I have a car and you know. I, particularly from one particular friend, in fact the one who used to drive her friend, her two daughters from her home into the into town, even though the bus stop into town was right outside her house, she's always amazed if I say, "Oh yeah, I'll meet you out there, I'm taking the bus". She goes, "oh, is the car not available? I'll drive you" and I'm going, "no, no". Well, if she'll drive me from her house, then I'll, I'll do that, Why? Why not? Because she's going anyway.

But actually I almost prefer to take the to take the the bus of the tram or the whatever it's, you know, part of the part of the outing. Because I have time now. Obviously when you have small children, it's completely different, you know, time is so much more, so much more complicated. Well, it's not even just time, it's just logistics, it's so much more complicated when you're small children. But but my children were always very, very, very, very independent as well. So they were not driven. They were not driven anywhere that we could go by bicycle or by foot.

So yeah, I got, I didn't have to drive them very much anywhere and, very, again very lucky because their school, their secondary school was 100, 2 hundred metres from here. And their primary school was was comfortable walking distance.

Anyway, I'm getting away from positive and negative perceptions, but I definitely know that there are people who just think buses are for other people. And the buses are smelly, and and wet, and and steamy. Even my husband, really hardly ever would consider bus, he'd say. "Oh, I'll take the Luas". But the Luas is way less easy to get to our

house, not way, but it's not convenient to come to our house from town on the Luas. But he would prefer to do that than take a bus. I don't understand. I don't understand.

Umm, perceptions of yes, eh walk; cycling has been dangerous, and there are people who who think being out at night on foot is is, is, is risky. I don't have that sense and I have been lucky, touch wood, and I am prepared to continue taking the risk for the value of of being able to walk.

Leyre Alonso Valdivia 22:13

OK, OK. And just one very last question. Do you think society in general, that might be your neighbourhood, Dublin, Ireland, influence the your decision of the amount of transport you use for your commute?

Participant #9 22:35

Do society influence my mode of transport from my commute. Well, I guess in the sense, well, does it? I mean, society and emphasis on environment and climate crisis, I suppose, maybe helps me to be resolved in, in, in walking, walking or cycling, but I think I would probably do be doing them anyway for my own, for my own reasons. So I'm not sure to what extent really society affects my my my decisions, to be honest. Oh yeah, I do it because it suits me. Think that's basically the answer.

Leyre Alonso Valdivia 23:21

OK.

OK, OK, that's, that's perfect. Is there anything that I didn't ask that you would like to talk about? Something that maybe you mentioned that you now want to expand a bit more on it?

Participant #9 23:41

No, I don't think so. As as I said, you know my situation is probably a little bit boring because it's it's so easy for me to walk or to cycle. And I, you know, I just for me those are the the sensible choices to make.

It's it's, you know, it's obviously much more complicated for people in in, you know, othe situations.

No, I don't think really there's anything, anything more that I wanted to say, no.

Leyre Alonso Valdivia 24:07

OK, OK. That's perfect. I'm gonna stop the recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 30. Interview Transcripts – Participant 10

Commuting Study Interview-20240617_120313-Meeting Recording

June 17, 2024, 11:03AM

24m 39s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:06

There it goes. OK so. Well, thank you for agreeing to the interview. Thank you for participating in the previous surveys. Then my my PhD is about commuting behaviour, so in in the surveys you answer previously was a lot of different questions about commuting and things that influence commute; and this interview will be in line of that, we will, I'm trying to get a bit more of in depth of what we got from through the interviews. So, to start, could you describe me your commute from a start to finish? I don't need you to tell me where geographically it started. Where would you consider the starting point, the ending point? How do you commute? That sorts of things.

Participant #10 1:00

OK so I am very lucky since COVID I've been able to work from home a lot.

Leyre Alonso Valdivia 1:05

OK.

Participant #10 1:06

So I commute once a week. And I consider the starting point my home. Which is in the middle of the countryside in County Kildare. I then drive about 7 minutes, 8 minutes to the nearest bus stop. I'm between, on the 120, between from Eden Dairy into town. I catch a bus that usually leaves around 10 past 7, 15 past seven, depending on when it arrives, and then it gets into town about an hour later. It's a, it's not the express, which is unfortunate, so it takes a while. No, actually 2 hours later, not an hour later, 2 hours later. And then I walk from the bus stop on the Keys to Trinity College, which is where I would consider my my commute ends. So I usually get into Trinity around 9:30, and I leave my home about 7:00 o'clock; so the commute is about 2 1/2 hours in the morning.

In the evening I finish work at 5, I walk to the keys and then generally I have await anything from, you know, if there's, if the plans align and something happens, it's 10 minutes, sometimes it's an hour. Most of the time it's in the region of 20 to 30 minute wait. The bus gets there whenever it gets home, whenever it gets home; it's usually in the region of between two and three hours commuting in the evenings. And then I get into the, I get into Cane, in Elwood, and then I get into my car, and then I drive home. The car is parked in the village during the day.

Leyre Alonso Valdivia 3:12

And how did you decide for that commute? That drive, bus, walking commute?

Participant #10 3:19

I it's it's about an hour's walk into town for me. There's, there's two routes I can walk. One of them is quite dangerous. It's a bit shorter, maybe an hour's, 1/2 an hour walk, but the the safer walk is is probably an hour in the morning, which is just too much at that hour of the morning. I'd have to leave home at 6:00 o'clock to get to the bus stop, so I have a car I go into into the village, I park the car there, and then I take the I take the bus in.

The reason I take the bus is, first of all I prefer bus; I think it's, you know, it's more comfortable to ride on the bus for me. I don't have to drive, I'm not using up gas, I'm not polluting the air as much. There's drawbacks, of course. The schedule can be, you know.

And I also do not have parking during the week at Trinity. So I would have no parking space.

The bus is quite expensive, to be honest, it's about approximately, it's a little over 16 € both ways. So I I budget €60-70 from my bus ticket every month. Which is just once a week, you have to remember that, that's just once a week. It's ridiculously expensive here in Ireland to commute like that. I could probably, if you'd if I didn't have, if I had the parking on campus, it would probably be overall cheaper for me to drive. I I'm, I would likely not make that choice.

Very occasionally, if I have to bring stuff into the office, or if I have to pick something up from the office, I will call in and see if I can get parking on campus, and if then I just I bring the car in. And that can take, the commute is probably similar. About five hours, probably, maybe a little bit longer, depending on what the bus gods decide. It's a very long commute.

Leyre Alonso Valdivia 5:37

OK. And did you consider any other modes? Do you have the chance to use any other mode of transport?

Participant #10 5:46

There are no other options. I mean, there's an option for me to drive to salons, which is a nearby village which has a train station. That would be, I think, the closest train station to me. I would drive there, pay for parking at the at the train station; and it's probably about 20 minutes to Salons from where I live, to drive. And then take a train from there into, I'm not sure if it's Connolly or Heuston that it goes into, and then I have to find my way from the train station onto campus. It makes no sense.

I I've considered biking to the bus, but we've had two bikes stolen already. And you know, it's, I'm 55, I don't really wanna bike in the morning at 7:00, o'clock.

So I walk, I I walk, you know, to in in town get get a bit of steps in, which is nice.

But that's basic. Those are basically my my options is the to potentially bike from home into the bus stop, which would still add to my commute, or to drive a car into Salons, take a train from there and go in. And I've, that's a huge pullover, because that adds to the steps. If I get on the bus here I'm, I get in and then I'll walk. So it's a one stop shop. It's. It's still the best option basically.

Leyre Alonso Valdivia 7:14

And you mentioned that you will occasionally drive all the way.

Participant #10 7:19

Mm hmm. Yeah I do.

Leyre Alonso Valdivia 7:21

How often does it happen or how you go about it when how do you decide?

Participant #10 7:27

Maybe 3/4 times a year maybe?

It's generally speaking, it's like I said, if I have to pick something up and, in like

something heavy up in the office, or if I have to bring something heavy into the office. And it's, it's a, not a frequent thing. Like I said, maybe three, maybe four times a year.

Leyre Alonso Valdivia 7:57

Sorry, I lost myself. Yeah, yeah. Sorry. And have you always commute in the same way, driving, bus, walking?

Participant #10 8:08

Yep, Yep. Even when it was every day. Don't know how I used to do that. I did not have a life, I think.

Leyre Alonso Valdivia 8:15

OK. Tell me a bit more about the the cycling, the, what do you decide not to go? Yes. Like it's. Yeah.

Participant #10 8:26

A bike.

I've considered buy a bike, but it's never just happened. My daughter has one I could borrow it. But like I said, it's it's about 7 minutes by car, so I would say it's minimum 20-30 minutes with a bike. And again, I have an almost 5 hour commute everyday, aAdding 20 minutes makes a difference, actually would add more than that, it would add both ways, but would add 40 minutes, again, to that commute. And it's just not feasible.

And where we live, the bikes get just, somebody with a truck comes by and they just pick the bikes up off the side of the road where they're parked. There's no there's no bike parking in our village, where you could, you know, within sight of everybody in the middle of the village where you could park your bike and secure it. You basically have to tie it up somewhere and we've lost two bikes to that already.

Also, the time it's just my my commute is already very long.

Leyre Alonso Valdivia 9:39

And did you, does road safety is something you have also considered or is just?

Participant #10 9:44

Yeah. Oh, absolutely. Because we have, I've I've mentioned it before, we have two ways to get to the bus stop. One of them would probably be about 1/2 an hour walk, maybe a little bit more, but it's on a very small, very windy country road, and especially in the winter, I don't, I would not feel safe going that way at all. That's the closest bus stop. So we actually go to the next closest bus stop, umm, which is in the village. And there's no parking there. If I was going to drive there, there's no parking there. There's no point to that.

Leyre Alonso Valdivia 10:24

OK, and when you first started your commute, how did you go about deciding all that the driving, bus...?

Participant #10 10:35

Well, the first, first thing is it's, it's. It just makes no sense to drive, if you have a bus route and we have decent bus route. The bus route by out, you know if it, if it was a bit better organised, you know, it would be a lot better, but they what they've done recent, when they when they sold it off to the private companies, they stopped running buses all the way to Edendarry, and a lot of the buses stop at Prosperos now, which is short of my stop. So there's fewer buses. There's not enough express for the people that live way out, and they've started stopping in Selbridge, which is actually on the Dublin bus route, but they've started take, so obviously all the people in Selbridge want our bus because we are their last stop into town; and everybody else who's been on the bus already for an hour and a half, has to go the extra way through Selbridge. So there's fewer express buses. So it's it's it's lengthened my commute since it's gone private. Relatively significantly. It's also, and I never thought I would say that it's a lot less, less reliable than Bus Eirean.

But it's a bus, It's it's a direct bus route. Going extra, I don't want to drive. I want to take a bus and that's basically it, you know.

Leyre Alonso Valdivia 12:02

OK. And you mentioned briefly that you, that driving it adds to the pollution. Is the environment something you take into account when you think about your commute?

Participant #10 12:17

Yeah, definitely. Yeah. Even if I had parking on campus, I would not drive every day.

Leyre Alonso Valdivia 12:25

And is your commute the same during the year, or does it change?

Participant #10 12:31

No, it's eases up during the summer, during the holiday season, between summer holidays, when the students are off the roads. It's a little bit faster in the mornings then. And a little bit, there's a there's a, this is ironic, there's a bus that's an hour after my bus in the morning that if I take that, I only get in 1/4 an hour later during the summer. So, it's, I could potentially try to take that, but it gets me in later in the office. And I I have to stop, another consideration is, I I like to get home relatively early, because my bus stop is in Temple Bar, and the later it gets the more unpleasant it gets.

Leyre Alonso Valdivia 13:21

Yeah.

Participant #10 13:24

Yeah.

Leyre Alonso Valdivia 13:24

Yeah. So, it affects the speed, that you don't consider using different modes?

Participant #10 13:31

The, it's, is I am. I have very few options here. I, the options are basically drive or bus. It's way too far to bike all the way. I could potentially bike into town, but there's, as mentioned, the the problems with that. I walk in town, from my bus stop on Bachelors. And that's pretty much it. I mean, I could potentially, if I had a parking space, I could drive more, but I don't really approve of that. So, I bus it is even though it's suboptimal I I just, you know, they're not, they're not great.

Leyre Alonso Valdivia 14:15

OK. And is there anyone in your household or your close family that affects your commute?

Participant #10 14:27

Sometimes. It used to be my, OK, OK, so I have, there's a slight difference here, before my mother, when she was still driving, she's the one who drove me to the bus stop and then she went back home again, went back to bed. And then I would take the bus in, and then she would have the car during the day, because my mother lives with us. And she would also take my daughter to school in the mornings. And so that was the the trade off, because my daughter, or or to school or to the bus stop where she need to go to, to ever, you know. School used to be when she was little, was in the village, so she'd just drive her into the village. And when she got a bit older, she actually actually biked in.

And I don't know if anybody's mentioned this to you before, but for my daughter, one of the problems, with biking from home to school, Irish people tend to let their dogs run wild.

Leyre Alonso Valdivia 15:31

Hmm.

Participant #10 15:31

And we have several dogs on the route that will chase bikes.

Leyre Alonso Valdivia 15:35

Oh, OK.

Participant #10 15:37

Which is hugely problematic.

Leyre Alonso Valdivia 15:39

Yeah.

Participant #10 15:40

You know, some like they don't have a door on their property, they just leave it open and then let their dogs out, and the dogs chase you. So that was, that was hard for her, she, she, she ended up with a fear of dogs for a very long time because of that.

So, so she, she bike, my mother would usually, when she was smaller, my mother would drive her to the school and back, and then she'd, my mother would pick me up in the evening from the bus stop.

So that was, that's a slight difference. We were still driving to the bus stop, but slightly different.

Leyre Alonso Valdivia 16:14

OK. You mentioned that there is no big difference between this, the how far do you get with the with the car or with the bus. You mentioned that it's quite, it will be cheaper driving if you had a parking space. Does weather? Do you take weather into account at all? When do you?

Participant #10 16:37

Yeah. Well, that's, that's, that's, it does rain a lot here.

I I would bike, if I had to, so, if so, if the car was broken down, I could potentially bike into town. But if there's a lot stacked against that on a regular day.

Leyre Alonso Valdivia 17:05

And, does your fitness or health in general play a role into how you decide to commute?

Participant #10 17:15

It used to, but I've I've gotten a lot fitter in the last couple of years. Lost a lot of weight. Going to the gym now, so that's not really a concern for me anymore.

Leyre Alonso Valdivia 17:34

And, does safety influence your?

Participant #10 17:40

Yeah.

Leyre Alonso Valdivia 17:41

You mentioned, the, the, you didn't want to.

Participant #10 17:42

Yeah, it's. I won't take the road. Yeah, I won't take that Rd.

I if I if I had the choice to bike in Dublin, I would not, to be honest.

Leyre Alonso Valdivia 17:53

OK.

Participant #10 17:55

It's not a, it's not a concern for me because I wouldn't. I don't need to. I I don't live in Dublin. I would not bike in Dublin. I could potentially bike on this straight Rd. So this the road that I have available to me is a bit longer, but it is safe enough to to ride a bike.

Leyre Alonso Valdivia 18:19

I only have a few more questions.

Participant #10 18:21

Yeah. No, that's fine.

Leyre Alonso Valdivia 18:22

OK. And to what extent, if at all, does the opinion of other people influence your commute?

Participant #10 18:33

I'm 55. I don't care anymore.

Leyre Alonso Valdivia 18:36

OK.

Participant #10 18:38

Ha ha ha ha ha.

It doesn't. It doesn't. No, no, the, the, the major, major concern is time and money.

Leyre Alonso Valdivia 18:41

OK. Hmm. So money. But you said you would not drive even if it will be cheaper.

Participant #10 19:02

Mm hmm. Yeah, it's still a major concern. You know, if I had a different route, a different option, say if it turns out that for some reason the bus, the the train is so much more cheap, I would have to consider it. And I don't know what we do if the bus gets really a lot more expensive. It's, it's a chunk out of your your budget.

And to be honest, the I don't know for sure, it would be cheaper to run the car, but my sense is it would be, especially once a week. It would probably balance out over, it might balance out over the whole week. I don't know. But I can't imagine I would drive away €16.00 going to Dublin and back. I don't think I do. I I drive a little roller skate, so we're very few efficient.

Leyre Alonso Valdivia 20:03

OK. OK. And do you think some modes of transport are perceived different than the others, so like some might be perceived more positively or more negative than the others?

Participant #10 20:19

I don't think in Ireland that's the case. I think people are used to driving their cars and it's very difficult, I'm very lucky, Trinity's central, I can take a bus and walk. I don't know how the students at DCU manage. Because you know you're in and out, and and and, anybody who works not centrally is just up the creek, basically. Or you anybody who works not in Dublin.

You know. I can, for instance, there's a bus now, that they've introduced here, that takes me to like Nace or Newbridge, which are local towns. They're few and far between, and they take a long time, but at least it's there now. But I can't, for instance, take public transfer to Maynooth. Or or any of the other local. They're starting to come up with those things.

But like I said, they're usually, you know, long spoke to China kind of routes where they go all the way around and hit this town and then they go all the way around and hit that town, so that they catch as many little villages as possible, which is understandable.

But it's not really commuter friendly, if I was trying to commute to naise or to dubridge for instance, I would probably have to take the car.

Leyre Alonso Valdivia 21:44

Ahm. So do you think society, that be your neighbourhood, Dublin, your city, Ireland, might influence your decision of how you commute, no?

Participant #10 21:56

No, no, not really. I think we have, OK, I used to live in America and our our public transport is much better than America where I lived. And in America, it definitely is a "poor people take the bus"; but if that's not the case here, that is not the case here. We get an on the Edenderry route, we go through Straffon, which is the wealthy part of town, and you can always tell which ones are the Straffon people and which ones are the Kyle Dove people, but everybody's on the bus.

Leyre Alonso Valdivia 22:31

OK. OK, so like these are all my questions. Is there anything that I didn't ask that you will think that might be relevant? Or something you said that you would like to expand a bit more on?

Participant #10 22:39

OK. No, I think, I think that the crucial parts are availability of buses, maybe even smaller buses, in the countryside doesn't have to be a double decker. I think that, to be honest, for if I drive into Dublin on a normal day, it's a 45 minute drive, like when there's not a lot of traffic, the fact that I'm commuting almost five hours every day on a bus is obscene.

And I think that society's expectations are, businesses expectations of people just, you know, they don't care how you get there as long as you get there, will keep people on the roads unless we have timely and decent bus routes.

And I have to also say some of them are crushingly uncomfortable. When the new bus company came in, they brought in the single decker buses, I don't know who approved them, but they were obviously designed for airport runs because they had enormous places for luggage, and the seats, were, I, I'd be crippled when I got off them, to the point where I would, almost if I saw one of those buses in the evening, I would wait

until the next double decker bus, so I didn't have to drop ride on them. And you know, when you're in the bus for two hours, it's just not on, and I think they're starting to replace them now, which is good.

Leyre Alonso Valdivia 24:32

OK. I'm gonna stop the recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 31. Interview Transcripts – Participant 11

Commuting Study Interview-20240620_150246-Meeting Recording

June 20, 2024, 2:02PM

24m 5s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:03

Mm hmm. OK. There we go. So, so this study is about commuting behaviour, then, the in the 1st survey you completed were more general information with general factors and these interviews are to a bit to dwell and to get into the depth of how commuting behaviour happens. So, to start, could you describe me your commute from start to finish? What would you consider the starting point of your community, ending point, how do you commute?

Participant #11 0:44

So my starting point is my home. It's in Dublin 24. It's about 12 kilometres away from Trinity College, where I work, so that's my end point. It's the Lloyd building, in Trinity College. As I said, it's 12 kilometres I cycle with an E bike. It takes me about 40 to 50 minutes, depending on traffic.

Leyre Alonso Valdivia 1:09

OK. And that's the only mode you use? You only use the E like?

Participant #11 1:16

So I would say about 95% is E bike. Every once in awhile I take the bus. Which consists of 15 minute walk, and then the bus which takes anywhere between 40 minutes and two hours and then another 5 to 10 minutes walk on the other side to get into Trinity. And then, the other option that happens, like once a month, is that I take the car in with my wife, who's working close to UCD and she drops me off at the Luas Station and I'll take the Luas in, and then on the way back I'll take the Luas out where she picks me up again. And the cars is an electric.

Leyre Alonso Valdivia 2:00

OK. And when does that happen? When do you, when you take the bus or when you go with the car with your partner and with, and the Luas, how do you decide on when do you that happened?

Participant #11 2:16

So the bus I take if my bike is broken. Otherwise, I wouldn't really take it. The car is the most spontaneous issue. My wife decides to take the car, which she also very rarely does, I sometimes I'll come along, so it's not like super planned, normally. It's more like a spontaneous thing, she normally takes the bike into work as well.

Leyre Alonso Valdivia 2:45

OK. OK. How did you decide for the E bike?

Participant #11 2:55

So, I have always, like for the last, I don't know, 30 years I've been commuting by bike wherever I lived. And normally I would have lived somewhere within about 5 kilometres of where I work and a normal bike was fine for that. Now I'm living quite a bit further out, 12 kilometres or 13, and it's a bit uphill to get there on the way back, so if I wanted to do that every day, the E bike was the logical choice. Also public transport just takes too long. And if I was to I, I do have a parking permit for Trinity College, so I could actually drive in and park on campus, but getting into College in the morning would take double the amount of time as the bike would take me. So it's mainly a time issue, also the added benefit of possibly doing a bit of exercise, like less with the electric bike obviously, but it's not, it's not going by itself, so it's a pedal assisted electric bike.

Leyre Alonso Valdivia 4:06

Emh, so the decision to you cycling was more of something you've always used, something you are used to do?

Participant #11 4:20

Well, one thing is, I used to do it, so I am used to cycling, so I prefer that; the other bit

is that any other mode of transport, be it bus or car, will take a significant longer time. So it normally doesn't really matter what weather it is, so it's pouring rain. I still cycle.

Leyre Alonso Valdivia 4:41

Ok. So you, did you consider briefly using the the public transport or car, but you decided not to because of the time it takes?

Participant #11 4:52

Correct. I mean for the car it's also, having one person sitting in a car and driving through town really doesn't make a lot of sense. The bus makes a lot more sense, but it just takes too long and it's, even though it's very frequent, goes every 15 minutes I think, but it just you can't predict how long it's going to take, it's anywhere between an hour and 2 hours, and that's just not usable.

Leyre Alonso Valdivia 5:00

OK, And have since you, since you are doing this commute, you've always used that E-bike or is there? Or did you do something at that point and then change towards the E-bike?

Participant #11 5:38

Hmm. So the current commute, the 12 kilometres, have only done on on an ebike. I've done it like three or four times with my normal bike. And the reason we, I switched or even bought the E bike is because of the longer commute from our current house.

Leyre Alonso Valdivia 6:01

OK.

Participant #11 6:01

But from that house, I haven't really done any other active transport.

Leyre Alonso Valdivia 6:06

OK. Does, when you are preparing for the commute, you are getting in the bike, does road safety, is something you take into account is something you consider?.

Participant #11 6:21

Yes. So I always wear helmets. I always wear high visibility vest and I always have my lights on. The bike helps because it's an ebike so build-in lights anyway, so it's no difference having them or not. So they're always on and I try to follow the rules of the road as much as possible, but I'm quite aware that not everybody else does. So, I mean, it definitely is a safety concern and in the, I dunno, I've cycled since 2007 in Dublin and I only had, I think, 3 incidents, where something could have happened, but nothing ever did happen. Does it make sense, like near miss accidents?

Leyre Alonso Valdivia 6:59

OK. Yeah. OK. And is there any particular time of the day, or part of your route, or moment that you feel is you feel is particularly unsafe with the bike, and you might might affect how you commute, maybe leaving earlier or later, or changing the route.

Participant #11 7:25

Yeah. So. I kind of leave at the same time every day, which is, what time do I leave? Somewhere between 8:30 and 9:00 O'clock, it's when I leave. The later I leave the less traffic is on the road because the school traffic is gone. Based, but it doesn't really matter, once you hit the city centre, once you're inside the canal, there's always traffic. And there's a few instances where, especially when you want to turn right on a on a junction, getting into the right, right hand lane is really hard, so, but you can't really get around it, but I can't get around it by choosing a different route or choosing a different time because it's the best route I can take at the moment. So when I decided on what route I'm taking into work from the new place I had a couple of different things that I tried out and ended up with the one I'm using now, which seems to be the one with the least problems. It's not problem free, but it's better than the others. If that makes sense.

Leyre Alonso Valdivia 8:32

OK. Yeah. When do you first started your commute, the current commute, how did you decide on the bike? You said you always, it's something you were used to, you got the E-bike because it was longer. Is there anything else you took into account when you decided "Yes, I'm going to get the E bike and I'm going to use the E bike"?

Participant #11 9:05

Well, I said it's, I think cycling is the the easiest way to get around in Dublin, whether it's on an E bike or traditional bike.

And the late, the distance I travel every day, and because it's going uphill and because I'm doing it every day of the week, basically, any weather, the E-bike basically makes sense because otherwise I'll just be too exhausted at the end of the day when I'm getting home. It's more about getting home because that's when it's uphill, then about into work, which is a bit downhill and I'm fresh from sleeping.

But yeah, no other than that that, I mean for me it always was cycling is the best way of going, even while I was living close to Luas station, it didn't really occur to me to take the Luas instead.

Leyre Alonso Valdivia 9:54

So, so, cycling is a bit the default for you?

Participant #11 9:54

Yes, absolutely.

Leyre Alonso Valdivia 10:04

And is there any a particular mode of transport that you would never consider?

Participant #11 10:16

The joke answer would be riding a horse.

I I don't know. I I basically consider whatever's feasible. As I said, I tried buses a few times, they don't work for me. I tried using the car every once in a while, in a mix with Luas it works reasonably well.

But yeah, I mean, if the roads were empty, I'd take the car, but I think I'd still take the bike instead 'cause I feel it is a bit of a waste having one person driving a car into town.

Leyre Alonso Valdivia 10:48

OK. How or do you take the environment or sustainability into consideration when you are thinking about your commute?

Participant #11 11:03

Not really. I mean, obviously if you just cycle, that's less impact on the environment, at least I hope so, it's an ebike, so it needs electricity during the week I just charge it up off the net. On the weekends, if I charge it, I charge it during the day, which is normally the time when our solar panels are overproducing, and then I just take that electricity, which is also why we bought in an electric car. So, as my wife and myself are not commuting most days by car, it sits in the driveway lot and if we need to charge it, we can charge it off the sun as we do right now. So we have we have a bit of an sustainability approach there as well.

Leyre Alonso Valdivia 11:45

OK. OK and does your commute change during the year? Like some people prefer to walk more in summer or some people change their mode of transport during the school year.

Participant #11 12:00

Hmm, yeah, I think it, during, during the winter, it happens more often that I, that my wife is taking the car in and I'll tag along until the Luas, and then I jump on the Luas. It happens less in the summer. So yeah, there's, there's definitely a difference in in seasons.

Leyre Alonso Valdivia 12:21

OK.

Participant #11 12:22

But the main mode of transport is always the bike, regards of time of year.

Leyre Alonso Valdivia 12:28

OK. And you mention your, your wife sometimes takes the car and you go with her. Is anyone else in your household or your close family that affects the way your commute?

Participant #11 12:41

No. Then I just live with my wife. There's no kids. It's just me and her.

Leyre Alonso Valdivia 12:46

OK. And you, you talk about how the bike is faster than public transport, car. Dose price, the cost of car, public transport, play a role into choosing the bike over other things?

Participant #11 13:08

Umm. It's a question. So while we still had a petrol car, I would definitely say yes with the car. Now that our car's electric, and we can charge it very inexpensively overnight, I don't think the, at least the the fuel cost for the car is in any kind of way bad, or a problem?

I mean, the car's there anyway, so the yes is there and it's paid off so.

It it would be OK to use that, but then again it's really not feasible to drive in Dublin. And public transport, when I first bought a bike of that bike to work scheme couple of years back, I kind of calculated how long it will take me to pay off the bike, if I was taking the bus. then it was only like 2 months. After two-month, the bike would have been free as compared to public transport. So, and I'm pretty sure it's very similar to the electric bike.

So I don't know, I think, yeah, cost it isn't, it is a factor, but it's more convenience really, 'cause more convenient to cycle.

Leyre Alonso Valdivia 14:23

OK. OK. Ehm. Do you take the weather into consideration? You said your wife usually drives more during, during the winter. Is something that for you personally plays a role? That you might take decide to take the bus if the weather is very bad?

Participant #11 14:54

Ehm. I don't think so. Because so, basically, I'm not taking the car into work ever, just for work. Sometimes I'm taking it because I need to pick up something heavy from work. But that's the only time, and that happens 3 times a year, so I would say it's legible.

For the weather, I don't ever use the car unless my wife has chosen it first.

And buses, to be honest, if the weather is bad, the roads are full and the buses are even slower. So no, definitely not the bus when the weather is worse.

Leyre Alonso Valdivia 15:33

OK. OK. And you, you mentioned that you like to take the E-bike 'cause it's a bit of doing exercise? So it it's fitness and health, something you you take into account or is more like an afterthought?

Participant #11 15:53

It's an afterthought. I'm not sitting on the bike and going like "yeah, I'm burning calories", it's more like I don't need to go to the, it's more like, I don't know. I make myself believe that because I'm cycling every day, I'm healthier than I would be. And I I'm sure I am, but it's not a whole lot of exercise. It's just, I don't know, 1 and 1/2 hours a day of cycling every day. That's not that much because it's not sporty cycling. I'm not trying to be fast or anything.

Leyre Alonso Valdivia 16:23

So it doesn't really play an active role, your fitness or your health in your decision. OK. And does safety in general, not just road safety, it's something you take into account?

Participant #11 16:41

In what way you mean? Like, I mean road safety, Definitely. I don't know what other type of safety might be coming in.

Leyre Alonso Valdivia 16:43

So, safety of perceiving the, some mode of transport more unsafe or the the stop, you need to get on or off the public transport is a rough area. That sort of things.

Participant #11 17:03

No, I don't think so. Depending on the time of day, I don't really like driving in Dublin with the car 'cause everybody just jumps on the road whenever they feel like it, and the cyclists are even worse. They come out of nowhere. So I think I'm I have a bad overview, better overview of what's happening around me when I'm cycling. It's easier to react to things than in the car so.

Leyre Alonso Valdivia 17:16

Mm hmm.

Participant #11 17:29

That might be the only other safety concern. I don't. There's no problems with the bus stops that I'd normally be using. And there's no problems with the lines that I'm taking, so I don't don't think there's anything like this really.

Leyre Alonso Valdivia 17:42

OK, OK. OK. We are almost done.

Participant #11 17:46

Mm hmm.

Leyre Alonso Valdivia 17:48

So, to what extent, if at all, does the opinion of other people affect your commute?

Participant #11 18:01

I don't know. I mean, my wife is very much of the same opinion as myself. She's always cycled. I would have to kind of be faced up with, we're both from Germany, from areas where cycling is big. So ever since we were kids, we were cycling to school, or to university, or wherever we'd have worked. So, it's not really. I think it's an ingrained lifestyle in a way.

Leyre Alonso Valdivia 18:29

OK.

Participant #11 18:29

And I don't think whether somebody tells me "oh, you should take the car because it's faster", or somebody tells me "oh, I love that you're taking the bike because it's environmentally friendly", doesn't really matter to me. In my case, I really feel that it's the best option for me in terms of time spent on the commute.

And the amount of money spent on the commute as well.

And then obviously the environmental thing that I mentioned earlier. But yeah, in general, it's not, I don't think anybody has any. I'm not really, I don't feel peer pressure to use any particular mode of transport.

Leyre Alonso Valdivia 19:04

OK. Ehm, Do you mind you briefly, that you grew up in Germany and cycling is the most, is a very common thing. So you would say society does influence how do you commute?

Participant #11 19:25

Well, so the places I circled in Germany were always, had always good cycling infrastructure from early on, so it's not. And and decide he was able to live with cyclists on the road, if that makes sense because, when I started cycling in Dublin in 2007 or 8, there were almost, there were not many cyclists around. And there weren't many cycle path either. And cars didn't really know how to wreck, erect, react around cyclists. So I was a bit of a bit of putting, but it was still the easiest way to get into college or into work so.

Yeah, I don't know. I think if, if there is. I mean for myself, it doesn't make a difference whether society thinks cycling is amazing or not. But I feel like in the last couple of years at least, Dublin's been getting a lot better catering for cyclists, there's a whole lot more cyclists on the road. I think, the one thing that might need to be done there is to actually train people how to cycle and to behave as a, as a traffic. Sorry, as a, as a, well as a cyclist, just.

But that's just completely different story, right?

Leyre Alonso Valdivia 20:45

OK. OK. So you think they did when the the society is a bit more friendly to towards bikes people cycle more?

Participant #11 21:00

Yes, absolutely. Well, it's not necessarily the friendliness, that definitely helps, but also the infrastructure to make it safe.

Leyre Alonso Valdivia 21:01

OK, OK. OK. And do you think different modes of transport are perceived differently?

Participant #11 21:23

Just in general or by myself?

Leyre Alonso Valdivia 21:26

In in general or by yourself, both.

Participant #11 21:30

Yeah, sure. I there's always a, there's always biases, for for particular areas, I think.

Dublin is very car centric, I feel. Mainly because public transport in general is rather poor.

But it's a chicken and egg problem, if you make public transport better, then you make car transport worse, and you know, can't have them at the same time. There's no magic bullet to fix this, I think.

But yes, I think in Dublin using the cars the default, for many people. But I I don't know.

I think, using, I don't think there is stigma involved with using public transport.

It might be with cycling, at least there was a few years back. Not anymore, I think.

It's just that local motorist don't like cycling.

Leyre Alonso Valdivia 22:24

Mm hmm.

Participant #11 22:27

Cycles.

Leyre Alonso Valdivia 22:32

OK. OK, well this is all from me. Is there anything that I might not have asked that you think it's important? You want to talk about something you mentioned that you would like to tell more about, you were like "I didn't say everything I have to say about this"?

Participant #11 22:56

Uh huh. Not really. I I think in general I don't know how, how, how wide reaching your research is gonna be, but I think Dublin in general is getting a lot better with active transport. I think that's lots of steps taken that really make a difference.

Leyre Alonso Valdivia 23:14

Mm hmm.

Participant #11 23:15

Put they're baby steps and they need to be just followed up on. And yeah, I don't know. I think awareness of rules of the roads are is important, especially for cyclists, of course. I mean, you might have seen that yourself, that people don't really care about red lights or path, foot paths and stuff like that. And I fee, I if you want to be a member of like, if you want to ride on the road then you need to go with the rules there, but that might just be a very German attitude there.

Yeah. Apart from that, I think, I don't really have anything else that that I think might be worth, worthwhile to mention.

Leyre Alonso Valdivia 23:48

OK. OK. Well, that's perfect. Thank you very much for participating. I'm gonna stop the recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 32. Interview Transcripts – Participant 12

Commuting Study Interview-20240618_140255-Meeting Recording

June 18, 2024, 1:02PM

17m 24s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:05

OK, perfect. So my study is about commuting behaviour, so the the first two surveys were more about general data, general things that influence, and these interviews are a bit to get bit with more in depth information of how different things affect commuting. So, to start, if you could describe me your commute to start to finish. I I don't need you to tell me the location or where geographically it's a start, but where you consider the starting point, the ending point? How do you commute?

Participant #12 0:48

Sure. So most days, if I'm coming into the office, I get a lift from my house to the Luas station. Then I get the Luas into Dawson St, then I walk through Trinity College, and up Pearse St to our office here.

Leyre Alonso Valdivia 1:11

OK. How did you decide on those 3 modes of transfer?

Participant #12 1:19

Ehm, the bus takes too long. They've also removed one of our, the bus that used to go into town, so it's too awkward. Sometimes I walk, but I'll take a lift. If my husband is up.

And Luas is great. The Luas is quick, convenient and and it comes so often. So it's kind of the best option from where I live.

Leyre Alonso Valdivia 1:46

OK. And so you mentioned that sometimes you walk to the luas instead of of getting.

So how did you decide, or how, or when did you decide on "I'm walking", "I'm taking a lift"?

Participant #12 1:53

Mm hmm.

Getting a lift.

That's just one of those, whether whether there's a lift available or not, you know.

Leyre Alonso Valdivia 2:10

OK, OK. OK. And so?

Participant #12 2:15

I would say I would say 80% of the time I get a lift.

Leyre Alonso Valdivia 2:20

OK, OK.

Participant #12 2:21

Yeah, even though it should be the other way around. I know. But there you go.

Leyre Alonso Valdivia 2:26

OK. And so those three is, is is always your part of your regular commute like, lift, or walking the Luas. OK. And did you consider any other mode of transport?

Participant #12 2:36

Right, yeah.

Sure, I've considered the bus, but I, I and I used to take the bus, but I stopped doing that.

Because they've changed our bus routes and also the other way is better. I have very much considered getting a assisted, a push bike, an electric bike, that is definitely on my list of things I would like to do, so I've considered it, I just haven't done it yet.

Leyre Alonso Valdivia 3:15

OK, OK.

Participant #12 3:17

Consider driving. No way, wouldn't drive into town.

Leyre Alonso Valdivia 3:22

OK.

Participant #12 3:23

And I look, I don't have parking anyways, but I wouldn't. I wouldn't drive into town. It just it's worth it.

Leyre Alonso Valdivia 3:29

OK. Ahm. Do you ever use a different mode? I said from those 3.

Participant #12 3:41

Sometimes I would occasionally I might take the bus.

Leyre Alonso Valdivia 3:45

OK.

Participant #12 3:45

Not into work though.

Yeah, not into work.

There was a time in the past I would have taken the bus, but now?

Leyre Alonso Valdivia 3:57

OK. And you said that you used to take the bus, but do you stop mostly because of the route or there was other factors?

Participant #12 4:14

The yeah, mostly the route. The 61 changed, so they don't, I don't have the bus that goes directly into town anymore, close from our house. So, you'd have to go to another stop. And it's not as efficient as the Luas. I like the Luas better.

Leyre Alonso Valdivia 4:36

OK.

Participant #12 4:36

Especially early in the morning, I I travel early, and it's less crowded.

I used to take the bus quite early as well.

But now, yeah, definitely. If you get the Luas before 8:00. O'clock. It's it's a joy.

Not so good at 9:00 o'clock.

Leyre Alonso Valdivia 4:55

OK. OK. Ehm. Can you tell me a bit more about cycling, you're considering using, getting an electric bike?

Participant #12 5:05

Yeah. Ahm. Underneath the office here we have a secure place to lock a bike. I don't live that far away, it's about 7 kilometres, so that's a perfect thing for cycling. In in a previous life like, you know, 15 years ago, I I cycled into a different job every day and I like that.

I gave up when my bicycle was stolen.

So I think an electric bike would be great. I think it would be fresh air, exercise and, and that nice, you're not depending on, you know, you're not depending on anyone, you have control.

Leyre Alonso Valdivia 5:54

At the moment what is preventing you to get the bike?

Participant #12 5:58

Just have to. I mean, I can, I can do the bike to work scheme. So, it's a matter of going down picking one out, and organising it so.

Leyre Alonso Valdivia 6:08

OK. So is there anything that Trinity could maybe do to get you there on the bike? Or it's just logistics that you haven't gotten around to it?

Participant #12 6:26

It's just, it's just me being lazy.

Particularly in this, in the office, you know, this office actually has that, as I say, it has the nice lock up, which is great. If we were in a different place. I think having the secure lock up is a really good incentive and it's right close by so.

The problem with Trinity and, is the traffic, and all the one ways, and how am I going to? I haven't quite figured out if I was cycling in, you know, how do you actually come in from my part of town. Like as a pedestrian, I I cross all the one way streets. I'd have no idea what would be my best route if I was cycling.

Leyre Alonso Valdivia 7:07

So, it's something you take into account on, the road safety?

Participant #12 7:14

Yeah. And the, and the. Road safety, I'm fairly brave when I'm out of cycling, I'm a bit, yeah. But it's also the the one ways and the you know, here on Pearse St, like I'm on Pearse. I don't know, I don't know how the one ways are all around, around Trinity College. You know? There's different streets. You can't go down Grafton Street on your bike, you can't, or can you? People do.

So. Yeah. So, I suppose it would be traffic, a little bit of traffic, but more than one way streets, and. Now, I know there's all these new lovely cycle lanes and things, but I haven't tried them yet because I haven't been on my bike yet.

Leyre Alonso Valdivia 7:58

OK, OK. So, when you first started to plan your current commute, how did you decide on the mode of transport you use? How? What sort of thing did you take into account?

Participant #12 8:18

The the the Luas, I realised that the Luas was the most efficient. And the rest all hangs off the Luas. So, once I realised; I live close enough, so, when I realised that it was, it was the most efficient and easiest way to go, that's what. You know? Same with the timing as well. When I realised that if you go early it's more pleasant. Go home early, too.

Leyre Alonso Valdivia 8:52

OK, so you figure out the Luas was the best one for you, and then you plan the rest of your commute around it?

Participant #12 9:02

Exactly.

Leyre Alonso Valdivia 9:04

OK. You mentioned earlier that you would not drive. No.

Participant #12 9:15

The traffic is crazy. Where would I park? No.

I do have a Saturday, I do have a Saturday parking pass, and I think I've used it twice.

Don't come into town on a Saturday if I'm in town during the week so.

Yeah, I can drive anywhere else, but I wouldn't drive into town.

Leyre Alonso Valdivia 9:37

OK, OK. And, is there environment and the sustainability something you think about when you think about your commute?

Participant #12 9:48

Yeah, I do, actually. I think, you know? it makes sense to take to take the Luas. It does make sense to walk and take to Luas, sometimes I feel a bit guilty that I take the car, but I'm also lazy, so. So, I do think about it, but I don't necessarily do too much about it? So.

Leyre Alonso Valdivia 10:10

OK. Ahm. Does your commute change it in the year? It's always the same? Like some people prefer to walk more during, when the weather is nice or up, try to avoid public transport during the school year.

Participant #12 10:29

I might walk more during the, the nice weather.

Leyre Alonso Valdivia 10:40

That's the only change?

Participant #12 10:41

That's really, yeah, yeah.

Leyre Alonso Valdivia 10:45

OK. You mentioned that if your husband, right? can give you a lift, you will take the car. Is there anyone else in your household, or in your close family that affects the way you commute?

Participant #12 11:01

If my daughter was using the car, then my husband couldn't take me in the car and then I'd have to walk.

Leyre Alonso Valdivia 11:06

OK.

Participant #12 11:07

So, we have a, we have a, we're a 1-car family. So if the car is in use, we have to walk.

Leyre Alonso Valdivia 11:13

OK, OK. You mentioned a bit the the weather. Does price or speed, like how fast can you get into work, affect the your decision to commute one way or another?

Participant #12 11:38

Yes, that's why I'm sticking with the current system because it is quite fast early in the morning. If I leave my house at 10 past seven, I can be at my desk at 8:00 o'clock.

Which is amazing.

But, any later than that and then it gets it takes longer because of traffic. So. So yeah, the the time that it takes makes a difference.

Leyre Alonso Valdivia 12:09

OK. And does price affect your commute?

Participant #12 12:20

No. Because I I am very happy with the new €2.00 fare. That's fabulous.

Leyre Alonso Valdivia 12:28

OK.

Participant #12 12:29

I used to have a, I used to have a monthly bus pass, or the bus-and-Luas pass, but because now we're not in the office the whole time, so that didn't work, but the the new, what do they call it? The fares, the I, don't know, it's the 2€ fare. It's excellent.

Leyre Alonso Valdivia 12:45

Yeah.

Participant #12 12:49

'Cause you, you can take the like, I mean, I could take the bus to the Luas and then take the Luas. And it's all cost the same, so that that's marvellous. So, but does the cost effect? No, not really.

Leyre Alonso Valdivia 12:57

OK. Amh. Do you take your general health or your fitness into consideration when you think about how to commute?

Participant #12 13:17

When I think about it, I would take it into consideration. But when I do it, I'm very lazy, I think I should have a bicycle. I don't have a bicycle.

So yes, I would like to do things in a bit of a more healthy way, but.

Leyre Alonso Valdivia 13:39

OK.

Participant #12 13:40

Timing as well. I can be in work very quickly. And, you know. So.

Leyre Alonso Valdivia 13:46

Hmm.

Participant #12 13:48

Reality.

Leyre Alonso Valdivia 13:50

OK. Do you or might it affect your fitness or your health regarding something you would or cannot use?

Participant #12 14:05

No, I can use anything really.

Leyre Alonso Valdivia 14:07

OK. OK. Do safety in general affect your commute? Like, is there any mode of transport that you don't use because it's unsafe or any times that you avoid commuting because you don't feel is quite safe?

Participant #12 14:30

No, I'm, I never feel unsafe.

Leyre Alonso Valdivia 14:34

OK. OK, we are almost done. OK. Do the opinion of other people affect the way you commute?

Participant #12 14:56

No. I don't think so.

Leyre Alonso Valdivia 14:59

OK.

Participant #12 15:04

Why would they care?

Leyre Alonso Valdivia 15:06

OK. Do you think in general some modes of transport are perceived differently? like some might be seen as more positive and some might be seen as more negative?

Participant #12 15:24

Yes, I think that the Luas is seen as nicer than the bus and also the green Luas is nicer than the red Luas. And, yeah, and, I maybe, I don't know about scooters and things like that.

You know, are they just seen as a mad, a mad thing? I'm not sure.

Leyre Alonso Valdivia 15:48

OK. OK. And to what extent, if at all, do society affect your decision to commute in one mode of transportation? Society might be your neighbourhood, your place of work, the city.

Participant #12 16:11

Yeah. Well, that's the thing because of, because my place of work is in town and because I live near the Luas, that's why I choose that. If I lived farther out, I would have

to think of something else. If you lived in the country, you'd have to drive to work. So. It's just where we are lucky enough to live.

Leyre Alonso Valdivia 16:43

OK. Well, that's all from me.

Participant #12 16:50

Brilliant.

Leyre Alonso Valdivia 16:51

Yeah. Is there anything that maybe I didn't ask about that you would like to say? Or something that you maybe mention and you would like to maybe expand a bit more that you didn't feel you have everything to say?

Participant #12 17:08

No, I have a very, I have a very boring, very boring commute to work.

Leyre Alonso Valdivia 17:16

OK. No, it was great. OK.

Participant #12 17:19

So.

Leyre Alonso Valdivia 17:21

Ahm. I'll stop the recording then.

Participant #12 17:23

Brilliant.



Leyre Alonso Valdivia stopped transcription

Appendix 33. Interview Transcripts – Participant 13

Commuting Study Interview-20240619_150234-Meeting Recording

June 19, 2024, 2:02PM

20m 53s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:05

OK. Yeah. OK. So, this interview is going to be about your commute. The surveys were a bit, were regarding commuting behaviour more in general, this interview tries to get a bit more into the depth of things, into what goes behind that behaviour.

So if you could tell me about your commute, where does it start? Where does it finish? How do you commute?

Participant #13 0:41

Is this for work you're asking?

Leyre Alonso Valdivia 0:44

Yes.

Participant #13 0:44

Yeah, I I work from home four days a week, so I only go in one day a week and I travel from Skerries into Trinity. To the main campus.

Leyre Alonso Valdivia 0:55

OK. And how do you travel to to Trinity?

Participant #13 1:02

I normally go by train. I used to go by bus, but now I go by train.

Leyre Alonso Valdivia 1:03

OK. And what would you consider the starting point of your commute? Would you consider when you get on the train? When you leave your house? Would you consider any previous preparation you might need as part of your commute?

Participant #13 1:29

No, I walk, walk to the train station; so that's about 8 minute walk. Do you want to know the time of day or or?

Leyre Alonso Valdivia 1:38

No, no, just general.

Participant #13 1:38

No, no, no. Yeah. No. So, I have about an 8, an 8 minute walk to the train station, and then and it's probably 3 minute walk from the train station to my office.

Leyre Alonso Valdivia 1:51

OK. OK. How did you decide for train? You say you used to take the bus now you take the train. How do you decide for one or the other? And why did you?

Participant #13 2:04

Ehm. It was because, I became a student, and I got a student card.

Leyre Alonso Valdivia 2:08

OK.

Participant #13 2:08

So, it was. The train is more expensive, or it used to be more expensive than the bus, and the train used to be very crowded, ehm, pre lockdown. But since lockdown that the trains aren't as crowded, and I go in a little bit later, so I I would rather sit on a bus for longer than stand on a train. And then, with the student card for the train, fares were more, more, much cheaper, so I kind of switched to the train than cause the journey's much faster.

Leyre Alonso Valdivia 2:40

OK. And do you always commute, when you do commute, do you always do it by train?

Participant #13 2:54

Yeah. Yes. For the last, uh, for the last year, yeah.

Leyre Alonso Valdivia 2:59

OK. And, aside from the the bus that that you said you used to take, did you ever consider using any other mode?

Participant #13 3:10

Ehm. On a very, very rare occasion, but it's not, I haven't done it recently, I would have driven in when I had to bring a computer in or bring something home, you know. I have, but that I haven't done that for a long, long time, like it's at least probably two years or so.

Leyre Alonso Valdivia 3:29

OK. So you you nowadays you all, when you have to go you only use train?

Participant #13 3:40

Public public transport. Yeah. And train now, yeah.

Leyre Alonso Valdivia 3:46

And uh, how about uh, cycling? Have you considered it?

Participant #13 3:52

I cycled in and out of Trinity one. I cycled home from Trinity once and I cycled in and out from Trinity once when I got the on the bike to work Scheme to justify the bike to work scheme, but, ehm, it's not practical on an ongoing basis because of the distance and lack of facilities, ehm, to get changed and security of my bike. Like, I'll just be nervous about it.

Leyre Alonso Valdivia 4:20

OK. And, if, if you had changing facilities or what sort of things could Trinity do to get you again back on the bike?

Participant #13 4:35

And to be able to, the the rule was in the Sports Center you could have a shower before 9:00 o'clock, but I was coming in for later than 9:00 o'clock. And, also to have secure parking for the bike.

They would be the main things.

Leyre Alonso Valdivia 4:57

Ahm. Did you, is road safety something you consider when you think of, when you consider using the bike?

Participant #13 5:09

Yes, but I I used to cycle, like when, now it's it's that's like 30 years ago, I used cycled everywhere; I didn't get a car till I was 30, so I cycled, you know, a couple of 100K every week. I was, that was my my mode of transport, in my 20s, cycled everywhere. Ehm.

But, I suppose, that since I got, like I used to cycle in and out to work and when I lived near. I lived in Castleknock, in Dún Laoghaire, and I used to cycle in and out to Trinity, but Skerries is 30, 30-35 K, you know, it's a much longer, longer commute.

Leyre Alonso Valdivia 5:48

OK. So, you're not particularly concerned about Rd safety when you think of going on the bike?

Participant #13 5:56

Not particularly because I haven't done it recently, but I think, you know, most people are more concerned about it now, but with, hopefully, with cycleways coming, ehm, you know, there's, it might be safer to to to commute by bike.

And I would also reconsider it, if I was debating about changing my bike to be an electric bike rather than a regular bike, and that would make it as that would be a a big difference as well. But the main thing is like if you're in bad weather, you know, and

you're soaking wet getting in, you need to be able to change and, you know, have somewhere to dry your clothes, and and that's an issue as well, you know.

Leyre Alonso Valdivia 6:39

OK. Umm. So, you mention that you used to commute by bus and then changed to to train because it was.

Participant #13 6:55

Yeah.

Leyre Alonso Valdivia 6:56

It was faster, less crowded, with the student card it was cheaper. Is there anything else you thought about, you considered when you were, decide, when you first got on the on the on the, started your commute, is there anything else you considered?

Participant #13 7:16

Ehm. No. For the for the uh, when I used to go on on the bus, ehm, I only worked 1/2 day on site. So I I used to go by bus from town out to Blackrock, in the afternoon, to take care of an elderly relative. Ehm. Now, that relative has since died, so that's, you know, going by train to there was much longer walk, so it was more convenient to uhm, I used to get the bus Thursday Rambler ticket and it was more cost effective to go by bus; that was part of the reason I used to go by bus, but then and I'm not doing that journey anymore, out to out to Blackrock afterwards. So I I'm just dealing with getting in and out to Trinity. So that kind of did have an effect as well, you know.

Leyre Alonso Valdivia 8:07

OK. OK. And is there any mode of transport that you will never consider?

Participant #13 8:23

Well, I wouldn't have time to walk into Trinity from; that's too far. I wouldn't consider an E scooters, I don't like, I think they're dangerous, you know, it's too long a journey for one of them. Umm. I certainly wouldn't take a taxi, too expensive.

I'm, I'm happy going public transport, you know, it's worked, it's worked fine for me.

Leyre Alonso Valdivia 8:53

OK. Umm. When you think on how to commute, do you take the environment or sustainability into account?

Participant #13 9:07

100%. Yes.

Leyre Alonso Valdivia 9:09

OK. How do you do it? Is the deciding factor of going one way or the other?

Participant #13 9:16

It is, I will take public transport wherever possible. Emm. And I will carpool wherever possible. Ehm, I'm a member of a walking club, and you know, we we carpool so, to save the environment; and we take public transport if we can, but if we can't, we we'll carpool, you know.

Leyre Alonso Valdivia 9:42

OK. Ehm. Does your commute change during the year.? For example, some people prefer to walk more during the summer, or some people change the mode of, the public transport they use during the school year to avoid peak times. Does your change or is the same all year long?

Participant #13 10:05

It's the same year all year round, yeah.

Leyre Alonso Valdivia 10:08

OK. Ehm. You mentioned earlier that you used to take the bus to afterwards take care of a family member?

Participant #13 10:16

Yeah. Yeah.

Leyre Alonso Valdivia 10:18

Is there anyone in your household or your close family that affects your commute?

Participant #13 10:26

That's what, like, So what?

Leyre Alonso Valdivia 10:28

Lately, like having to take kids to school or sharing part of the travel with her partner? No.

Participant #13 10:34

No, no, no, no, no.

Leyre Alonso Valdivia 10:44

And do you consider, is your general health or fitness something you think about, you take into consideration when you think on, about your commute?

Participant #13 10:59

Yes, I like, I would walk, you know, when I can, I I I'm fairly active. So I I would. I'm part of walking club, and I swim every day. So like, I I do take exercise, and I do take that, like last night, I had to go for lesson and I could have driven, but I walked, it was 1 and 1/2K, so I walked one and half K each way rather than take the car for fitness and for the environment.

Leyre Alonso Valdivia 11:24

OK. OK.

Participant #13 11:33

I could have cycled, but I I I'm always, unless I know that I've somewhere really secure to leave my bike, I'm nervous to take my bike and leave it somewhere, because I've had a bike stolen in the past, so I'm I'm sort of careful about where I leave a bike.

Leyre Alonso Valdivia 11:45

OK. Ehm. Does safety in general influence your decision on how to commute?

Participant #13 12:03

Ahm. Not insofar as the work commute, because, it's more that, the safety issue of a bicycle is more, that's sort of down the scale because the distance and the facilities, you know, change in facilities and drying facilities for work clothes, that they're higher up the list. So, the, it hasn't become an issue. Whereas if I was cycling all the time, and you know I was having near misses or whatever, that would potentially get me off the bike on on some other mode of transport.

Leyre Alonso Valdivia 12:45

OK.

Participant #13 12:46

But the, like, the walk to the train station it's is safe, you know, the walk to the bus is safe.

Leyre Alonso Valdivia 12:52

OK. And, is there any particular mode of transport that you might think is, it feels safer or more unsafe than the others?

Participant #13 13:07

Well anything bar cycling. I think cycling is probably the most dangerous.

Leyre Alonso Valdivia 13:10

OK. OK. OK, we are, we are nearly done. So, uh, to what extent, if at all, do the opinion of other people affect your commute?

Participant #13 13:30

Doesn't. No.

Leyre Alonso Valdivia 13:31

Doesn't. OK, OK. Do you think song the modes are perceived differently? So modes are seen as more positive or more negative than the others?

Participant #13 13:47

Yes. Car transport, you know, single used cars is bad for the environment and clogs up the roads, you know, makes much more sense environmentally to go by public transport.

Leyre Alonso Valdivia 13:50

OK. OK. Emh. To what extent do you think that, uh, society that could be either your neighbourhood, or your place of work or the city, might influence, your transport choice?

Participant #13 14:24

Mine personally or people in general?

Leyre Alonso Valdivia 14:27

Yours in general, if you think society might have an influence on on how you decide to commute or how people decide to commute.

Participant #13 14:35

I think the the the frequency of public transport and the variety of routes, there's some routes that it's just too time consuming to get from A to B by public transport, so people get in their car. Oor the the service isn't frequent enough that, you know; my bus outside ours is, you know, every hour or every two hours, you know, the the direct bus. So that has an impact on people. Ehm. You know, if they don't want to be. One of the advantages of a car is that you can probably get there faster that going by public transport, for the most, except, part from the the train, you wouldn't get into town as quick as the train. But on a bus, the car can often be quicker and it's more direct and you don't have stops. Emh. So sometimes that would influence. Another influence for getting, in general not not for work commute, is what stuff you have to carry with you, you know, whether it's possible to bring that on public transport or not. Ehm. As I say,

they're, the the few times that I don't, emh, use public transport like I had to bring in boxes of books into Trinity. So I drove in on a Saturday because I wouldn't go in the traffic on a on a work day, you know, I drove in the Saturday with, with, with the boxes of books rather than and deal with the the weekday traffic, you know.

Leyre Alonso Valdivia 16:01

OK. OK. So, so yeah, so this is all from me. Is there anything that I maybe didn't ask that you would like to share? Or something that you might have said that you would like to expand a bit more on it?

Participant #13 16:37

Ehm. But one good thing that's happened in recent years is the travel 90; so that you can use the 1 ticket, does you have on multiple modes of transport, once you start the second or third journey within 90 minutes at the start of your journey. So that's a big improvement.

Like the cost of transport, public transport here compared to some other countries, is much more expensive, in another places, like people just don't even own cars when they live near the city, because the public transport is so good, and it's so frequent, you're never waiting more than, you know, a couple of minutes for for, you know, bus or train or tram or whatever.

And that's like, for example, they introduced a new service and on our route to the airport, but only every second bus actually goes into the airport, and it doesn't start early enough for people who work in the airport who are on the 5:00 o'clock shift, it doesn't start, you know. So they have to drive, and I know somebody who's getting a taxi, you know, a huge expense €60.00 each way, to go to work because there's no public transport at that time, you know, and they hadn't got a car themselves.

Leyre Alonso Valdivia 17:44

Yeah.

Participant #13 17:53

So like there's there's a lot of room for improvement on the frequency of public transport. Emh, and like there's no direct bus route to get to the hospitals, you know it's Beaumont hospital and it's, which serves the whole in North County Dublin. It's hard to

get there. You have to change, I don't know many buses, you have to get from here to get to, you know, you have to get the train into town, and then a bus out, or you know, it's, eh, it's eh, a days excursion.

Leyre Alonso Valdivia 18:23

Yeah.

Participant #13 18:23

Emh. Like a friend of mine, can't remember where she was going, but she decided to do it by, she just got her free travel and decided to go by public transport to go to an appointment, and it took her five hours, round trip, you know, where she probably would have done it in 1/2 an hour each way, emh by car, you know, but she just decided to try try out the public transport route. So that is an issue, emh for people. Like in some places they have free transport in the city public transport and that might influence people to get out of their cars, you know.

Leyre Alonso Valdivia 18:48

OK, so so you think money is a bit, a bit of a point of, in deciding how to how to commute?

Participant #13 19:13

That's part of it, but also convenience is the other part. The length of the journey, and uh, you know how many times you have to change buses or trains or whatever, to get from A to B. Like they're changing the the train timetable and there won't be as many trains going into the city center that the people from where I live will have to change on route to get into town, you know.

Leyre Alonso Valdivia 19:26

Umm.

Participant #13 19:42

And that's not as attractive as getting on one one public transport and staying on it till you get out, you know, you'll get to your destination.

Leyre Alonso Valdivia 19:52

Umm yeah. And would you say weather also plays a role into deciding how to commute?

Participant #13 20:03

Yes, it does, it does, because the traffic is always worse in the wet day because people get in their cars. Now I don't. You know. If it's if it's wet and raining, I just put on my rain gear and get on the bus or the train.

Leyre Alonso Valdivia 20:15

Umm. OK.

Participant #13 20:20

But it does, it does affect a lot of, lot of people make their decision based on that.

Leyre Alonso Valdivia 20:26

OK. OK. Well, that's all for me.

Participant #13 20:34

OK, my pleasure.

Leyre Alonso Valdivia 20:34

Thank you very much. I'm gonna.

Participant #13 20:37

And did did you need to, you have the the personal detail from the cover, the permission slip so you don't need it in the interview to tie up the two that the the the two interviews, yeah.

Leyre Alonso Valdivia 20:42

Yes. No, no, no, thank you. I'm gonna stop the recording.

- **Leyre Alonso Valdivia** stopped transcription

Appendix 34. Interview Transcripts – Participant 15

Commuting Study Interview-20240618_130333-Meeting Recording

June 18, 2024, 12:03PM

18m 34s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:07

OK. So, the my my PhD in my my study is about commuting behaviour, so this, the whole interview will be about your your commute. The the first two surveys were a bit more general things, and these interviews try to get more in depth information about all that. So, can you describe me your commute from a start to finish? I don't need you to tell me geographically or the location, but what would you consider the starting point? The ending point? How do you commute?

Participant #15 0:47

The starting point would be, I take a private bus from my home, to Dublin city centre, which takes around an hour, and then from Dublin city Centre, I take the Luas, so the red line, to either work or to college, depending where I go. So that would take like an hour and 30 minutes max, for a day to travel into college or to work.

Leyre Alonso Valdivia 1:17

OK. OK. Emh. So, private bus and the LUAS, how did you decide on those two?

Participant #15 1:28

The private bus is the only way to get into the city centre and then to Luas, It kind of depends either the Luas or the bus, whatever's there first.

Leyre Alonso Valdivia 1:38

OK.

Participant #15 1:40

But the Luas seems to be kind of more frequent, I think, than the bus is.

Leyre Alonso Valdivia 1:50

OK. And you always commute, those, is always that communication, right?

Participant #15 1:59

Yeah.

Leyre Alonso Valdivia 2:03

And did you? Yes?

Participant #15 2:03

In the past, in the past it used to be by both train and then Luas or bus, depending on what was useful, but that was like a while ago. Now it's usually bus, private bus and then Luas or bus.

Leyre Alonso Valdivia 2:19

Hmm. OK. And did you consider commuting in any, with any other moods?

Participant #15 2:33

There isn't really any other options where I live at the moment to for any other means. The fastest way would be the private bus, which takes like an hour and then, when I'm in the city centre, just whatever whatever is easiest. Whatever is there, yeah.

Leyre Alonso Valdivia 2:55

Umm. You always commute like that. You never change your mode. The only change will be either bus or Luas, once you are in City Centre. OK.

Participant #15 3:03

Yeah, yeah.

Leyre Alonso Valdivia 3:07

Amh. You said you used to do bus, train, bus or Luas, why did you change?

Participant #15 3:15

The time it would take for that. So for example, at the moment I work in the hospital. My shift usually starts at 7:30, to get there in time, it would be impossible to take the bus, train and then Luas or bus, because on I wouldn't make it in time. So that's why I get the private bus and then bus or Luas, whichever's first.

Leyre Alonso Valdivia 3:45

OK. And are you considering, or would you consider changing the way your commute?

Participant #15 3:54

With time, yes, we are looking to relocate and move closer to Dublin and maybe then we'd only use one mode of transport.

Leyre Alonso Valdivia 4:07

OK. Ehm, you have not mentioned cycling, have you considered it?

Participant #15 4:18

It's something that would be possible if I live closer to, like Dublin, but at the moment it's kind of impossible to go one way with just cycling.

Leyre Alonso Valdivia 4:32

OK. OK. Not even within city centre is something you will not consider.

Participant #15 4:42

Feel like it would take like an hour, if I was to travel by cycling from city centre to like James's hospital, or if I was to maybe cycle from where I get off at the bus from Trinity, I could but like I could even walk as well. So it's not a big issue.

Leyre Alonso Valdivia 5:04

Hmm.

And is something Trinity or the hospital could do that will prompt you towards the the bike, something you would say, "OK, this is worth enough".

Participant #15 5:24

Um, could you clarify that question if that's OK?

Leyre Alonso Valdivia 5:28

So, for example, if they were to implement, I like a bike renting a scheme where you can take a rent a bike and take it home or changing facilities.

Participant #15 5:40

Actually, yeah. I I think that would be very interestingI if they do do that, but it would be very ideal to because I know some biking schemes you pay for the amount of time you take it with you. It would be nice to kind of have a scheme where if it does happen that you need to bring it home with you, that you're not like, you know, paying for that time that's just sitting down and you don't use it.

Leyre Alonso Valdivia 6:08

OK, so if if you had the option to to rent a bike and take it with you.

Participant #15 6:12

Yeah, yeah, yeah.

Leyre Alonso Valdivia 6:15

Ehm. If you think about the possibility of cycling, is road safety something you think about?

Participant #15 6:26

Oh, definitely.

Oh, definitely. I feel like especially in Dublin, it's very difficult to get a cycling, a cycling lane on the road, you either have to be on the road or you go through the people like there's no there's no in between, so it would be nice to have a separate lane just for

cycling or uh, if maybe they could do it with like on the road. I don't know. But yeah, it would be, it would be nice if they could.

Leyre Alonso Valdivia 7:01

Mm hmm. Thinking about but when you first starting to plan your commute, you said your first did the bus, the train, the bus/Luas, now you take a private bus. How did you decide for for those modes? How you went about deciding first something and then changing to it something else?

Participant #15 7:28

Uh, it was mostly uh, just finances, how much it costs. So it was cheaper for me to get just a normal bus. So I used to take like a bus, Eirean bus from where I lived towards the like train station, and then the train from the closest train station towards Dublin. And that travel was cheaper than taking a private bus. Sso I used to take that and then just to get into college and then whatever like Luas or bus.

It was just cheaper to do it that way while I was in college, but one once I started working, because it's like impossible to get in to work early with the train, the first train is at like 6,6:45, so I wouldn't have time enough to get into work, change, get ready for work. So it's kind of money. And then the time itself.

Leyre Alonso Valdivia 8:32

OK. And if you had the option, if all the modes of transport were available to you to do your commute, is there any mode you will never consider?

Participant #15 8:47

Oh, OK. Depending on where I live, uh, I feel like if I was to live near Dublin, I feel like driving, I wouldn't be driving, but if I lived in the middle of nowhere and I have to travel for two hours/ an hour and a half, I would be kind of forced into taking, into driving into town. I feel like driving in itself can be well, it can be tiring. If you're driving for two hours and then you go into work like, it can be tiring, and then you finish at 8:30 and it just kind of continues. And it's also bad for the environment. So I wouldn't be interested in driving if I lived near the like Dublin itself. I like taking the bus.

Leyre Alonso Valdivia 9:37

OK, OK. OK. And you just mentioned the environment, is that something you take into account with just thinking about your commute?

Participant #15 9:48

I feel like it is generally something that I do consider so. It's it's the travelling, recycling, even with the weather, how it changes all the time. It's something that it's good to consider and you know think about.

Leyre Alonso Valdivia 10:08

Hmm, so it it does affect your commute. You OK and.

Participant #15 10:10

Yeah.

Leyre Alonso Valdivia 10:14

Does your commute change during the year? Like, some people prefer to cycle or walk more during the summer time, some people prefer to drive during the school year because the buses are too full.

Participant #15 10:33

I don't think they do change. My commute is not during the time of when people go to school, it's like at 5:00 in the morning, so no one's going to school at that time. So, it's not about that. And summertime as well. I mean, I wouldn't mind, because I'm going back to college, I would prefer to kind of walk to college rather than taking any form of transport during summer. So definitely. But any other time I feel like public transport is just quicker and affordable as well.

Leyre Alonso Valdivia 11:14

Does anyone in your household or your close family affect your commuting?

Participant #15 11:26

Don't think they do. Yeah. No, I don't think they do.

Leyre Alonso Valdivia 11:32

OK. Emh. You are mentioning the price is a factor that, does, It's speed a factor? How fast you get to places.

Participant #15 11:45

Yeah, definitely. So that's why sometimes I prefer to take the Ls rather than a bus from city centre, because with traffic, and it just, I get there later than what I plan on, you know, arriving and actually starting work so.

Leyre Alonso Valdivia 12:02

OK. From, you mentioned earlier, a bit, now your commute now is is more expensive that you prefer to take the the Luas 'cos is usually cheaper, that you will walk on summer because the weather is better. If, is any of those, if you have all the options, is any of those would drive you more towards one more or another.

Participant #15 12:33

If I had all the options, I feel like also weather plays a big part. So, if it's nice outside, I prefer to walk, you can meet people that way, and you know, it could be two people going to the same class., it would, 9t's nice to do it that way. But if it's raining outside, I definitely take public transport.

Leyre Alonso Valdivia 12:57

OK. Do you think about your general health or fitness is something you take into account when you decide how to commute?

Participant #15 13:10

Umm, not really. It's mostly just timing and pricing. That's a big factor.

Leyre Alonso Valdivia 13:24

Ok. Does affect, if at all, it does influence safety, general safety, your feeling of safety regarding modes of transport when you think of your commute? Like is there any mode you would not take because you don't feel safe or any that you just prefer because it feels like a safer way of commuting.

Participant #15 13:50

I, uh, I think public transport is safe, however, when it comes to night time, so some when I finish my shift it could be dark outside during winter, I always take public transport just because I feel like it might be unsafe to travel; either alone or walking. You know, you never know what could happen, so that's why sometimes I prefer to be in crowded places. But that's only night time, after coming from work.

Leyre Alonso Valdivia 14:19

OK. OK. Umm, OK, we are almost done. OK. So, to what extent, if at all, does the opinion of other people influence how your commute?

Participant #15 14:50

I don't. It used to, but I don't think at the moment at all, I don't think it affects, the modes of transport like to college or work.

Leyre Alonso Valdivia 15:03

OK. And and how did you, did it did use to affect your, your commute.

Participant #15 15:11

I used to take specific mode of transport just because other people also took it. so we would go together. Or like there has been times where I got lifts from my parents just depending on if something happened, or there was a storm, or just crazy things like that.

Leyre Alonso Valdivia 15:36

OK, so more than the opinions it will be to go with someone, or to get a lift? OK.

Participant #15 15:42

Yep.

Leyre Alonso Valdivia 15:46

Umm. Do you think some mode of transport are perceived more negatively or more positively than others?

Participant #15 15:59

Yes, I feel like, sometimes cycling is more, or walking is preferred more than you know, driving yourself into like a specific place, just because of the CO2 and just it's it's not really ideal. And I do understand that, but I can't drive, so it doesn't affect me.

Leyre Alonso Valdivia 16:27

So you think driving might be seen as more negative?

Participant #15 16:33

Yeah.

Leyre Alonso Valdivia 16:36

Umm. To what extent again, if at all, does your does society, that may be your neighbourhood, your your place of work, your, the, the city, the county where you live, affect your influence, your transport mode?

Participant #15 16:57

100%. Very much so, yeah. Just because I live very far away from Dublin, it's very difficult to find, a mode of transport that's frequent and that brings me into work at a specific time. So, at the moment it's a private bus, which is unfortunate because it's quite pricey. I would prefer if maybe the train could go earlier. That'd be great. But it's definitely how early it goes and how frequent it goes as well.

Leyre Alonso Valdivia 17:34

So it is more a lack of access and ability to use other things.

Participant #15 17:39

Yeah.

Leyre Alonso Valdivia 17:43

OK. OK. That's all from me. Is there anything that I didn't ask that you will like to tell me about? Something that you said that now you think, "oh, I will, I I have more things to say about this?

Participant #15 18:05

Not really. I think. I think that was everything, yeah.

Leyre Alonso Valdivia 18:08

OK, OK then. Well, thank you very much for participating. Just to double check before we finish, do you are you happy for me to use this data for my study?

Participant #15 18:23

Yeah, of course I am.

Leyre Alonso Valdivia 18:24

OK, well. That's all for me. I'm gonna stop recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 35. Interview Transcripts – Participant 16

Commuting Study Interview-20240624_150258-Meeting Recording

June 24, 2024, 2:02PM

13m 26s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:06

OK, that's perfect. So, so this study is about commuting behaviour. You answered a couple of surveys a while ago that they were more general information about commuting and this, with this interview I'm trying to get a bit more in depth detail of what goes around commuting. So, if you could describe me your commute from start to finish? What you consider the starting point? What the ending point? How do you commute?

Participant #16 0:43

OK. Yeah. So, I live in Dublin 9 and I always, almost always cycle into Trinity. So, I go in usually two or three days a week.

Quite often I drop my kids off at their school in the way, so cycle them to school, drop them there, and then I cycle into work and then cycle home.

Very odd occasion might get the bus if I'm staying in town after work for something.

Leyre Alonso Valdivia 1:15

And what would you consider best starting point of your commute? Is your house? When you take the bus, is your house? Is the the bus stop?

Participant #16 1:28

Emh. The house, from the moment to leave the house.

Leyre Alonso Valdivia 1:35

OK. Emh, how did you decide on cycling?

Participant #16 1:41

I've always cycled wherever I've lived. I like it, 'cause you get a bit of exercise on the way to work. Doesn't keep it a little bit fitter. Also, it's, like the timing is reliable, so I know it's going to take me 25 minutes. You know, it doesn't matter what the traffic's like, it's always going to take the same length of time, which is important to when you have kids.

Leyre Alonso Valdivia 2:06

OK.

Participant #16 2:07

And 'cause if I need to pick them up, I need to know I'm gonna be there at a certain time.

Leyre Alonso Valdivia 2:15

OK. And you mentioned that sometimes you take the bus. Can you tell me a bit more about that?

Participant #16 2:25

Yeah. So, I live like there's a bus stop 3 houses down from my house that takes me straight into the city centre. So, it's very convenient when I do need to come into work. I don't have to go, you know, walk too far or anything to get a bus.

Leyre Alonso Valdivia 2:45

How do you decide on taking the bus or something you decide in advance at the moment is something you do often.

Participant #16 2:54

No, I don't do it often. Maybe like, once every two or three months. Only, yeah, usually you decide in advance, so say, if I was going to meet somebody in town after work, go for dinner, go for drink. Then I would get the bus. Or the occasional morning if it's extremely wet, but most the time I cycle, even if it's wet.

Leyre Alonso Valdivia 3:23

OK. And did you consider any other mode of transport?

Participant #16 3:30

No, there isn't. There isn't really another option where I live. So.

Leyre Alonso Valdivia 3:37

OK. And have you always commuted by cycling?

Participant #16 3:47

Yeah. My whole life.

Leyre Alonso Valdivia 3:49

OK. OK. Is there anything, that maybe makes you question, whether you want to keep cycling? Something that you are like "Umm, this is kind of going against me cycling".

Participant #16 4:11

Yeah, well, I mean, it is dangerous, right? So, you know, the roads in Dublin aren't safe. My commute has got a little bit safer because they've put in new cycle lanes for most of the route. But, yeah, some days it can be a little bit scary. There's buses, trucks, flying past you.

Leyre Alonso Valdivia 4:28

OK. And so road safety when cycling is something that you take into account? Something that impacts you?

Participant #16 4:37

Yeah, yeah.

Leyre Alonso Valdivia 4:40

Is there anything you do you do to try and make yourself feel safer?

Participant #16 4:51

Well, I wear, you know, helmet, bright cycling gear. I try and, if I'm not going when, well, even with my normal route, I'll try and make sure that I'm on cycle paths as much as possible and you know, try and stay away from main roads where I can.

Leyre Alonso Valdivia 5:10

OK.

Participant #16 5:10

So, particularly with with dropping my children to school, we we we go on back roads so that they, you know, we try and minimise the amount of traffic, they encounter.

Leyre Alonso Valdivia 5:21

OK. So you, kind of change your route to to be safer?

Participant #16 5:26

Yeah.

Leyre Alonso Valdivia 5:31

And are there any particular moments, or times, or part of the route that you feel are more unsafe?

Participant #16 5:42

Yeah, there are certain junctions where there, you know, cars of priority and, it's not safe for cyclists, I would say. To try and cross the road and so on.

Leyre Alonso Valdivia 5:59

OK. Umm. You briefly mentioned that do sometimes use the the bus? Is there anything else that is keeping you from taking the bus instead of the bike? Is just something you've not really thought about.

Participant #16 6:19

No, I haven't really thought about it. Like cycling would always be my main priority so. Pretty one-dimensional.

Leyre Alonso Valdivia 6:27

OK, that's fine. Emh. You said, you've always cycling is kind of default, something you take the bus. Is there any mode of transport you would never choose?

Participant #16 6:47

No, I don't. Well, scooter. It's scary.

Leyre Alonso Valdivia 6:50

OK, OK. When do you decide on how to commute, do you decide to take the bus on those particular days, when you decide to go on the bike? Do you take the environment into consideration when you are choosing?

Participant #16 7:15

In what way do you mean?

Leyre Alonso Valdivia 7:18

Like, is, when you're thinking of "I'm going to commute to the I'm going to take the bike today", "I'm going to take the bus", is the sustainability or environment, something you, plays a role, or it's just something you just not?

Participant #16 7:31

Oh, OK. Yeah, it's important. That's partly why I cycle, you know, to. I mean, yeah, not to have a car, another car on the road. It could. Well, we could drive our kids to school, but we don't, because we don't want to be contributing to pollution.

Leyre Alonso Valdivia 7:53

OK. OK. And does your commute times during the year? Like some people would use more public transport in winter when the weather is worse, or some people would decide to cycle more during the school year to avoid the school drop.

Participant #16 8:16

Hmm. Yeah, no. Same all year round.

Leyre Alonso Valdivia 8:18

OK, OK. Umm. You mentioned you take your kids to to school, to drop them and pick them from school. Is having to take the kids to school, something that affects your commute? Or is there anyone in your close family that might influence how you commute?

Participant #16 8:40

Yeah, well, it makes my community slightly longer. So, but I share myself and my husband, you know, one or other of us drops them off. So, if I if I had to be in work for a certain meeting, it was going to make me late, then he would do it.

Leyre Alonso Valdivia 9:00

OK.

Participant #16 9:01

Yeah.

Leyre Alonso Valdivia 9:02

Yeah, but it it's it doesn't move you to another mode of transport, or any other family members or?

Participant #16 9:11

No, no, there's no, no, no other factors.

Leyre Alonso Valdivia 9:12

OK. OK. You mentioned that you prefer to buy because it's more reliable on the timing, you know when you're gonna get there. Is that, dose price influence your to, deciding to use the bike?

Participant #16 9:34

No, not really, no.

Leyre Alonso Valdivia 9:35

Not really. OK. And weather? You mention earlier that sometimes you take the bus if it's raining? It's something you take into account the weather.

Participant #16 9:45

Only if it's really bad, yeah.

Leyre Alonso Valdivia 9:47

OK.

Participant #16 9:48

Like a storm.

Leyre Alonso Valdivia 9:57

OK. Emh. Does, do you take into consideration your general health or fitness? You decide, you said you choose the bike because it's a bit of doing some extra exercise. Is it something that you think about?

Participant #16 10:12

Yeah, definitely. So yeah, the main reasons are reliability, exercise, and the environment. I'd say they're the three main drivers. For me.

Leyre Alonso Valdivia 10:29

OK. Emh. Aside from road safety, general safety is something you think about? Like some people might avoid certain modes of transport because the route is not safe or the place they have to get off or on is not safe. It's something that influence how you commute?

Participant #16 10:54

Don't think so.

Leyre Alonso Valdivia 10:59

And do you think there are any mode of transporter are more unsafe than others?

Participant #16 11:09

Well, I mean, bike is more unsafe than a car, right? Or motorised transport. Yeah, so.

Leyre Alonso Valdivia 11:18

OK. We're almost done.

Participant #16 11:24

Pretty straightforward, right?

Leyre Alonso Valdivia 11:25

Yeah. So, to what extent, if at all, might the opinion of other people influencer commute?

Participant #16 11:38

Doesn't.

Leyre Alonso Valdivia 11:41

Doesn't, perfect. Emh. Do you think some modes are perceived more positive or negative than others?

Participant #16 11:49

Yeah, like I know some people who don't like taking the bus because, you know, they don't want to be breathing in other people's germs or things like that, or encountering certain people.

Leyre Alonso Valdivia 12:06

OK. Ehm. To what extent again, if at all, does society influence your decision of how you commute? Society might be your neighbourhood, your place of work, your family friends.

Participant #16 12:25

I think, probably a little bit, so you know, be quite pro environmental issues, so and generally most people I know would. So, I guess that does have a small impact.

Leyre Alonso Valdivia 12:44

OK. OK. So that was all from me. Is there anything I might not have asked that you would like to say? Something that you maybe mentioned that you would like to maybe talk more about that?

Participant #16 12:57

OK. I don't think so. I think kinda covers my main priorities.

Leyre Alonso Valdivia 13:17

OK, then. Well, that's it. I'm gonna stop the recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 36. Interview Transcripts – Participant 17

Commuting Study Interview-20240701_140354-Meeting Recording

July 1, 2024, 1:03PM

18m 8s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:06

OK so, the the study is about commuting behaviour; the first couple surveys were more general information about the commute and these in these interviews are to get a bit more in depth details about how that commute happens. So, to start, if you could describe me your commute, where is the starting point, the ending point? How you commute?

Participant #17 0:36

OK, so most of the time I would take the train I live in Maynooth, so we're about between 10 and 15 minutes walk from the station. I normally walk to the station, catch the train to Tara St, and then it's what, 5 minutes from there.

Leyre Alonso Valdivia 0:52

And what would you consider the starting point of the commute? When you leave the house? The train station? All the preparations you might do before?

Participant #17 1:03

Sorry, what I didn't get the question.

Leyre Alonso Valdivia 1:05

When do you think about where does your commute start? Is it your house? The train? Before you even leave the house when you are getting ready?

Participant #17 1:10

Oh, I see. I think when I step out of the front door, I think that is the start time.

Leyre Alonso Valdivia 1:17

OK. OK. Ehm. How did you decide on on that way of commuting?

Participant #17 1:28

I suppose it's a mixture of reasons. I mean, one is that I hate sitting behind the wheel of the car when I don't need to. I find that's just wasted time, whereas if I'm on the train and I can be reading a book or something. But I also, obviously, I think that environmental issues are very important, and I would prefer to use public transport when I can. I mean, we're fortunate, in Maynooth, in that the the public transport is pretty good, much better than it used to be, when we first moved in. But those would be my 2 main main considerations.

I don't, I should say, at some point, that on days when I have to take my son to school, it's a little bit different. So he, he could get the bus to school, but there's always so much to carry, and he would have to start very early. So either my partner or I would normally drive him to school.

Leyre Alonso Valdivia 2:15

OK.

Participant #17 2:16

If I do that, then I would either drive him to school and then come back home and then do the same commute, walk to the station. Or if I need to be there a bit earlier, I'd sometimes drive him to school, park at the station car park, kind of halfway between the two, and then catch the train from there. So, it would be a bit more of a mixed commute on those days.

Leyre Alonso Valdivia 2:38

OK. OK. So, you you said you sometimes would drive to the station, if you need to take your kids to school? is there any other mode of transport you use sometimes?

Participant #17 2:56

Very occasionally I'd use the bus. I mean with as a train strike on or something like that.

Or, I don't know, if I sometimes, if I have to do something on the way into to to work occasionally, I might use the bus. But it would be a couple of times a year, probably.

Leyre Alonso Valdivia 3:15

OK. OK. Is there any mode of transport you would never use?

Participant #17 3:29

I haven't actually driven the car all the way to Trinity for years, except at weekends when I'm getting into Dublin to do some shopping. But for work I I would never drive in because it's it's just too much hassle.

Leyre Alonso Valdivia 3:42

OK. Ehm, when you do, you take the take your kid to school and take the car to the station.

How often does that happen? Or is just more whenever it happen or just?

Participant #17 4:05

It it depends a bit on my timetable. So, the most that would be would be once a week I would say, but recently it's been less than that.

Leyre Alonso Valdivia 4:13

OK.

Participant #17 4:15

I prefer to come come back home if I have the time and and then walk.

Leyre Alonso Valdivia 4:24

OK. And have you always commuted in that same way, walking to station or driving and taking the train? Or has you ever, did you start doing something else and change?

Participant #17 4:38

When we've very, when I first started at Trinity, we lived in, near Castleknock, that that

area, and I started off taking the bus and then I realised the train was more reliable, so,, I it was really probably only for a few weeks I took the bus.

Leyre Alonso Valdivia 4:53

OK. OK. Ehm. Have you ever considered cycling for any part of the commute?

Participant #17 5:12

I suppose, did I ever? I'm trying to think, I might, at some point, have cycle to the station, but it's it's almost not worth it, it's so close that by the time I've got my my bike unlocked and everything, then I'd nearly be at the station on on foot. And from here to Dublin is too far, really, to cycle. At least you'd have to be super fit.

Leyre Alonso Valdivia 5:27

OK. OK. Ehm. You mentioned earlier that you take the, one of the reasons you take the train is because of the environment. Is that something that play a role in you deciding how to commute?

Participant #17 5:51

Yeah, definitely.

Leyre Alonso Valdivia 6:00

Ehm. Does your commute change during the year? So for example some people might walk more during the summer, some people might change their mode of transport during the school year.

Participant #17 6:15

Not really. I mean the only thing obviously is that when it's not school term time, I don't need to do the dropping my son, that would be the only difference.

Leyre Alonso Valdivia 6:26

And so, aside from having to drop your kid in a school, is anyone in your household or your close family that might influence on how you commute?

Participant #17 6:41

Umm. Not really. I mean, it's only really around those school runs. So, whether I drive part way and leave the car, or whether I come back here, would partly, we only have one car, so it would partly depend on whether my partner needs the car but not otherwise. Not really.

Leyre Alonso Valdivia 6:59

OK, Does, is cost something you think about?

Participant #17 7:09

Not really. I mean it, obviously it helps that you can get the the tax saver tickets, I was very glad when that came in. But I've never actually sort of worked out what the comparative cost would be of driving in and taking the train.

Leyre Alonso Valdivia 7:22

OK. And how about a speed, of like how fast you can get into work or the weather? Are those things things that you take into account influence how you commute?

Participant #17 7:39

Not really. I mean, again the the buses takes actually takes slightly longer than the train, so it would probably would, the train sort of the winner on all counts, but it doesn't make a huge difference either way. So, there's it's not really, you know, even if I cared, it wouldn't really be a factor, I think, in this case.

Leyre Alonso Valdivia 7:56

OK. And weather? Does it affect how you communicate?

Participant #17 8:02

Not really. Now. I mean, if it's absolutely pouring with rain, I might ask my partner if he'd drive me to the station. But apart from that, no.

Leyre Alonso Valdivia 8:09

OK, OK. Ehm. Do you take into consideration your fitness or your general health when do you think about your commute?

Participant #17 8:23

Yeah, I do. I mean, I sorry, I think that's why I said I would, even on days when I'm taking my son, if I have the time, I prefer to come all the way back here and then walk because I think it's good for me to get a bit of a walk everyday. Ehm. By the time I've done the little walk at both ends in both directions, it actually adds up to about half an hour, which is, a reasonable walk. I'm always in a rush too, because I always leave too late, so I'm walking fast.

Leyre Alonso Valdivia 8:46

OK. OK. Ehm. Is safety something that plays a role into deciding how to commute?

Participant #17 9:03

Not really. I mean, I suppose if cycling were more practical that would be something I would have to think about, but because it's not really a an option anyway. I mean, I don't think I would be very happy cycling in Dublin, just because that, yeah, the traffic's so crazy.

Leyre Alonso Valdivia 9:20

So so you think even if you could, you might not cycle in?

Participant #17 9:24

Yeah, for that reason.

Leyre Alonso Valdivia 9:36

OK. We are almost done. So, to what extent, if at all, does the opinion of other people influence on how you commute?

Participant #17 9:54

Not at all, I don't think.

Leyre Alonso Valdivia 9:56

Not at all. That's fine.

Participant #17 9:57

I can't think. Yeah, I can't think of any way it would. No, no, I don't think so.

Leyre Alonso Valdivia 10:04

OK. OK, that's good. Do you think some modes of transport are perceived differently? So like might be more positive or negative, more safe or more unsafe.

Participant #17 10:25

I mean, are generally perceived that way. Well, I suppose I'm probably the train is the safest, I would guess. I would say probably that's what people think. I mean, I didn't. I didn't think people think about the dangers of driving cars as much as they should, given how many accidents there are.

I suspect that people think that cycling is the most dangerous. I don't know how accurate that is.

I know someone whose son was killed in a cycling accident, so it always makes me a little bit anxious about these things?

Leyre Alonso Valdivia 10:58

And do you think they might be considered more positive or more negative if any mode of transport?

Participant #17 11:07

In in relation to safety?

Leyre Alonso Valdivia 11:09

In general. Like some people might think, some are.

Participant #17 11:14

I see what you mean.

Leyre Alonso Valdivia 11:15

A class thing or a status?

Participant #17 11:17

Yeah, I think a lot, I think a lot of people think that they should use their cars less than they do. I mean, people like the freedom. I mean, I think I, I use the car more than I, even though I commute by train every time, I use the car more than I feel I should. And I think that's suspect that that's quite common. Because of the freedom that the car gives you, you're not having to wait for, you know, the next train or, and also if you've got lots of lots of luggage, and that's why as I said, I think I think that's why we drive my son to school because he has so much stuff to take all the time.

And in the bus, maybe people think of the bus as a less, I don't know, maybe look, whether it's lower class, I don't know, but something less comfortable, mode of transport.

I don't much like travelling by bus, I have to say, I find it a bit uncomfortable and everyone's a bit too, sort of, packed together.

But yeah, those things would be the main things that that spring to mind.

Leyre Alonso Valdivia 12:18

OK. And to what extent do you think, again if at all, do you think that society might influence the way you commute? Society might be your neighbourhood, your city, your place of work, your friends.

Participant #17 12:36

So well, I, like I said at the beginning, we're really lucky with where we live, that there are options. I mean, there's a good bus service, there's a pretty good train service. So that's certainly. I mean, if it were much more difficult to catch the train, I might think twice.

I suppose I mean, my work colleagues at, as a kind of group of people, are quite environmentally conscious, so maybe that affects me a bit though. I mean, I think to be honest, the decisions about commuting are much more about my own conscience and convenience than than what other people think.

Yeah, I think I mean, where we live is really the main thing. If we lived closer, for example, I might be more inclined to cycle; though, as I said earlier, cycling in Dublin,

it's something I would be quite nervous about.

So it's, I mean, living in Maynooth is both a plus and a minus. In that way, I suppose it's a bit too far to to cycle, but we do have these, these good public transport links.

Leyre Alonso Valdivia 13:39

So, you would say it's more about what you can use more than what people think?

Participant #17 13:46

Yeah, I would say so, yeah.

Leyre Alonso Valdivia 13:48

OK. OK. Well, I think that's all from me. Is there anything?

Participant #17 14:07

OK, that was easy.

Leyre Alonso Valdivia 14:13

Yeah. Is there anything I might not have asked that you would think it's important? Or something that you might have said that you feel you haven't talked everything you could about it?

Participant #17 14:25

I mean, there's the only thing, umm, we sort of touched on a bit that hasn't come up all that much is, I think, in relation to cycling, which you know I think cycling is fantastic, when I lived in England, I used to cycle everywhere. Here it's partly a factor of where I live, but I do think that safe, to cycling safety needs more consideration and it gets. That's partly, cyclists who, you know, cycle around with no lights or no helmet. And it's partly, that car drivers are not really used to cyclists, perhaps, as they would be in some countries. But also, I think, things like cycle lanes could be more, I mean there are cycle lanes in places in Dublin, but they could be more extensive than than they are. I guess that's, is there anything else that we haven't talked about.

I'm mean, I feel a bit funny saying that because I probably wouldn't use, I probably wouldn't cycle anyway, but I think as I say, even if I lived a bit closer in, I'd perhaps be not all that inclined to, just because of the experience of cycling in Dublin doesn't, it

seems a little bit scary to me. I lived in Oxford before we moved here, and Oxford's very much set up with cyclists in mind, so it's it's very easy.

Leyre Alonso Valdivia 15:34

Hmm.

Participant #17 15:37

But otherwise, I mean, I think, I think you know the buses and trains that weren't very good when we first moved here, but that they're pretty good now. They're very reasonably priced.

I don't think people have much an excuse not to use them, really though. The buses tend to get very full, we could do with, perhaps, more extensive bus service than at peak time anyway than we have at the moment. But other than that, I think the public transport's pretty good on the whole.

Leyre Alonso Valdivia 16:05

OK, so you think in, the infrastructure of the city plays a role into cycling and be willing to cycle?

Participant #17 16:16

I think so. It's certainly would in my case, if it, you know, if it were an option.

Leyre Alonso Valdivia 16:21

OK. And if cycling was possible for you, aside from the infrastructure of the city, is there anything that could prompt you to cycling? Something Trinity could do something? The city could do? Aside from the infrastructure?

Participant #17 16:43

I don't, Trinity used to have a bike repair man. I don't know if we still do, but obviously that's a really positive thing. I mean, it's, there's nothing worse than having a puncture and not being able to get home.

I'm supposed the other major factor, living in this country, is the weather, which unfortunately we can't do anything about.

But I can't. I can't think of anything else. I mean, maybe secure place to lock your bike. And do you have any bike lockers at Trinity? I don't even know.

Leyre Alonso Valdivia 17:15

There is one that I know of, behind the squash court around that area. Get that you need your student card to access or or a staff card.

Participant #17 17:22

Uh huh. Uh, huh. I mean, to be honest, I'm not sure how much that would affect me., anyway, I've never, you know, been the kind of person who ride buys a really, really expensive bikes.

If it gets stolen, it gets stolen. It's not. Not the end of the world.

Leyre Alonso Valdivia 17:41

OK. OK. Well, that's all from me. Thank you very much. Are you happy with me using this data for my study?

Participant #17 17:57

Yeah, I think so. Yeah. Yeah.

Leyre Alonso Valdivia 17:59

OK, then I'll stop the recording.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 37. Interview Transcripts – Participant 18

Commuting Study Interview-20240625_150337-Meeting Recording

June 25, 2024, 2:03PM

17m 54s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:04

OK. So the study is about commuting behaviour. This, the survey you filled out earlier a while ago were more general information about the commuting and this interview's to try and get more in depth information on how the commuting happens.

Participant #18 0:29

Yeah, yeah.

Leyre Alonso Valdivia 0:30

So if you could start by describing me your commute? What would you consider the starting point? The ending point? How do you commute?

Participant #18 0:41

Yep, yeah. So I live in Cabra, so I think about 3 kilometres away from Trinity. So I start at my home and my office is in the academic registry so, by the science gallery kind of entrance. I've only recently moved to this address, so this is a more recent commute. I try and walk most of the time, so that takes about 50 minutes.

And but I also have at my address that I have recently moved to. I have a bus stop right outside my house that drops off outside Pearse Station, which is very, very close to my office. So, occasionally, I get the bus depending on the weather and things, but for exercise I try and walk as much as I can when I go into the office. And the bus takes about 35-40 minutes, so it doesn't take too much longer to walk.

Leyre Alonso Valdivia 1:41

OK. OK. And so, of those, what would be your main? What would you consider your main mode of transport? Or they are just, interchangeably, you use both?

Participant #18 1:52

Yeah. Walking would be my main mode of transport. I walk almost everywhere.

Leyre Alonso Valdivia 1:59

OK. And how did you decide on walking?

Participant #18 2:06

So at my previous place that I lived, essentially by the time he'd walked to the bus, got on the bus, got off and walked, I realised it was taking the same amount of time as the walk, which there was about 40 minutes. And then I've got into the habit of walking and I quite like the mental headspace, just the time to just think. So, now I always do. I don't drive. I can drive. But I've also not particularly interested in driving. And like walking is very easy you don't have to wait for anything. You don't have to do anything. You can just go. And I have made sure to live in walking commutable areas. That was very important to me when I moved that I could still walk as my commute.

Leyre Alonso Valdivia 2:53

OK. Ehm. How about when you take the bus? What's the reasoning behind that?

Participant #18 3:03

Mostly weather. But sometimes, like clothing and things, I suppose within the same I yeah. If I need to go to an important meeting and wear something smarter, I might get the bus because it would be less comfortable to walk nearly 50 minutes in those kind of clothes or shoes or whatever. But most, my main influence would be weather. So, if it's raining or the weather's particularly bad. And occasionally I will get the bus if I've, like, slept in if I'm late, but I I always find it actually doesn't make me very much time at all. So I'm trying to teach myself that that's actually not worth it.

Leyre Alonso Valdivia 3:46

OK.

Participant #18 3:47

But it feels like it might be faster, but I'm not sure it necessarily is just because it stops so much.

Leyre Alonso Valdivia 3:52

OK. Umm. Did you consider any other mode?

Participant #18 4:00

Yes. So, at this address, I also, actually, have quite nearby the Luas and the train. So the Luas is, and the train are both about 10 minutes walk away and would both take me fairly near to the office. I suppose because the bus stop outside, if I'm going to take transport, I'll do the least amount of walking that I possibly can; whereas if I'm going to walk, I'll just walk the hallway. Once I've got to the Luas stop, I usually think I may as well just keep walking at this point. So, I do have a few modes available, and I suppose once in. I've worked at Trinity six years, it's, say, maybe three times, I've got a tax, just when I've really needed to like bring an office equipment back and forth or like really bad weather.

Leyre Alonso Valdivia 4:57

OK. OK. And have you always, commute by walking? Has always been your main mode of commuting?

Participant #18 5:17

Yes, yes. So before this, I lived in England so completely different. But in cities where it was a lot cheaper to live in the city centre. So, I worked in the city centre and lived pretty much in the city centre. So, I would commute by walking them. But it was significantly shorter distances.

Leyre Alonso Valdivia 5:39

They're walking is a bit your default option.

Participant #18 5:42

Yeah, yeah.

Leyre Alonso Valdivia 5:44

OK. How about cycling? Have you ever considered cycling?

Participant #18 5:55

I've considered it. I've never done it. I'm not especially confident cyclist and a bit frightened of the road. I would occasionally hire a bike, but cycle on those kind of cycle highways down in Clontarff and things like that, which feels safe. But the thought of commuting by bike seems scary to me, at rush hour with all the cars on the roads. Where I used to live, kind of Fairview way, and they were building that kind of cycle highway, the whole way into town. But now that I've moved, there's not as good cycle lanes. So, if I was to consider cycling, I'd want there to be a really, really good cycle path to feel comfortable doing it.

Leyre Alonso Valdivia 6:31

So is the, a bit infrastructure and the road safety what is keeping you away from cycling?

Participant #18 6:50

Yeah. Yeah, because I don't drive. I'm not particularly confident on roads. So I don't. Yeah, I don't like the idea of being on the road for the cars. So, yeah., And I'm not particularly pressed for time either, it would save me maybe half an hour every day, but. It's yeah, I can still leave the house after 8, 8 AM, so it's not too bad.

Leyre Alonso Valdivia 7:13

OK. And is there anything Trinity could do to get you into the bike?

Participant #18 7:27

Yeah, I wouldn't. I know that there's cycles storage. Showers would obviously help, I think there is maybe some scheme of showers. But yeah, that would be a lot of, a lot of additional effort. So yeah, I'm not, I'm not too sure, I think it's probably my own how I feel about cycling really, and like the traffic around where I live.

Leyre Alonso Valdivia 7:54

Hmm. OK. OK. And do you take the environment into consideration when do you think about your commute? Is that something you think about? Environment? Sustainability?

Participant #18 8:25

I think that's kind of been an accidental byproduct of walking. Obviously Trinity, it would be for most people, I think it would not make sense to drive to it. So that's been lucky, but I suppose my lifestyle is fairly sustainable that I don't drive anyway. So yeah, I don't really think about the sustainability of walking. It would, it wouldn't put me off getting on a bus, which would be slightly higher carbon footprint footprint, so not particularly.

Leyre Alonso Valdivia 9:00

OK. Ehm. Does your commute change during the year? Like some people take more public transport during winter time? Some people avoid a specific mode of transport during a school year. Does your change?

Participant #18 9:17

Yes, so I'm I'm not too sure yet 'cause I've just moved to this place and it's been very nice weather since I moved here. At my previous house it was such a hassle to get on the bus that I would walk to work all year round; whereas now it's not going to be such a hassle, I probably would get the bus a lot more in the winter. I assume that I will do that. But also I've got very flexible work from home. So, if there's, if there's a reason to not go into the office because of like expected additional traffic or weather or anything, I can just work from home as well. Is my other option. So I'd probably sooner not commute than not walk most days But if I have to be there, I might get the bus more in winter, I would think.

Leyre Alonso Valdivia 10:20

OK. Is anyone in your household or you're in close family that affect the way you commute?

Participant #18 10:33

No, no, no, not really. I just live with my partner and he gets the train to work now. So, another reason that I can just walk, I'm not time pressed, I've don't have any kids at home or anything?

Leyre Alonso Valdivia 10:36

OK. OK. And you mention a bit weather, that you might take more the bus when it's the weather is bad, or that you, speed, that you prefer walking 'cause it takes almost about the same time.

Participant #18 10:54

Yeah.

Leyre Alonso Valdivia 11:02

Does price or the cost of commuting make an impact on deciding how?

Participant #18 11:11

Yes, I think if I had to go if, I had to go to the office every day and I wanted to get the bus both ways every day, that would have a big impact on my outgoings, obviously. Because I only go into the office a few days a week and I so rarely get the bus, I don't think about the cost when I do decide to get on the bus because it's 1.30 each way, so it's negligible to me. But I do. Yeah, I do think about the fact that walking is cheaper, so I'll I'll if I walk, if I walk it's free. It encourages me to walk more. But I do think that transport in Dublin is very reasonably priced, so it doesn't put me off too much.

Leyre Alonso Valdivia 12:05

Do you take into consideration your fitness or your general health when you decide on how to commute? Which modes maybe to use or not to use?

Participant #18 12:20

Yeah. So, yeah, yeah, I do. If I'm not feeling, if I'm feeling under the weather at all, I might decide to get the bus rather than walk. But that is also a reason that I do actually avoid the bus, a lot, is like in the winter or on a rainy day, everyone's coughing and sneezing and they've got a cold. So, I actually actively avoid the bus to try and maintain

my health. It's quite tight packed sometimes. But yeah, if I'm feeling really tired or anything like that, I might get the bus rather than walk.

Leyre Alonso Valdivia 12:53

OK. Ehm. Does safety in general influence how your commute?

Participant #18 13:03

Not really. I'm quite confident walking around Dublin city centre, probably too confident.

If it is very late, if I've been at a late work event, then it would influence. So, if it was a much later time of day, which does happen in some of the area after work events, then I would not walk anymore. I would get the bus or the Luas or the train home after an event if it ended and it was dark outside. Basically, but the rest of the time I walk all throughout the year, the usual kind of 9-5 times it doesn't really bother me too much.

Leyre Alonso Valdivia 13:44

OK, we are almost done so.

Participant #18 13:47

Yeah, yeah.

Leyre Alonso Valdivia 13:49

To what extent, if at all does the influence of other people affect your commute?

Participant #18 14:01

I suppose that everyone, because I've always walked to work, everyone expects me to walk to work and they ask about my walk and things. So. Emm. So yeah, I think that's probably the only influences, that if I feel really lazy and I don't feel like walking into work, I'm kind of known for it now, so, I try and I try and do it because people ask about things, so I don't want to, err, get lazy. So I think that's the only influences that I feel that people might ask me about.

Leyre Alonso Valdivia 14:34

OK. Emm. Do you think different modes are perceived differently? Like some more positive or negative than others?

Participant #18 14:45

Yeah, I think it would overall be seen reasonably negatively to drive to work every day. Especially I have worked with people who would be like "oh, I slept in this morning, so I drove, my car is in a car park for like €20 for the day", I would have perceived that quite negatively, such a high cost. But I don't. And yes, people perceive me walking to work very positively. They they often comment on it that "it's wow! I can't believe you walk to work". So I suppose people do perceive them differently. I think people are particularly impressed by people who cycle to work, especially very far. Yeah, it's a bit of a physical feat.

Leyre Alonso Valdivia 15:32

OK. To what extent, again if at all, do you think society, that might be your neighbourhood, your workplace, your friends, might influence your decision on how to commute?

Participant #18 15:55

Yeah, I think that does influence people just the way that, like, things have been done before and the way that people do things, there's a lot of people who live a lot closer to the office than I do, who can't believe. I walk and I say "well, how long does it take to get the bus and things?" And they'd get there quicker if they walked, but they'd never really thought otherwise. I think that's just how anyone in their area would get into the city centre. They would always all, say, get the bus, get the train, whatever it is. So I think it does influence people to kind of do the status quo thing. I think in Dublin it's not necessarily always driving, but I do think everyone kind of does what what their their neighbours do or their families do.

Leyre Alonso Valdivia 16:40

OK. OK. And is there any mode of transport you would never use?

Participant #18 17:00

No, I don't, I don't think so. Obviously, I I couldn't commute by boat. There's a but. No,

not particularly. I could, I could never see myself commuting in a car because it just wouldn't make any sense, I wouldn't have anywhere to park it, it would take me twice as long to get there, I think with the way that the traffic is. So, I can't see myself ever commuting in a car, I suppose. But yeah, nothing in particular.

Leyre Alonso Valdivia 17:30

OK. OK. Well, that's all from me. Is there anything I might not have asked that you would like to talk about? Something that you maybe you mentioned that you say like "oh, I want, I have more things to say about this"?

Participant #18 17:35

No, I don't think so.

Leyre Alonso Valdivia 17:47

OK, that's perfect. I'll stop the recording.

Participant #18 17:48

OK. OK, great.

● **Leyre Alonso Valdivia** stopped transcription

Appendix 38. Interview Transcripts – Participant 19

Commuting Study Interview-20240626_100339-Meeting Recording

June 26, 2024, 9:03AM

21m 48s



Leyre Alonso Valdivia started transcription

Leyre Alonso Valdivia 0:05

OK, that's perfect. So, the study is about commuting behaviour. The surveys were asking more general information, and this interview is a bit to get more in depth information of how the commuting behaviour happens. So, if you could start describing me your commute, where does where you consider the standing point, the ending point, how you commute?

Participant #19 0:39

OK, well I commute only on a bicycle. And I have, at the moment I have three jobs that I go to. So, they are, one of them is the airport, which is 13 kilometres away from my house and I've I've I've been cycling to and from the airport for 25 years. And the other commute is to Heuston station, where I do some work as well, and that is about 8 kilometres. And then the other commute is to DCU university, which is about 8 kilometres as well. And it's always on a bicycle. And it has always been up until two months ago on a normal bicycle. But then I have an electric bicycle.

Leyre Alonso Valdivia 1:17

Hmm. OK. Ehm. What, what, what would it be the starting point of your commute? Would it be your house? Would it include, would include all the previous preparations up to starting your commute?

Participant #19 1:49

Ehm. I start from my house. Yeah. So, I start from where I live. And that brings end.

Leyre Alonso Valdivia 1:57

Ehm. Hhow did you decide on the bike?

Participant #19 2:01

Well, because I've been cycling since I was, like 4, and I'm sort of familiar with cycling and I'm pretty street aware. And so, I used to have a car, and more and more my car was just sitting in my car parking space. So, eating up money on insurance and tax, and I wasn't using it. So, about 2008, I sold my car and I've just used bikes since then. So I mean at the moment, in my own mind, I have no choice 'cause I don't a car. I could get public transport, but a bicycle is always the quickest way.

Leyre Alonso Valdivia 2:52

And did you consider any other type of mode for your commute?

Participant #19

Eh, yeah. Occasionally, I'll consider different kind of, types, like, when it's, when it's really heavily raining, or I'm very tired I might think about other commute, other ways of transport, but when I figure out the time involved, it's always, probably at least twice as long if I was to use public transport. So, bicycle always wins.

I mean, it's possible if. I live quite near DART line, so if I was working somewhere that has a DART station that was nearby, and it was only a 2-minute walk, I would consider using the DART, but it, doesn't work that way at the moment.

Leyre Alonso Valdivia

OK. And have you always commuted by, by bike?

Participant #19

Ehm. No, 'cause I'm sort old enough that I did drive to work when I was younger. Ehm. But, as I said, I stopped doing that; probably I sold the car in 2008 or so, so I probably

stopped using the car commute in about 2003. That's when the traffic started getting worse.

Leyre Alonso Valdivia

OK. So you, so would you, why did you stopped driving? Just because of the traffic?

Participant #19

Ehm. A combination of the traffic, ehm. I suppose environmental concerns, and also the efficiency and pleasure of cycling as opposed to driving.

Leyre Alonso Valdivia

OK. And, when you are cycling is road safety something you are concerned about? Or something that might influence on deciding how you commute?

Participant #19

Eh, yeah, very much so. So, I would commuted, not necessarily the fastest way but the safest way. So, they're not the same thing. I also, probably wouldn't recommend anyone else, who was an adult, just start cycling because it's really dangerous. And I have the better bit of 30 years of experience cycling in the city, eh, and. So, I think, I know the dangers more than most. So, the question was "do I consider road safety?", yeah, I really do. And then, I can identify spots in the city, particularly on the airport commute, that are, eh, really dangerous, that I have to be very, very alert, when I'm in those areas.

Leyre Alonso Valdivia

Ehm. When you started these commutes, why did you decide for the bike, instead of any other option?

Participant #19

Ehm. I think because, if I have to say, the primary reason was that, it was the fastest. And then, the secondary reason was that, eh, exercise. So, I fit, that it would improve my fitness. And, eh, the third reason was 'cause it was much more enjoyable.

Leyre Alonso Valdivia

OK. OK. And is there any mode of transport you would never consider?

Participant #19

No, I would consider all modes of transport. If I have to prioritise them, I'd say my least favourite would be buses. No, well at least favourite would be taxis. Because, because as a cyclist I have ongoing, an ongoing war with taxi drivers, and bus drivers, because of the crazy idea of shared lanes between bicycles, taxis, and buses. So, I hate taxi drivers, and I wouldn't like to give them my money. Buses, because I just don't think they're very, they're very efficient. They get stuck in traffic as well, despite the bus lanes. I think the Luas is good. And I think the dart would be my most favourite, second favourite. I I I would avoid the car unless I had to, unless I really had to use the car; for carrying equipment or something like that.

Leyre Alonso Valdivia

OK. And you mentioned earlier that one of the reasons for cycling is environmental concern. How does the environment play a role into your decision of how you commute?

Participant #19

Ehm. It's important. It's not absolutely fundamental, but it's important and it's because, and as a cyclist as well, sitting in traffic you, you smell the fumes. Ehm. You, you see the dirt and you see the damage that's done to the roads. And I just don't want to be a contributor to that. And so so it is a factor. And I'm I'm I'm a bit of a hypocrite because one of my jobs is involved with fueling aeroplanes, so that's pretty environmentally disastrous. But that doesn't mean I can't make my an effort myself. So. Yeah, it's a it's a factor. But, I mean, if the even if the environment was not an issue, I would still think.

Leyre Alonso Valdivia

OK. And does your commute change during the year? Some people prefer to use more public transport during the winter or change the mode of transport during the school year to avoid the school drop.

Participant #19

No. So, because I don't have any, I don't consider that I have any other options. Aside the bicycle. I mean, obviously I prefer cycling in a nice calm summer's day, but I kind of enjoy cycling in a cold winter morning in December, as well. It kind of makes me feel like I'm doing something brave or something like that. And it makes it it makes the other days nicer as well.

Leyre Alonso Valdivia

OK. OK. And is there anyone in your household or your close family that influence how you commute?

Participant #19

Well, there are people who attempt to influence how I commute because they say that cycling is dangerous, and would I not be more careful and get a car. And so that that's the only attempt, but. Not, not really. I mean, it's just fear for my life, I suppose. It's what family members would say.

Leyre Alonso Valdivia

OK. OK. Ehm. You mentioned that you like like the bike because it gets you places faster. That weather doesn't really influence how you commute. Does the cost play a role into deciding the bike over? You you mentioned earlier that that car was pricey, but public transport?

Participant #19

No, not really. I mean, I do have a leap card, but I, you know, I don't use that for. I don't consider using the LEAP card for commuting. I use that if I'm going on a weekend on a train or somewhere, like the or the Luas so. The cost would be a factor, but I think even if driving the car was free, I'd still use my bicycle. Public transport, I'm not, I'm not that aware how much it costs really, so. But I I I suspect it costs, it would cost me about

€3 a trip. So, I mean, I suppose that would that would add up but. If public transport was free, maybe I could consider using it on a rainy day, but then I'd feel disappointed in myself. So, so cost isn't really a big factor. But it but, but it would be a a small factor.

Leyre Alonso Valdivia

OK. And how about your fitness or your general health? Is something that plays a role into deciding how you commute?

Participant #19

Ehm. Well, luckily, I'm I'm pretty fit, so, that's partly because I cycle everywhere. I I'm aware that I won't be able to cycle forever so. It it is not a factor because I I'm I'm fit, so cycling has never been a problem. I don't what to do if I if I couldn't cycle. I did get an electric bike recently, which makes everything easier, but that's just being being a bit lazy on me. Ehm, because I could do it in a normal bike.

Leyre Alonso Valdivia

OK. Does safety in general, not just road safety, influence your decision on how to commute?

Participant #19

No, cause if it did, I wouldn't cycle. I'd have to say. I'd have to say if safety was a concern, like if I had to rate the least safest way to commute, it would be cycling. So, therefore, logically I must be discarding some of the; I'm pretty sure I would be safer in a car, or a bus, so. So, say, I'm aware of safety, but I disregard it because I like cycling.

Leyre Alonso Valdivia

OK. OK. Ehm. Well, we are almost done. So, we are only have a couple more questions left. So, to what extent, if at all, do you think the opinion of other people influence your decision on how to commute?

Participant #19

Not at all. Because, because I've been cycling so long I I I was, when I started cycling to the airport, in 1995 or something like that, there was no cycle lanes. It was really dangerous; it was not cool; there was no cycling campaigns; there was no cycling lobbying groups; but I did it anyway. So, no, it didn't influence me. I mean, maybe, because it's a it's got kind of cool now. Because it it, it doesn't have an impact. I'll I'll cycle when it's cool, when it's not cool. So, no, people don't really influence my decision.

Leyre Alonso Valdivia

OK, so cycling is a bit the default for you?

Participant #19

Yes, absolutely. And it will be for as long as I can.

Leyre Alonso Valdivia

And, do you think different mode of transport are perceived different, more negative or positive than others?

Participant #19

Yes, I do. I I think it's probably changing slowly, but I know, I know when I was younger that buses were for poor people. And, that, there was probably some truth in that, it was a class thing, that people who were, could afford it, had a car. Trains. Trains, not, not so much anymore. I think everybody gets the train, including the dart or the Luas. So, I think that's changed a bit. But. So what was the question again just so?

Leyre Alonso Valdivia

If you think different modes are perceived different, more positive, or more negative than others.

Participant #19

Yeah. So, I do. I think, buses are still, they're still got a bad reputation as kind of for poor people, and probably slightly dangerous, like most public transport. I still think the older generation relate car ownership to status. And I also think that that perception of car owners being the the, the apex predators on the road, I think that impacts the safety of cyclists and other road users. Because not only is the cyclist a pest, but they they also don't own the car so they don't, they don't deserve to be on the same road as I do. And, that's where you get the usual refrain of "you don't pay road tax, get off the road" and that kind of abuse that you get from motorists. So, I think certainly for older generation, they're still feeling of "I'm in a car. How dare you be in my way?"

Leyre Alonso Valdivia

Hmm.

OK. And, so, to what extent do you think society, that could be your neighbour, or your place of work, the city, might influence your decision on how to commute? If at all.

Participant #19

Well. Obviously the the easier it is to cycle. But, I'm gonna cycle anyway, but I will enjoy it more, and I I do enjoy it more now because it's getting it's getting easier and easier because there are cycle lanes appearing where there weren't any cycle lanes; and like some of them are terrible, but still they're appearing. So, for me, my decision is made so that the environment's not gonna make much difference. But, if I had to sort of speculate about, "would would more people cycle if it was easier?" Yeah, I definitely think so. And, because as I said at the beginning of this, if somebody, particularly someone who doesn't drive, said "I'm going to get a bicycle and cycle to work", I would really just, I would slightly discourage them because, it's the, because if you don't have that road sense that you let, you learn from driving, and and you don't know the city, it's it is really dangerous. And I think the statistics back that up, that a lot of people who are killed or injured cycling are people who don't drive; and also people who are not from Dublin, who aren't used to the city and won't be used to driving on the side of the road. That seems to be where the danger lies. So. Yeah. So, the environment could be made a lot more cyclist, cycle friendly.

Leyre Alonso Valdivia

OK.

Participant #19

And, I don't know if this is relevant, but I I have a car, a driving licence for a car, a driving licence for a rigid truck, and a driving licence for articulated truck. And I'm also a qualified driving driving instructor, so. Which is a bit strange for somebody who hates cars so much. But that that might be of interest to you. So, I'm sort of qualified to speak about roads.

Leyre Alonso Valdivia

OK. OK. So, that's all from me. Is there anything that I might have not asked that you would like to talk about? Something that you might have mentioned than now you are like "ohh I have more things to say about this"?

Participant #19

I don't know. I don't know what happened there.

Leyre Alonso Valdivia

Yeah, you froze.

Participant #19

Yeah, the, the, my teams just crashed. Anyway. You were asking me, is there anything I haven't mentioned? Well, I know that you're you're not, you're not doing your survey on cyclists, you're doing a survey survey on commuting, but I would have to say, if it helps, that the people who are terrorising cyclists, and other road users, are taxi drivers and bus drivers. And there there's almost a built-in conflict on the roads, that's not being addressed, even with cycle lanes. So, without blaming individual taxi drivers, or bus drivers, or cyclists, there are points in the city where conflict conflict seems to be built into the road system. And, that is why cyclists and taxi drivers are like cats and dogs. Hate each other. But, there's a false equivalence that, if there's an accident between a taxi driver or a bus and the cyclist, the cyclist will always come out worst. And people don't seem to recognise that. I don't think of anything else. I I think that's all I've got.

Leyre Alonso Valdivia

OK. Well, that's all from me, then. I I'm gonna stop the recording.

Appendix 39. Interview Transcripts – Participant 22

Commuting Study Interview-20240628_100349-Meeting Recording

June 28, 2024, 9:03AM

20m 46s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:07

So the the study is about commuting behaviour. So, they the surveys you answered a while ago were more general questions about commuting, and these interviews are a bit to get more in depth details of how that commute happens. So, if you could start by telling me about your commute, what do you consider the starting point, the ending point, how you commute?

Participant #22 0:40

OK. I live 60 kilometres from Dublin. I live in a town called Edenderry in Offley. There is a bunk, bus link to Dublin, but it's very irregular, and it takes quite a long time as it drops off on a lot of little villages enroute, so that's not feasible to use, you know, to commute to and from work. So, what I do is I drive to a town called Enfield in County Meath, which is 20 kilometres from my house. I park in the Irish rail train station, I walk about 5 minutes to pick up a bus, a coach, which brings me into Dublin. The coach is a privately run, coach business, it's not, you know the, T, what's what are the, the TF, transport for Ireland, TFI the TFI. It's not a TFI bus, so it's it's a privately owned coach bus.

I could get a train from Enfield, I park in the train station car park, I could get a train, but the bus is cheaper, so that's why I get the bus.

Leyre Alonso Valdivia 2:08

OK. OK.

Participant #22 2:13

And I reversed that journey, then in the evening. I get a bus from the Ha'penny bridge to Enfield, pick up my car, and I drive 20 kilometres home.

Leyre Alonso Valdivia 2:24

OK. What would you consider the starting point of your commute? Would be your house? Would be the bus stop? Would be the previous preparations?

Participant #22 2:37

Oh, the starting point is my house, because I effectively drive 1/3 of the entire journey to pick up the bus. So, like my commute is 1/3 drive, 2/3 bus.

Leyre Alonso Valdivia 2:54

OK, OK. And how did you decide on that combination for for your commute?

Participant #22 3:05

Well, as I said, the I could use a coach or a bus from my hometown, but it's not feasible. It's it's irregular, it's the journey takes too long. I think it's about 2 hours, 2 1/2 hours, because it stops on lots, at lots of different villages on the way into Dublin, you know. So, it's just not feasible. So, I had to look at more regular bus or train journeys to get me into Dublin and the nearest town to do that is from Enfield. So, it was literally just a matter of, you know, figuring out what was the best route for me.

Leyre Alonso Valdivia 4:00

Did you consider maybe driving all the way or doing part of the in a different way?

Participant #22 4:09

Yeah, I did consider driving. In a previous career I worked in Marion Square, and I drove in every day. And, I just found the driving, personally, I found it very tiring, but it just, it really wasn't worth it. Now. I had a car parking space at the back of the building, so I was lucky I could park at the back of where I worked. But I just found the drive too stressful, you know the traffic was just horrendous, it, you could be stuck in a traffic jam. Yeah. It just really it it. I really did not want to drive.

Leyre Alonso Valdivia 5:01

Do you ever use a different mode?

Participant #22 5:06

Sometimes I use the train when I drive to Enfield, and I I really only have that option to get to my first, you know, my where my pickup, where I either start my coach or train journey. I have to drive from my house to Enfield. Sometimes I use the train.

Sometimes. Instead of getting the bus, it depends on what time I finish. Sometimes I finish late, and if I finish late I have to get a train because my bus, I think the last bus is around 6 o'clock or half six. Umm, so, you know, if I'm in Dublin beyond that point, I have to get a train.

Leyre Alonso Valdivia 5:57

OK. And how often will you say is that, or is not often, just whenever it happens?

Participant #22 6:03

It's really not often at all. I would say, maybe 4 to 6 times a year.

Leyre Alonso Valdivia 6:15

OK. And have you, you said in a previous job you used to drive, but since you've been working in Trinity, have you always commuted this way of driving-walking-bus?

Participant #22 6:26

Ehm. When in my previous career, yes, when I. Yeah, when I was working in Dublin, I always drove in. I always drove in. Yeah. In other cities where I've lived, I have used public transport and cycled.

Leyre Alonso Valdivia 6:51

Why did you decide to move from driving all the way to Dublin to driving a part and taking the bus?

Participant #22 7:02

Ehm. Because. One of the reasons actually, was my my children were very small, at the time, and I felt there was a sense of security that I was able to leave work and drive directly home, if there was an emergency. As opposed to depending on either public transport or, you know, coach times or train times. So yes, when I was driving in, there

was a certain sense of, a sense of security and, you know, I could literally leave and be home on my own terms as opposed to waiting on public transport.

Also I I I used to start work very early. Ehm. I I had the option of kind of a flexi time situation; so, I would be at my desk at 7:00 o'clock in the morning, and then I could leave at kind of three o'clock, which that alleviated a traffic problem, but I could not have, I could not be in Dublin using public transport and get in there at 7:00 o'clock when I was in my my previous job.

Leyre Alonso Valdivia 8:29

So, what would you say is the reason you changed into the bus? Because your children grew? The the change of work?

Participant #22 8:39

Yeah, I just, I I really didn't want to drive and, ehm, and plus the fact, I suppose, there was a lot more awareness of, you know, sustainability and all the whole environmental aspect of it. You know, which is another reason that that I chose to use or to look into different modes.

Leyre Alonso Valdivia 9:06

So is that something you would say you are mindful of, when you do, when you decide your commute? The environment?

Participant #22 9:16

Oh, definitely, definitely. If if I could, if I had a dependable, reliable service from my hometown, I would use public transport 100%. If it was reliable, if it was timely, yeah, I would definitely. I would prefer, yeah, definitely. I would prefer to use public transport.

Leyre Alonso Valdivia 9:41

OK. And how about cycling?

Participant #22 9:48

Cycling it's. I I I actually do a lot of cycling like as a hobby, but it's not feasible to cycle 20 kilometres to pick up a bus.

Again, if if my point of, you know, the train station or the the bus, if that was closer, if it was feasible to cycle, I would, yeah. But it's just not feasible.

Leyre Alonso Valdivia 10:16

OK. OK. Ehm. Does your commute change during the year or is always the same? Like some people prefer to walk more often during summer time or change their their route during school time to avoid traffic? Does your change or is the same all year round?

Participant #22 10:48

It's pretty much the same all the time. Yeah, it really doesn't make any difference. The only difference, I guess is there are like I get a, a 6:45 I get, I pick up my bus in the morning, that generally means that I'm in Trinity at 8:00, o'clock. In the summer, because of less traffic due to school's closing, I can pick up a 7:00 o'clock bus and it will get me into Trinity at 8:00 o'clock. So I can save about 15 minutes in the morning, generally in the summer, but that that's really the only difference.

Leyre Alonso Valdivia 11:23

OK.

Participant #22 11:24

That's it.

Leyre Alonso Valdivia 11:26

OK. You mentioned that you just used to drive to work all the way because you liked being able to get to your kids if needed. Is there anyone in your household or your close family that influence the way you commute?

Participant #22 11:46

No. I can't, honestly, say there is. No.

Leyre Alonso Valdivia 11:48

OK. OK. Ehm. You mention that you you take the bus 'cause it's it is cheaper than the train. So, that's something you take into account?

Participant #22 12:05

Definitely, yeah. Yeah.

Leyre Alonso Valdivia 12:10

And how about the speed? You say, is that something as well? That how fast you can get there? 'cause you mentioned you don't take the bus in your hometown because it takes too long.

Participant #22 12:25

Yeah, the bus from Enfield goes directly into the city. I think there's only one stop at Liffey Valley. But in general, like, unless there's an accident, or unless there's some sort of road blockage, the bus from Enfield drives pretty much straight into the city. So, I think the bus is probably quicker than the train even. You know. Yeah. So, the the the speed isn't is fine, it's it's not a it's not a problem. You know it's it's not a problem.

Leyre Alonso Valdivia 13:06

How about weather? Does it influence how you how you commute? Maybe preferring to drive all the way when it the weather is worse or?

Participant #22 13:19

Well, it, I mean, there's really. Like I said, the bus service is really, really good. It's reliable. It's relatively cheap. It's relatively quick when I, like I say, when there's no accidents or road blockages. So, I find the bus service really, really good. So, there's no reason to do anything else, you know.

Leyre Alonso Valdivia 13:51

How about your fitness or your health in general? Does, is something that affects how you commute?

Participant #22 14:07

I, right. OK. So, I I work; I've got hybrid system. So, I'm I'm two to three days in in Trinity and the other days I work from home. When I'm working from home I cycle, and I walk every day. Even if I'm in Trinity at lunchtime, I'll walk. So, I think my fitness levels are OK,

they're not bad. I would prefer if, like I said, if it was feasible, I would cycle to pick up my bus, but it's just not feasible. I would love to cycle. Or I would love to be within say a 20 minute walk to pick up my bus, but I'm not, so I can't do that. So, does my fitness level affect my choices? My choices are limited.

Leyre Alonso Valdivia 15:05

OK.

Participant #22 15:06

So. But if I could walk more, or if I could cycle, I would.

Leyre Alonso Valdivia 15:13

OK. And does safety in general influence how you commute? Like some people avoid some mode of transport at sometimes of the day or just one altogether.

Participant #22 15:33

No. I will say, though, that I wouldn't cycle in Dublin. I would not cycle in Dublin. But as regards safety. No. Again, look, I drive, and I pick up the bus; and I think they're relatively safe modes of transport, but I would not cycle in Dublin. For safety reasons.

Leyre Alonso Valdivia 15:51

OK. OK. Yeah. So, road safety is is something that worries you?

Participant #22 15:57

Road safety and cycling 100%, yeah, in in Dublin. In Dublin, yeah.

Leyre Alonso Valdivia 16:11

OK. OK, we're almost done so.

Participant #22 16:15

OK.

Leyre Alonso Valdivia 16:17

To what extent, if at all, might opinions of other people influence on how you commute?

Participant #22 16:36

No, I I I don't think so.

Leyre Alonso Valdivia 16:39

OK.

Participant #22 16:44

No.

Leyre Alonso Valdivia 16:45

OK, that's fair.

Participant #22 16:47

Nope.

Leyre Alonso Valdivia 16:49

Ehm. Do you think different modes are perceived differently? Like, more positive or more negative?

Participant #22 17:02

You mean by the general public or by by me personally?

Leyre Alonso Valdivia 17:03

Yes. Both.

Participant #22 17:07

Both.

I think, you know, when I, when I used to drive, and this is like, I haven't driven in, I haven't driven into Dublin for work purposes in, 12, 12 years. So, 12 years ago, I think it was more acceptable to drive to work. Personally, I don't think it's acceptable to drive to work now if there's an alternative. If you have public transport or other modes, I don't think. I think driving into the city is perceived as is negative, as a negative connotation to it. And I think that change has, like I've seen that change over kind of 10-15 years. You know, certainly when I started to work in Dublin, like I said; I lived in other cities where I used public transport. But when I came back to Dublin, I used my car and it was a relatively standard, regular normal way to get into the city. Where I think, you know, 20 years later, it really isn't acceptable. And I think that's a good thing. Like I'm. I'm I'm. I think that's good thing.

Leyre Alonso Valdivia 18:39

And to what extent again, if at all, do you think society might influence on how you commute? Society might that be your neighbourhood, your town, your workplace, the city.

Participant #22 19:01

Might influence? I think in general, I think if there was a decent, reliable, cheap public transport service people would use it. In general.

Leyre Alonso Valdivia 19:24

So. Yeah. So those are all my questions. Is there anything I might not have asked that you would like to talk about? Something that that you might have mentioned that you are like "I haven't said everything I had to say about this"?

Participant #22 19:45

OK, let me think.

Not no, not not really. Not really. Like I say, my my choices are limited. I think I've made the best choice available to me. I would prefer to be able to walk and cycle more, certainly not in Dublin. I I will not cycle in Dublin, due to road safety.

But from my side like, from my house to a pick up point, if I could walk or cycle, I would be happy to do so.

No, that's that's kind of it. I I would, and I would if if there was reliable transport from my hometown, I would use it.

Leyre Alonso Valdivia 20:36

OK. OK, well, that's perfect. I'm gonna stop the recording now. Yeah, that's it.

Participant #22 20:40

That's it?

● **Leyre Alonso Valdivia** stopped transcription

Appendix 40. Interview Transcripts – Participant 23

Commuting Study Interview-20240628_130506-Meeting Recording

June 28, 2024, 12:05PM

20m 11s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:05

So, the study is about commuting behaviour. The surveys you first answered were more general information about commuting and things affecting the commute, and the interview is to get more in depth information of how that commute happens. So, if you could start by talking me about your commute, where what you can see that the starting point, the ending point, how do commute?

Participant #23 0:43

So the starting point is leaving my front door. Ehm. And where I live, the train station is about 28 minute walk, from my front door, but it's about a 6 minute car ride. So often I'll get a taxi to the train station.

Leyre Alonso Valdivia 1:00

OK. OK.

Participant #23 1:06

And then the train itself can take between, depending on the express nature of the train, as in how many stops it takes between my stop and Heuston station, it can take anything from 50 minutes, 50, to one hour 15.

Leyre Alonso Valdivia 1:24

OK.

Participant #23 1:28

And then once I arrive in Heuston, I need to take the Luas to Abbey street, which again takes about 15 minutes.

Leyre Alonso Valdivia 1:34

OK.

Participant #23 1:41

And then I, and then I walk from Abbey street, which again, takes about 10 minutes to get to campus.

Leyre Alonso Valdivia 1:45

OK. OK.

Participant #23 1:49

And it's the same on the way back, basically.

Leyre Alonso Valdivia 1:51

OK. Emh. How did you decide on those modes from?

Participant #23 2:01

Not a lot of other options, to be honest with you. I have toyed with the idea of getting a bicycle, for the journey from my home to the train station, and then from my journey from Heuston station to to to Trinity. However, I've spent over a decade living in London, and every single day in the newspaper, I would see a report of a cyclist getting, unalived, by by traffic. So that kind of made me nervous.

So yeah, so in terms of like in terms of like, in terms of. And we're a single car household, so I couldn't take the car, I wouldn't anyway. But the train is great, the only issue is the travel from my house to the train station, and then from the train station to, from the arrival train station to Trinity. And I've thought about, you know, electric scooter, bicycle, things like that. But I'm just a little nervous about the traffic potential.

Leyre Alonso Valdivia 3:27

OK, OK. So you will say regarding the cycling and scooters road safety is a big concern?

Participant #23 3:43

That's right.

Leyre Alonso Valdivia 3:45

OK. And is there anything that could prompt you into taking the bike? Something maybe Trinity could do? Something the city could do?

Participant #23 4:02

I mean like there is bike lanes. Right? There is bicycle lanes, up and down the keys, but again I'm not, I'm not massively confident in driver's abilities to respect those lanes. Do you know what I mean? I mean the personally speaking, when I'm, and this, this occurs even when I'm driving myself, my own car, I have 100% control over my safety, and ability to navigate, but I have 0 control over others. Ehm. And if the last 40 years have taught me anything, is that not everyone is as conscientious as everyone on the road. And when you're in a vehicle that's very flimsy, like a bicycle or a, or a electric scooter, you're kind of handing over your safety to everyone else, and I'm not comfortable with that.

Leyre Alonso Valdivia 5:20

OK.

Participant #23 5:20

I mean, if there was, if there was a tunnel that only allowed bicycles, then yeah, I'm all for it. But sharing with buses, and motorbikes and cars, I just, I just don't think the risk is worth the reward.

Leyre Alonso Valdivia 5:34

OK. And do you ever use a different mode of transport?

Participant #23 5:41

To come to work? No.

Leyre Alonso Valdivia 5:42

Yes. No.

OK. Ehm. Have you always commuted in that same way?

Participant #23 5:52

Yeah.

Leyre Alonso Valdivia 5:57.

OK. When do you first started your commute, how did you decide on that combination of taxi, train, Luas, walking?

Participant #23 6:21

I mean, I mean. There wasn't, like I had a whole load of options and I could pick one. That was the option. Like it was the singular option I had. There was no other, there was not a lot of weighing up other options. I mean, you know, maybe I could canvas my neighbourhood to see if there's anyone that's willing to carpool or anything like that. But I just, you know, the train station is there, the train goes to Heuston. It was all very kind of laid out for me.

Leyre Alonso Valdivia 6:55

OK.

Participant #23 6:56

Yeah.

Leyre Alonso Valdivia 6:58

OK. And aside from the bike, that you don't think it's safe? Is there any other mode you will never use?

Participant #23 7:09

Motorcycle. For sure. Again, like I have a very, very little faith in other people's abilities on the road. So.

Leyre Alonso Valdivia 7:25

Emh. Is the environment something you take into consideration when you decide on how to commute?

Participant #23 7:37

Yeah, it is. It's not like on the top of my list, but I certainly would avoid driving to work for, because of that reason. To be honest with you. And the train, even though the Irish trains are diesel, feels like it's a better, climate option.

Leyre Alonso Valdivia 8:08

OK. And does your commute change during the year? Like some people walk more in summer.

Participant #23 8:15

No. The same, yeah.

Leyre Alonso Valdivia 8:18

No. Always the same? That's perfect.

Ehm. Do, is anyone in your household or your close family that influence how you commute? You say you don't take the car 'cause you only have, is a one-car household. Is there any other?

Participant #23 8:33

Yeah. Yeah, yeah. I mean my, my, as I say, we're 1-car household, so, you know, the climate was a was a factor, but also the fact that I would be leaving my wife with no means of transport and we live in rural Ireland so. I don't know how much you know about rural Ireland, but without a car there is a zero chance of going anywhere. You know the roads. There's, there's hardly any foot paths and. Everything, again, like the the thing I've I've only been living in rural Ireland for three years, but the thing about rural Ireland is something can be 30 minutes walk away or a 5 minute drive away. So. And public transport is a joke, so. You're kind of, again, it's not because it's not a massively conscious decision. It's kind of you're left with that option or nothing, you know. Especially in the winter when it's raining and stuff like that.

Leyre Alonso Valdivia 9:42

OK. And aside from not taking the car, does anyone, again, your household, your family, influence how your commute? Like having to, I don't know, drop kids to school, taking care of things?

Participant #23 9:55

Yeah. Yeah. Well, the yeah, yeah. I mean, no, I mean, not really. I mean, the school, the, the creche actually, is about a 15 minute walk away and rain or shine that that's a, that's a buggy journey, you know, it's a walking journey.

Leyre Alonso Valdivia 10:12

OK.

Participant #23 10:13

So yeah, but if my wife needs to do shopping, you know, or something like that, I'll have to leave her with the car. There's no other way.

Leyre Alonso Valdivia 10:22

OK Ehm. Does cost of transport influence your decision on how to commute?

Participant #23 10:38

Again, I don't have a lot of choice, right? So. So, it's not like I've got like a selection of options, and I'm like "hmm, this one, this one, this one". It's like, that's it, to be honest with you, again, I'm not sure how comparable it is to the UK 'cause I know the UK train costs are expensive, but certainly for me to come in to Trinity, commute forward and commute back, it's €10 taxi to and from the train station is €20, and 45 euros, I'm sorry €25 train and then say €5 on taxi, on Luas. So it's €50 to come into the office. And there's, and that's probably, I suppose, I don't how much it would be on petrol if I was to drive, but it probably wouldn't be €50 a day. I know that much. But again, it's one of those same answers as before, I don't really have a choice. But but but for what it's worth, it cost me about €50 to get to and from Trinity.

Leyre Alonso Valdivia 11:55

OK.

Participant #23 11:56

A day.

Leyre Alonso Valdivia 11:57

OK. And I guess the weather and speed, the speed related do how fast do you get to work, is it similar? Due to lack of options, right?

Participant #23 12:09

Yeah, yeah, yeah. I mean again, based on the train, the train line, so there's probably around 15 stops, but from my station to Heuston; if it goes to every single one of those stops, the train is gonna take an hour and 15 minutes; if it goes to just Heuston, it takes 45 minutes. So it's an express train. That's the only that's the only differentiator. So, like you know if I get the, you know, if I get the 6:30 train I'll be in, I'll be in Heuston by 7:15. But if I get the 6:45 train, I'll be in Heuston by like 8 you know.

Leyre Alonso Valdivia 12:53

Hmm. They don't, do they influence in deciding to take the train over the bus? Or is this a matter of not having option?

Participant #23 13:03

No. No. The bus. The bus would never be an option. I'd never get the bus.

Leyre Alonso Valdivia 13:07

OK. So, how. So, it's just a lack of options or?

Participant #23 13:13

Lack of options, lack of reliability, lack of confidence in its ability to be on time. Again, it's it's all very random in rural Ireland for these kinds of things, at least with the train, it's on a set timetable and it's, you know.

Leyre Alonso Valdivia 13:34

OK. Ehm. Do you take your general health or your fitness? Is something you, it influence on how to commute? So deciding to use or not use a mode of transport because of fitness or health?

Participant #23 13:55

No, no, no. Wouldn't be a reason. Health wouldn't be a reason.

Leyre Alonso Valdivia 13:58

OK. And how about safety in general? We discussed earlier be road safety, but in general, feeling that a mode of transport is safe or unsafe.

Participant #23 14:12

Yeah, yeah. So, trains and Luas rarely crash. Bikes, E scooters, I mean, you know, news, in the news yesterday, already 2 this week, two children have been killed on E scooters this week, in Ireland. And yeah, I just, you know, train and Luas would be much safer. So, safety would be a bit, you know, now that I'm a father, safety would be, probably, the highest priority for me now.

Leyre Alonso Valdivia 14:50

OK. OK. We're almost done.

Participant #23 14:59

OK.

Leyre Alonso Valdivia 15:00

So to what extent, if at all, might the opinion of other people influence on how you commute?

Participant #23 15:16

I mean, unless their opinion comes with a magical method of commute that adds to my already long list of 1. Not really.

Leyre Alonso Valdivia 15:28

OK. Ehm. Do you think different mode of transport are perceived differently? More positive or more negative than others?

Participant #23 15:42

Yeah, I think so. I think people who get mass forms of transport, understand that they're doing a little better for the environment than people who are driving in a single user mode of transport. But again, I will come back to the safety issue, and, although it would be wonderful for me to, you know, have a bike and cycle and to the train station, and then fold that bike up, put it on the train, then unfold that bike and cycle; I just don't have a huge amount of confidence in the other road users. And that comes from, really, over a decade living in London and having to use the underground and visibly experiencing people's very limited ability to perceive what's around them when they're walking, let alone when they're under control of a ton of metal.

Leyre Alonso Valdivia 16:57

OK. OK. Ehm. To what extent, if at all, again, do you think society, that might be either your neighbour, for your city, your work, your workplace, might influence your choice of how to commute?

Participant #23 17:23

I mean. So, it would come down, I think it would come down to forms of shared mobility. So, for example, if somebody in my neighbourhood was to organise, say, a minibus that drove from, uh, like massive, like a fairly big car share minibus that drove from our neighbourhood to the city centre at a set time in the morning and a set time in the evening. That'd be great. If Trinity could organise a localised shuttle system from easy to get to areas, that would influence it. But opinions don't really influence me more than behaviour would influence me, if they were to come up with ideas and solutions rather than just like think of suggestions.

Leyre Alonso Valdivia 18:25

OK. OK. That's all from me. Is there anything I might not have asked that you would like to talk about? Or something that you might have mentioned that you feel you have more things to say about it?

Participant #23 18:57

Not really, I suppose, if you were to ask this set of questions in any other capital city in the in the whole of Europe; perhaps they would be, you know, your your questions would be more relevant to those who have several options, and their way to commute. But in Ireland. I mean, public transport is is very lagging. So, unfortunately most of my answers to your questions were "I have no choice. I have no choice. I have no choice", despite whatever my thoughts are, or feelings might be about the situation. It kind of, it is what it is. I don't really have a huge amount of leverage or options.

Leyre Alonso Valdivia 19:54

OK. OK. Well, then, that's all for me. Thank you very much. I'm gonna stop the recording.

Participant #23 20:06

Right.



Leyre Alonso Valdivia stopped transcription

Appendix 41. Interview Transcripts – Participant 24

Commuting Study Interview-20240625_110443-Meeting Recording

June 25, 2024, 10:04AM

16m 34s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:08

OK. So. So the study is about commuting behaviour. The the surveys you answered a while ago were more general information, and these interviews are a bit to try and get more in depth information about how commuting happens. So, if you could start with describing me your commute, what is the starting point? What is the ending point? How do you commute?

Participant #24 0:41

OK. I am, I commute from Terenure to Trinity, to the main campus. And it takes roughly half an hour or 3/4 of an hour, depending on the traffic. I go by bike.

Leyre Alonso Valdivia 0:55

OK, by bike. OK. Ehm. What would you consider the starting point? Will be it be your home? Will be before, while you are preparing to get on the bike?

Participant #24 1:11

Ehm. I'd consider it when I get on my bike and leave the house.

Leyre Alonso Valdivia 1:19

OK. And why did you decide for the bike?

Participant #24 1:24

Well, it was big, when my daughter started school, it was the easiest way to be able to drop her off to school and get into work afterwards. Ehm. I hadn't been on the bike for

years, and that was what got me back on it. I would have taken the bus before and walked home in the evenings.

Leyre Alonso Valdivia 1:46

OK. Do you ever use any different mode of transport?

Participant #24 1:54

Well, sometimes I would walk. I prefer not to get the bus, if I can avoid it because I've got used to not being reliant on a third party, to knowing roughly when I leave the house, when I will arrive, you just have more control over it that way.

Leyre Alonso Valdivia 2:13

And did you consider any other mode of transport?

Participant #24 2:18

No, I got used to get the bus for years, but that's that is stressful and it's a little bit unpredictable because the traffic on the main road near us is can be very, very bad. In the mornings. We have a school there. And it can be log jammed. The traffic can be bad in Rathmines, we can you can get caught in any point in the commute. And sometimes you can't even get on the bus easily, because it can be full by the time it gets here. And my husband still uses the bus and every day he comes home with a tale of woe, practically.

Leyre Alonso Valdivia 2:57

OK.

Participant #24 2:57

So I'd either if possible, my second choice would be to walk. If I can't use my bike for whatever reason.

Leyre Alonso Valdivia 3:08

And, when do you decide to walk? Why did you decide to walk or when does it happen? How often?

Participant #24 3:17

It will be every few months. Say, if I was meeting a friend after work. Sometimes it's more convenient to walk, but I have to bring my laptop in and out of the office, so, if I didn't, if I'm carrying the laptop, I'd try to avoid walking because it's too heavy. If I'm stuck, I'll get the bus, but just say that's my last preference. And driving absolutely not.

Leyre Alonso Valdivia 3:51

Ehm. You said you used to take the bus and started cycling, when, to drop kids off at school, would that be the main point of why you decided to go from bus to bike? Or were there other deciding factors?

Participant #24 4:08

That was the main point. And then when I got used to it, I realised it was much more convenient, and started using the bike more and more for doing different things.

Leyre Alonso Valdivia 4:25

Regarding cycling, is road safety something that you are concerned about? Something that might impact the, on the day you decide not to take the bike?

Participant #24 4:41

No, it's just it'll be for convenience.

Leyre Alonso Valdivia 4:47

And does road, is road safety something that worries you? Something that you think about when you're deciding on how to commute?

Participant #24 4:58

Not really because I used to cycle years ago when I was a teenager and compared to what it was like then, there's a lot more awareness, there are more bikes on the road; so pedestrians and drivers are more aware of cyclists. And there are cycle lanes, even though they're not, far from being perfect. It's that's more than there was 30 years ago, so. While it could be better, it could also be a lot worse. I've experienced worse. So, from that point of view, and. I mean sometimes with respect to safety, there's a concern

with other commuters, like sometimes the behaviour of people on E scooters, for example. And sometimes other cyclists or E bikes.

In a way, they're more of a concern than drivers or pedestrians, that because years ago a lot more pedestrians used to walk out on the road without checking for bikes. Then nowadays. I find, anyway.

Leyre Alonso Valdivia 6:08

How about public transport? What sort of things could maybe get you back on public transport?

Participant #24 6:19

Well, it's convenient, if it suits me, I'll use it. But for a lot of journeys it actually, it doesn't go close enough to where you need to go, or you have to change buses. So, I suppose it would be those issues. And then there's the cost. I can get on my bike for free and go door to door, within reason. I mean, what would influence me maybe is if I wasn't happy to leave my bike; if it was there wasn't secure enough place to leave my bike wherever I'm going. Might influence me. Or if it's too far to cycle?

Leyre Alonso Valdivia 7:07

And how about the environment? Does, you think about sustainability? Or is the environment something that concerns you about, you are concern about when you think about your commute?

Participant #24 7:20

Yeah, absolutely. And we're, we're lucky that we live around the corner from a reasonably good bus service anyway. So yeah, you'd be mad to take the car in the mornings if you can avoid it. But also, we use our car relatively little. And that's partly for environmental reasons, and partly because there are good alternatives, most of the time.

Leyre Alonso Valdivia 7:47

OK. And does your commute change it in the year? Like some people take more public transport in the during wintertime, or try to avoid different, use different models transport during a school year. Does your change? Is the same?

Participant #24 8:08

Yeah, it's the same. Yeah, I I have wet gear, or a certain amount of wet gear.

Leyre Alonso Valdivia 8:09

OK.

Participant #24 8:16

And it's easier. The traffic is worse when it's raining anyway. And you, you know, the buses are more full, there are more people in cars. So, it's worse. It's the worst time when you're stuck relying on the bus.

Leyre Alonso Valdivia 8:30

OK. Ehm. You mention that you changed to bike when having to drop kids on, at school? Is there anyone in your close family that might influence how you commute?

Participant #24 8:48

No. My daughter is old enough to make her own way to school now, but I stuck with the bike. Knowing that there's nobody, I mean, some of her friends also, like the parents, will be into cycling, but it varies depending on where the parents live. Everybody has different habits.

Leyre Alonso Valdivia 9:09

Ehm. You mentioned that do you prefer using the the bike 'cause it's more cost effective than the bus; that the weather gets, is weather something else so that affects you? Whether cause the, how fast you can get there? Is, are those things, things you think about? That you, that play a role in your decision?

Participant #24 9:35

Not really. It's a convenience of it. Because on the bike you can get stuck in the traffic as well, but you just somehow, you have more control over it ultimately. And it it can be stressful at times, ehm, some mornings people can be stressed. Like all commuters, the commuters are stressed. But it's just it's the convenience of it really.

Leyre Alonso Valdivia 10:02

Ehm. Do you take your fitness or your health in general into consideration when you decide on cycling?

Participant #24 10:12

Yeah, yeah, actually that is something else that it, it's a good way of keeping fit. Ehm, incorporating it into the commute, as I did before with walking. You can do it without having to make, set aside time, especially for doing some parable boring keep fit task.

Leyre Alonso Valdivia 10:35

And does safety in general, not just road safety influence on how would you commute? Like some people try to avoid times of the day, or some modes of transfer because they feel they are unsafe. Is something that affects you?

Participant #24 10:55

Well, it doesn't influence my decision but influence my behaviour, because the older you get, the more risk averse you get. So I would'd have had an old bike, a vintage bike before, and when it rained, when it was like this, the brakes didn't work very well on it. So eventually I upgraded to a modern bike; and that safety was an issue and that. Or you know, whether you stop at a red light, those types of things. But I mean it doesn't, it doesn't influence my choice of commute, necessarily.

Leyre Alonso Valdivia 11:35

OK, we're almost done. So, to what extent, if at all, does the opinion of other people affect how you commute?

Participant #24 11:50

It doesn't bother me with most things. I mean, I have friends who are, who be environmentally aware, so you know, that would have influenced me over the years different behaviours, but ultimately the choice of commute is based on what's convenient, and the quickest or easiest way of getting into work on time or as close to getting on time as I can manage.

Leyre Alonso Valdivia 12:21

And do you think different modes are perceived more positive or negative than others?

Participant #24 12:32

I suppose it depends, on a lot of things, on class, on where a person lives. As to how convenient it is because of public transport, obviously it is good in our area, it's not good in other people's areas. And you know, people live too far away to be able to avail of it. For example, one of my daughter's friends lives in Leopardstown, and has to get to Rathgart to school in the morning, and you know, there's no easy way of doing that on public transport.

So I think. Kind of gone off on a tangent, but. Sorry, what was what was the question again?

Leyre Alonso Valdivia 13:16

If you think some modes of transport are perceived different? More positive or negative than others?

Participant #24 13:23

Yeah, I think it's just, it depends on the person and what they're used to. And whether a person is bothered about the environment. Whether some people just prefer to sit in their car in traffic than sit on a bus. There can be snobbery involved, or sometimes people think, or a lot of people think, that cycling is quite dangerous. And would be nervous of it for that reason. So. Yeah. Does that answer?

Leyre Alonso Valdivia 13:54

Yeah. Thank you. And, OK, last question, to what extent, again if at all, might society impact on how your commute? Society might be your neighbourhood, your place of work, your friends, the city.

Participant #24 14:17

Well, in no way really. Again, I think for most people it will be about convenience. I don't think I'm any different to anybody else, in that way. And of course the more infrastructure that's there, it makes it easier for people to use public transport. If there's

a better, more cost effective, more efficient transport system. And like in Terenure, we don't have a Luas and people are campaigning to get it put in. So maybe if that was there and more easily available, I might use it more often. But I couldn't see myself changing my habits, any time now, like it suits me to cycle and it helps for fitness.

Leyre Alonso Valdivia 15:02

OK.

Participant #24 15:02

I think, ultimately it's it, it's all down to convenience.

Leyre Alonso Valdivia 15:07

OK, OK. Well, those were all my questions. Is there anything I might not have asked that you would like to talk about? Something that maybe you mentioned that you would like to say more about it?

Participant #24 15:28

Not really. I mean, I think the main thing is, is the infrastructure. That if, the if there was better infrastructure that people would use public transport more. That's, fewer people will be nervous about getting on the bike, and even if they only did it for a few months of the year, at least it will be a possibility, an alternative for people. And that you know, people could improve their fitness levels, I know there are concerns about people's health, about heart disease and obesity and so on. And you know, if the facilities were there in the infrastructure, I think more people would avail of alternatives. But if you don't offer people a decent, affordable alternative, they're going to still get in their cars. And the place is going to be clogged up, and it's going to be just as bad for the environment as ever.

Leyre Alonso Valdivia 16:24

OK. OK. Well, thank you very much. I'm gonna stop the recording.



Leyre Alonso Valdivia stopped transcription

Appendix 42. Interview Transcripts – Participant 25

Commuting Study Interview-20240709_101935-Meeting Recording

July 9, 2024, 9:19AM

35m 55s

● **Leyre Alonso Valdivia** started transcription

Leyre Alonso Valdivia 0:06

OK. There we go. So, if, to start, if you could describe me your commute? What would you consider the starting point, the ending point? How you commute?

Participant #25 0:22

OK so. It depends. I have two ways of commuting.

Leyre Alonso Valdivia 0:28

OK.

Participant #25 0:29

I either walk to my local tram, Luas, stop, and that takes me about, I have made it in eight minutes, but it takes me about 10 minutes, really, if I don't run. And then I sit on the Luas for about 40 minutes. Sometimes I have to wait a bit, but I generally don't check when the Luas leaves. I just walk off because the maximum, I think it goes every 7 minutes or something, so. And there's a coffee place at the Luas stop, so, if I get there and I have 9 minutes to wait, and I get myself a coffee. Then I sit on the Luas, and I get get to Dawson street about 40-45 minutes later. And then just, then I'm at Trinity and I walk into Trinity.

Or my second way of commuting, which depends, I suppose, on how I feel, it depends on the weather, and it depends on what I have on during the day, I would choose to cycle. I did that a lot last year, but I my work, it's work pressure dependent, I think, primarily. Work pressure and rain dependent. If I have a lot of work pressure, I will opt for the Luas because I can sit, generally on the Luas and read or or use the time for work.

If, if the weather is nice and I don't have so much work pressure, I will cycle and it's

about.

30-35 minutes cycle. It's 10 1/2 to 11 kilometres into Trinity. And I take my bike into my office because I don't believe Trinity has bike storage close enough to the museum building that is safe enough for me to use; and also I don't want to carry a massive big great heavy D lock when I cycle 10 and a half, 11 kilometres there and back. And yeah. And also, I don't, I mean thankfully, I don't think I would do that if I wasn't downhill; I'm, I do it because it's downhill and I don't get sweaty. If I was to get sweaty, it would add just that much too much extra for me to then have a shower and Trinity. Because I'd have to go over to the sports centre, I'd have to lock my bike there, I'd have to have all my shower stuff with me. And and that would just kill kill the ambition to be ecofriendly, and cycle, and be healthy and so on. So, I would, currently it's made possible because I'm going downhill in the mornings when I go to work, if I haven't too much work pressure and then when I go home in the evening it's uphill and I use it as my weekly exercise regime. So it's about 40-45 minutes, because it's up. It's about 150 metres up, I think. I live halfway up Tick knock. So it's a, it's a stiff cycle home. But it's OK. In terms of safety, I feel OK on the roads generally, but it took me probably about a week, when I first moved here, to get used to, to feeling confident on that stretch.

And Dublin City Council has done a little bit of a few things that have made it a little bit safer by putting segregated cycle lanes in on that route. There's still a small stretch where I have to go on the pavement with my bike, and I get very frustrated, because there's just no no room for bikes on the road when you have a lot of cars, and you know, cars at traffic jams, I don't see why I should be waiting behind the exhausts of a car and breathing in all of that pollution, when, you know, I'm making the decision to cycle for environmental and health reasons.

Leyre Alonso Valdivia 4:46

OK.

Participant #25 4:46

So it kind of defeats the object.

Leyre Alonso Valdivia 4:48

OK. OK. And how did you decide on those two modes? When you go, when you decide on either doing the, going to with the Luas or cycling?

Participant #25 5:05

I was never have bought a a house, with my family, anywhere where I wouldn't have been able to get to work by public transport or cycle.

Leyre Alonso Valdivia 5:15

OK.

Participant #25 5:15

So, I it's one of my main kind of fundamental principles that I want to be able to survive without a car. We have a car. But that's because certain things are just necessary for us to have a car for because we can't get to the places by public transport. But we don't use it very much. So, for the daily commute, it was really important for me that, and I'm probably, you know, privileged enough to have been able to do that. I know a lot of people can't.

Leyre Alonso Valdivia 5:50

And the reason for going with the LUAS instead of the bus or the train was it?

Participant #25 6:01

OK. Yeah, there is a bus. The bus, would be a really good option for me if I, if I left at something like 7 in the morning, from what I understand, because it goes quite directly, it's close, I don't have to walk 10 or 12 minutes to get to the bus stop. It's right behind, you know, it's 5 minutes or less, right behind our house. But the minute, I when I leave, because my family is quite important to me, I tend to be wanting to spend just say hello to them in the morning, so I don't want to leave at 7:00 o'clock because that would mean I'd be out before they get up.

Leyre Alonso Valdivia 6:42

OK.

Participant #25 6:45

And so I generally try to be be home until they wake up. And then, and then the traffic is so bad that the Luas is by far the better option. The bike is by far the quickest. So the

bike is reliably half an hour, you know, 35 minutes or something like that, I think it's probably half an hour as I cycle, but I allow 35 minutes. Whereas the Luas is, I have to allow 45-50 minutes at least.

Leyre Alonso Valdivia 7:15

OK. And, would you say either Louis or cycling is your primary and the other one is just when you don't feel like it? Or is just, you use them quite interchangeably?

Participant #25 7:35

I, look, I use them quite interchangeably, but seasonally.

Leyre Alonso Valdivia 7:40

OK.

Participant #25 7:43

So I would, I think between November and March, I didn't, this year, I didn't cycle at all. But then from May onwards, I've cycled quite a lot.

Leyre Alonso Valdivia 7:48

Mm hmm.

Participant #25 7:54

You know, so it's also it's weather and it's work pressure, because of the teaching semesters in Trinity and the intensity of the workload, that prevents me from, then you know, allowing myself the 45-50 minutes on the way home on the bike, when I can be on the Luas and reading something or you know, doing something that's work related.

Leyre Alonso Valdivia 8:23

And aside from the Luas, the cycle, you said you considered briefly about the bus. Ddid you consider any other mode of transport that you could use?

Participant #25 8:40

Not really. I have. I have considered an E bike, but I would quite like to get to the age of 60 before I have an E bike.

Leyre Alonso Valdivia 8:50

OK. OK.

Participant #25 8:53

So, it's a, I used to be a competitive sports person. So, you know, I'm quite competitive with myself. So I'm trying to not have E- bike. Because the way home is hard, and also just in terms of my, my, my ability now at my age to do it, I probably, you know, I wouldn't cycle three days in a row. I would maybe cycle you know two days and then go with the Luas and then have a another day of cycling. But I, but then again, the year before last I did a lot of cycling and this, I did every trip by bike, I don't know how I managed it, but I think my workload was slightly slightly less. So, it really is a balancing act, between workloads. And, you know, ideally, I would like to cycle every day other than when it really rains, like today probably no. But but it's a workload question. I have a. Trinity, umm. So, yeah, it's interesting because. For me it's very much link to workload. And we're all under a lot of pressure, as you might know, as academics.

Leyre Alonso Valdivia 10:07

Yeah. OK. And do you ever use a different mode? Aside from either Luas or cycling?

Participant #25 10:19

Yeah. Yeah. That's a good question. I do. I do. Very occasionally, I have to ask College for permission to bring my car in. Because I go and assist students on field work. I have, my research is field based, and it's in remote locations. So, I have to travel to remote places on the coast, for putting in data recorders and making environmental observations, bringing heavy pieces of equipment to those places. And then I have to come onto campus pick those up and go to the field site where we need to deploy them. And I am, actually, just about to see whether College can give me a parking permit, so that I don't have to always ask for permission to come onto campus every time I need to do that. Because it's not for me to park there, it's not for me to commute there, it's just for me to do my research work.

Leyre Alonso Valdivia 11:22

OK. Yeah. OK. And would that happen often?

Participant #25 11:31

Unfortunately not very often because I'm too busy to go out with my PhD student.

Leyre Alonso Valdivia 11:36

OK, OK.

Participant #25 11:37

But maybe, I don't know, I would say maybe once every two months? Every month? Something like that.

Leyre Alonso Valdivia 11:47

OK. And have you always commuted in the same way? Either like by Luas or by cycling?

Participant #25 11:57

Since I arrived in Ireland in 2019, yes. And before then I lived in Cambridge, and I lived by the same principle. I couldn't afford a house in Cambridge, so we lived actually much further out. We lived 21 kilometres out, but I even used to cycle then and it's quite unbelievable to me now that I managed 21 kilometres in 50 minutes, I think. That. But again, it was possible because they had a, they had a guided bus route that they installed, and they had a lovely cycle and footpath alongside the guided bus route. Going through nature reserves, and it absolutely wonderful cycle. But again it took time and the buses were my alternative then. So, it's actually, yeah, it's quite interesting. I had a very similar life with with a commute, in terms of either bike, but it was a long distance and it was really for fitness, and for the bus. And the bus choice, there was was super because, there was an old railway line that they converted into a guided bus route. So, you didn't have traffic jams or anything. So it's more like a Luas, comparable Luas situation, but it was even better, because I always got a seat and they had Wi-Fi on the bus. So even though it was a similar duration of 30 to 40 minutes, I was able to actually get on and do my emails and things.

Leyre Alonso Valdivia 13:32

Hmm. OK. Ehm. Regarding cycling, is road safety something you think about?
Something that influences deciding to use or not use the bike?

Participant #25 13:51

Yeah, absolutely. Yeah, I I I think about it a lot, particularly in Dublin. I've heard of many kind of cycle accidents; and I think the roads are in a really bad state in places, so that's why it took me about a week or two of cycling that route, to really know where all the potholes are, and, you know, where, and feel confident that I knew where I was on the road, in order to keep myself safe. But I've also invested in the most visible kind of, you know, cycling jacket or fluorescent with long sleeves. And and I kept myself out very carefully, and with lights and on my bike. I spend the money to have my bike maintained, so that it shouldn't fail and the brakes and all of that stuff. So, I do take that very seriously because I know that, particularly in a city like Dublin, accidents do often happen. And I've cycle very defensively, I would say.

But it is a worry. It's a worry and in the same way my my health in Dublin is a worry. Sometimes I have to cycle and the rush hour and the exhaust fumes of the traffic are something that really also concerns me. It's quite a growing negative factor for me as I get older, as well. I kind of occasionally thinking I really should be having a COVID mask on to protect myself. But yeah, then you can't breathe properly so.

Leyre Alonso Valdivia 15:31

OK. Emh. Aside from workload or the the weather, is there anything else that might be keeping you from using the bike? Something that is like "no, I'm not cycling"?

Participant #25 15:55

It could, it could be things that have to do with bike maintenance. So, if I, you know, it has happened to me that I had a problem with a bike, or get a puncture or something, and I just don't have the time to fix it over the weekend, then I make the decision that I don't go by bike because I just haven't had a time to to fix my bike.

And we've often, actually, thought about that in the community that we live in, that it would be fantastic if you had a sort of hub where you could just, you know, you get home; so, you could have a hub at work and the hub in the community, where if you

get to work and you've had a puncture, you can just wheel your bike in and they fix it for you by the time you go home.

Leyre Alonso Valdivia 16:43

Hmm.

Hmm.

Participant #25 16:48

And you could, if you had the same sort of thing in the community, where you could take your bike in, you got, you'll get home and you think, "oh God, you know, I've got all this other stuff to do. And I really can't be bothered with, you know, I just don't have the time to now fix the puncture". If you could leave it somewhere and it was done within a couple of days. That would be fantastic.

Leyre Alonso Valdivia 17:10

Hmm.

Participant #25 17:12

But unfortunately we don't have that kind of service.

Leyre Alonso Valdivia 17:13

OK. OK. And when do you first, back then, started this commute, how did you go about deciding "I'm gonna take the bike. I'm gonna take the Luas"?

Participant #25 17:33

I just tried it out. I made sure I had days. Well, I knew how long it would take me on the Luas. That was a safe, the safe bet for me, that when we bought the house and I had to make a decision "how do I commute?", taking the car was never, never on the table. I just wasn't going to do that. So, we bought the house because I knew, you know how to get to it by Luas. And I tried that out. So, I knew that would work.

And with the bike I looked at the the route online, and I then picked. Well, I was fortunate because my partner at the time was also working in the city centre, so we actually cycled together the first few weeks. And then until he, actually probably for a

year or two, because that's how long he worked in a similar place and. And I, and I think the first days I tried the route, I just made sure that I didn't have, you know, too much work pressure and I didn't, I wasn't time constrained in getting there; because at the back of my mind, and it still is like that, at the back of my mind, it's always "what would I do if I now have a puncture and I then don't make it to my meeting?". So, I've always got kind of back-up plan that I think "OK, I'm going to lock up my bike, and I'm going to get a taxi, or I'm going to whatever", you know.

Leyre Alonso Valdivia 18:48

Hmm.

Participant #25 19:05

You have to have that in the back of your mind to make yourself make the decision that you're going to cycle. Because you you know that it, you're still going to get to your meeting even if you have a puncture or something.

So I just tried it out on days where it it was relatively easy and I could take my time. And now I'm a bit more confident. I know pretty much exactly how long it takes so it's easier.

Leyre Alonso Valdivia 19:26

Hmm.

OK. OK. You mentioned earlier the environment. Is that something that it's important when you decide on how to commute?

Participant #25 19:42

Yeah, that's the main reason, other than health and fitness, that's the main reason.

That's, actually, the primary reason, I would say. Because health and fitness, I can do, you know, I can go for a run and I can go to the gym or whatever. But, yeah. It's the main reason. I I I live my, since my since the age of 14, my main reason for living is to make our environment a better place.

Leyre Alonso Valdivia 20:05

OK.

Participant #25 20:05

So it kind of fits.

Leyre Alonso Valdivia 20:09

OK. And so, health and fitness also plays a role in in you deciding? In promoting, prompting you towards something? Or does it also keep you away from other ways of commuting?

Participant #25 20:30

No, it keeps me away. You mean that? So, the health would keep me away from other ways of commuting? Yeah, because, you know, I could get on the Luas, but I I don't. And, you know, both of them I consider equally environmentally friendly, although that's probably not true, actually. But in my head, they are, you know, they are equivalent. So, it doesn't, I don't give myself any environmental discredit for using the Luas.

Leyre Alonso Valdivia 20:45

Hmm.

OK.

Participant #25 20:57

And therefore the decision to cycle is really one for my mental and physical health. Yeah. And and. And that then excludes the, the other commutes, you know.

Leyre Alonso Valdivia 21:09

OK. Ehm. Does anyone in your household influence how you commute? You said you don't take the the bus 'cause you like to to spend that time in family? Is there any other way they might influence your commute?

Participant #25 21:27

If if one, if my partner, for example, was to require the car to get to work, I would probably hitch a lift, you know. That would influence how I would commute. But, that is not the case. And, you know, I I don't try and impose my environmental

mindset on other people. So, you know, that would be a likely situation, if he had got a job and he decided that he was going to commute by car, unlikely, but, you know, then I would go and take, catch a lift.

I would also lift share. I mean, if there was someone around who needed to drive, for whatever reason, and who's currently driving on their own in the car, I'd happily, happily join them and lift share. But I haven't got access to that. As a kind of means. And also, it's probably, and what would worry me about that is that it's a bit that I would let the person down if I then change my plans, or, you know, that I would be dependent on them, potentially, changing their plans and then you don't really, you can't really plan ahead as well, perhaps.

Leyre Alonso Valdivia 22:34

Hmm. OK.

And we mention the weather. Does cost, or speed into getting into work, play a role into you deciding how to commute?

Participant #25 23:01

Yes, actually, yes. I kind of think about, when I get on the bike, I think "OK, I'm saving myself €4.00" because, you know, that's what I'm not spending on the Luas. But then, I very quickly remember that it does cost me a few 10s of euros to maintain and service my bike. Over time. But that does come into it. Yeah. I feel quite pleased that I don't have to use my Luas card when I cycle. But not a massive, you know, it's not, again, I'm quite privileged in that I can't afford the Luas. So. Yeah.

Leyre Alonso Valdivia 23:32

Hmm. And how about speed? Do you think about it? On how fast you can get there?

Participant #25 23:33

Yes, definitely and. And that's an interesting one, because the speed is, for me, is very joined with what I do while I travel. So, I, sometimes I just need to get to work quickly, and I don't need that time that I take to get to work to prepare myself for what I, what commitment I have when I get there. So, I I would then choose to cycle because it's by far the quickest. If it's not raining, I would then cycle. But if the work commitment that I have, is really, really important and I need to get my mind prepared, and maybe even

look at something on the computer before I get there, or read something before I get there, to be well prepared in the minute, then I will take the Luas and I will just leave earlier from home.

So the speed becomes then, secondary because I can use the time on the commute to prepare myself for work.

Leyre Alonso Valdivia 24:51

OK. And does safety in general, not just road safety, influence on how you commute?

Participant #25 25:04

Yes. And again, I think, in a very privileged sense, it's influenced the decision of where to live in order to commute safely. So, I would have been maybe worried if I had had to buy a house in an area where I know there is a lot of street violence, and I would have then had to walk to a bus stop, you know, in the night, when I come back late or whatever, that would have been. That's definitely a, that was a one of the main considerations for where we would live. For our commute. But at the moment, now that we do live here and anywhere along the route between where I live and my place of work, I know it's quite safe. From a crime perspective and and so on. You know, I don't have to worry about that now, but I did when we had to decide where to buy the house.

Leyre Alonso Valdivia 26:05

OK. OK, OK, we are almost done so.

Participant #25 26:11

OK.

Leyre Alonso Valdivia 26:13

To what extent, if at all, do you think that the opinions of other people might influence on deciding how to commute?

Participant #25 26:29

That's a good question, because. OK, I'm gonna give you a very philosophical answer. Because we are all influenced in all our actions, I think, by our past, by the way we've

been brought up, by the, you know, the kind of principles, fundamental principles that have been instilled in us as as how we think we should live. So, I think in my case, the biggest influence is not in any influence now, but it is the influence I have had when I was young. And you know, hence the determination from the age of 14 to save the planet. Which I still kind of have. I'm losing, I'm losing hope, but but we can try, right?

So. It is a kind, for me, it's a core fundamental ethical choice. But that comes from other people. It comes from my family. It comes from my parents, largely. Which is also, you know, why I think the shift that we now need, in in how we change our commuting patterns and so on, is going to be hard to achieve. Because I do think it's, you know, the biggest influence can be when you get children when they're young and and then you have to wait till they're in adults to for that, to actually make a difference in their everyday lives.

Leyre Alonso Valdivia 27:55

Hmm.

Participant #25 28:04

How you do that any other way? I don't know. In my case, I don't think, I don't think I would have shared my life with anyone who wouldn't have respected my principles. And OK, I'm in a job where, if I were to commute by car, I would probably get criticised. You know? I can't, I can't teach what I teach at university, and I can't debate and take part in in in recommendations at national, at government level, and so on, with the the the things that I contribute there, if I was to drive everywhere. That would be a contradiction in terms. But it's never going to happen, because I fully believe what I teach and what I, you know, give advice on. So, I'm never going to drive everywhere. Unless I really have to. And, you know, unless it is a kind of. And again, I think, this is the, this is the important thing, we always have to remember that everyone is a human being, and everyone has their own kind of, you know, personal lives that are important to them. So.

Yeah. I don't think I feel under pressure from that respect because it's something that I feel is the right thing to do anyway.

Leyre Alonso Valdivia 29:18

So, you will think that also the society influence on how you commute?

Participant #25 29:28

The yeah. The options that are given. Yeah. The society does influence how I commute. But it depends what you mean by the society.

Leyre Alonso Valdivia 29:43

It can be your neighbourhood, your workplace, the city. What do you feel has an impact on deciding how to commute, if at all?

Participant #25 29:54

OK, so.

Yeah. Yeah. So, it's not their attitudes, that are influencing how I commute. But it is where they are themselves, and if I want to go and see them and there's no public transport or there is, you know, it's too far to to cycle, then, if they're important to me, then I would take the car and I will commute there by car. Because the personal connection to those people is more important to me, then, not having an environmental impact at that time. But they wouldn't influence how I commute by telling me what to do.

So, it's the infrastructure. Yeah. You know, it's the infrastructure to do the things that I want to do that influences how I can commute more than anything.

Leyre Alonso Valdivia 30:39

OK.

Ehm. Do you think different mode of transport are perceived differently, more positive or more negative than others?

Participant #25 31:03

By those around me more generally?

Leyre Alonso Valdivia 31:06

Yeah. Yeah. In general, or around you.

Participant #25 31:08

Ehm. That's an interesting question. I I do think that. Yeah, I get that the perception

people have of the modes of transport is down to their personal experience. And. So I travelled back from London, last Saturday, and I came by train and boat, instead of flying, and I actually found it really, really nice. It's a lovely journey. And I had loads of time to read and to work, and I got here very relaxed. And I didn't have any of the stress of work, of being in big queues in airports, or the stuffy atmosphere of the airport, or then flying and.

And to me, that was a really positive experience, but I think if people haven't don't have that experience, because flying is so accessible now, then they don't know that they, they just don't know the alternative. And so, in their minds, the perception of doing that is not as good as hopping on a flight. Even though it was, in this case, a lot cheaper, very unusually, a lot cheaper than than it would have been for me to fly. And the price, I think, also has much to do with how people choose. So, the the, you know, the you can do a lot by making public transport cheaper. I I think. Because, you know, people's perception of how likely it is, or how likely they find it to use it, is is much to do with price too. And that's why a lot of people are still flying when, you know, a train could be quicker.

Other than that, I think maybe buses. I mean, I've heard some people mention they don't like to go on buses because they're too crowded or, you know, they don't feel, often they they don't feel well travelling on buses.

But I'd yeah, I don't know. I don't know. I think people are scared to cycle in Dublin, certainly. So, the perception of cycling is is one of, you know "no, I'm not going to do that because it's it's dangerous".

Leyre Alonso Valdivia 33:29

OK. OK. Well, that was everything from me. Is there anything I might not have asked that you would like to talk about? Something that you might have mentioned that you feel you didn't say everything you have to say about it?

Participant #25 33:49

Umm.

I mean, I think it's, it would be interesting to think about the, uh; but this is probably something you are already doing, to think about the the the the relative importance of individual choice versus the influence on what is made possible by way of a choice that is there. So that comes from the employer, comes from the state, it comes from, you know, external organisations who make certain choices possible for individuals. But I'm

sure that you, that's what you would be looking at and that's not really for this interview.

But that, you know, I'd be super interested in the output of your work because it does, it does preoccupy me quite a lot to think about this. And, I'm no expert on it at all, but I often think, you know, when I first started at Trinity, I was very reluctant to cycle because there weren't, you know, I couldn't put my bike anywhere safe, there wasn't a shower in the museum building, where I have my office. And ideally, you want to be able to arrive, go to a shower, and then, you know, go to your desk. Thankfully, I don't have to do that, because I'm going downhill. But that's like, you know, that's how many people can you house uphill in order to get downhill to work. You know, it's. So it's not really a valid, valid, or an important kind of consideration to move forward. So, I do think, for example, that in Trinity we have we have a lot to do to help people to choose the right form of transport that has the better environmental impact.

But yeah, and then the state can do lots of things, of course. But yeah.

Leyre Alonso Valdivia 35:43

OK, OK, that is great. I'm gonna stop the recording now.

Participant #25 35:44

Well, thanks.

Yeah.

● **Leyre Alonso Valdivia** stopped transcription