

**Understanding the Travel Behaviour, and Attitudes  
towards Sustainable Mobility amongst Migrant Commuters in Malta**

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(Research) in the area of Sustainable Development.



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# Declaration

I hereby declare that I am the legitimate author of this dissertation and that this submission is a result of my independent work under the supervision of Dr Thérèse Bajada of the University of Malta.

No portion of this work has been submitted in support of an application for another degree or qualification of this or any other university or institution of higher education.

Besides citing from authorities whom I have duly acknowledged, I am herein responsible for any error, omissions, and oversight.

AMINA SEMAOUI

Student's ID/Code: XXXXXXXXXX

# Dedication

*Dedicated to the cherished memory of my grandmother, Aicha Jamoussi, and my grandfathers, Abderahmen Bouassida and Ahmed Smaoui, whose love and values continue to guide me.*

*This work is also dedicated to Malta, a country I once visited as a tourist, where I made a simple wish to one day live, only to find myself, the following September, immigrating there.*

*My sincere gratitude goes to the Government of Malta for the scholarship and to the University of Malta for the knowledge, support, and new perspectives they offered me. This experience profoundly reshaped the way I perceive learning, growth, and opportunity.*

*Finally, I dedicate this work to my home country, Tunisia, to which I wish a brighter and more hopeful future. I am forever grateful for the education I received there, despite its ups and downs. Tunisia will always be the place where I was raised, where I lived, and where I shared life with my family. It is where I learned how to live and love, to laugh and to cry, a country where I enjoyed a childhood filled with innocence, simplicity, and pure joy.*

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# Abstract

With ongoing challenges related to global warming, sustainable urban mobility remains a critical issue. Unsustainable travel behaviour is shaped not only by infrastructure and policy but also by societal attitudes, norms, and cultural influences, which are further diversified by international migration. In Malta, a highly dense and car-dependent island, the growing migrant population adds new layers of complexity to urban mobility, yet this group has been largely overlooked in existing research. This study addresses this gap by investigating the travel behaviour and attitudes towards sustainable mobility of international migrant commuters in Malta. The research adopts a mixed-methods, exploratory sequential case study design, combining qualitative and quantitative approaches for both in-depth and generalisable insights. The qualitative phase involved semi-structured interviews and activity diaries with 12 migrant commuters and 12 Maltese participants as a control group, followed by a quantitative survey of 331 migrant commuters. Secondary data, including census and policy documents, complement the primary data.

Findings reveal that buses are the dominant transport mode among migrants (61%), while car ownership remains relatively low (23%). Mode choice is influenced mainly by practical factors such as cost, convenience, and traffic congestion, rather than environmental motivations. Migrant mobility is dynamic and adaptive, shaped by nationality, age, prior mobility experiences, and length of residence in Malta. Some migrants gradually assimilate into the island's car-oriented system, whereas others maintain flexible, multimodal, and relatively sustainable practices. A “honeymoon period” in early settlement emerges as a key phase for policy intervention. Despite moderate awareness of sustainable mobility, everyday travel is comparatively sustainable, reflecting pragmatic adaptation.

The study highlights opportunities to strengthen public transport, promote long-term sustainable mobility, and ensure migrant commuters' voices inform urban mobility policies. Recommendations aim to encourage continued use of sustainable transport and prevent late-stage car ownership, contributing to a fairer, more inclusive transport system that supports social integration and wellbeing.

**Keywords:** Migrant Commuters, Malta, Urban Mobility, Public Transport, Car Ownership, Sustainable Mobility

The preliminary results of this work were presented at the Volvo Research and Educational Foundations (VREF) NEXTGEN RESEARCH FORUM

**Title:** Understanding the Travel Behavior and Attitudes Towards Sustainable Mobility  
Amongst Migrant Commuters in Malta

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# **Chapter 1: Introduction**

## 1.0 Introduction

### 1.1 Research Problem

Urban mobility systems are increasingly challenged by rapid urbanisation, population growth, and persistent car dependency, which generate environmental degradation, congestion, social exclusion, and declining quality of life (Costa, Neto et al. 2017, EEA 2025, OECD 2023). Despite extensive policy and academic attention to sustainable transport, private cars continue to dominate travel behaviour across Europe, accounting for the majority of passenger-kilometres (Coppola, Lobo 2022). Existing research highlights that transitions toward sustainable mobility require not only infrastructural and policy interventions but also behavioural change shaped by socio-cultural and contextual factors (Banister 2008, Schiller, Kenworthy 2003, Litman 2007).

International migration adds an additional layer of complexity to urban mobility systems. Migrants bring distinct mobility norms, preferences, and constraints that interact with host-country transport infrastructures and mobility cultures (Vertovec 2023, Delbosc, Shafi 2023). Empirical studies from Europe, the United States, and Australia consistently show that immigrants initially rely more on public transport, walking, cycling, and shared mobility, but often gradually assimilate into car-dependent travel patterns as socio-economic integration increases (Blumenberg, Shiki 2007, Shafi, Delbosc et al. 2022, Tal, Handy 2010, Welsch, Mattioli 2025, Xu 2018). However, this literature remains largely focused on large metropolitan areas, with limited attention to small, high-density contexts.

Malta represents a critical yet underexplored case. As the most densely populated country in the European Union (Eurostat 2025a) and a highly car-dependent society (Main, Schembri et al. 2018). Malta faces acute urban mobility challenges. Simultaneously, its rapidly growing migrant population further diversifies travel behaviours and transport needs. Despite this, mobility and migration have largely been studied as separate phenomena in Malta (Main, Schembri et al. 2018, NSO 2025c), resulting in a fragmented understanding of how migrant commuters experience and navigate the transport system. This research addresses this gap by examining migrant travel behaviour and attitudes toward sustainable mobility within Malta's car-oriented urban context.

## 1.2 Motivation of the Study

Malta is an island state located in the middle of the Mediterranean. It has experienced rapid population growth and urbanisation, which have been influenced by policies promoting foreign labour and immigration (Main, Schembri et al. 2021). Besides, since the Maltese mentality is car oriented and the transport policies cater for the car, this led to a surge in car ownership and related traffic congestion and air pollution (Maas, Attard 2022). By the end of December 2024, there were 445,711 licensed motor vehicles in Malta. The stock of licensed vehicles grew at an average net rate of 27 per day during the reviewed quarter (NSO 2025a).

Malta ranks among the most highly motorised countries worldwide (Attard 2020). In 2022, the EU recorded an average of 560 passenger cars per 1,000 inhabitants, while Malta exceeded this figure with 600 cars per 1,000 inhabitants (Eurostat 2024b). It is important to state that the externalities associated with a car-centric culture include noise pollution and other related issues (Costa, Neto et al. 2017, EEA 2025, OECD 2023). According to the latest data from the National Statistics Office, environmental stressors remain a significant concern among the population. In 2023, 143,684 individuals reported living in noisy environments, representing an increase of 21,403 people compared to the previous year. Concerns about environmental pollution also intensified, with 161,708 individuals expressing worry about pollution, up from 140,901 in 2022 (Malta Today 2025a).

Malta's greenhouse gas emissions in 2023 were mainly generated by the energy sector (31%), followed by transport (27%) and international aviation (18%) (European Commission 2024). This alarming statistic emphasises the necessity of promoting sustainable travel options for locals (Maas, Attard 2022). This concern is likely to extend to migrants residing in Malta, whose mobility practices also contribute to national transport-related emissions.

Malta's resident population increased by 28.6% between 2012 and 2022, rising from 421,464 to 542,051, with growth reaching 574,250 by the end of 2024 (NSO 2024b, NSO 2025c). This demographic expansion has been driven primarily by net migration, which accounted for an increase of 10,614 persons in 2024 alone (NSO 2025c). Third Country Nationals constitute the largest share of this growth, representing 83.1% of total net migration in 2022 (NSO 2023c).

This rapid influx has significantly reshaped Malta's labour market and commuting patterns.

A commuter refers to a person who regularly travels between two points, typically, between their residence and their workplace or educational institution (Cambridge Dictionary 2024). Based on the Maltese National Household Travel survey in 2021, work and education are the most common purposes for travelling in Malta with a percentage of (42.2%) and (11.6%) respectively (NSO 2022b). In Malta, private cars are the most preferred means of travel at a percentage of 84% (NSO 2022b). Otherwise, people either take the bus, walk or bike to their destinations (NSO 2022b).

Consequently, it is assumed that the highest percentage of commuting occurs with the private car. The most active demographic group among Maltese residents consists of individuals aged 25 to 44 (NSO 2022b). This demographic groups forms a large part of the working population that commutes. With regard to localities towards which most commuting takes place, Msida led in education trips with 10,810, followed by Raħal Ġdid (Paola) and Naxxar. Birkirkara topped work trips with 12,186, followed by Msida and Valletta (NSO 2022b).

An important contextual factor in Malta's transport system is that public bus transport became free for residents in 2022. This policy is particularly significant in relation to international mobility studies, as fully free nationwide public transport systems remain relatively uncommon globally (Aberle, Daubitz et al. 2025, Perrotta 2016). The availability of free bus transport may influence migrants' mobility choices by reducing transport costs and encouraging continued reliance on public transport despite Malta's broader car-oriented mobility culture (Government of Malta 2022).

Employment patterns of migrants are not similar. Distinct differences emerge between EU and non-EU nationals. The largest group of EU migrants is employed as clerks and support workers (21%). A significant number also work as professionals (17%), technicians (15%), and managers (13%). In comparison, non-EU nationals tend to hold lower-level jobs. The largest segment working in elementary occupations (29%) and a significant portion in services and sales (21%). Only a small percentage of non-EU nationals, however, lead managerial (6%), professional (10%), or technical (9%) roles (Debono 2021). This significant influx of migrants, including commuters is of interest. It practically drives the researcher to question their travel behaviour and attitudes towards sustainable mobility.

Migrants residing in Malta form a significant portion of the population 29.4% (NSO 2025c). Therefore, they also contribute to the island's transport landscape. Despite their integration in the destination country, migrants often shape "new" societal dynamics. The majority of international migrants are between the age of 25 and 54 (78.1%) (NSO 2022a, NSO 2024a). The most active Maltese resident commuters are between the age of 25 to 44 (NSO 2022b). Analogically, the majority of migrants in Malta fall under the category of Maltese resident commuters. Surprisingly, there appears to be a lack of research addressing the travel patterns and attitudes of this demographic group. Therefore, there is an urgent need to explore this overlooked area to grasp the intricacies of migrant travel behaviour and their associated attitudes. The main objective of this study is to bridge this gap by elucidating the travel behaviours and attitudes of migrants in Malta.

### 1.3 The Study Aims

This study aims to explore the travel behaviour and attitudes towards sustainable mobility among migrant commuters aged 25 to 44 in Malta. The high activity and mobility levels within this demographic group attracts research interest. Understanding the mobility patterns and behaviour of this demographic group is crucial for identifying issues that might be used to provide recommendations for an improved policy towards sustainable mobility in Malta. By focusing on this group, the research seeks to comprehend their contribution to Malta's mobility landscape. Ultimately, it addresses a significant research gap concerning this demographic group.

### 1.4 Research Questions

This research addresses three research questions:

1. What is the primary mode of transport used by international migrant commuters, aged between 25 and 44 years old, residing in Malta, and what factors shape their mode choices?
2. What are the travel behaviour patterns of international migrant commuters aged between 25 and 44 years old in Malta?
3. To what degree do international migrant commuters, in Malta, aged between 25 and 44 years old, demonstrate awareness of sustainable transport options?

## 1.5 The Dissertation Structure

This dissertation is structured into eight chapters that collectively address the research problem, methodology, analysis, and conclusions. Chapter 1 introduces the study, presenting its problem, motivation, aims, research questions, and outline the dissertation structure. Chapter 2 reviews the literature on migration, mobility and sustainability, highlighting theoretical debates, empirical findings, and gaps that justify the research. Chapter 3 situates the study in the context of Malta, providing socio-economic, institutional, and policy background relevant to the analysis. Chapter 4 outlines the mixed-methods methodology, detailing research design, data collection, analytical procedures, and ethical considerations to ensure rigour and transparency. Chapter 5 presents the qualitative findings from interviews and activity diaries, capturing participants' lived experiences and mobility practices. Chapter 6 reports the quantitative findings, identifying patterns, relationships, and trends that complement the qualitative analysis. Chapter 7 integrates the qualitative and quantitative results with existing literature, offering a critical discussion within the theoretical framework. Finally, Chapter 8 concludes the study. It synthesises the key findings, highlights theoretical and practical contributions, proposes recommendations, and identifies directions for future research.

## **Chapter 2: Literature Review**

## 2.0 Literature Review

### 2.1 Introduction

This chapter provides a comprehensive review of the literature on urban mobility, sustainable transport, and immigrant travel behaviour. Section 2.1 introduces the concept of urban mobility, highlighting the challenges posed by rapid urbanisation and car dependence, and discusses sustainable transport as a multidimensional approach encompassing infrastructure, policy, technology, and behavioural change. Section 2.1.2 explores the barriers that hinder the transition to sustainable transport systems, including governance issues and socio-cultural constraints. Section 2.1.3 examines strategies to shift urban mobility, differentiating between “push” measures that discourage car use and “pull” measures that encourage the adoption of sustainable transport modes, while emphasising the importance of local context in shaping these interventions.

Section 2.2 discusses how mobility behaviours intersect with cultural and socio-economic diversity, highlighting how immigrants bring distinct mobility practices that interact with host societies. Sections 2.3.1 and 2.3.2 review empirical evidence on immigrant travel behaviour in Europe and beyond, examining patterns of car use, public transport, cycling, and car sharing, as well as the factors influencing these behaviours. Finally, Section 2.4 identifies gaps in the literature, with particular attention to the underexplored context of Malta, setting the stage for this study.

### 2.2 Urban Mobility

Urban mobility encompasses all forms of movement that take place wholly or partially within urban areas (Semanjski 2023). The rapid pace of urbanisation, combined with global population growth, has significantly increased the number of people living in cities. As a result, both urban populations and the number of large metropolitan areas have expanded notably (Lu, Li et al. 2021). Each week, approximately three million individuals migrate from rural areas to urban centres worldwide. Consequently, the United Nations projects that the global urban population will double by 2050 (Mavlutova, Atstaja et al. 2023).

In addition to the growth of cities and their populations, literature highlights several negative externalities of increasing car travel (Costa, Neto et al. 2017, EEA 2025, OECD 2023). These include air and noise pollution, traffic crashes, social exclusion, and congestion (EEA 2025,



OECD 2023). The constant traffic jams in big cities, caused by excessive use of private transport, impede urban mobility, harming the population and the environment (Costa, Neto et al. 2017). These challenges in urban mobility call for urgent transitions to more sustainable and integrated transport systems.

### 2.2.1 Sustainable Transport

The urgency of addressing sustainability in mobility planning has garnered global academic attention (Nikulina, Simon et al. 2019). Sustainable mobility is defined as “the mobility that satisfies the needs of present generations without compromising future generations” (Singh, Kumar et al. 2024). In other words, sustainable transport is broadly defined as a strategy aimed at reducing dependence on private cars and fossil fuels. This strategy encourages the modal share of walking, cycling, buses, and trains. In order to lower the overall demand for travel, it also promotes the integration of land-use planning and transport (Banister 2008, Replogle 1995, Spaethling 1995 cited in Schiller, Kenworthy 2003). Recent research underscores the value of combining multiple transport modes to deliver flexible mobility options. Multimodal integration strengthens system effectiveness and contributes to lower energy consumption (Fatorachian, Kazemi 2025).

Within the framework of sustainable mobility, enhanced infrastructure and services are designed to facilitate the efficient movement of people and goods. Achieving this vision requires the simultaneous pursuit of four key objectives: implementing effective policies, raising public awareness, deploying intelligent transport systems, and promoting the use of green vehicles (Singh, Kumar et al. 2024).

Moreover, sustainable transport goes beyond infrastructure and planning. It also involves political, economic, and behavioural aspects, all of which can be influenced by inconsistent policies (Schiller, Kenworthy 2003). For example, a comprehensive review highlighted several barriers such as regulatory, technological, financial, organisational, and social challenges that continue to slow progress toward decarbonised transport systems (Jelti, Allouhi et al. 2023). Policy instruments are pivotal in facilitating the shift of both individuals and industries toward more sustainable transport options. For example, recent assessments show that subsidies and grants, especially those aimed at supporting rail freight have had a positive impact at the national level in Europe. However, the absence of systematic follow-up and reliable data makes

it difficult to fully understand the extent to which these measures are actually working (Takman, Gonzalez-Aregall 2023).

Ultimately, achieving sustainable urban mobility requires more than infrastructure. It demands integrated, context-sensitive approaches that align policy, planning, and public behaviour to reduce car dependency and promote inclusive, low-carbon travel alternatives. To summarise, sustainable transport is a multi-dimensional approach that combines infrastructure, policy, land-use, technology, and behaviour to reduce car dependence, emissions, and travel demand, while promoting accessible, low-carbon mobility.

### 2.2.2 Barriers to Sustainable Transport Systems

Despite the existence of a solid theoretical underpinning for sustainable transport, opinions on the best strategy for bringing about long-lasting change remain divided. Long-standing challenges like rebound effects, divergent opinions at different governmental levels, and the inability to bring important stakeholders together are mostly to blame for this (Nikulina, Simon et al. 2019).

Two failed attempts are worth mentioning. First, an attempt from Spain, Valencia to implement an Integrated Sustainable Urban Development (ISUD) strategy. This project faced delays due to complex administrative procedures and bureaucratic hurdles. The lack of clear guidelines and coordination among various government levels resulted in stalled projects, causing disillusionment among stakeholders and hindering transformative urban change (Peris, Bosch 2020).

Second, Barcelona's Superblock initiative was designed to cut down traffic and create more pedestrian-friendly environments. Although the project introduced fresh and forward-thinking ideas, it faced setbacks. This was because of disjointed governance and pushback from local businesses. The heavy focus on local-scale planning, without proper coordination at the wider metropolitan level, resulted in fragmented urban development. This, in turn, weakened the broader aim of achieving sustainable and integrated urban mobility (Frago, Morcuende 2024).

These examples illustrate how fragmented governance, inconsistent planning, and lack of coordination can significantly undermine efforts to transition towards sustainable mobility. To

enable the shift towards sustainable mobility, a fundamental change in transport planning is crucial. The planning process for sustainability needs to be both comprehensive and inclusive. It must carefully consider all key goals, potential impacts, and available solutions (Litman 2007).

### *Behavioural and Cognitive Barriers to Sustainable Mobility*

Beyond structural and governance-related constraints, the literature highlights the role of behavioural and cognitive barriers in limiting transitions towards sustainable transport. One such mechanism is mental discounting, defined as the cognitive process through which individuals subjectively undervalue future outcomes in present decision-making (Wahlund, Gunnarsson 1996). Rather than applying consistent or rational discount rates, individuals mentally frame long-term consequences, such as environmental degradation, future financial costs, or sustainability goals, as distant, abstract, or uncertain, thereby reducing their influence on immediate choices (Frederick, Loewenstein et al. 2002, Thaler 1985).

Although initially developed within financial decision-making research, mental discounting is increasingly relevant for understanding everyday behaviours involving delayed or diffuse consequences, including mobility choices. In the transport context, individuals may recognise the long-term environmental and social costs of car dependence while prioritising short-term benefits such as convenience, time efficiency, and habitual comfort. This cognitive tendency helps explain the well-documented gap between environmental awareness and actual behaviour (Gifford 2011), complementing infrastructure and policy-based explanations by highlighting how subjective evaluation and cognitive framing reinforce car-dependent practices even where sustainable alternatives exist.

### 2.2.3 Measures to Shift Urban Mobility: “push” and “pull” strategies

Despite these challenges, numerous cities have adopted forward-looking strategies to shift towards sustainable mobility, broadly categorised into “push” and “pull” measures. “Push” strategies deter car use, making alternative modes more appealing. By applying fines, taxes, limitations, and other penalties to deter car use, these methods manage and control people’s behaviour (Gärling, Schuitema 2007). On the other hand, “Pull” strategies directly prompt people to walk, cycle, and use public transport. This approach rather empowers individuals to actively change their travel habits and motivates them to select public transport through rewards, awareness campaigns, or even network development. (Cairns, Sloman 2008, Marshall 1999, Zarabi, Waygood et al. 2024).

One increasingly discussed “pull” strategy involves reducing or eliminating public transport fares to encourage modal shift away from private cars. Malta presents a notable example through the introduction of free nationwide bus transport for residents in 2022 (Government of Malta 2022). Compared to many international contexts where public transport remains costly or partially subsidised (Aberle, Daubitz et al. 2025, Perrotta 2016), Malta’s policy provides a unique setting for examining how fare-free mobility may influence sustainable travel behaviour, particularly among economically sensitive groups such as migrants.

### *Understanding Car-centric Mobility Practices in Urban Mobility and Strategies to Overcome it*

Reinforced car-centric mobility practices occur when institutional practices, existing infrastructure, and ingrained beliefs favour car-centric planning (Hrelja, Rye 2023). As a result, cities in Sweden, the Netherlands, Germany, and the UK often focus on “pull” strategies, such as making non-car transport more appealing, rather than imposing car restrictions. Given that direct car restrictions might face resistance, it is important to go beyond identifying car-reduction measures and to better understand the local context. It is essential to explore how local realities shape the choice of “push” or “pull” strategies and how to implement car restrictions effectively (Hrelja, Rye 2023).

### *The Vital Role of Local Context in Urban Mobility*

Car use varies considerably across countries and cities. In several urban contexts, the share of private car trips is relatively low, such as in Vienna (27%), Prague (25%), and Casablanca (15%) (Saeidizand, Fransen et al. 2022). By contrast, car dependence remains high at the national level in countries like Italy, where private cars account for 64.7% of trips (Istituto Nazionale di Statistica, 2025). According to Eurostat (2025), the highest national shares of car transport in Europe were recorded in Lithuania (87.9% of total passenger-kilometres), the Netherlands (77.1%), and Finland (76.4%) (Eurostat 2025b).

In other global cities, private car use is substantially higher: Chicago reaches 81%, Sydney 73%, and Abu Dhabi 72%. These differences reflect variations in urban form, socio-economic conditions, and the availability and quality of public transport systems. Therefore, analysing the local context is essential to understanding patterns of car use and designing appropriate mobility strategies (Saeidizand, Fransen et al. 2022).

While the rebound effects of car dependency are complex, several initiatives have emerged to mitigate them. Three initiatives include “Smart Commuting” (Nocera, Bruzzone 2019), “The 15-Minute City” (Büttner, Silva et al. 2024, Büttner 2024), and “The Sustainable Urban Mobility Plan” (Hartl, Harms et al. 2023, Kiba-Janiak, Witkowski 2019, Okraszewska, Peters et al. 2022). Despite their effectiveness, they do face certain limitations.

“The Smart Commuting” project is a collaborative European effort. It aims to make commuting more sustainable by helping cities plan greener transport systems. It gives local governments the freedom to choose measures that suit their own contexts. In addition, it is backed by data to guide better decisions. While it is a promising initiative that encourages smarter travel and lower emissions, it struggles with connecting its goals to wider transport strategies. To fully deliver on its potential, it needs stronger integration, better technology, and closer alignment with bigger policy frameworks (Bruzzone, Cavallaro et al. 2020, Nocera, Bruzzone 2019).

Coined by Carlos Moreno in 2016, the “15-Minute City” concept envisions neighbourhoods where essential amenities are accessible within a 15-minute walk or bicycle ride. The model fosters sustainability and vibrant, community-centred living while addressing a range of urban needs through targeted programmes. It encourages collaboration between transport and urban planners to meet the needs of all demographic groups and the specific characteristics of each neighbourhood. Paris and Munich are examples of 15 minute cities (Büttner, Silva et al. 2024, Büttner 2024).

A key limitation of the 15-Minute City concept lies in the current lack of integration of diverse perspectives. Enhancing stakeholder awareness and understanding is therefore essential for its successful implementation. Establishing effective and inclusive mechanisms to assess and achieve its objectives remains a critical challenge. Furthermore, the concept has been critiqued for oversimplifying mobility needs, potentially exacerbating social inequities such as gentrification and displacement, and facing persistent challenges in governance, public acceptance, and alignment with broader transport strategies (Marquet, Anguelovski et al. 2024, Primoradi, Garshasbi et al. 2025, Zakariasson 2022).

Certain studies underscore the value of thoughtful planning and involve stakeholders in building sustainable and inclusive urban mobility systems. For instance, research from Najran, Saudi Arabia, indicates that reducing car use and enhancing access to schools through well-chosen school locations may encourage children to walk more and lessen their reliance on

engine vehicles (Lättman, Otsuka 2024). This concept is mostly connected to the proximity-oriented idea of the “15-min city” (Moreno, Allam et al. 2021) and is comparable to results from case studies in Europe (Broberg, Sarjala 2015).

Another study, from Germany, explored how city and transport design can support a shift towards greener mobility. It advocates for the expansion of sustainable transport networks and the reallocation of road space (Lättman, Otsuka 2024). A concrete example of this approach is the city of Freiburg. Over the last 40 years, changes in transport and land-use policies have led to a tripling of bicycle trips and a doubling of public transport ridership, while the automobile trip share declined from 38% to 32%. Since 1990, motorisation rates have stabilised and per-capita CO<sub>2</sub> emissions from transport have decreased despite strong economic growth. This demonstrates that such policies can be transferable to car-oriented cities worldwide (Beim, Haag 2011, Buehler, Pucher 2011).

A Sustainable Urban Mobility Plan (SUMP) is defined as a strategic, long-term planning framework that aims to satisfy mobility needs while improving quality of life through environmentally sustainable, socially inclusive, and economically efficient transport systems. SUMPs emphasise integration across transport modes, stakeholder participation, evidence-based decision-making, and alignment with broader urban and land-use policies. Nonetheless, the literature also highlights several limitations, including uneven implementation across cities, weak institutional coordination, limited data availability, and insufficient consideration of social equity and vulnerable groups. Okraszewska and colleagues further note that in many European countries SUMP often remain normative policy documents, with gaps between planning and practice due to political constraints, funding limitations, and the dominance of car-oriented mobility cultures just like Malta (Hartl, Harms et al. 2023, Kiba-Janiak, Witkowski 2019, Okraszewska, Peters et al. 2022, Transport Malta 2023). Taken together, these strategies and initiatives highlight the need to adapt mobility solutions to local contexts, emphasising that the transition towards sustainable urban transport must be both practical and socially inclusive.

### 2.3 The Interplay of Different Mobility Behaviours, Cultural and Socio-economic Diversity

Sustainable development seeks to address the challenges posed by current unsustainable practices (Brundtland 1987, Pritchard 2022), such as car dependency. At the societal level, sustainability challenges become more complex when populations collectively engage in

unsustainable practices (Rashed 2023). These challenges become particularly visible in the transport sector, where everyday mobility choices collectively shape environmental outcomes and reflect broader societal patterns of sustainability.

A study published in *Inclusive and Collaborative Advanced Transport* reports that private cars account for nearly 83 % of passenger-kilometres across the European Union, with cars dominating the modal split of passenger transport. The paper also notes that in a European survey only nine out of 28 countries had cars representing less than 50% of frequent trips, highlighting widespread car dominance across many EU member states (Coppola, Lobo 2022). In contrast, according to a 2024 overview of EU transport statistics, in 2022 the country with the lowest share of passenger-car transport (by passenger-kilometres) among EU countries was Croatia (48.8 %) (Eurostat 2025b).

Against this backdrop of persistent car dependency and uneven progress towards sustainable mobility across Europe, understanding how mobility practices are socially produced becomes essential. In particular, examining how different population groups engage with transport systems offers valuable insight into the societal dimensions of sustainable development.

Different mobility behaviours are shaped by both cultural norms and geographical environments, which influence how individuals perceive and use transport systems (Geis 2019). International migration has increased over the last decades, mainly driven by work and study or family reasons, increasing the diversity of the population both globally and in Europe (International Organization for Migration 2021). Thus, a growing body of research has tried to understand whether and to what extent the travel behaviour of immigrants is similar or different from the native-born population (Smart 2014, Hu 2017, Welsch, Conrad et al. 2018, Delbosc, Shafi 2023).

Migrants bring with them diverse values, social norms, and beliefs related to travel and daily movement (Vertovec 2023). This cultural diversity can reshape local social interactions and increases the likelihood of different mobility cultures meeting, adapting, and negotiating space in the urban environment (Kutor, Raileanu et al. 2021, Ye 2017). As a result, travel behaviours in host societies become more diversified, reflecting not only existing mobility norms but also the influence of the mobility cultures carried by migrants. In this sense, migrants arrive with

more than their suitcases; they bring distinct mobility experiences that interact with the host society and contribute to the emergence of new mobility behaviours (Delbosc, Shafi 2023).

### *Cultural and Socioeconomic Drivers of Divergent Mobility Patterns Among Migrants and Natives*

In developing sustainable mobility solutions, urban planners must account for the diverse travel needs and behaviours that emerge as different cultures and mobility practices intersect within host countries. Research consistently shows that newly arrived immigrants often display mobility patterns that differ from those of native residents, shaped by language barriers, limited familiarity with local transport systems, and distinct mobility cultures (Geis 2019, Welsch, Mattioli 2025). Empirical evidence further indicates that immigrants tend to rely more heavily on public transport and less on private cars, particularly during the initial years after migration, reflecting both socioeconomic constraints and adaptive processes within the host transport environment (Delbosc, Shafi 2023).

In addition to cultural differences, macro and micro factors may be involved in the reported discrepancies in the travel behaviour of natives and migrants. On a larger scale, these discrepancies can result from the two groups' differing socioeconomic traits. For example, they are different in how age, income, education, and work status are distributed. On the other hand, these variations may represent their requirements, limitations, and preferences on a smaller scale (Delbosc, Shafi 2023, Tsang, Rohr 2011, Welsch, Mattioli 2025).

## 2.4 Immigrant Travel Behaviour in Europe and Beyond

Little is known about the effects of immigration on public transport or on transport mode choices in general (Blumenberg, Evans 2007, Beckman, Goulias 2008). Although the majority of studies have been conducted in the U.S. (Welsch, Mattioli 2025), the main focus should be on understanding the travel behaviour of immigrants in Europe because this study provides a case study from a European country. Interestingly, insights can be gained from outside of Europe, which will further strengthen the understanding through different and distinct geographical case studies.

Migration and mobility are fundamental components that shape everyday life within societies. Understanding the complex interplay remains important to address societal challenges and foster sustainable and inclusive urban environments. Drawing on a range of multinational



scholarly perspectives, this section explores the nuanced interconnections between migration and mobility.

#### 2.4.1 Immigrant Travel Behaviour in Europe

In Europe, it remains controversial that many European studies fail to distinguish between individuals with an immigrant background and recently settled immigrants (Geis 2019). As identified by Assum (2020) European studies use immigrants and individuals with immigration backgrounds interchangeably. Moreover, many Western European countries regularly conduct travel surveys; however, these surveys typically do not include questions regarding respondents' country of birth or nationality (Assum 2020).

In Malta, for instance, the National Statistics Office (NSO) conducts censuses that categorise individuals into “Maltese” and “Foreigners” (NSO 2023a), a practice that raises questions about inclusivity and the potential reinforcement of social divisions based on nationality. These limitations are important because understanding accessibility, how easily people can reach essential opportunities such as work, education, or services, requires accurate information about different population groups.

Accessibility refers to how easily people can reach essential opportunities such as work, education, or services. It depends not only on transport systems but also on where opportunities are located and on individual circumstances (Hansen 1959, Geurs, van Wee 2004, Albacete, Olaru et al. 2017). Understanding accessibility therefore requires looking at both the transport network and the social and cultural factors that shape people's ability to move.

In the UK, immigrants' travel behaviour is heavily influenced by cultural identity and upbringing. Significant differences exist in car access and use among immigrant groups. For instance, a fifth of Indian-origin households lack car access compared to a quarter of white households and nearly half of Black households. Commuting patterns show similar gaps, in 2003, 72% of white individuals commuted by car, compared with 60% of those of Indian, Pakistani, or Bangladeshi origin and 46% of Black individuals (Wixey, Jones et al. 2003, Assum 2020).

Beyond access alone, cultural values and safety considerations further shape mobility choices. UK Census data (2001), as cited in Assum (2020), reveal a strong desire for car ownership among Asian groups, contrasting with Asian communities residing in the U.S., where cars

function both as status symbols and sources of safety. This particularly affects Muslim women, who prefer cars for personal security and often rely on male relatives or family drivers, supported by strong community and family networks. Interestingly, despite these constraints, Asians tend to travel more extensively than other ethnic groups (Assum 2020).

Research on immigrant mobility shows that travel behaviour is shaped by social, cultural, and economic factors, and that newcomers gradually adapt to the transport norms of the host country, a process often described as transport assimilation (Blumenberg, Shiki 2007, Tal, Handy 2010). In the UK, migrants often live in metropolitan areas with good public transport and rely heavily on non-car modes, including public transport, walking, cycling, and carpooling (Migration Policy Institute 2021). Over time, their travel patterns tend to “transport assimilate,” becoming more similar to those of the native-born population (Tsang, Rohr 2011). In terms of travel frequency, immigrants’ trips are mainly commute-related, and they travel less frequently than non-immigrants (Tsang, Rohr 2011).

Similar to the UK, in the Netherlands immigrants were less mobile than non-immigrants (Harms 2007 cited in Welsch, Conrad et al. 2018). These results are similar to one from Austria (Fassmann, Reeger 2014 cited in Welsch, Conrad et al. 2018). Immigrants in the Netherlands and Austria use the car as frequently as non-immigrants. The difference is that immigrants tend to use public transport more often than non-immigrants (Welsch, Conrad et al. 2018).

Immigrants in these European countries, unlike those in the UK and US, ride bicycles less frequently than non-immigrants, particularly women (Welsch, Conrad et al. 2018). Interestingly, research suggests that the average Austrian cyclist is characterised as a young, well-educated male without an immigrant background (Fassmann, Reeger 2014 cited in Welsch, Conrad et al. 2018).

In Germany, similar mobility patterns to those in the UK and US, were highlighted relevant to public transport and cars. Although access to a car increases the likelihood of frequent use for both immigrants and non-immigrants, car ownership is less common among immigrants. Notably, they are less likely to own a driving licence and to have a car than non-immigrants. In fact, sharing the journey and using the car as a passenger may be viewed as a way to overcome these disadvantages. With regard to the use of bicycles, the results are more in line with the case of the Netherlands and Austria (Welsch, Conrad et al. 2018, Welsch, Mattioli 2025).

Studies in Germany examining immigrants, including refugees, highlight diverse mobility patterns that differ from those of the general population. Immigrants tend to rely less on private cars and more on public transport, walking, and shared rides, reflecting resource constraints and adaptation to local mobility systems (Geis 2019, Welsch, Conrad et al. 2018). Refugees, in particular, are more likely to participate in carpooling, further demonstrating adaptive and resource-conscious travel behaviours (Geis 2019). These patterns are consistent with findings from other European contexts and the United States, showing higher public transport use among migrants compared to non-migrants (Blumenberg, Evans 2010, Migration Policy Institute 2021).

Research also identifies specific mobility barriers, including language difficulties, unfamiliarity with local transport systems, and cultural differences (Geis 2019, Enderle 2024). These challenges disproportionately affect refugee women, who are often less mobile than male counterparts, highlighting gendered dimensions of transport disadvantage (Geis 2019, Enderle 2024). Additionally, immigrants in German cities spend more time on daily travel than natives due to residential segregation, limited car access, and safety perceptions, which can further impede access to employment and services (George, Salomo et al. 2025). For example, these cultural and structural constraints disproportionately affect refugee women, who are often less mobile than their male counterparts. Although several mobility support measures exist, immigrants frequently do not benefit fully from them, as the programs are not always accessible, tailored, or effectively communicated (Geis 2019).

Unreliable public transport can also block immigrants from pursuing education and work opportunities. In France, Paris, poor public transport conditions affected immigrants living in suburbs negatively. Due to degrading transport infrastructure, immigrants face educational and professional related issues (Rachline 2011 cited in Assum 2020).

In Norway, Pakistani immigrants ride bicycles and walk less than Norwegians. These findings are similar to the one of Austria. Interviews show that Pakistanis consider bicycles as an inefficient means of transport which is only used by poor people. Moreover, only 4% of the male Pakistani immigrants studied spent 30 minutes or more walking, whereas 20 % of Norwegian men did (Aftenposten 2011 cited in Assum 2020).

#### 2.4.2 Immigrant Travel Behaviour Beyond Europe

Although this section primarily focuses on non-European contexts, selected European studies are also incorporated where relevant to provide comparative insights into immigrant travel behaviour across different geographical settings. Immigrants in the US tend to rely more on carpooling, walking, cycling, and public transport than non-immigrants, particularly for shopping trips, where they are more likely to engage in short-distance mobility such as walking or cycling (Smart 2014).

Some research has examined the neighbourhood effects on immigrants' travel behaviour, particularly their higher propensity to carpool. Studies in the United States show that immigrants living in ethnic or immigrant-dense neighbourhoods are more likely to carpool than both non-immigrants and immigrants living outside these enclaves, suggesting that strong social networks and shared travel needs within these communities facilitate cooperative mobility practices (Blumenberg, Smart 2010, 2014, Smart 2012). This relationship is driven not only by economic necessity but also by social cohesion, as close ties among co-ethnics increase the likelihood of finding carpool companions and sharing trips to work and common destinations. Research further indicates that inter-household carpooling is higher among certain ethnic groups when residing in co-ethnic neighbourhoods, underscoring the role of neighbourhood social capital in shaping travel behaviour (Shin 2017).

Additionally, studies find that immigrants with limited local language proficiency are more likely to carpool and form larger carpool networks, reinforcing the idea that language barriers and the need for social support encourage reliance on shared travel arrangements (Xu, Zhang 2022). These findings highlight how ethnic neighbourhoods and social networks not only influence mode choice but also support adaptive transport strategies among immigrants.

Using data from the National Household Travel Survey, Tal and Handy (2011) analysed mobility patterns in relation to immigrant status in the US. The influence of the place of birth and the year of immigration to the United States was studied. Remarkably, the place of birth has a rather widespread influence. Some countries of origin had an influence on mobility travel, whereas others did not. Another important finding was that the year of arrival is of high importance for immigrants who have recently settled in the US. Notwithstanding, this importance decreases as the immigrants remain longer in the US (Tal, Handy 2011).

Hu (2017) found that recently arrived Asian immigrants in the U.S. exhibit different travel behaviour compared to those who have lived in the country longer. Newer immigrants rely more on public transport and non-car modes due to lower income, limited car access, and settlement in urban areas, whereas longer-residing immigrants gradually adopt car use and travel patterns similar to the native-born, illustrating the process of transport assimilation (Hu 2017).

The literature often suggests that limited mobility can contribute to the formation of ethnic enclaves, social marginalisation, and reduced access to employment opportunities, with immobility posing a barrier to full integration into the host society (Li, Zhao 2017, Bose 2014). This dynamic is exemplified in Yu's (2016) study of Chinese immigrants in Flushing, Queens, New York City, which shows that many local residents experience forms of mobility disadvantage that extend beyond individual travel behaviour.

Chinese immigrants in this context face multiple structural barriers, including racial discrimination, language difficulties, and economic constraints, that restrict both their physical movement and their ability to participate fully in broader urban life. While these immigrants may have access to transport infrastructure, Yu (2016) argues that transport accessibility alone is insufficient to overcome deeper social and economic limitations; rather, mobility disadvantage intersects with broader forms of exclusion to constrain opportunities for employment, social engagement, and spatial integration. Consequently, effective integration requires a holistic approach that goes beyond transport policy to include labour market access, language support, and broader social inclusion measures (Yu 2016).

According to U.S. literature, immigrant commuting patterns significantly impact local mobility networks. The growing number of immigrants alters the demographic profile of daily commuters and increases demand for transport services. As a result, transport regulations must adapt to a more diversified commuter population. This is because regulations define the formal conditions under which commuters access, afford, and use transport systems (Blumenberg 2013, Blumenberg, Evans 2010, Liu, Chen 2020). Similarly, to the UK, over time, immigrants' travel behaviour tends to converge toward car-oriented norms as socioeconomic integration increases (Blumenberg, Shiki 2007, Xu 2018).

For example, in California, after five years in the United States, immigrants generally increase driving. Asian immigrants adopt car use relatively quickly, while Hispanic immigrants

continue to use public transport at higher rates than native-born commuters even after many years, indicating that cultural and residential factors also shape mode choice (Blumenberg, Shiki 2007, Xu 2018). However, recent repeated cross-sectional evidence suggests that although public transit use still declines with length of stay, the *rate* of this assimilation has decreased over recent decades, as new immigrant cohorts arrive with lower initial transit use and changing demographic compositions (Xu 2018).

The mobility patterns of immigrants present important opportunities for improving public transport planning. Evidence shows that recent international immigrants are more likely to use public transport, whereas migrants moving within the U.S. tend to rely less on transit. However, domestic migrants who settle in cities with expanding public transport networks are more likely to use these services. High population density and greater bus stop availability further encourage public transport commuting (Chakrabarti, Painter 2019). Understanding how immigrant travel behaviour interacts with built environment characteristics is therefore crucial for urban growth planning, highlighting the need for mobility strategies that account for different types of recent immigrants and the spatial factors shaping their travel choices (Yang Liu, Painter 2012, Chakrabarti, Painter 2019).

A study of Latino immigrants across six U.S. immigrant gateways shows that travel behaviour is strongly shaped by residential location, ethnic enclaves, gender, immigrant networks, and public transport accessibility (Yang Liu, Painter 2012). Immigrants living in ethnic enclaves are more likely to carpool and use public transport than those in non-enclave areas, with these patterns particularly pronounced among women (Yang Liu, Painter 2012, Hsu 2023). Immigrant networks and ethnic resources facilitate non-car commuting, while the concentration of ethnic businesses and higher urban density further support public transport use within enclave areas (Yang Liu, Painter 2012).

Eventually, immigrants typically own fewer cars and have fewer driver's licences than natives. This fact leads them to rely more on public transport. This is common in both Europe and the U.S. (Chatman 2014, Hsu 2023, Klein, Smart 2017, Priya, Uteng 2009, Tal, Handy 2010). Additionally, fewer immigrants, especially women, know how to cycle. In Norway and Sweden, immigrants face a higher risk of road crashes than natives. Despite their heavy use of public transport more than non-immigrants, most immigrants prefer travelling by car to a stronger degree than non-immigrants, indicating unmet travel needs (Assum 2020).

The literature also highlights contrasting mobility patterns, underlining the role of socio-economic, cultural, and infrastructural factors. In Egypt, migrants commute more frequently than native Egyptians on a weekly basis, a pattern closely associated with their higher reliance on public transport (Khalil, Noseir et al. 2024). Similar trends have been observed in countries such as Canada (Bruce Newbold, Scott et al. 2017), the United States (Blumenberg, Evans 2010), and Germany (Welsch, Conrad et al. 2018), where immigrants generally exhibit higher levels of public transport use than non-immigrants. These cross-national similarities suggest that structural conditions, including access to transport infrastructure and economic constraints, play a central role in shaping migrants' travel behaviour.

The question of whether immigrants or native-born populations spend longer time commuting on weekdays remains contested, as empirical studies report contrasting findings. While some research suggests that migrants experience longer commutes, other studies indicate that natives travel for longer durations or distances. Evidence from Egypt shows that native Egyptians spend more time travelling on weekdays and display a greater willingness to allocate time to commuting, a pattern closely linked to car-dependent travel behaviour (Khalil, Noseir et al. 2024). Similar trends have been documented in Southern Ontario, Canada, where native-born residents tend to have longer commute times than immigrants (Bruce Newbold, Scott et al. 2017).

By contrast, research in Spain finds that immigrants commute longer distances than natives, highlighting a divergent pattern (Casado-Díaz, Simón-Albert et al. 2022). These inconsistencies may be explained by differences in length of residence, as commuting behaviours often converge between immigrants and natives over time (Bruce Newbold, Scott et al. 2017, Preston et al. 2022).

Supporting the argument that natives may commute longer distances, Khalil, Noseir et al. (2024) suggest that immigrants often limit their daily travel by settling close to workplaces and essential services. This tendency is reinforced by evidence that refugees, particularly Syrians, cluster in specific neighbourhoods and cities, increasing residential–employment proximity and reducing commuting distances (Kabbani 2018).

Similarly, Casado-Díaz, Simón-Albert et al. (2022) argue that commuting differences between natives and migrants are shaped by multiple factors, including immigrants' tendency to reside

in spatially concentrated areas, which often reduces travel distances. These patterns underline natives' greater willingness to allocate time to longer commutes.

Although migrants spend less time commuting in Egypt, they report higher satisfaction with their commuting experience than native Egyptians, a finding likely linked to shorter commuting distances (Khalil, Noseir et al. 2024). Comparable evidence from Canada shows that immigrants tend to commute shorter distances than natives, reinforcing the association between reduced travel distance and higher commuting satisfaction (Bruce Newbold, Scott et al. 2017).

Another indicator of natives' car-dependent mobility is their higher commuting expenditure. In Egypt, natives incur greater travel costs, largely due to their stronger reliance on private cars compared to migrants, a pattern also identified in comparative studies of Tehran and Cairo (Khalil, Noseir et al. 2024, Mostofi, Masoumi et al. 2020). For both migrants and natives, commuting choices are strongly influenced by perceptions of safety in public transport and at guarded stations; however, Egyptians appear less sensitive to station lighting than migrants (Khalil, Noseir et al. 2024). Existing literature consistently shows that concerns over personal security reduce public transport use and encourage a shift towards private car travel, particularly in contexts where public transport environments are perceived as unsafe (Loukaitou-Sideris 2014, Litman 2025). Taken together, these findings highlight the importance of integrating safety and security considerations into transport planning, as declining perceptions of public transport security risk reinforcing car-dependent mobility patterns in the future (Khalil, Noseir et al. 2024).

When mobility behaviour of immigrants is controlled by the government, this has far reaching outcomes on their well-being. This restriction may result in depriving them from the right to own a driving licence or to freely move within the internal host country borders. This statement is illustrated through case studies from Canada and China.

In Canada, Toronto, social integration and discrimination problems occurred. Syrian refugees faced mobility inaccessibility that negatively affected their social integration (Farber, Mifsud et al. 2018). Conversely, despite cycling has always been a universal sign of a healthy and well-balanced lifestyle, this was not the case in Canada, Ontario. Immigrants who cycled were stigmatised, excluded, rationalised, and exploited, in an area predominated by motorised vehicles (Reid-Musson 2017).



In China, Beijing, immigrants had restricted mobility inside Dashilar (Li, Zhao 2017). Their workplace was close to their home, and they rarely went on vacation or to social events. One of the primary reasons for this was that their social connections were largely limited to people from the same community. Furthermore, time and financial constraints restricted their mobility. Institutional obstacles also separated migrant workers from natives in the labour market, urban welfare, and everyday life. To improve physical mobility, migrant workers used electric bicycles for daily transport. The use of a mobile phone increased their virtual mobility by easing information flow and expanding social networks. Moreover, community initiatives such as community activities and volunteers helped to improve their mobility (Li, Zhao 2017).

Australia's highly car-oriented transport system poses significant challenges for climate change mitigation, making the promotion of sustainable travel behaviour essential. South Asian immigrants initially display relatively sustainable mobility patterns, relying more on public transport and non-car modes. However, as skilled migrants with fewer structural barriers, they tend to assimilate rapidly into car-dependent travel, spending limited time in the "honeymoon period" during which multiple modes are explored (Shafi, Delbosc et al. 2022). This period nonetheless represents a key opportunity for planners to delay car assimilation, particularly through affordable and reliable public transport. In practice, family travel costs are a major constraint, suggesting that measures such as discounted family tickets could help sustain non-car travel (Shafi, Delbosc et al. 2022). Similar patterns of rapid car assimilation among skilled immigrants have been observed in the United States, where higher socioeconomic status facilitates early car ownership and driving (Blumenberg, Evans 2010, Blumenberg, Shiki 2007 Tal, Handy 2010).

Early transport literature paid limited attention to migrants' specific mobility needs. In response, targeted strategies were developed to address the travel constraints of Mexican immigrants in California, including improvements to public transport services, prioritisation of public transport over private vehicles, safer and more accessible car travel, and land-use planning that supports walking and cycling while enhancing pedestrian and cyclist experiences (Handy, Blumenberg et al. 2008). Subsequent research has increasingly highlighted that migrants' travel behaviour is shaped not only by infrastructure but also by multiple constraints encountered during daily mobility, such as limited financial resources, unmet transport needs, restrictive mobility and licensing policies, gendered responsibilities, and experiences of social exclusion or discrimination (Blumenberg 2013, Lucas 2012, Priya, Uteng 2009). These

findings underscore the need for inclusive transport planning approaches that explicitly integrate social equity and migrant-sensitive perspectives into mobility policy.

## 2.5 The Gap in Literature

This review illustrated a comprehensive understanding of the intricate nexus between migrant communities and mobility. It underscores the significance of immigrant travel patterns, challenges, opportunities, as well as socio-cultural influences on travel behaviour.

This research aims to contribute to the gap in the literature within the context of Malta. In Malta, mobility and migration have traditionally been studied as separate topics, with limited integration between the two areas of research. The presence of migrants further adds to the complexity of travel behaviours in Malta, a country that relies heavily on cars. Malta also recorded the highest population density in the EU (Eurostat 2025a), and its small archipelago of just 316 km<sup>2</sup> intensifies the challenges of urban mobility (Main, Schembri et al. 2018). Malta's population density reached 1,649 persons per km<sup>2</sup> according to the 2021 Census (NSO 2023a). Previous studies on urban mobility in Malta have not considered this constantly expanding population. Consequently, this study is the first to examine mobility and migration simultaneously, focusing specifically on the island of Malta. By combining the two subjects, this study will contribute to the national and international literature and continue the ongoing academic discussion on migrants' travel behaviour and attitudes towards sustainable mobility.

## 2.6 Conclusion

This chapter has reviewed the literature on urban mobility, sustainable transport, and immigrant travel behaviour, highlighting the interplay of infrastructure, policy, socio-cultural, and economic factors. Evidence shows that immigrants often rely more on public transport, walking, cycling, and car sharing, while gradually adapting to local mobility patterns over time. Comparative studies from Europe, the United States, and Australia reveal barriers, adaptive strategies, and opportunities for promoting sustainable transport among diverse populations.

The review also identifies a significant gap in understanding the intersection of mobility and migration in small, densely populated contexts such as Malta. By synthesising current knowledge, this chapter lays the foundation for the present study and informs the research design. The next chapter, Methodology, will describe the research approach, data collection

methods, and analytical framework used to explore travel behaviour, attitudes, and sustainable mobility awareness among migrant commuters in Malta.

## **Chapter 3: Migration in Malta**

### 3.0 Migration in Malta

#### 3.1 Introduction

Malta presents a unique case within the European and Mediterranean migration landscape due to its insular geography, strategic location, and rapid demographic transformation over the past two decades. It is one of the smallest and most densely populated countries in the European Union (Azzopardi Muscat, Calleja et al. 2017). For instance, in 2022, the population density of the Maltese Islands stood at 1,721 persons per km<sup>2</sup> (NSO 2024b). By comparison, the average population density in the EU was 109 persons per km<sup>2</sup> in the same year (Eurostat 2024a). Malta faces distinctive challenges and opportunities in managing migration flows, urban development, and sustainable mobility.

This chapter aims to contextualise Malta's migration dynamics within its broader geographical, demographic, and socio-economic realities. In doing so, it explores how migration has become a principal driver of population growth and labour market transformation, reshaping the country's societal composition and urban fabric. By examining patterns of internal population pressures, international migration, and the resulting spatial concentration of foreign nationals, this chapter also sets the stage for understanding the implications for mobility systems, social cohesion, and sustainable development.

Structured in two main parts, the chapter first introduces Malta as an island-state by discussing its physical characteristics, demographic evolution, and infrastructural constraints. The second part delves into Malta's migration context, outlining historical trends, migrant profiles, and recent developments. Particularly, it highlights the pivotal role of third-country nationals in shaping the current migration landscape. Drawing primarily on secondary sources including national statistics, academic studies, and policy documents, this chapter provides the foundational context for the case study and analytical chapters that follow.

#### 3.2 Malta as an Island-State

Malta is one of only two independent island states in the Mediterranean, along with Cyprus. With a significant (albeit small) fishing industry, a high level of tourism, and marine-related industries like shipbuilding and ship repairs. Malta is undoubtedly one of the most ocean-dependent countries in the region. Its location is strategically significant due to its central

position between the eastern and western Mediterranean basins and its proximity to the main trans-Mediterranean shipping lanes (Blake 1997).

Malta is a small archipelago (316km<sup>2</sup>) (Main, Schembri et al. 2018). There are three inhabited islands: Malta, Gozo, and Comino. The Islands are ideally situated in the corridor connecting Africa and Europe. The island is located 288 kilometers north of Libya and 93 kilometers south of Sicily (Government of Malta 2025a). Maltese and English are both recognised as official languages in Malta. Roman Catholicism is the state religion and is taught in schools. It is compulsory for children from the ages of five to sixteen to attend school (Azzopardi Muscat, Calleja et al. 2017).

The largest of the three islands is Malta. It continues to serve as the administrative, commercial, and cultural hub. The second-largest island is Gozo. It is more rural and well-known for its vast spaces and more rich countryside. Despite being mostly deserted, Comino is a well-liked hiking and day-trip destination (Government of Malta 2025a).

The urban fabric of the main island has evolved over the last thirty years due to increased land use density, urbanisation, and the growing demand for car space. Land resources on a small island are restricted by more than just fierce competition. Currently, 33% of the islands are built up, and the main island of Malta has a single, sizable metropolitan area. The main island is a city state in shape and organisation, similar to a medium-sized European metropolis, despite the islands being divided into six regions due to low distances and a continuous urban fabric. More than 80% of people live in urban areas (Attard 2020).

Malta's resident population increased by 28.6% between 2012 and 2022, from 421,464 to 542,051 (NSO 2024b). By the end of 2024, Malta and Gozo were expected to have a combined population of 574,250, up 1.9% from the year before (NSO 2025c). It has been influenced by policies promoting foreign labour and immigration (Main, Schembri et al. 2021). The population increase in 2024 was mainly dependent on the total net migration (immigration less emigration) of 10,614 persons (NSO 2025c). Immigration has grown to be a significant phenomenon that is bringing about both new opportunities and difficulties while also altering the traditional cultural backdrop (Azzopardi Muscat, Calleja et al. 2017).

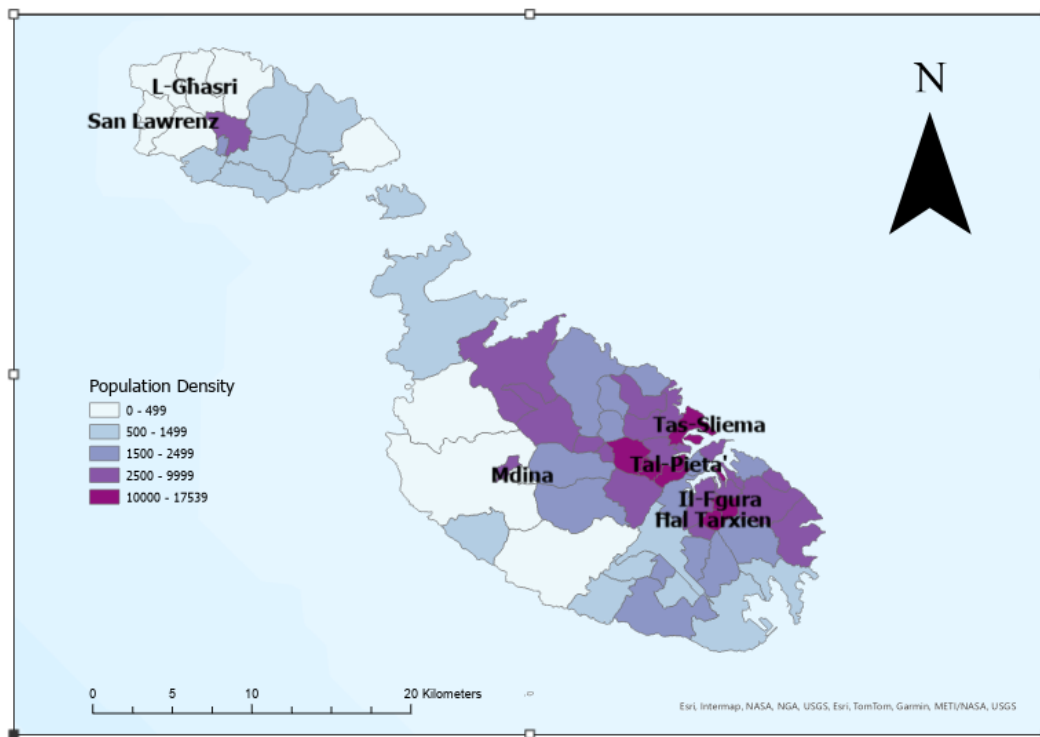


Figure 3.1: Population Density in Malta per km<sup>2</sup> (Original Source Produced from Data of NSO 2025c)

Figure 3.1 depicts the population density in Malta by the end of 2024. Central and harbour communities, particularly Sliema (17,539 people per km<sup>2</sup>) and Pietà (15,691 people per km<sup>2</sup>) have the highest densities. Fgura (12,239 people per km), and Hal Tarxien (11,457 people per km<sup>2</sup>) are other densely inhabited places that show a concentration of people in the inner harbour and surrounding areas. Għasri, San Lawrenz, and Mdina, on the other hand, exhibit the lowest densities, with 103, 223 and 227 people per km<sup>2</sup>, respectively (NSO 2025c). Results from the 2021 Census indicate that Malta had a population density of 1,649 persons per km<sup>2</sup>, reflecting the country's highly concentrated settlement pattern (NSO 2023a).

Malta has one of the highest car ownership rates in the European Union (Attard 2020). In 2022, the EU recorded an average of 560 passenger cars per 1,000 inhabitants, while Malta exceeded this figure with 600 cars per 1,000 inhabitants (Eurostat 2024b). Adding to that, pedestrians and cyclists face significant challenges when navigating the road network. This is largely due to the dominance of private cars. Most infrastructure is designed primarily to cater for cars (Maas, Attard 2022).

By the end of December 2024, there were 445,711 licensed motor vehicles in Malta. Passenger cars accounted for 74.1%, commercial and agricultural vehicles for 14.3%, and motorcycles, e-bikes, PA-bikes, e-kick scooters, quadricycles, and ATVs for 10.9%. Buses and minibuses made up less than 1% of the total. The stock of licensed vehicles grew at an average net rate of 27 per day during the reviewed quarter (NSO 2025a).

Since the Maltese mentality is car-oriented and transport policies support car dependency, there has been a surge in car ownership. This has contributed to traffic congestion, road accidents, noise, parking difficulties, and accessibility challenges for active road users. In addition to these issues the island and its residents suffer from constant increased air pollution (Attard 2020, Bruno 2019, Scerri, Attard 2024).

Air pollution refers to the contamination of indoor or outdoor environments by chemical, physical, or biological agents that alter the atmosphere's characteristics (WHO 2025). Major sources include household combustion devices, industrial facilities, forest fires, and motor vehicles (WHO 2025). Among EU citizens, people in Malta expressed the highest concern about developing asthma, respiratory diseases, and cardiovascular illnesses as a result of air pollution (Ktenidis, Aslanoglou et al. 2025).

Cultural attitudes also make it difficult to reduce car use. For many people worldwide, owning a car is not only practical but also a sign of social status. Some see it as a symbol of wealth or success, while others value owning modern or environmentally friendly models. Although the meaning may differ from person to person, cars have clearly become a central symbol in Maltese society (Azzopardi, Catania et al. 2024).

The quality of urban areas in Malta has deteriorated, largely due to the intrusive presence of cars in public spaces, which makes accessing essential services difficult in both towns and villages. Walking and cycling are often perceived as unsafe, therefore they are limited (Attard 2020).

Besides, transport inequity disproportionately affects vulnerable groups, including the elderly and persons with disabilities (Bajada, Mifsud et al. 2016). Transport equity is increasingly recognised as a means to achieve social justice (Martens 2006). Where equitable distribution of transport options is lacking, social exclusion can occur (Lucas 2012). Having said that, migrants who come to Malta to work and do not own a car may face significant accessibility challenges, which can contribute to social exclusion.



### 3.3 The Migration Context in Malta

#### 3.3.1 Migration Demographics and Trends in Recent Years

Malta hosts a diverse migrant population that can be broadly categorised according to legal status, skill level, and origin. Asylum seekers and refugees are predominantly from non-European countries such as sub-Saharan Africa, the Horn of Africa, and the Middle East. They arrive through both regular and irregular channels and often face heightened risks of exclusion in the labour market and integration programmes (Sonne 2025). In 2024, excluding cases under temporary protection, the International Protection Agency (IPA) received 701 first-time and repeat asylum applications. This count represents a 17.9% decrease compared to the previous year. Of these applicants, 229 were granted protection, while 298 applications were rejected (NSO 2025d). This reflects ongoing challenges in the asylum process and the selective nature of protection decisions

Regarding Malta's labour market, the majority of migrants originate from Europe (64%), followed by Asia (27%), Africa (6%), and the Americas (2%). Among the most represented nationalities are Italian, Filipino, British, and Indian workers. As such diversity reflects both intra-EU mobility and extra-EU migration flows. EU nationals are more often concentrated in high-skilled occupations, including managerial, professional, and technical roles. In contrast, third-country nationals (TCNs), from regions including Asia and North Africa, are disproportionately represented in elementary occupations and sectors such as services, sales, and other precarious forms of employment (Debono 2021).

Gender distribution also varies, with EU migrants comprising about 59% men and 41% women, while TCNs show a sharper imbalance, with 65% men and 35% women. This diversity illustrates the segmented nature of Malta's labour market, where nationality, legal status, and skill levels shape migrants' employment trajectories and their vulnerability to precarious work (Debono 2021).

Finally, there are returning Maltese migrants, members of the diaspora who had previously emigrated but later resettled in Malta, contributing to labour market supply and family reunification (Vella 2020). This diversity underscores the complexity of Malta's migration landscape and the varied challenges and opportunities migrants encounter.

Emigration has historically outpaced immigration in Malta, as was the case in many Southern European countries, with significant emigration flows shaping its demographic profile throughout the twentieth century (Vella 2020). Immigration numbers only began to rise meaningfully in the early years of the twenty-first century, particularly after Malta's accession to the European Union in 2004. Being part of the European Union gave the country prominence for workforce migration within Europe (Grech 2017). The share of migrant workers in Malta increased from just 1.3% of the total workforce in 2000 to over 10.1% by 2014 (Grech 2017). Studies also demonstrate that foreign labour contributed substantially to Malta's economic growth during this period, with immigration becoming a critical driver of productivity and labour supply (Curmi 2019, Fenech 2016).

While immigration has helped sustain Malta's economic growth, migrant workers continue to face structural challenges. Debono (2021) shows that many migrants, particularly third-country nationals (TCNs), are concentrated in low-skilled and precarious jobs, often under conditions that do not meet standards of decent work. These workers are more vulnerable to exploitation, including lower wages, excessive working hours, and limited access to rights and protections compared to Maltese or EU workers (Debono 2021).

In 2024, Malta's population was 53.1% males, a figure largely shaped by net migration, which added 10,614 persons to the total population. Non-EU nationals represented 76.6% of these migrants, and non-Maltese residents accounted for 29.4% of the total population (NSO 2025c). Migrants were predominantly male (57.7%) and concentrated in younger, economically active age groups: 22.9% aged 20–29, 34.3% aged 30–39, and 18.3% aged 40–49. In contrast, Maltese citizens were more evenly distributed across older age brackets, the population is ageing. Natural growth has been declining, with individuals under 18 making up only 14.5% of the population, while those aged 65 and over account for 18.4%. This demographic shift underscores the labour-driven nature of recent migration and highlights how migration has become essential in replenishing working-age cohorts and partially offsetting population ageing (NSO 2025c). Migrants in Malta settle mostly in San Paul's Bay, Sliema and Msida according to the NSO census of 2021 (NSO 2023a). This spatial concentration of migrant populations is also supported by spatio-temporal analyses of settlement patterns in Malta, which highlight a clear clustering of foreign residents in urbanised and coastal localities (Schembri, Attard 2013).

### 3.3.2 Migration Policy, Social Integration, and Labour Market Dynamics in Malta

#### *Migration Policy and Legal Framework*

Malta's migration framework has expanded in response to increasing labour demand, with recent policies such as the Malta Labour Migration Policy (JobsPlus 2025) aiming to regulate migration flows and address workforce shortages. While these measures introduce mechanisms such as extended grace periods for third-country nationals, they primarily reflect labour market priorities rather than a comprehensive integration approach. This suggests that migration governance in Malta remains largely economically driven, with limited emphasis on long-term social inclusion (Debono 2021, Zammit, Mifsud 2019)

#### *Social Integration and Inclusion of Migrants*

Social integration remains a critical challenge in Malta, particularly for third-country nationals (TCNs). Studies indicate that TCNs are disproportionately represented in low-paid occupations, are more likely to hold temporary contracts and part-time jobs, and experience skill downgrading compared to national workers (European Parliament 2024). Furthermore, the Assessment of Poverty and Social Inclusion of Migrants in Malta highlights that TCNs face higher risks of poverty and social exclusion, with limited access to housing, healthcare, and education (Government of Malta 2025b).

Recent literature provides a critical examination of Malta's migrant integration programme, showing how it simultaneously creates opportunities for belonging while reinforcing exclusionary boundaries. The programme offers training, language courses, and pathways for legal participation. However, these measures often remain symbolic rather than transformative. Migrants may be formally included through participation in state-led initiatives but still experience marginalisation in everyday life, particularly in housing, employment, and access to welfare. This paradox illustrates that integration in Malta is less about equal participation and more about controlled adaptation, where migrants are expected to adjust without significant changes to host-society structures (Sonne 2025).

Not all migrant groups are equally affected by this dynamic. Sonne (2025) highlights that third-country nationals from Africa and Asia, especially asylum seekers and low-skilled workers, face the greatest barriers to achieving full inclusion. They are more likely to be treated as temporary labour rather than long-term community members, which undermines their sense of belonging. In contrast, EU nationals, who are legally entitled to free movement and more often

employed in higher-skilled occupations, navigate the system with fewer obstacles. This unequal treatment reproduces hierarchies within Malta's integration framework, where belonging is stratified along lines of origin, legal status, and perceived economic utility (Sonne 2025).

### *Labour Market Segmentation and Migrant Skills*

The Maltese labour market exhibits a clear segmentation, with migrants occupying distinct roles based on nationality, legal status, and skill levels. EU nationals are more often concentrated in high-skilled occupations, including managerial, professional, and technical roles, while TCNs are disproportionately represented in elementary occupations and sectors such as services, sales, and other precarious forms of employment (Debono 2021). Depending on their employer's sponsorship, TCNs must renew their work visas once a year (Sonne 2025.). Employers frequently exploit this reliance by terminating contracts when workers complain, placing them in danger of deportation (Times of Malta 2021).

The Malta Labour Migration Policy addresses this segmentation by advocating for a skills-based approach to migration. This approach aims to attract top talent to complement the existing skills in the local labour market, thereby enhancing productivity and addressing skill shortages in key sectors (JobsPlus 2025). However, despite these policy intentions, challenges remain in the effective implementation of such strategies, particularly in ensuring that migrants qualifications and skills align with market demands.

To conclude, Malta's migration policies and legal frameworks are evolving to better integrate migrants into the social and economic fabric of the country. While strides have been made in aligning migration flows with labour market needs and promoting social inclusion, significant challenges persist. Addressing issues such as language barriers, access to services, and labour market segmentation is crucial for fostering a more inclusive society. Continued efforts are necessary to ensure that migration contributes positively to Malta's demographic and economic landscape.

### 3.3.3 Migrant Mobility and Access to Driving Licences

Third-country nationals (TCNs) who wish to obtain a Maltese driving licence must first apply for a learner's permit through Identità Malta, using the relevant residency documentation (commonly referred to as the "blue paper"). Following this, applicants are required to pass the

theory test and subsequently sit for the practical driving examination. Upon successful completion of both tests, a full driving licence may be issued, provided that the applicant presents a valid Identità document and fulfils the requirement of “normal residence,” defined as residing habitually in Malta for at least 185 days within a calendar year.

By the end of 2024, a total of 39,941 licensed vehicles (all categories, excluding kick scooters) were registered to identity cards associated with migrants, reflecting their participation in Malta’s motorised transport system (Email Correspondence with Transport Malta 2025)

### 3.4 Conclusion

Malta’s demographic and spatial realities are inseparable from its migration dynamics. As one of the most densely populated countries in the world, its limited land resources and strong car-dependent culture create constant pressure on infrastructure, housing, and mobility. At the same time, Malta’s population growth is almost entirely driven by migration, with foreign nationals now forming a significant proportion of the labour force. This reliance on migration not only sustains economic development but also reshapes the social fabric of the island.

The evidence presented in this chapter shows that Malta’s migration patterns are shaped by a mix of geography, and economic needs. Yet the state’s ability to support and protect migrants remains weak in practice. The contrast between policy commitments and real-life experiences raises important concerns. This chapter has outlined Malta’s migration experience in its wider context, providing background that complements the themes of the dissertation. The following chapter presents the methodological foundations of this research.

## **Chapter 4: Methodology**

## 4.0 Methodology

### 4.1 Introduction

Building on the theoretical and contextual discussions presented in Chapters 1, 2 and 3, this chapter focuses specifically on the methodological framework adopted for the study. Rather than repeating the broader literature and contextual background, the chapter outlines the research design, participant selection, data collection procedures, analytical techniques, and ethical considerations used to investigate migrant commuting behaviour and sustainable mobility practices in Malta.

The research is guided by three central questions:

- 1) What is the primary mode of transport used by international migrant commuters, aged between 25 and 44 years old, residing in Malta, and what factors shape their mode choices?
- 2) What are the travel behaviour patterns of international migrant commuters aged between 25 and 44 years old in Malta?
- 3) To what degree do international migrant commuters in Malta, aged between 25 and 44 years old, demonstrate awareness of sustainable transport options?

### 4.2 Research Aim

Despite the demographic significance of migrants in Malta, there is limited research on the travel patterns and mobility attitudes of this group. Understanding their travel behaviour is crucial, as work and life priorities in this age range demand high mobility, and migrants may have different transport needs and attitudes compared to Maltese nationals.

The primary aim of this study is to explore the travel behaviour and attitudes toward sustainable mobility of international migrant commuters in Malta. The broader theoretical motivations and contextual foundations informing this research were discussed extensively in Chapters 1, 2, and 3 and therefore are not repeated in detail within this methodological chapter.

### 4.3 Research Objectives and Justification

This study is guided by three objectives designed to reflect the research questions, address gaps in the literature and respond to pressing issues in Malta's mobility and migration context. Together, they aim to provide a comprehensive understanding of the travel behaviour and sustainable mobility attitudes of international migrant commuters aged 25-44.

**Objective 1:** To identify and analyse the main modes of transport used by migrant commuters and the factors influencing their choices.

**Objective 2:** To examine travel behaviour patterns among migrant commuters.

**Objective 3:** To assess migrant commuters' awareness and understanding of sustainable mobility practices, including walking, cycling, carpooling, public transport, and newer options such as hybrid or electric vehicles.

The justification for these objectives emerges from the literature gaps and contextual challenges discussed in Chapters 1, 2 and 3, particularly the limited research examining the relationship between migration, commuting behaviour, and sustainable mobility within the Maltese context.

Previous chapters demonstrated that migrants often display distinct mobility patterns shaped by socio-economic conditions, cultural background, and transport accessibility. Consequently, this chapter focuses specifically on how these dimensions were empirically investigated rather than re-discussing the broader theoretical literature.

#### 4.4 The Epistemology of the Study

This study adopts both phenomenological and empiricist approaches. Phenomenology helps capture how migrant commuters experience daily mobility, including their feelings, interpretations, and how cultural backgrounds shape movement. Individual experiences alone are, however, limited, so empirical data from Activity Diaries and a questionnaire were also collected to identify patterns and validate findings. The triangulation of data provides depth and balance, enabling the researcher to explore not only what occurs in migrant mobility but also why it happens (Bryman 2016).

#### 4.5 Justifying the Case Study Approach and Scientific Value

According to Ruddin (2006), context-rich case studies can generate scientific value by contributing to theoretical understanding and broader reflection. Malta was selected as the case study due to the migration and mobility dynamics discussed extensively in Chapter 3. The country provides a particularly relevant setting for examining migrant commuting behaviour because of its highly car-oriented transport system, dense urban structure, and rapidly growing migrant population. Rather than repeating the broader contextual discussion, this section



focuses specifically on the methodological value of Malta as a bounded and information-rich case study.

The case study approach allows for an in-depth exploration of how migrant commuter experience and navigate everyday mobility within a small island context characterised by infrastructural constraints, transport pressures, and evolving migration patterns.

#### 4.6 Research Design

Research design reflects the researcher's intentions while considering practical constraints such as time, resources, and context (Hakim 2000, Asenahabi 2019). It provides the structure linking research questions with methods and data collection procedures, ensuring consistency throughout the investigation (Asenahabi 2019). Creswell (2014) emphasises the importance of critically reflecting on methodological choices and data analysis strategies, particularly in relation to potential bias and the overall validity of the research process (Vogt, Gardner et al. 2012).

In this study, the research design was developed to examine migrant and Maltese mobility practices within the Maltese context through both qualitative and quantitative forms of inquiry. A mixed methods framework was therefore adopted to combine contextual depth with broader comparative analysis.

Figure 4.1 summarises the overall research design adopted in this study. It illustrates the sequential mixed methods approach, beginning with the qualitative phase consisting of semi-structured interviews and activity diaries, followed by the quantitative questionnaire phase. The figure also highlights the relationship between sampling, data collection, and analysis procedures used throughout the research process.

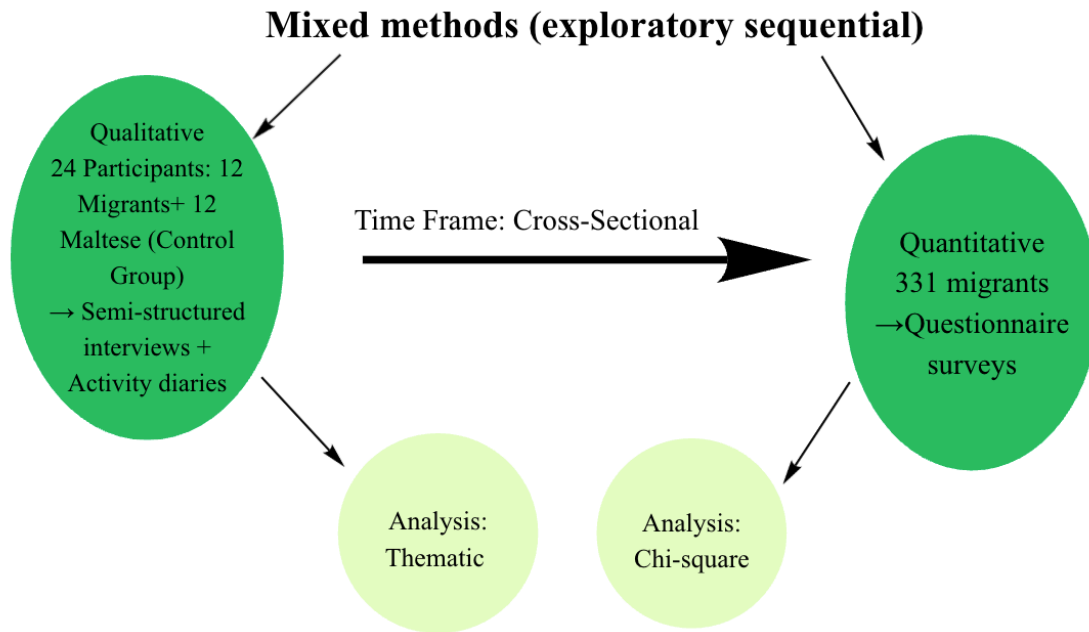


Figure 4.1: Overview of the Mixed Methods Research Design and Data Collection Process

#### 4.6.1 Cross Sectional Research Design

The researcher adopted a cross-sectional study for this research. Unlike a longitudinal study, this approach observes a population at a single point in time, which effectively limits the risk of bias through “panel conditioning” (Ruspini 2002).

This design was chosen for its straightforward ability to highlight existing differences, such as gender or age brackets, rather than measuring change following an intervention. By focusing on these existing demographic groups, the researcher can understand the specific factors involved in shaping the phenomenon in question with both efficiency and accuracy (Hunziker, Blankenagel 2024).

#### 4.6.2 Mixed Methods Research Design

Mixed methods research integrates qualitative and quantitative approaches (Asenahabi 2019). It combines the strengths of both, numerical trends from quantitative research and contextual depth from qualitative research ; thus, offsetting the weaknesses of each (Tashakkori, Teddlie 2010). The approach offers greater breadth and depth of understanding than a single method (Johnson, Onwuegbuzie et al. 2007, Creswell 2014).

Creswell and Plano-Clark (2011) note that qualitative and quantitative data may be collected sequentially or simultaneously, and the extent of integration depends on the nature of inquiry and researcher's philosophical outlook.

In this study, a mixed methods approach was considered appropriate because mobility behaviour involves both measurable commuting patterns and subjective perceptions linked to migration, adaptation, and everyday transport practices. Combining qualitative and quantitative methods therefore enabled the researcher to examine broader behavioural trends while also exploring the social and contextual factors influencing mobility choices within Malta.

#### 4.6.3 Exploratory Sequential Mixed Methods Design

This study adopted an exploratory sequential mixed methods design (Creswell, Plano-Clark 2007), in which qualitative data is collected first to explore participant perspectives before informing the quantitative phase (Asenahabi 2019). The qualitative stage may help define variables, identify recurring themes, and adapt research instruments to the local context prior to follow-up quantitative analysis (Creswell 2014).

In the context of this study, this design was particularly valuable because migrant mobility behaviour in Malta remains relatively underexplored. Beginning with the qualitative phase enabled the researcher to identify context-specific experiences, perceptions, and mobility challenges directly from participants before developing the questionnaire. This helped ensure that the quantitative instrument reflected migrants' lived realities and the specific Maltese context rather than relying solely on assumptions derived from existing literature.

While challenges exist in choosing which qualitative findings to prioritise and in selecting samples across phases, this design ensures that the quantitative instrument is rooted in participants' lived realities, thereby enhancing validity (Asenahabi 2019). It is therefore well-suited for this study, which seeks both in-depth understanding and measurable patterns.

#### 4.6.4 Choice Justification of the Research Design

The researcher adopted a cross-sectional design because it allows for the description of a population of interest and the comparison of subgroups at a single point in time (Allen 2017 cited in Hunziker, Blankenagel 2024). Surveys and semi-structured interviews are commonly

used within such designs, which may employ qualitative, quantitative, or mixed methodologies (Hunziker, Blankenagel 2024).

A mixed methods approach was selected because neither qualitative nor quantitative methods alone would have been sufficient to address the research aims. The qualitative phase provided insight into participants' commuting experiences, residential decision-making, and everyday mobility practices, while the quantitative phase enabled broader comparison across participants and the identification of recurring patterns.

Beginning with qualitative inquiry also ensured that the study remained grounded in the Maltese context before developing the quantitative instrument. Integrating both methods therefore strengthened the research by combining contextual understanding with comparative analysis, providing a more comprehensive interpretation of mobility behaviour in Malta.

## 4.7 Data

### 4.7.1 Research Ethics

Ethical considerations are very important in the field of research and can be divided into four main principles. These principles include participant harm linked to research, inadequate informed consent from the researcher, privacy violations, and dishonesty (Bell, Bryman 2007). As a result, for the interviews along with the activity diaries distributed at the end of each interview, the participants had to sign a consent form to confirm that they were willingly agreeing to participate in the study (Appendix 4.1). By signing this template, they gave themselves the freedom to change their minds at any time without having to give a reason (Bell, Bryman 2007).

The value of these documents is found in their ability to guarantee that participants are fully aware of the purpose of the research and the consequences of their participation. As a result, the proposal that was sent before the interview gave each participant a thorough rundown of the project and explained how the data they contributed would be used (Bell, Bryman 2007). The interview was scheduled according to their preferred communication method and convenience.

A statement at the start of the questionnaire confirmed its anonymity. It clarified that submission implied informed consent, and assured participants that no harm would result from their involvement (Appendix 4.2).

The suggested research approach was approved by the University of Malta Research Ethics Committee (UREC) under applications 00622 and 00217, corresponding respectively to each research method, after undergoing a human subject review to confirm and evaluate ethical considerations. This protocol was put in place to ensure that the suggested approaches and data gathering techniques complied with legal requirements and that the participants' welfare was never jeopardised.

#### 4.7.2 Primary Data Sources

##### *Semi-Structured Interviews*

Semi-structured interviews were conducted between January and April 2025 to explore migrant commuters' travel behaviour and perceptions. This method fosters reciprocity (Galletta 2012) and allows probing while giving participants space to express themselves (Kallio et al. 2016, Cohen, Crabtree 2006). The approach was considered particularly suitable for this study because it enabled participants to discuss their commuting experiences, mobility challenges, and residential choices in greater depth.

As the study involved participants from diverse cultural backgrounds, culturally sensitive interviewing was essential. Building trust, addressing language barriers, and using active listening encouraged more open discussion and helped participants share detailed commuting experiences. This supported the study's aim of examining migration and mobility through personal travel narratives, which structured surveys alone may not fully capture (Birks, Chapman et al. 2007).

Interviews were conducted both face to face and online, while activity diaries were collected exclusively online. Face-to-face interviews supported rapport building and allowed the researcher to observe nonverbal cues and participant reactions, which can encourage more detailed responses and disclosure of private information (Schober 2018). Online interviews, however, offered advantages in terms of expense, convenience, and participant comfort (Steele, Prabhu et al. 2022). Combining both formats therefore improved flexibility and accessibility while maintaining the depth of qualitative data collection.

### *Semi-Structured Interviews Contents*

A summary of the interview questions and their rationale is provided in Appendix 4.3, while the interview sheet with prompts is attached in Appendix 4.4. The most important questions, those inspired from literature and national data are explained in depth below.

For the Maltese control groups, questions 5 and 9 under the open-ended section were removed, unless the participant had lived abroad. In semi-structured interviews, prompts are as important as questions, as they sustain conversation and help clarify vague responses (Leech 2002).

The interview combined closed and open-ended questions. Closed-ended items gathered standardised information such as nationality, car ownership, dwelling type, and occupation, offering diversity and detail for analysis (Millwood, Heath 2008). Open-ended questions, whether alone or combined with other techniques, allowed for in-depth exploration of mobility, past experiences, and reflections on transport in Malta. They also provided space for spontaneous elaboration and insights into processes or connections (Weller, Vickers et al. 2012).

The first question regarding nationality under the closed-ended section was derived from the Census of Population and Housing 2021, based on the main nationalities present in Malta in the year prior, as reported in Table 3.4 of the Migration chapter 3 (NSO 2023e). Additionally, The seventh question concerning occupation in the same section was derived from the Labour Force Survey, First Quarter 2023, specifically Table 12: Distribution of Total Employed Persons by Sex and Occupational Group (January–March 2023) (NSO 2023b). Moreover, the ninth question concerning dwelling type located under the same section was derived from Chart 15: Main Residential Dwellings by Type and Citizenship of Dwelling Members, as presented in the *Census of Population and Housing 2021: Final Report, Dwellings Characteristics* (NSO 2023d). Besides, the tenth question positioned in the same section, regarding the type of household, was adapted from a thesis in which the author employed a structured survey among other methods. It corresponds to Question 9, where the author asked: “*What is your current living arrangement?*” (DeJohn 2023).

### *Activity Diaries*

In addition to the interviews, simultaneously participants were asked to complete an activity diary to document their commuting experiences in more detail. Therefore, they were conducted from January to April 2025. An activity diary differs from a travel diary mainly in the way

information is organised and recalled. While both collect similar data, activity diaries align more closely with how individuals naturally remember their daily routines and activities. This increases the likelihood of capturing short and non-home-based trips that are often overlooked in conventional travel diaries, such as quick errands or service-related stops (Stopher 1992).

In the context of this study, the activity diary was considered particularly useful because it provided a more detailed understanding of participants' everyday mobility practices beyond commuting alone. Focusing on activities rather than solely on movement allowed the researcher to better examine how migrants and Maltese residents organised their daily travel within the Maltese context. This also improved the reliability and completeness of the mobility data collected (Stopher 1992).

Travel diary data was collected for both weekdays and weekends to capture variations in travel behaviour across different periods of the week. Previous research shows that weekend mobility patterns often differ from weekday commuting in terms of purpose, timing, trip distance, and transport use (Lockwood, Srinivasan et al. 2005). Including both periods therefore provided a more comprehensive understanding of participants' mobility behaviour and daily travel routines.

Analogically, this study employed an activity diary adopting the approach of weekday vs weekend day used in travel diaries. The participants reported a typical weekday like Tuesday and one typical week-end day like Saturday. The activity diary structure and content are inspired from the National Household Travel Survey (NHTS) (NSO 2022b).

The main findings from the Maltese travel survey indicate that the study focused on a specific travel day, Wednesday, 17 November 2021. One of the key concerns among residents in Malta regarding public transport was the lack of punctuality, whereas residents of Gozo and Comino were primarily concerned about the lengthy travel times to their destinations. Additionally, passenger cars remained the dominant mode of transport both before and during the Covid-19 pandemic, while public transport usage declined during the pandemic (NSO 2022b). For this study, the research design, concept, and survey questions served as inspiration. However, the researcher tailored the activity diary to better align with the specific context of the research.

### *Activity Diary Content*

The Activity Diary captures individuals' commute patterns on both a typical week and weekend day like Tuesday and Saturday respectively. On each of these days, participants are asked to document the mode of transport used. Transport options include cars, buses, ferries, bicycles, motorbikes, and walking. Teleworking is also included. The Activity Diary takes into account the opportunities, barriers, and satisfaction level the participant expresses with each transport mode used. The design of this diary ensures a comprehensive understanding of each individual's mobility behaviour and pattern by recording the variations in travel experiences and preferences between working and weekend days.

Appendix 4.5 summarises the questions asked on the Activity Diary and provides the justification for each question asked. Appendix 4.6 represents the template used for the Activity Diary. The most important questions, those inspired from literature and regional or national data are explained in depth below.

In the first section, titled *Reporting a Typical Workday: e.g. Tuesday*, The sixth question is about occupation. It was adapted from the *Labour Force Survey, First Quarter 2023*, specifically Table 12: *Distribution of Total Employed Persons by Sex and Occupational Group (January–March 2023)* (NSO 2023b).

The Researcher was inspired by the European Standard EN 13816 which provides a structured framework for measuring and improving the quality of public passenger transport services. This standard identifies key indicators such as availability, accessibility, comfort, information, time, customer care, fare, security, and environmental impact. She incorporated these indicators into the question: *"Please rate the following characteristics of the current public transport quality service"*. This question appears in both the bus and ferry sections of the travel diary. This approach allowed for a systematic assessment of user satisfaction with public transport modes based on internationally recognised service quality criteria (European Committee for Standardisation 2002).

In the walking section of the travel diary (Question 3), the indicators *safe/unsafe*, *comfortable/uncomfortable*, *pleasant/unpleasant*, and *vibrant/dull* were inspired by a doctoral research project titled *Walking Malta*, undertaken at the University of Malta. This project



adopted a citizen science approach. Based on this project, the walking section of the present study was designed to reflect similar experiential indicators, allowing participants to evaluate the quality of their walking environments in a structured yet personal manner (Attard, Cañas et al. 2021, Cañas, Attard et al. 2020, Tira, Pezzagno et al. 2020).

For the next question under the same section, participants were asked about barriers to walking. The idea of barriers has been employed by researchers to identify the factors that keep particular population subgroups from engaging in physical activity, in particular, walking (Clark, Scott 2016).

Barriers to walking can be environmental, social, personal, or situational, and they vary significantly across different demographic groups. According to Clark and Scott (2016), there are six main categories of barriers. Accessibility strongly influences walking: people are less likely to walk when work, school, and services are perceived as too far. Health factors such as physical disabilities, injuries, poor health, and older age also reduce mobility, especially for seniors and individuals with high Body Mass Index. Safety concerns, including fear of crime, stray dogs, poor lighting, and unsafe crossings, particularly affect women and older adults. Time constraints further limit walking among workers and parents with long commutes or busy schedules. Personal preferences and social factors matter as well: some do not enjoy walking, lack motivation without company, or are discouraged by unpleasant surroundings. Finally, the built environment, poor sidewalks, heavy traffic, and fast driving can significantly deter walking, underlining the need for safe, walkable infrastructure (Clark, Scott 2016).

Under the Telework section, question 3 regarding feelings during teleworking (anxiety present or absent) was derived from the State-Trait Anxiety Inventory (STAI), which is a psychological inventory consisting. Anxiety is an emotional state that people can be affected by the situations they encounter (Spielberger 2009, Bajada, Satariano 2025). The State-Trait Anxiety Inventory (STAI), which measures anxiety, is divided into two main categories: anxiety-absent (calm, content, relaxed) and anxiety-present (tense, upset, worried) (Marteau, Bekker 1992, Spielberger 2009, Bajada, Satariano 2025).

### *Questionnaire*

The questionnaires were conducted both face to face and online between May and September 2025. A questionnaire is a pre-planned list of questions used to gather information (Kember, Leung 2008). Questionnaires may include both closed-ended and open-ended questions (Brace 2004). In this study, the survey primarily employed closed-ended questions and combined factual, opinion, and attitude-based categories identified by Czaja and Blair (1996 cited in Nastasiea, Mironeasa 2017).

The questionnaire was designed to examine commuting patterns, transport preferences, and mobility perceptions among migrants and Maltese residents. Combining different question categories enabled the researcher to collect both measurable behavioural data and participant perceptions related to everyday mobility practices. This complemented the qualitative phase by allowing broader comparison across participants.

Particular attention was given to question clarity and structure to minimise misunderstanding and improve response accuracy. Brace (2004) emphasises that participants should only be asked questions relevant to the research topic, while unclear wording may lead to inaccurate responses. Conrad and Blair (1996) identify several factors that may affect questionnaire comprehension, including lexical, temporal, logical, and computational problems. These considerations were therefore important in designing a questionnaire that remained accessible to participants from different linguistic and cultural backgrounds.

### *Questionnaire Content*

The questionnaire was developed to collect structured data on the commuting patterns, transport preferences, and sustainability awareness of international migrant commuters residing in Malta. It consists of 25 questions distributed across seven sections, namely: (1) Demographic Information, (2) Employment Details, (3) Housing and Living Arrangements, (4) Transport Modes and Accessibility, (5) Travel Behaviour and Daily Mobility, (6) Environmental Awareness and Perceptions, and (7) Future Mobility Plans. Appendix 4.7 provides a detailed summary of the questionnaire content in a table format, which includes four columns: Question, Related Research Question (RQ), Related Objective (OBJ), and Question Description, outlining how each item directly supports the study's aims.

Appendix 4.8 contains the full questionnaire template as distributed to participants. Importantly, all questions were shaped by the local context, as they were carefully extracted from the key themes and recurring insights identified during the semi-structured interviews. Therefore, it ensures cultural and contextual relevance in the final survey instrument.

Appendix 4.9 contains the flyer that was displayed in public areas to invite individuals to take part in the study. It features the eligibility criteria along with the QR code directing participants to the survey.

#### 4.7.3 Secondary Data Sources

Census and survey data were sourced from the National Statistics Office of Malta. Furthermore, a range of national and regional technical reports was reviewed to provide additional context and support the analysis.

#### 4.7.4 Data Sampling

##### *Participants and Sampling Strategy*

This research focuses on the travel behaviour of first-generation migrant workers, with particular attention given to commuting patterns. First-generation migrants are individuals who have personally experienced international migration. They were born and raised in one country before moving to another. They bring personal, cultural, and emotional ties that may influence how they engage with their new environment (Powell, Rishbeth 2011).

Second-generation migrants, by contrast, are generally understood as children of immigrants born or raised in the host country (Schneider 2016). Studies such as The Integration of the European Second Generation (TIES) project define second-generation migrants as individuals born in the host country to immigrant parents (Groenewold, Lessard-Philips 2012, Kasinitz, Mollenkopf et al. 2008, Vetik, Helemäe 2011). As this study focuses specifically on individuals who personally experienced international migration, only first-generation migrant workers were included.

Regarding the profile of the participants, individuals were classified as migrants according to the National Statistics Office (NSO) definition. According to the NSO, “Immigrants are the total number of persons who immigrated to Malta in the reference year with the intention to live in Malta for a period of at least 12 months” (Email correspondence with NSO 2024).

Commuting has long been a key area of interest in transport policy and urban planning due to its regularity, its direct link to congestion issues, and its influence on decisions regarding work and housing locations (Garcia-Sierra, van den Bergh 2014, Nocera, Bruzzone 2019).

As 78.1% of international migrants are between the ages of 25 and 54 (NSO 2022a; NSO 2024a), while the most active Maltese resident commuters are between the ages of 25 and 44 (NSO 2022b), this study focused specifically on migrant workers within these age categories. This helped minimise potential bias associated with differences in employment status and mobility patterns.

For the first phase of the study, several residential and commercial localities were visited, including St. Paul's Bay, Sliema, Marsa, Hamrun, Mosta, San Gwann, and Naxxar. These areas were selected based on observations suggesting that the target population could be accessed near their place of residence or employment. Participants were successfully recruited, consisting of twelve migrants and twelve Maltese participants who served as a control group. Recruitment began during the second half of December 2024, while interviews were conducted between January and April 2025.

The second phase adopted a quantitative approach through the use of questionnaires. Data collection was carried out across various residential and commercial localities, including St. Paul's Bay, Gzira, Sliema, Valletta, Hamrun, Msida, San Gwann, Paola, and Birkirkara. Similar to the first phase, these locations were chosen based on observations indicating accessibility to the target population near residential or employment areas. The questionnaires were administered between May and September 2025.

To reduce bias, the researcher aimed to recruit migrants from diverse cultural backgrounds while also balancing participants who had recently arrived in Malta with those who had resided in the country for more than one year. This approach allowed the study to explore whether mobility behaviour changes over time through adaptation to the Maltese context or remains influenced by previous cultural practices.

Participants were approached at different times of the day, including afternoons and evenings, particularly near workplaces and commercial areas. This strategy helped capture participants with varying work schedules and commuting routines.

For the first phase of data collection, consisting of semi-structured interviews combined with online activity diaries, participants were recruited using a combination of intercept, convenience, and snowball sampling methods. The second phase, based on questionnaires, also employed these sampling strategies. Combining these approaches enabled the researcher to access participants across different localities, occupations, and mobility patterns.

#### *The sample size for the first phase of the study*

This phase of the study involved twelve international migrant commuters aged between 25 and 44 years residing in Malta, alongside twelve Maltese participants serving as a control group. The selected sample size aligns with commonly accepted qualitative research guidance. Creswell (1998 cited in Bekele, Ago 2022) recommends between five and twenty-five interviews for phenomenological studies and twenty to thirty interviews for grounded theory research. Kuzel (1992 cited in Guest, Bunce et al. 2006) similarly suggests between six and twenty interviews depending on sample diversity.

Guest, Bunce et al. (2006) argue that smaller interview samples are often sufficient in qualitative research, particularly when participants share relatively similar characteristics. Given the relatively homogeneous nature of the sample and the exploratory focus of the study, twelve interviews were considered sufficient to capture meaningful insights and achieve data saturation (Guest, Bunce et al. 2006, Bekele, Ago 2022).

To ensure balanced representation, participants were categorised into three age groups: 25–30 years, 31–35 years, and 36–44 years. Within each age category, gender balance was maintained by including two males and two females among migrant participants. This approach supported broader representation across age and gender groups.

#### *The sample size for the Second phase of the study*

Between 2012 and 2022, Malta experienced a total net migration of 117,259 persons (NSO 2024b). Figure 4.2 demonstrates that a sample size of 383 participants was calculated using a standard statistical sample size calculator based on a 95% confidence level, a 5% margin of error, and a population size of 117,259. The population proportion was set at 50%, which is a conservative estimate used when the true proportion is unknown to ensure maximum variability.

A sample size of 383 was therefore considered appropriate to provide a 95% confidence level with a 5% margin of error, ensuring that the findings reasonably reflect the characteristics of the target population.

#### Sample size: 383

This means 383 or more measurements/surveys are needed to have a confidence level of 95% that the real value is within  $\pm 5\%$  of the measured/surveyed value.

|                          |        |   |                                           |
|--------------------------|--------|---|-------------------------------------------|
| Confidence Level: ⓘ      | 95%    | ▼ |                                           |
| Margin of Error: ⓘ       | 5      | % |                                           |
| Population Proportion: ⓘ | 50     | % | Use 50% if not sure                       |
| Population Size: ⓘ       | 117259 |   | Leave blank if unlimited population size. |

Figure 4.2: Screenshot of the sample size of the questionnaire

Since the researcher was interested in a specific participant group defined by migration status, age, and national background, probability sampling was considered impractical within the timeframe of the study. Recruiting participants randomly would have required substantially more time and resources. The researcher therefore adopted convenience sampling, selecting participants who were accessible and willing to participate (Stratton 2021). In addition, snowball sampling was employed, whereby participants were asked to refer other individuals they considered suitable for the study (Naderifar, Hamideh et al. 2017).

Intercept sampling was also used through the distribution of QR codes, providing an efficient and accessible method of data collection. QR codes were distributed in public spaces such as cafés and gardens where people commonly socialise. To further increase participation, the survey was also shared online through Facebook groups, including migrant-oriented groups such as “Expats Malta” and “Latinos en Malta”.

Participants approached in person were invited to scan the QR code using their smartphones to access the online questionnaire. This approach enabled the researcher to integrate data collection into everyday settings while increasing accessibility, reducing costs, and reaching a broader sample more efficiently (Henley, McCoy 2018).

#### *Control Group*

In qualitative research, the inclusion of both migrant and native populations enables comparative analyses that highlight differences and similarities in experiences, behaviours, and perceptions (Haas, Lucht et al., 2013). For instance, a study conducted in the Girona Healthcare Region in Spain used focus groups with immigrant and native residents to explore health

practices and access to healthcare. The sample included six Moroccan immigrant women, seven sub-Saharan immigrant women, and six men (two native, two Moroccan, and two sub-Saharan), with the qualitative phase focusing specifically on Moroccan and sub-Saharan immigrants. This approach allowed the researchers to identify key barriers faced by immigrant populations compared to native residents, including cultural differences and language limitations, which significantly affected access to and use of healthcare services (Saurina, Valllosera et al. 2010). These studies highlight the value of incorporating comparison groups in qualitative research, as they provide a more comprehensive understanding of the phenomenon under investigation by enabling clearer identification of group-specific needs and challenges.

Inspired by this approach, the present study included a control group of Maltese commuters aged 25-44 during the first phase of data collection. Although the primary focus remained on migrant commuters, the inclusion of Maltese participants was intended to reduce bias and strengthen the validity of the findings. Comparing the experiences of Maltese and migrant residents in Malta was therefore considered the most appropriate analytical strategy. The control group consisted of 12 participants, matching the migrant sample size, and was recruited using the same convenience and snowball sampling techniques. To ensure balanced representation, participants were organised into three age categories (25-30, 31-35, and 36-44), with each category including an equal gender distribution among Maltese participants.

#### 4.7.5 Pilot Studies

##### *Interviews and Activity Diaries*

All participants were asked the same core questions during the semi-structured interviews to ensure consistency and comparability across responses. Additional probing questions were introduced where necessary to obtain further clarification or explore issues raised by participants in greater depth. While the interview guide was primarily designed around the migrant context, some questions were adapted or omitted for the Maltese control group to ensure relevance and comparability between participant groups.

At the end of each interview, participants were asked to complete an activity diary. All participants received the same activity diary template and were offered assistance from the researcher where necessary to ensure clarity and accurate completion.

A pilot study was conducted with two participants, one migrant and one Maltese participant, to assess question clarity and participant understanding. Participants were asked to explain how they interpreted the questions in order to identify potential ambiguities or misunderstandings. The interviews lasted approximately 30 minutes on average, while completion of the activity diaries required around 15 minutes.

### *Questionnaires*

A pilot study was conducted before the distribution of the questionnaires. Five pilot questionnaires were administered to migrants from different nationalities and backgrounds to assess question clarity and overall comprehension. During the pilot process, participants were asked to explain how they understood each question and to discuss their responses aloud. This helped identify whether the questions conveyed the intended meaning and revealed areas that required clarification.

Following the pilot study, several changes were made to the structure and wording of the questionnaire, as some questions were considered too technical or difficult for participants to interpret. These revisions helped improve accessibility and reduce the risk of misunderstanding among respondents from different linguistic and cultural backgrounds. On average, each questionnaire required approximately 3 to 5 minutes to complete.

#### 4.7.6 Data Collection Process

##### *Semi Structured Interviews*

The interviews were conducted in person by the researcher between January and April 2025. This process proved to be time-consuming, particularly during the recruitment of migrant participants. While Maltese participants were generally easier to recruit, greater effort was required to ensure diversity among migrant participants, who represented eight different national backgrounds.

Migrant participants originated from various countries and were employed across different sectors in Malta, including participants from China, India, Colombia, Italy, Albania, Ghana, Egypt, and the United Kingdom. Once recruited, participants received the consent form, information letter, and link to the activity diary via email prior to the interview session to familiarise themselves with the study.



Interviews with both Maltese and migrant participants were conducted at different times of the day and in locations chosen according to participant preference. This flexibility helped create a more comfortable interview environment and encouraged open discussion. Interviews therefore took place during mornings, afternoons, and evenings across both weekdays and weekends.

Interviews with Maltese participants were conducted in English. Most migrant interviews were also conducted in English, although some involved a combination of English, Spanish, and Italian. While certain participants experienced language barriers, they were generally able to communicate their experiences effectively through a combination of languages and expressions.

All interviews were audio-recorded and later transcribed. The qualitative analysis was conducted using NVivo 15 (Lumivero 2024), while selected interview data was visually represented using ArcGIS Pro (Esri 2025). Interview duration varied between approximately 30 minutes and one hour depending on participants' communication styles and willingness to share their experiences in detail.

### *Activity Diary*

The activity diaries were completed after the interview sessions, with the researcher available to provide assistance when required. They were distributed to both migrant and Maltese participants, although completion was not always immediate, as some respondents filled them in later at their own convenience. This flexibility improved participation but introduced some variation in recall, which was considered during interpretation alongside interview data.

As the diary was administered online, it allowed multilingual accessibility. While most participants responded in English, some migrants used their native language, and others switched the interface language while still writing in English. This reflects differing levels of linguistic comfort and digital literacy, which are relevant to understanding everyday mobility practices.

Within the mixed-methods design, the activity diaries functioned as a complementary qualitative–quantitative tool. Incomplete entries were still retained where useful, as missing information could be triangulated with interview transcripts. This pragmatic approach

prioritised analytical value over completeness. In total, 24 activity diaries were used for analysis.

Data were entered into Microsoft Excel (Microsoft Corp. 2023) and then imported into IBM SPSS Statistics 31 (IBM Corp 2025) for coding, cleaning, and descriptive analysis. Each response was systematically coded to allow comparison across participants. In line with the mixed-methods approach, quantitative structuring of diary data was integrated with qualitative insights from interviews.

Visualisation was conducted using ArcGIS Pro (Esri 2025), Datawrapper (2025), and Microsoft Excel (Microsoft Corp. 2023), supporting both spatial and descriptive interpretation of mobility patterns and strengthening triangulation across datasets.

### *Questionnaire*

The questionnaire, forming the second phase of the study, was distributed exclusively to migrant participants and yielded 366 responses. Submissions from Maltese residents, students, non-migrants, and unemployed individuals were excluded, as were responses with missing key information, particularly age. Due to time constraints, data collection was closed earlier than initially planned; however, the final retained sample ( $n = 331$ ) remains statistically robust, representing 86% of the initial dataset ( $n = 383$ ), with a margin of error of approximately 5.4%, which remains within acceptable reliability thresholds.

The survey was administered online via Google Forms, accessible through a link and QR code. Participants could respond in English or their native language, with researcher assistance available where needed, ensuring accessibility across diverse linguistic backgrounds. Data were subsequently exported to Microsoft Excel for cleaning and organisation before being imported into IBM SPSS Statistics 31 (IBM Corp. 2025) for coding and statistical analysis. This structured processing ensured consistency and enabled reliable quantitative interpretation within the broader mixed-methods framework.

## 4.8 Analytical Methodology

Thematic analysis was chosen to explore participants' subjective experiences, while non-parametric tests (Chi-square) were selected to examine patterns in ordinal and categorical data derived from the activity diaries and questionnaires, addressing the study's objectives. For the

interviews, the unit of analysis was each individual sentence within the transcript rather than entire paragraphs, and the transcripts underwent approximately 25 alterations during coding and analysis to refine themes and ensure accuracy.

#### 4.8.1 Interviews

The interviews were analysed using a reflexive thematic approach (Braun, Clarke 2012). Reflexive thematic analysis is a flexible, accessible method for identifying and examining patterns or themes in qualitative data (Braun, Clarke 2012). Its aim is to engage the researcher deliberately and reflectively with both the data and the analytic process (Braun, Clarke 2019). Braun and Clarke (2012, 2013, 2014, 2020) outline a six-phase process for conducting thematic analysis (TA), which provides a systematic yet flexible approach for identifying, analysing, and reporting patterns or themes within qualitative data (Byrne 2021). The process is not strictly linear, researchers move recursively and iteratively between phases as insights emerge (Braun, Clarke 2020). Hence, the six-phase method should be treated as guiding principles rather than rigid rules (Braun, Clarke 2013, 2020). The phases are as follows: Familiarisation, Generating Initial Codes, Generating Themes, Reviewing Potential Themes, Defining and Naming Themes, Producing the Report (Braun, Clarke 2006).

The first phase, familiarisation, entails repeated reading of the dataset to identify relevant material linked to the research questions (Braun, Clarke 2013). The second phase, generating codes, involves producing concise descriptive or interpretive codes for data features, ensuring systematic coverage of the dataset (Braun, Clarke 2012, Braun, Clarke et al. 2016). The third phase, generating themes, shifts focus from individual codes to broader patterns, where codes may be combined, promoted, or reframed into themes or sub-themes. Importantly, themes do not pre-exist in the data but emerge through researcher interpretation of connections between codes (Braun, Clarke 2012, 2013).

In the fourth phase, reviewing themes, themes are refined in relation to both coded data and the overall dataset, ensuring coherence and interpretive strength (Braun, Clarke 2012, 2020, Byrne 2021). The fifth phase, defining and naming themes, requires a detailed account of each theme, ensuring internal consistency and distinctiveness in line with Patton's (1990) twofold criterion, while collectively contributing to a coherent narrative (Byrne 2021). Finally, the sixth phase, producing the report, is not limited to the end of analysis, as qualitative writing is embedded throughout the process. Reports evolve recursively, with notes, memos, and journals

documenting decisions, culminating in the final written output (Braun, Clarke 2012, Byrne 2021). Reflexivity was maintained through continuous journaling and memo-writing. Transparency was ensured by keeping an audit trail of coding decisions.

#### 4.8.2 Activity Diaries and Questionnaires

The Researcher analysed the questionnaire data using Chi-square tests and cross-tabulations. The Chi-square test examines the independence or association between two categorical variables (Agresti 2007, Franke, Ho et al. 2012). Likert-scale items (5-point ordinal) were examined with non-parametric tests due to their ordinal nature and the non-normal distribution of the data.

#### 4.9 Data Integration Strategy

Although the optimal way to combine quantitative and qualitative data is debated, the general principle is that analysis should occur across the different data strands, emphasising interaction or synthesis rather than merely “adding up” results (Uprichard, Dawney 2019). Fielding (2012) argued that blended approaches provide greater “analytic density,” aiming to create a more coherent and understandable entity. The meaningful interpretation of data from multiple approaches determines the viability of integration, which is essential in mixed methods research.

To integrate qualitative and quantitative data, the researcher used a joint display approach, allowing visual and narrative combination of results in a systematic way (Creswell, Plano-Clark 2018 cited in Younas, Pedersen et al. 2019). In sequential exploratory designs, two displays are recommended: the first links qualitative themes to the developed instrument or intervention, and the second shows how qualitative findings expand, contrast, or align with the quantitative results (Creswell, Plano-Clark 2018 cited in Younas, Pedersen et al. 2019).

#### 4.10 Limitations

It is important to recognise the limitations of this study. The non-random, voluntary selection of participants may have introduced sampling bias, as individuals who chose to participate may differ systematically from those who did not. For instance, respondents with a particular interest in mobility issues or stronger opinions may have been more likely to take part. This may limit the representativeness of the sample and, consequently, the generalisability of the

findings to the wider migrant population in Malta. Language barriers may have constrained participants' ability to fully express their views.

Similarly to travel diaries, activity diaries are widely used in behavioural research, studies have shown that they are subject to inaccuracies, recall bias, and random reporting errors, particularly at the individual level (Kelly, Doherty et al. 2014). Furthermore, Gillis, Lopez et al. (2023) found that traditional paper trip diaries may systematically deviate from actual travel behaviour due to delayed recording, memory lapses, and reporting bias, which can affect the accuracy and reliability of self-reported mobility data.

#### 4.11 Conclusion

This chapter outlined the methodological framework adopted for the study, including the research design, participant selection, data collection procedures, analytical techniques, and ethical considerations. Building on the theoretical and contextual foundations established in Chapters 1, 2 and 3, the methodology was designed to systematically investigate migrant commuting behaviour and sustainable mobility practices within the Maltese context. The following chapters present the qualitative and quantitative findings generated through this mixed-methods approach.

## **Chapter 5: Qualitative Analysis**

## 5.0 Qualitative Analysis

### 5.1 Introduction

This chapter lays the groundwork for the presentation and analysis of the qualitative data collected through interviews and activity diaries. In line with the mixed-methods research design adopted in this study, specifically a qualitative–quantitative sequential approach, the insights generated in this chapter are intended to inform and complement the subsequent quantitative analysis chapter.

Section 5.2 presents a preliminary analysis of the activity diary data alongside interview data from both Maltese and migrant participants, with a comparative overview of their profiles and socio-demographic backgrounds. Section 5.3 explores in depth the perspectives of Maltese and migrant participants as expressed during the interviews, focusing on the key themes that emerged from the qualitative analysis. Building on this thematic exploration, Section 5.4 offers a comparative analysis of the emergent themes, highlighting similarities and divergences between Maltese and migrant experiences. Finally, Section 5.5 concludes the chapter by synthesising the main qualitative findings and reflecting on their relevance for the quantitative phase of the study.

To situate the reader, the researcher conducted a total of 24 semi-structured interviews, comprising 12 migrant participants (M1–M12) and 12 Maltese participants (L1–L12). Following the interviews, each participant completed an activity diary. The Maltese participants served as a control group for comparative purposes. This chapter presents the analysis of the qualitative data. The interviews and activity diaries of Migrants and Maltese are first analysed individually and then compared across migrant (M1–M12) and Maltese (L1–L12) participants for comparative purposes.

### 5.2 Preliminary Data

This section presents the preliminary data of the qualitative data. The interviews and activity diaries of Migrants and Maltese are first analysed individually for each group and then compared across migrant (M1–M12) and Maltese (L1–L12) participants for comparative purposes.

## 5.2.1 Mapping Migration in Malta: Origins, Arrivals, and Settlement Spaces

### *Country of Origin and Year of Arrival*

Based on the interview findings, the group consists of twelve migrants from Colombia, China, Albania, Italy, Sweden, U.K, Ghana and India (Figure 5.1) with Colombians forming the majority. Table 5.1 below depicts migrants' year of arrival per country of origin.



Figure 5.1: Countries of origin of Interviewed Migrants (Interviews)

Table 5.1: Migrants's Year of Arrival per Country of Origin (Activity Diary)

| Country of Origin | Number of Migrants | Year(s) of Arrival     |
|-------------------|--------------------|------------------------|
| Albania           | 1                  | 2024                   |
| China             | 1                  | 2016                   |
| Colombia          | 4                  | 2022, 2022, 2023, 2024 |
| Ghana             | 1                  | 2020                   |



|        |   |            |
|--------|---|------------|
| India  | 2 | 2019, 2023 |
| Italy  | 1 | 2019       |
| Sweden | 1 | 2021       |
| UK     | 1 | 2013       |

#### *Place of Residence of Migrants in Malta*

Based on the activity diaries completed by the migrant participants (M1–M12), eleven participants (M1–M11) reported having lived in their country of origin immediately prior to migrating to Malta. Consequently, for these participants, the analysis focuses on the transport environments of their respective countries of origin, as these contexts directly shaped their mobility practices before migration.

One migrant participant (M12), however, reported having resided in Ireland for twelve years before relocating to Malta. In this case, the analysis deliberately considers the transport environment of Ireland rather than that of the participant’s country of origin. This methodological choice is justified by the length and significance of M12’s residence in Ireland, which is assumed to have played a more decisive role in shaping their everyday mobility behaviours and transport experiences prior to arrival in Malta.

This approach ensures that the analysis remains grounded in the actual pre-migration mobility contexts of the migrant participants, rather than relying on nationality alone, thereby strengthening the validity and comparability of the findings.

Based on the findings from the activity diaries, migrant participants in Malta reside in various localities, primarily in the Northern Region including Naxxar, St Paul’s Bay, and Mosta and in the Central Region, such as Pietà, San Ġwann, Birkirkara, Sliema, and Msida (Figure 5.2).

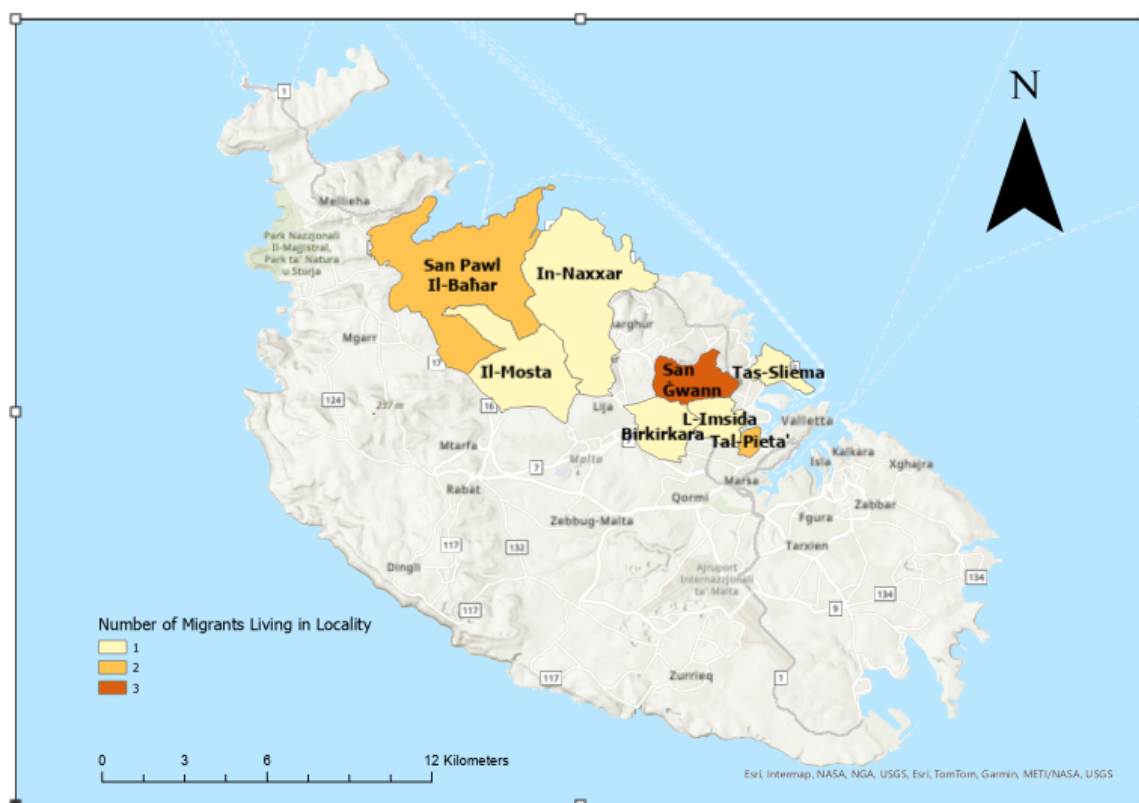


Figure 5.2: Migrants Residential Location in Malta (Activity Diary)

#### *Work Location of Migrants in Malta*

The activity diaries show that migrants work across various locations in Malta, including several in the Central Region such as Msida, Mosta, Birkirkara and San Ġwann. Others work in key urban and commercial areas including Sliema, St. Julian's, Valletta, and Kalkara (Figure 5.3).

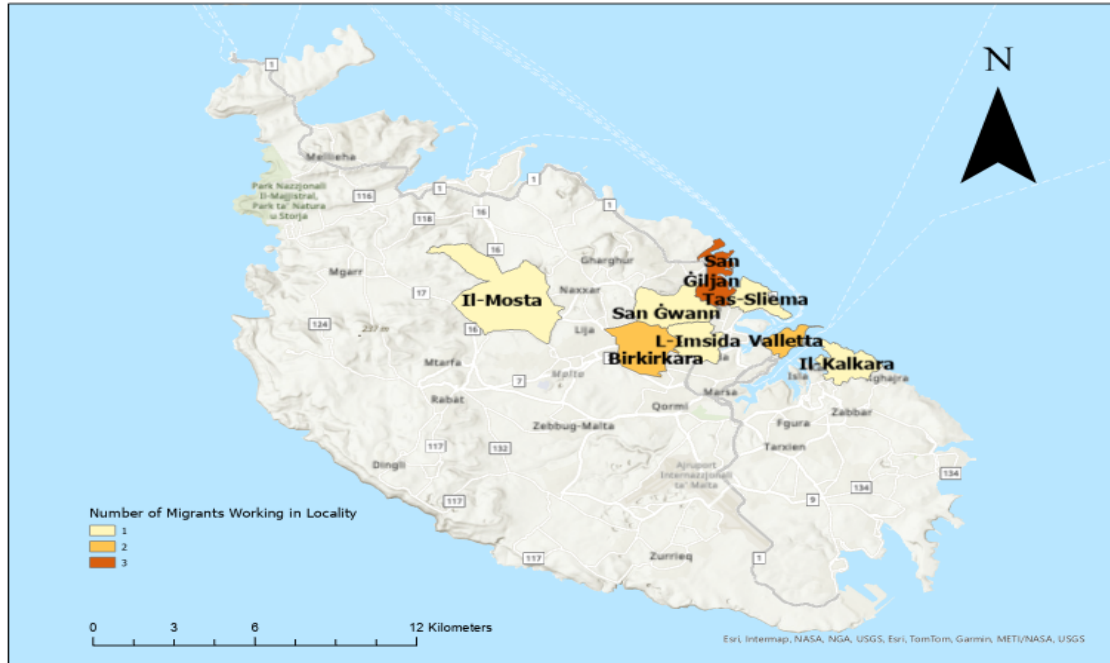


Figure 5.3: Migrants Work Location (Activity Diary)

## 5.2.2 Maltese Spatial Settlement in Malta

### *Place of Residence of Maltese in Malta*

Based on the activity diaries, Maltese participants reside in various localities across Malta, primarily in the Northern and Southern regions, including St Paul's Bay, Mosta, Iklin, and Rabat (North/Northwest), as well as Żebbuġ, Żurriq, Żabbar, Żejtun, and Paola (South/Southeast) (Figure 5.4).

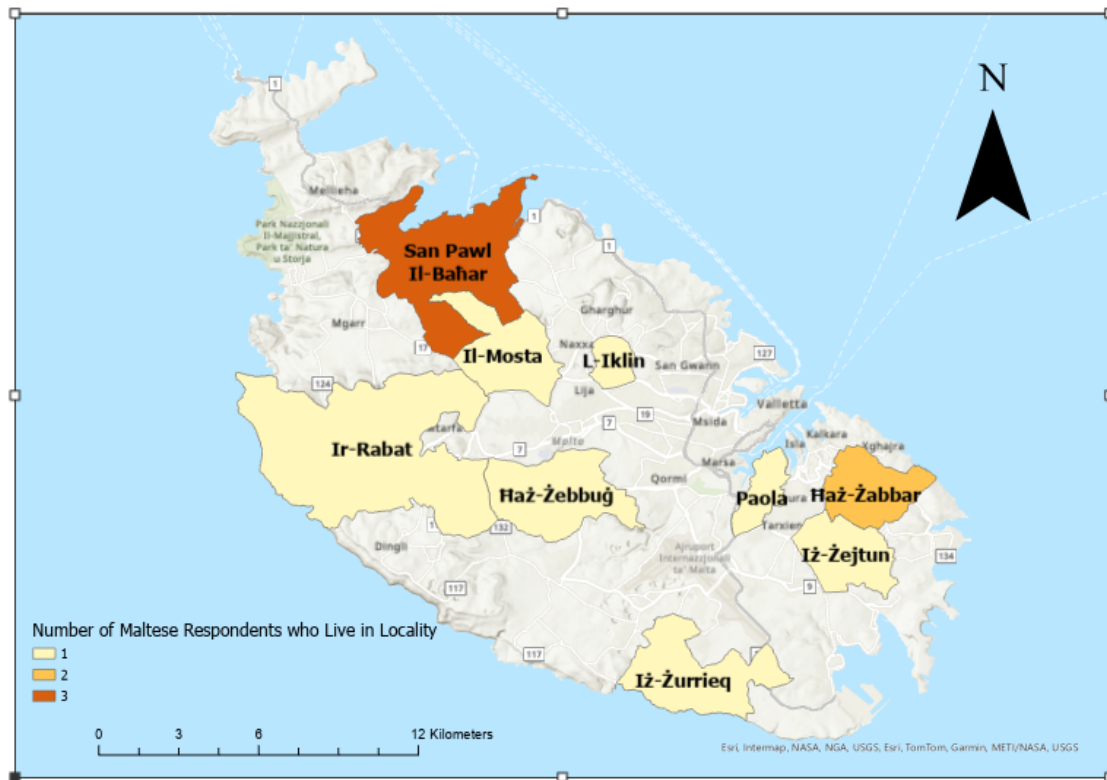


Figure 5.4 Residential Locations of Maltese in Malta (Activity Diary)

#### *Work Locations of Maltese In Malta*

The activity diaries show that Maltese participants work across various locations in Malta, including Naxxar (North), Sliema, Gżira, Msida, and Valletta (Central/Eastern), as well as Żabbar (Southeast) and Ħamrun (Central) (Figure 5.5). They are mostly based around the harbour.

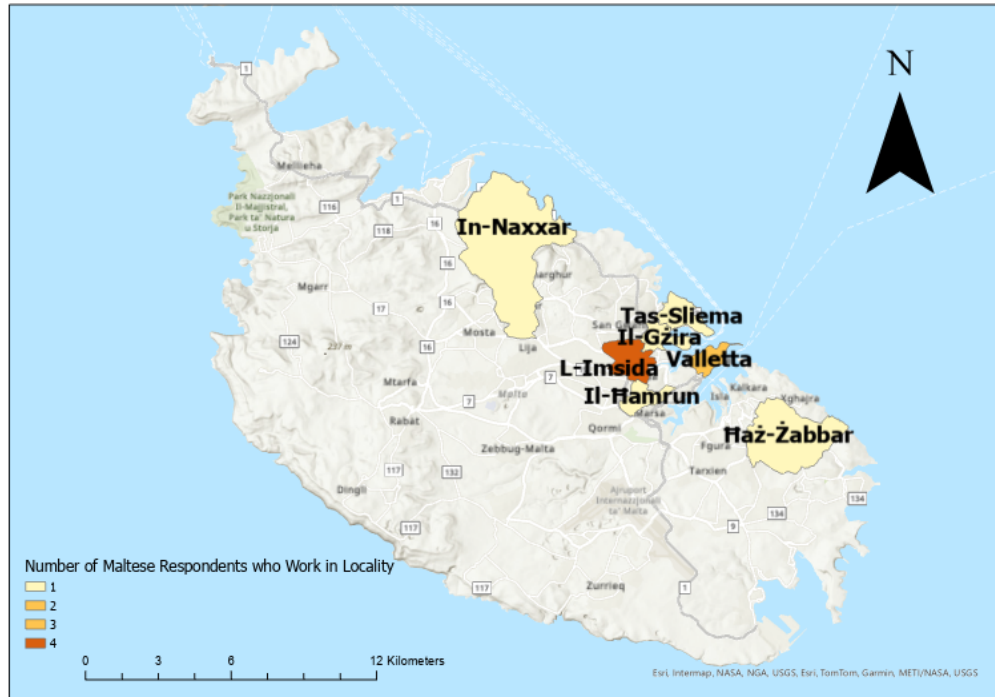


Figure 5.5: Maltese Work Location (Activity Diary)

### 5.2.3 Comparative Analysis of Maltese Residents and Migrant Participants

#### *Residential Locations*

Based on the qualitative data, migrants in Malta mainly reside in the Northern and Central regions, such as Naxxar, St Paul's Bay, Mosta, Pietà, and Msida (Figure 5.2), while Maltese participants are more geographically dispersed, living in both the North/Northwest (e.g., Rabat, Mosta) and South/Southeast (e.g., Żabbar, Żejtun, Paola) (Figure 5.4). This reflects a tendency for migrants to settle in urbanised areas, whereas Maltese residents show broader settlement patterns.

#### *Work Locations*

Activity diaries show that both migrants and Maltese participants work across Malta, often in central and urban areas like Msida, Sliema, and Valletta. Migrants are concentrated in commercial hubs such as St. Julian's and Sliema, while Maltese participants are more dispersed, including localities like Naxxar, Żabbar, and Ħamrun, and are more scattered around the harbour area.

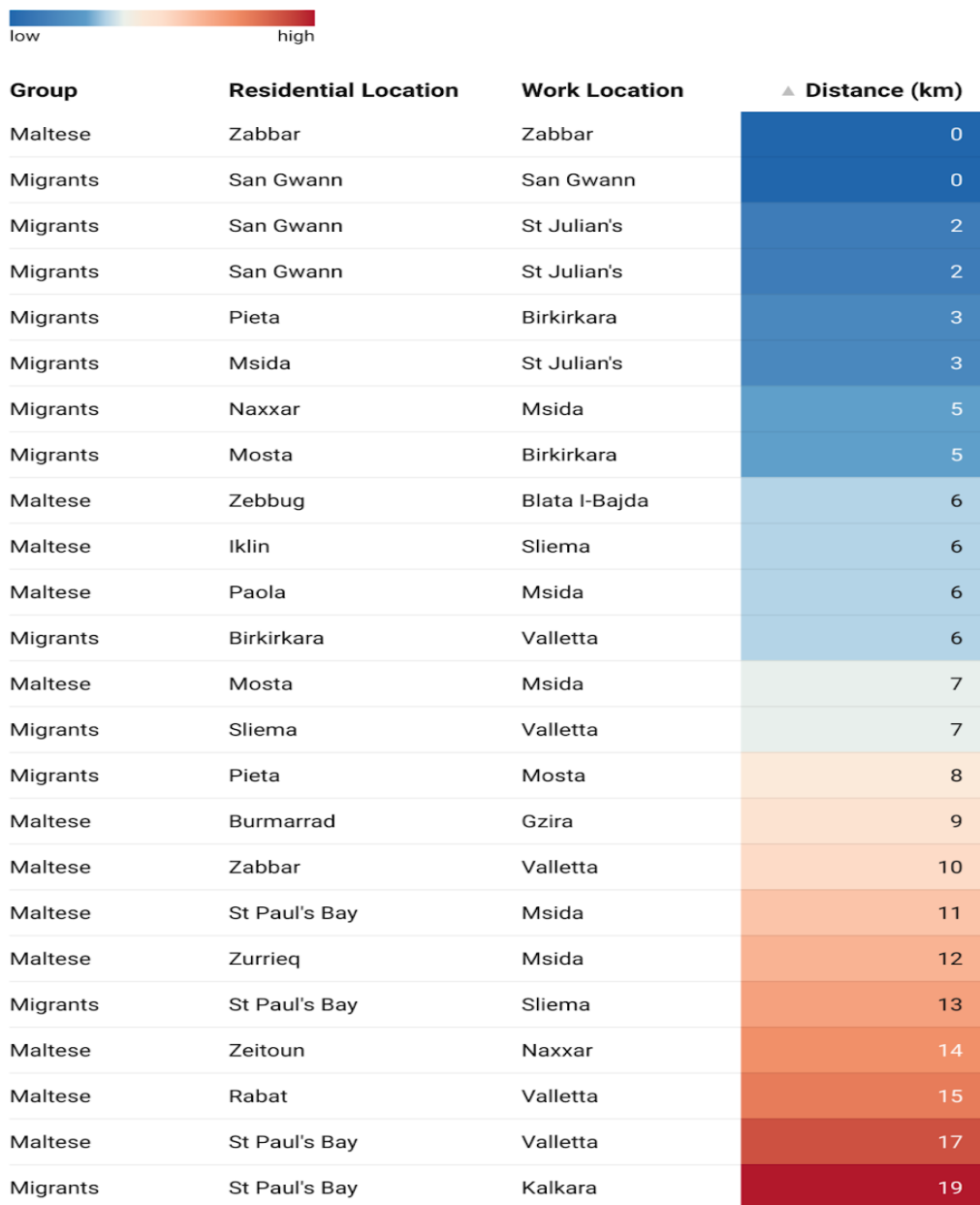
### *Commuting Distance Trends*

According to the activity diaries data, 8 out of 24 participants commute daily a distance of up to 5 km, while 16 commute between 6 km and 9 km. Commuting distance was calculated using route distances obtained from Google Map (Google 2025), reflecting actual travel distance along the road network rather than Euclidean (straight-line) distance. Among those traveling short distances ( $\leq 5$  km), 7 are migrants and only 1 is Maltese. Conversely, among those traveling longer distances (6–9 km), 5 are migrants and 11 are Maltese.

These findings indicate that Maltese participants tend to commute longer distances than migrants, with several routes exceeding 5 km. This pattern suggests that Maltese residents are generally more likely to live farther from their workplaces compared to migrants.

The data also highlight different residential priorities between the two groups. Migrants appear to prioritise proximity to work or access to good transport links. This might reflect a mix of strategic choices and practical constraints. In contrast, Maltese residents seem to value remaining close to family networks, even if this results in longer commutes. This choice is possibly facilitated by the higher reliance on private cars (Figure 5.6). Figure 5.6 represents the commuting distances recorded for each participant, which allows for a visual comparison between migrant and Maltese participants.

## Daily Commuting Distances of Maltese and Migrants



Created with Datawrapper

Figure 5.6: Commuting Distance Trends: Maltese Vs Migrants (Activity Diary)

### *Disparities in Car Ownership by Group*

According to the data from the activity diaries, Figure 5.7 reveals a noticeable difference in car ownership between Maltese and migrant participants. Among the Maltese, the majority (3/4) reported owning a car, while only 1/4 did not. In contrast, among the migrant group, the majority (10 out of 12) reported not owning a car, with only 2 indicating car ownership. This suggests that Maltese participants use the car more than their migrant counterparts from the activity diaries. This contrast in car ownership highlights how access to private cars may enable

Maltese residents to prioritise lifestyle or familial preferences over proximity to work. In contrast, migrants' limited car access likely necessitates more practical and proximity-based living and commuting choices.

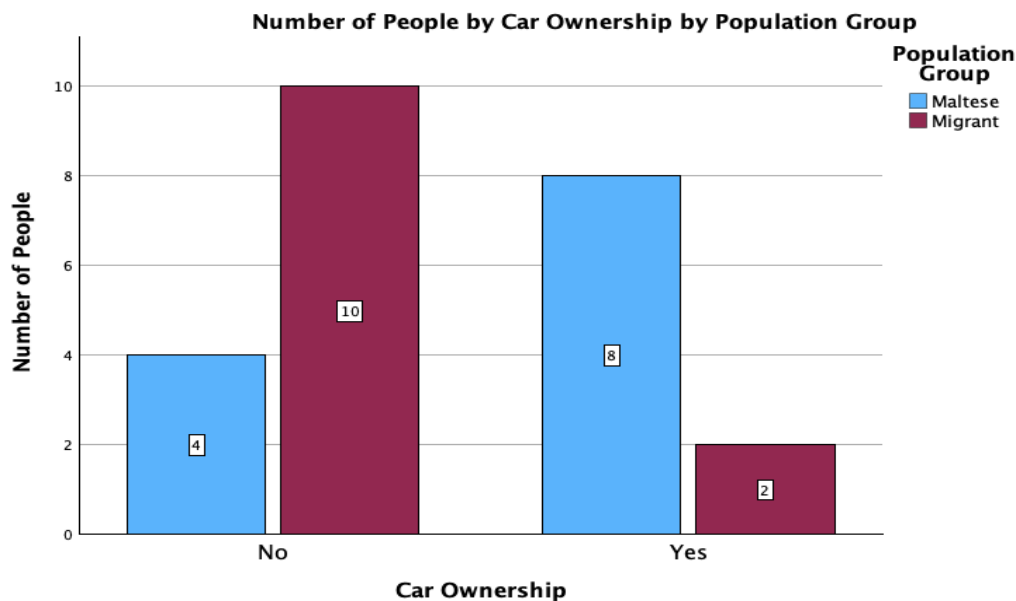


Figure 5.7: Car Ownership Distribution Among Maltese and Migrant Respondents

#### *Main Mode of transport among Maltese and Migrant groups*

Figure 5.8 illustrates the main transport modes used by Maltese and migrant individuals. While both groups show some diversity in their transport choices, notable differences emerge. The bus is the most common mode for both groups, with migrants (8 people) relying on it more heavily than Maltese (5 people). Car usage is more frequent among the Maltese (5) compared to migrants (1), indicating a potential disparity in travel behaviour. Other modes like bike, scooter, EV car, and walking appear marginal and are evenly used across both groups. Overall, migrants rely more on public transport, whereas Maltese participants demonstrate greater reliance on private cars according to the activity diary findings.

These findings reinforce the idea that migrants, due to lower car ownership, depend more on public transport to meet their mobility needs. Conversely, the greater reliance on private cars among Maltese participants reflects both higher car access and potentially different lifestyle or locational priorities.



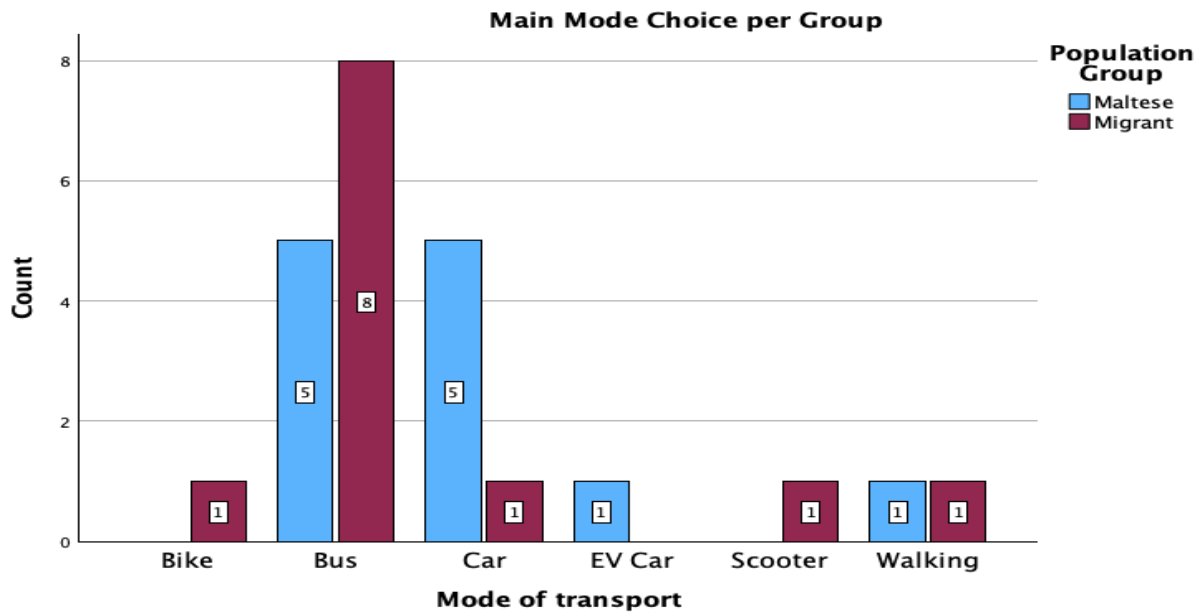


Figure 5.8: Distribution of Main Mode of Transport by Population Group

### 5.2.3 Sustainable Mobility Patterns among Migrants in Malta

The findings from the activity diaries initially reveal that migrants in Malta tend to adopt more sustainable travel behaviours than their Maltese counterparts. They generally commute shorter distances, live closer to their workplaces or next to good transport links, and show significantly lower levels of car ownership. Most migrants rely on public transport especially buses while the Maltese show greater dependence on private cars. Additionally, migrants are more concentrated in urban areas, a situation which likely facilitates their use of sustainable modes such as walking, cycling, or using public transport. This supports the idea that proximity and location choice influence sustainable mobility practices. These patterns highlight a more environmentally conscious mobility profile among migrants. Further interview data with migrants and Maltese will provide the study with more insights about the matter.

### 5.3 Migrants and Maltese Insights from Interviews

Interviews with both Maltese and migrants were conducted and analysed using NVivo software. From this analysis, three main key words were developed to address the study's objectives: "Mode Choice" in response to the first objective, "Travel Behaviour" for the second, and "Sustainable Mobility" for the third.

To begin, the interviews with migrants are analysed in detail, with the aim of exploring the three core aforementioned themes as they relate to their lived experiences. This is followed by

an analysis of the interviews conducted with Maltese participants, applying the same thematic structure. Finally, a comparative discussion highlights the similarities and differences between the two groups.

### 5.3.1 Migrants Interviews Data

Figure 5.9 illustrates the thematic structure that emerged from the analysis of the migrant interviews, highlighting the main themes and their associated sub-themes.

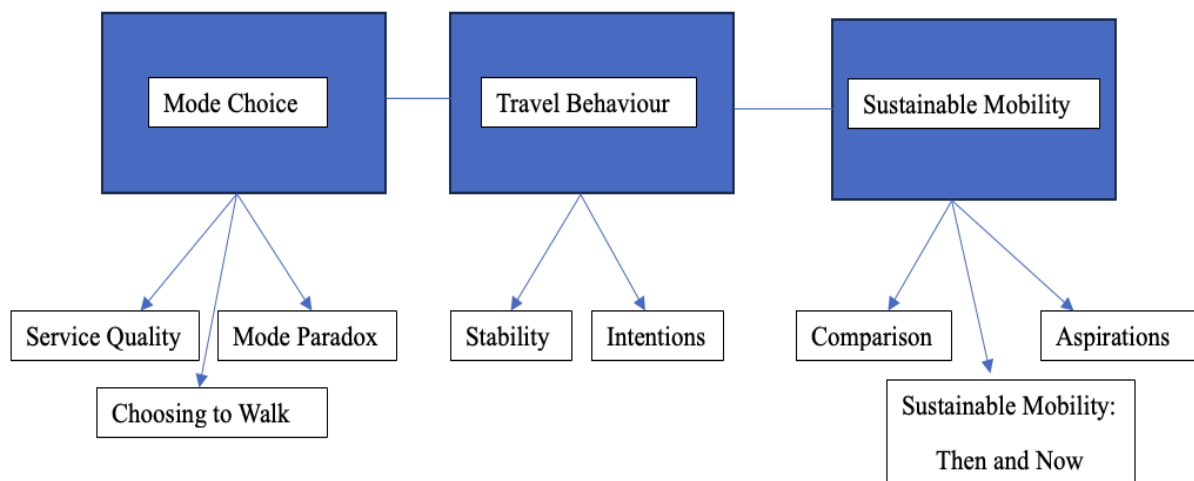


Figure 5.9: Key Themes from Migrant Interviews

The diagram presents three overarching themes: Mode Choice, Travel Behaviour, and Sustainable Mobility. Under Mode Choice, three sub-themes were identified: Service Quality, reflecting migrants' assessments of transport reliability and efficiency; Mode Paradox, capturing the tension between preferred and actual transport choices; and Choosing to Walk, which emerged as both a practical and adaptive response to local mobility conditions.

The theme of Travel Behaviour is structured around two sub-themes: Stability, referring to the establishment of consistent mobility routines over time, and Intentions, which capture migrants' future-oriented mobility plans and aspirations.

Finally, Sustainable Mobility encompasses three sub-themes: Comparison, highlighting contrasts between transport experiences before and after migration; Sustainable Mobility: Then and Now, reflecting temporal changes in attitudes and practices; and Aspirations, which represent migrants' expectations and desires for a more sustainable and efficient transport system in Malta.

Overall, the diagram visually summarises how migrants' lived experiences of mobility are organised across interconnected thematic layers, moving from everyday mode choices to broader reflections on sustainability.

### *1 Mode Choice*

Three themes emerged under the Mode Choice Key word: Service Quality, Choosing to Walk and Mode Paradox. Under each theme a collection of sub-themes (Figure 5.10)

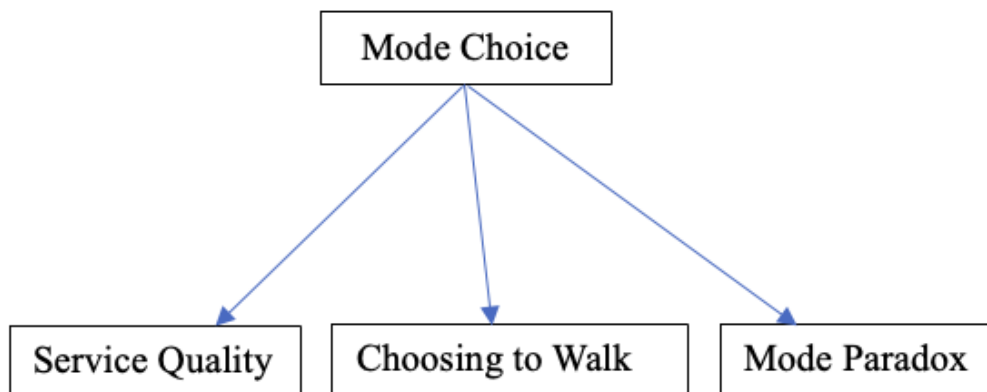


Figure 5.10: Migrant-related Themes Emerged from the First Keyword

#### *1.1 Service Quality*

##### *1.1.1 Positive Perception about public transport*

Migrants in Malta generally expressed a positive perception of the public transport system. This favourable view was often linked to specific aspects of the service, mainly, efficiency, safety, affordability and accessibility.

Ferries were appreciated for being fast and scenic. One participant stated:

*“I think ferries are so good. For example if you want to go from Sliema to Valletta, it is a very nice option to get that ferry, to go to Gozo as well”* (M7, Male).

The bus was praised for daily commuting. Migrants appreciated the digitisation of the transport system, especially the Tallinja app (The Tallinja app is Malta's official public transport application, providing real-time bus schedules, route planning, and ticketing services for both residents and visitors), which enhanced efficiency. One participant expressed:

*“The bus is very convenient and the distance is not that long, so it won’t consume too much of my time. The frequency of the buses is also to my satisfaction.”* Another one shared *“At least the buses are very regular and you can see them on the app, it really helps”* (M1, Female).

Migrants also reported feeling safe on public transport, with bus surveillance and the Tallinja card’s traceability providing reassurance, especially for women. A female participant from India shared:

*“That is the best thing which I feel about the public transport, the cameras and the card that they give us”*(M8, Female), adding that her family back home feels more at ease knowing her movements are traceable.

Migrants appreciate the affordability of the bus. The cost-free nature of Malta’s public buses was repeatedly praised as a major economic benefit, making transport more accessible and inclusive. Migrants expressed :

*“I need to pay for the transport in Colombia. It is free in Malta”*(M3, Female)

*“ I use the bus because it’s free ”* (M9, Male).

*“In Malta, I would say the foreigners use the public transport because we kind of see the value in it and we like the fact that it’s free because most of us come from countries where it’s really expensive and the locals use their cars”* (M12, Female).

Proximity to bus routes influenced where migrants chose to live. Buses were accessible, especially in urban areas, and served most destinations across the island. One participant said:

*“The bus is very convenient...The frequency of the buses is also to my satisfaction. So, I commute by buses most of the time”* (M1, Female).

### *1.1.2 Challenges of Public Transport Overcrowding, Accessibility and Distrust*

Despite migrants expressing gratitude and appreciation towards the public transport, many also voiced significant concerns regarding its actual performance. These concerns revolve primarily around overcrowding, unreliable service particularly during the summer months, accessibility limitations, and declining user trust, which in some cases led to complete avoidance of bus use.

These perceived shortcomings impact the overall quality of service and sometimes contradict the otherwise positive image of a modern, efficient transport system.

Migrants frequently mentioned overcrowded buses, particularly during peak hours and tourist season, making travel uncomfortable or impossible. It is worth noting that in the period covering the first eleven months of 2025, Malta welcomed 3,797,206 inbound tourists (NSO 2026). For instance, migrants expressed their discomfort with unpleasant smells on the bus, they testified :

*“Usually it is full, especially in summer”* (M10, Female).

*“Sometimes the smell is not good inside. Sometimes it is full, too many people and no space”*  
(M3, Female).

Reliability was also questioned. Delays, long waiting times, and inconsistent frequency were common complaints, affecting punctuality and reducing the appeal of public transport. One interviewee shared:

*“After you miss the bus, you don’t know when the bus will be coming if you have some plans for the day because of the delay of the buses, it literally ruins your mood, so your plans. So sometimes the commutes by buses can be a little bit frustrating and unpredictable”* (M1, Female).

Another migrant said:

*“It is like 20 minutes waiting time, even more. So that’s very annoying for me. That’s one of the reasons why I don’t use it because it is slower than the other options”* (M7, Male).

Despite being free and digitally supported, public transport in Malta does not consistently meet users’ physical or scheduling needs, particularly when buses skip stops due to overcrowding or when some low-density residential neighbourhoods are perceived by participants as having less convenient pedestrian access to nearby bus stops compared with denser urban areas. Therefore, accessibility may be experienced unevenly depending on residential location, walkability, and service convenience. For instance, one migrant said:

*“Sometimes when I need the bus, it does not stop, because it is full”* (M3, Female).

One participant living near Kappara perceived the surrounding fully detached houses (NSO 2023d) residential layout as offering less immediate access to bus stops. The participant expressed:

*“I live in a shared flat but around me are villas (fully-detached houses), so there are no bus stops here”* (M11, Female).

This statement reflects subjective commuter experience rather than a cartographic assessment of the island-wide bus network. Some migrants stopped using the bus service due to repeated negative experiences. One interviewee testified:

*“When I arrived in Malta after dealing with the buses for one week, first thing I bought a scooter, I could not stand it (the bus)”* (M6, Male).

## *1.2 Choosing to Walk*

Migrants appreciated walking for its simplicity, health benefits, and the opportunity for relaxation and leisure. They shared:

*“Walking is good for me. I like to breathe fresh air... to watch sunsets”* (M3, Female).

*“I walk daily around 3 to 4 km. Walking is the best thing for health”* (M4, Male).

The compact geography of Malta was seen as enabling convenient walking even for relatively long distances. Migrants expressed:

*“I can walk pretty much anywhere in the North. If it is about an hour away, I am okay”*  
(M11, Female).

*“Sliema is nice... I can go to many places within a 15 to 20 minutes walking distance”* (M9, Male).

Participants chose to live near their workplace so they could use walking as their primary mode of transport, complemented by bus use in poor weather or when necessary. Participants once said:

*“I prefer walking. However, when it is raining, I take the bus”* (M5, Male).

*“I have always tried to live next to where I work so that I don’t have to spend so much commuting” (M11, Female).*

Walking was perceived as safer in Malta than in participants’ home countries, fostering confidence and encouraging regular walking. One interviewee testified:

*“It is possible (walking), but dangerous in Colombia, they will steal your phone. I feel safe in Malta” (M5, Male).*

Though, their experiences are shaped by infrastructural limitations. Participants reported frustration with uneven pavements, physical obstructions, and limited pedestrian space. Despite this, walking remained feasible in certain urban/coastal areas. Migrants shared:

*“The pavements are not very good... they put poles in the middle of the path” (M11, Female).*

*“The pavements at the seafront are very good... but most of the cities have very narrow pavements” (M4, Male).*

### *1.3 Mode Paradox*

The Mode Paradox theme captures the ambivalent relationship migrants have with car use in Malta. While cars are valued for their convenience, flexibility, and safety, they also represent stress, cost, and environmental concerns, revealing deeper tensions between autonomy and burden.

Several participants shared a history of car ownership both in Malta and their home countries, but over time, many found the experience overwhelming. As one explained:

*“In China and in Malta, I used to have a car, and then I sold both of them. I bought a car a few years ago and after two and a half years of driving, I sold the car” (M1, Female).*

Cars initially symbolised freedom but came to be seen as stressful and costly obligations. Migrants shares:

*“There’s a lot of work with the car. Sometimes if there’s an accident, it’s very complicated dealing with the insurance company... and it costs a lot of money” (M1, Female).*

Still, some participants continued to rely on cars. This was primarily for reasons of safety or for long-distance travel. One interviewee said:

*“For long distances I prefer using a car. It’s a little bit safer with the car than with a scooter” (M6, Male).*

Daily driving also took an emotional toll on participants. Traffic congestion and difficulties finding parking were frequently cited as sources of stress. One interview expressed:

*“Driving with a car means getting nervous for some reason or facing traffic” (M6, Male).*

Cars offered a sense of control over time and routes, especially compared to unreliable public transport. One participant shared:

*“If I know there is traffic on this road, I can pass from another one. It is not stressful like the bus” (M10, Female).*

Yet, this flexibility came with trade-offs. One participant stated:

*“The downside is cost and pollution. The upside is the convenience” (M11, Female).*

One of the most striking moments came from a participant who had previously relied entirely on public transport in Ireland. Despite expressing openness to improvements in Malta’s public transport system, he firmly stated:

*“Assuming that one day the bus works better than now, I still prefer to rely on my own car” (M6, Male).*

This suggests more than a simple preference, it hints at an internalised shift in identity and values, potentially shaped by assimilation into Malta’s car-oriented culture. The desire to feel independent, to not rely on scheduled systems, reflects broader narratives about control, autonomy, and belonging in a new environment.

This preference reveals how mobility choices reflect more than practicality, they connect to identity, independence, and cultural assimilation. The Mode Paradox illustrates how transport decisions are emotionally, financially, and socially complex, particularly within Malta’s car-centric culture.

## *2 Travel Behaviour*

Two main themes emerged under ‘Travel Behaviour’: ‘Stability’ and ‘Intentions’. Each of these themes encompasses a set of related sub-themes (Figure 5.11).



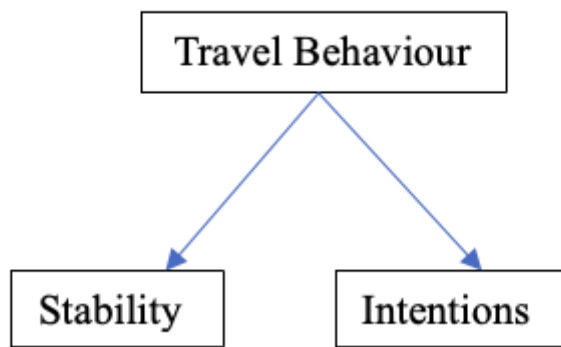


Figure 5.11: Migrant-related Themes Emerged from the Second Keyword

## 2.1 Stability

Under the overarching theme of ‘Stability’, two sub-themes were identified: ‘Stability Pre-Malta’ and ‘Stability in Malta’, reflecting participants’ travel behaviour before and after migrating to Malta.

### 2.1.1 Stability Pre-Malta

Migrants often describe their home countries as having a diverse and integrated transport system where multiple modes of travel coexist and complement each other. For instance, one participant explained how their daily commute involves a variety of transport options back in her country in China. She said:

*“When I report to the office I normally either drive or take the metro. Sometimes I use the bicycle but it depends. When I need to travel to different cities, most of the time I choose the bullet trains... In Shanghai, there is also a magnet train... It is fun, quiet and very environmentally friendly” (M1, Female).*

This reflects a culture of mixing different transport modes depending on the journey’s purpose and distance, balancing between mass transport and cars, or walking and cars, in the home country, something that contrasts with the more car-dominated mentality in Malta.

### 2.1.2 Stability in Malta

Some migrant participants continued using the same mode of transport upon their arrival in Malta, while others modified their transport choices over time. Despite these different

trajectories, both groups eventually reached a point of stability, either by maintaining a consistent mode that suited their needs or by gradually adapting their mobility practices until a reliable and satisfactory transport routine was established.

### *Stability in Everyday Mobility*

Migrants relied on the bus as well as on walking as a stable mode of transport. Many participants described long-term use of the bus system without significant change. One participant stated:

*“It has always been the same”* (M11, Female).

Another participant shared:

*“I have the same patterns, I have not changed my transport modes, I have been always using the bus and walking”* (M5, Male).

For these individuals, walking and using the bus is not only a stable means of commuting, but also a dependable and structured component of daily life in Malta.

### *Travel Behaviour Adaptation Over Time*

While some participants maintained stable patterns, others demonstrated a clear trajectory of adaptation in their travel behaviour over time. Several interviewees transitioned from one mode to another based on convenience, cost, or personal preference. For instance, a participant initially relied on taxis due to employer-provided budgets, later shifted to renting, then owning a car, and eventually moved to bus use. She explained:

*“During the first year... My previous employer gave me a big budget... so I commuted by taxis... then I started to rent a car... then I bought my own car and later sold it...for work I normally commute by buses”* (M1, Female).

In Malta, the government introduced new regulations on e-kick scooters following widespread concerns about their use, particularly the rental scooters popular in urban and tourist areas. Problems such as scooters being left on pavements, creating safety risks for pedestrians, and challenges in enforcement led the government to ban rental e-scooters on Maltese roads from 1 March 2024, while privately owned e-scooters remain permitted (Malta Daily 2024, Malta Today 2024, Transport Malta 2024). This change reduced the availability of scooters as a

transport option, prompting some users to switch to alternative modes, such as buses. As one participant explained:

*“I used the scooter... before the government cancelled scooters... now I use the bus”* (M2, Male).

Some participants switched from electric scooters or cars to buses. Others, however, reported abandoning the bus altogether due to frustration or inefficiency, opting instead for bikes, scooters, cars, or walking.

*“When I arrived... After dealing with the buses for one week, first thing I bought a scooter... one year later I bought a car”* (M6, Male).

Meanwhile, some deliberately chose accommodation close to work to avoid lengthy commutes and prioritised walking complemented by occasional bus use:

*“I have always tried to live next to where I work... mostly walking complemented by the bus”* (M11, Female).

These varied transitions highlight the flexibility and adaptability of migrants’ travel behaviour in Malta. Mobility choices were shaped by a combination of personal circumstances, such as employment location and household responsibilities, as well as infrastructural constraints, including public transport reliability and road conditions. Access to private cars further influenced how migrants adjusted their travel practices over time.

## 2.2 Intentions

This theme is composed of three sub-themes: Motorcycle Ownership Intentions, Car Ownership Intentions and Lack of Driving Intentions.

### 2.2.1 Motorcycle Ownership Intentions

Official road safety data indicate that motorcyclists remain among vulnerable road users in Malta, with fluctuations in accident and casualty rates reported in recent national statistics (NSO 2025b). Despite these safety considerations, 3 migrant participants expressed an intention to own a motorcycle in the future. Their interest was linked to traffic congestion, affordability, and personal passion for riding. One participant stated:

*“In the future, I want to buy a motorcycle because it’s easier with traffic, fast and cheap”*

(M4, Male).

Another participant from Colombia added:

*“I need to keep riding my bike until I get a motorcycle...my real passion is the motorcycle”*(M7, Male).

These intentions suggest that, within a car-dominated urban context, some migrants may adopt motorcycles as an adaptive mobility strategy to navigate congestion and cost constraints. For some participants, motorcycles represent an affordable alternative in conditions of economic pressure. For others, they reflect continuity with mobility practices from their countries of origin, contributing to a sense of familiarity and identity in the host environment.

### *2.2.2 Car Ownership Intentions*

Some migrants choose motorcycles, perhaps to resist the car-dominated culture, while others intend to drive cars, possibly as a form of surrender to it. For example, a migrant from the UK, who always used public transport at home and has a sustainable approach, walks and takes the bus in Malta. She plans to own a car but still intends to walk and use the bus. She explains:

*“I think I will still mostly walk because I enjoy it and I find it much better for my mental and physical well being... but also I need to have the convenience so I will not have to take 2 buses or wait for my partner to come so we can go together”* (M11, Female).

Although her travel behaviour remains largely sustainable, it is now increasingly influenced by considerations of convenience as well as processes of cultural assimilation within the Maltese mobility context.

For some migrants in Malta, car ownership reflects growing stability and a desire for what they assume is a better quality of life. Initially, limited finances mean relying on cheap or free public transport, but over time, owning a car becomes a sign of progress. One participant said:

*“Maybe like 70%, 80% probably gonna get a car within this year”* (M12, Female).

while another added:

*“Yes, for next summer, we can own a car”*(M2, Male)

Some want a car because everyone in Malta has one, others seek to replicate transport habits from home, as with the motorcycle example. These intentions show that car ownership is more than practical, it symbolises social integration and personal advancement.

### *2.2.3 Lack of Driving Intentions*

Two out of 12 participants explicitly rejected the idea of owning or driving a car. Both were females, one from China, who previously owned cars in China and Malta but sold them due to maintenance concerns and a desire to reduce her environmental impact. She expressed:

*"I decided to sell my car and then I think I can only do my part to reduce the number of cars on the road is to either drive less or just not to drive. I now think to consider a balance between myself and then the environment"* (M1, Female).

The other, from India, prefers being driven and may consider carpooling, maintaining a sustainable travel pattern. She stated:

*"Frankly speaking, No. More than driving I like to have someone else driving"* (M8, Female).

In India, she used public transport and continues to trust Malta's bus, even for safety reasons as a woman in a new environment. These views challenge the notion that independence requires car ownership and highlight sustainable behaviours shaped by home-country habits or a shift towards environmental awareness.

### *3 Sustainable Mobility*

Three themes emerged under the Sustainable Mobility Key word: Comparison, Sustainable Mobility: then and now and Aspirations. Under each theme a collection of sub-themes (Figure 5.12)

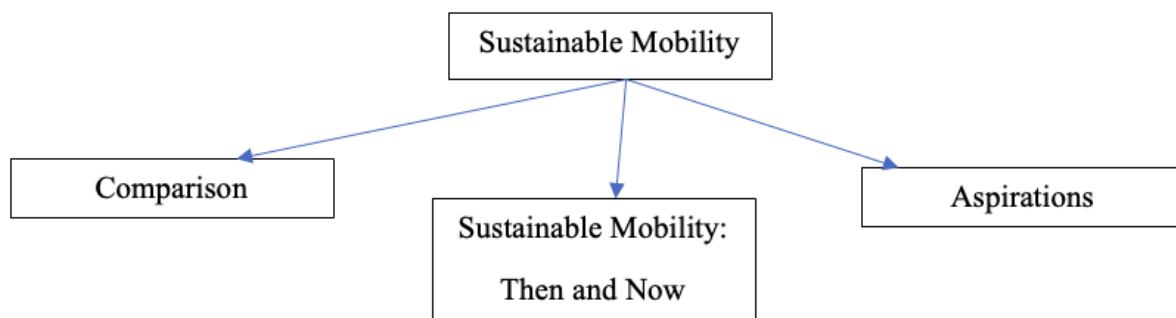


Figure 5.12: Migrant-related Themes Emerged from the Second Keyword

### 3.1 Comparison

#### 3.1.1 Perceptions of Transport Systems: Comparing Home Country or Previous Residence with Malta

Participants highlighted distinct contrasts between Malta’s transport system and those in their countries of origin or previous residence. The comparisons spanned infrastructure, mobility modes, class dynamics, and cultural perceptions of public and private transport.

Respondents from China, Ireland, Sweden, and the UK emphasised the accessibility and convenience of multimodal networks including metros, trams, bullet trains, and bikes, often enhanced by smart systems like QR-code rentals. As one participant from China explained:

*“In my country, we have airplanes, metros, trams, bullet trains and also bikes. Cycling is a very happy and pleasurable activity and way of commuting in my hometown...but since in Malta, it is a little bit too complicated for people to hire and return bicycles. The project failed and the company left Malta” (M1, Female).*

In contrast, Malta’s narrow infrastructure and limited modal diversity led to frustration. Shared mobility initiatives often failed due to poor planning or low uptake.

Participants from larger countries like Ghana, Colombia, and India noted that wider multi-lane roads and multiple route options at home provided flexibility and helped manage congestion. One participant from Ghana shared:

*“The roads are wide (in Ghana). Therefore, there is not much traffic all the time, unlike here in Malta, huge traffic all the time, because there is a lot of traffic since the roads are narrow like there is only one lane and since it is an island, it is small you do not have so many*

*options from which place you are passing to arrive somewhere. Therefore, all the cars end up at the same place” (M10, Female).*

Additionally, transport systems were perceived differently across contexts. In Egypt, Colombia, and Albania, systems were often seen as overcrowded and informal. One Egyptian participant commented:

*“In Egypt, transport is an absolute disaster. You have public transport, like buses, but then you also have micro buses which are privately owned. It’s people who make a business out of this basically and it is very easy, they don’t even have stricter regulations” (M12, Female).*

By comparison, Malta’s public transport was viewed as better organised, cleaner, and free for residents, though limitations in coverage and frequency were noted.

Social class, gender, and cultural norms also influenced mobility habits. For instance, car ownership in Egypt or India was associated with social status and masculinity.

*“Egypt has been through development and demolishment (demolition). Because also you have a lot of poverty, you have a lot of different social classes or different rules apply, like very different rules and some social classes having a car is a norm and in some is not even an option for you to buy one. It is very mixed there. It is not horrible, but I guess the poorer you are, like the less financially able you are, the more public transport and cheaper options you would take, like the government would be the absolute cheapest for you and then if you are in a bit higher economical status you would take taxis or you would have your own car ” (M12, Female).*

Gender and cultural factors also influenced mobility choices. In India, bikes were culturally associated with young males as status symbols, intertwining mobility with identity and social aspirations. One female participant from India expressed:

*“Especially when you go for the Indian boys...it’s like carrying an iPhone although they don’t have a phone but still they want to buy a bike” (M8, Female).*

Meanwhile, Sweden offered a more egalitarian example as one migrant shared:

*“In Sweden, it is very standardised like everyone kind of does the same. When it comes to commuting to work and school, I would say almost everyone in Sweden takes public transport*

*or a bike because gas is expensive so you wouldn't want to take your car back and forth. Parking is also really expensive if you don't have parking at work. So, I would say everyone uses their cars privately and then they use public transport to go to work or school"* (M12, Female).

Furthermore, a recurring concern was the lack of bus stops in certain wealthier areas of Malta, reinforcing spatial inequity in transport access.

### 3.1.2 Lived Experiences of Infrastructure and Car Dominance in Malta

Beyond perceptions, participants' actual mobility experiences in Malta revealed how the island's car-centric infrastructure and cultural norms forced behavioural shifts, especially among migrants previously accustomed to active or public transport.

In their former countries, some described systems that were inclusive and resilient. A Swedish participant praised the reliability of public services:

*"In Sweden, public transport is very encouraged and there the infrastructure is great... because of the weather if trains are not working, they will send the replacement bus, if there is no bus they will send cabs or you can take a cab and then you can send the receipt, then you will get the money back, or if someone comes to pick you up, you can send an invoice for the gas money that they charge"* (M12, Female).

In contrast, Malta was widely described as inaccessible, unsafe, and car-oriented. Pedestrians navigated broken pavements, while cyclists faced dangerous road conditions. One participant stated:

*"I'm not a cyclist that would go to Marsascala even because it's dangerous and even because there are limited cycle lines (referring to lanes)"* (M6, Male).

The same person previously used to avoid driving, he felt forced to assimilate into car culture once in Malta. He shared:

*"I haven't driven in Ireland in eight years simply because I didn't need to. When I used to live in Ireland, I used to take the bus and walk. Here, if you walk you risk more than driving, they hit you and run away. This is the sad reality"* (M6, Male).



Another emphasised the stress caused by mass tourism on the bus capacity, as it became impossible to take the bus during summer:

*“1 to 2 million tourists during the summer” (M11, Female).*

Car culture in Malta was perceived as deeply embedded in society. One participant remarked:

*“Seems like regardless of age, regardless of gender, regardless of sexual orientation or religious orientations, everyone wants to drive and everyone owns a car and many people own more than one car” (M1, Female).*

This perception laid the groundwork for another recurring theme, in which participants highlighted cultural contrasts in public transport use:

*“In Malta, I would say the foreigners use the public transport because we kind of see the value in it and we like the fact that it’s free because most of us come from countries where it’s really expensive...the locals (non-migrants) use their cars.” (M12, Female).*

This normalisation of car use contributed to severe traffic congestion and environmental concerns. One interviewee expressed:

*“The traffic is complicated. The fact that Malta is small and there are so many machines complicates everything... For me the drivers in Malta are crazy. Therefore, it is dangerous” (M5, Male).*

There was also a sense of institutional inertia. One participant criticised the lack of strategic planning:

*“The traffic, it’s just a consequence. It is the consequence of not planning roads well.” He even suspected commercial interests influenced policy inertia: “Behind selling the cars there is a huge business and the government is not in the position to have these people as enemies” (M6, Male).*

### *3.2 Sustainable Mobility: Then and Now*

#### *3.2.1 Sustainable Behaviour in the Home Country*

For many participants, sustainable mobility practices were deeply ingrained before arriving in Malta. Infrastructure in their home countries often made walking, cycling, or relying on public

transport the natural choice. A Swedish participant (M12, Female) emphasised that in Sweden: “*sustainability is everything*” reflecting a strong culture of recycling and efficient public transport. Similarly, an Italian participant (M6, Male) who lived in Ireland for 12 years explained:

*“I haven’t driven in Ireland in eight years simply because I didn’t need to”*, attributing this to the safety and accessibility of public transport. These examples illustrate how home country or country of residence systems can embed sustainable habits that shape migrants’ initial expectations in Malta.

### *3.2.2 Experiences and Adaptation in Malta*

Upon moving to Malta, migrants encountered a different transport reality, resulting in varied adaptation patterns. Some migrants who practised sustainable mobility in their countries of origin attempt to maintain these habits in Malta. They continue to walk or use buses and rely on cars only when strictly necessary. For example, a participant from the UK reported walking regularly and prioritising environmental responsibility over convenience.

Other migrants who were not previously sustainable travellers adopt more sustainable modes after moving to Malta. They describe car ownership as a former luxury that has become burdensome and prefer using buses to reduce congestion and environmental impacts. This shift appears partly influenced by Malta’s highly car-dominant context.

Several migrants value Malta’s free bus service for its cost-saving benefits and use it regularly despite acknowledging its limitations. Many consider the bus system better than those in their countries of origin, while viewing car ownership as a longer-term goal associated with stability, improved quality of life, or social integration.

In contrast, some migrants become increasingly frustrated with Malta’s transport constraints and gradually assimilate into car use as a coping strategy. Finally, a small group of migrants attempts to recreate transport practices from their home countries, such as motorcycle use, even when these modes present safety risks or do not fully align with the Maltese context.

### 3.3 Aspirations

#### 3.3.1 Rooted in the Maltese Context

Migrants expressed strong aspirations for a more efficient and sustainable transport system tailored to Malta's unique challenges. These aspirations reflect frustrations with congestion, limited public transport reliability, and car dependency, which were frequently highlighted in their accounts. Participants emphasised the need for integrated solutions that improve accessibility, reduce travel times, and support environmentally sustainable mobility choices.

Several participants highlighted the proposed metro system and the tunnel between Malta and Gozo as promising infrastructure projects. One migrant expressed enthusiasm about these developments, noting:

*"I saw one of the ministers... published a project plan about the metro system in Malta, which I'm looking forward to..the tunnel... will reduce the traffic between Malta and Gozo... it will reduce some stress for Gozitan residents"* (M1, Female).

She further reflected on the broader urban benefits of such initiatives, explaining that the metro could play a crucial role in reducing the number of cars on the road. This, in turn, could free up valuable urban space for alternative uses:

*"If they're going to have the metro system, there will be less people who will join, I think. And then, they can use partially the land to build green areas, entertainment areas, children's playgrounds and also for those with disabilities and people or for the elderly to have a healthier and nicer area, instead of staying at home or in a cafeteria"* (M1, Female).

For her, green and recreational spaces are not merely aesthetic additions but essential for wellbeing and social inclusion. She stressed that remaining indoors for extended periods can be mentally taxing, while frequenting cafés or restaurants inevitably comes with a financial cost. Accessible public spaces, therefore, offer a healthier, cost-free alternative for leisure, relaxation, and community interaction.

Another participant pointed out the poor coordination between buses, especially when two connections are required. She lamented:

*“The waiting time between the two buses is long... you do not know when the next will come, so you wait a very long time” (M11, Female).*

She emphasised the need for improved coordination between bus services to facilitate smoother connections.

Other participants raised concerns regarding pedestrian safety. One participant described how drivers often pass dangerously close to pedestrians, creating a sense of fear and insecurity while walking. In addition, participants called for the introduction of dedicated bus lanes as a means to encourage public transport use and reduce the number of private cars on the road.

Additionally, migrants see remote working, which gained traction during the Covid-19 pandemic, as a practical way to reduce traffic:

*“Either the company or even the government should mitigate the problem of traffic by encouraging people working from home more frequently” (M6, Male).*

Besides, this participant added that the government should discourage people from adding more cars in the streets.

### *3.3.2 Lessons from Abroad*

Many migrants draw on their experiences in other countries to suggest solutions for Malta’s transport challenges. For example, a participant from Italy explained:

*“In many Italian cities, on certain days and during specific times, only people, bikes and motorbikes are allowed to circulate” (M6, Male).*

He also emphasised the value of looking beyond Malta’s borders, saying:

*“Maybe they can check out how other countries work... Malta is not the only country facing this problem” (M6, Male).*

Similarly, a Colombian participant described initiatives in Bogotá that resemble those in Italy.

These insights reflect migrants’ aspirations for a Malta with better integrated transport, and policies that prioritise sustainability and well-being, inspired by crises like the pandemic (Covid-19), successful initiatives from their home countries or countries of residence previous to Malta.

### 5.3.2 Maltese Interviews Data

Figure 5.13 presents the thematic framework that emerged from the analysis of the Maltese participants' interviews, outlining the main themes and their related sub-themes.

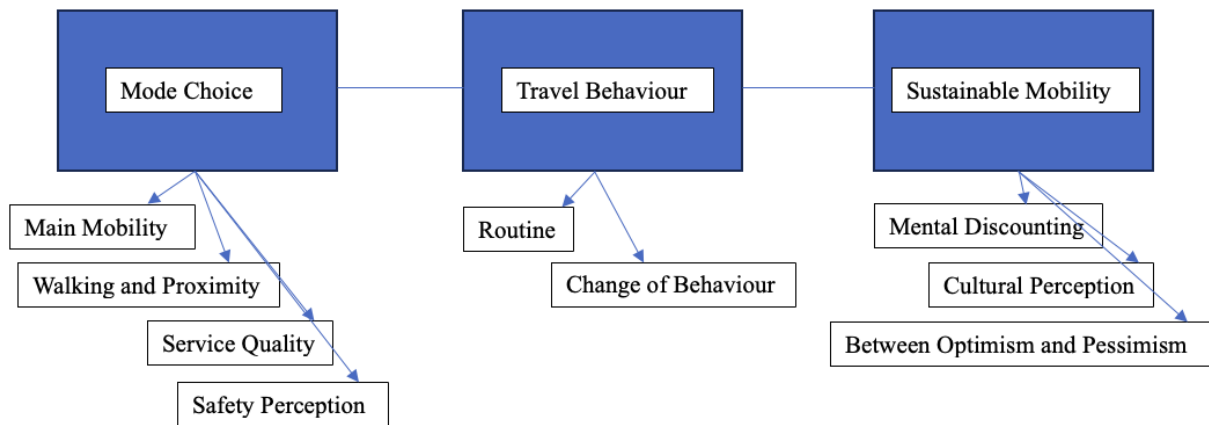


Figure 5.13: Key Themes from Maltese Interviews

The diagram is organised around three overarching themes: Mode Choice, Travel Behaviour, and Sustainable Mobility. Under Mode Choice, several interconnected sub-themes were identified. Main Mobility captures the dominant transport modes relied upon in everyday life, while Walking and Proximity reflects the role of short distances and local accessibility in shaping mobility decisions. Service Quality emerged as a key determinant of mode choice, closely linked to Safety Perception, which influences how participants assess and navigate the transport environment.

The theme of Travel Behaviour comprises two sub-themes: Routine, referring to established and habitual travel patterns, and Change of Behaviour, which reflects adjustments made in response to evolving personal circumstances, infrastructure, or external constraints.

Finally, Sustainable Mobility encompasses three sub-themes: Mental Discounting, highlighting how long-term environmental considerations are often deprioritised in daily travel decisions; Cultural Perception, reflecting socially embedded attitudes towards mobility and car use; and Between Optimism and Pessimism, capturing participants' ambivalent views regarding the future of sustainable mobility in Malta.

Overall, Figure 5.13 illustrates how Maltese participants' mobility experiences are shaped by habitual practices, perceptions of safety and service quality, and culturally embedded attitudes,

offering a distinct but complementary perspective to the themes identified among migrant participants.

### *1 Mode Choice*

4 themes emerged under the Mode Choice Key word: Main Mobility, Walking and Proximity Dimension, Safety Perceptions and Service Quality. Under each theme a collection of sub-themes (Figure 5.14).

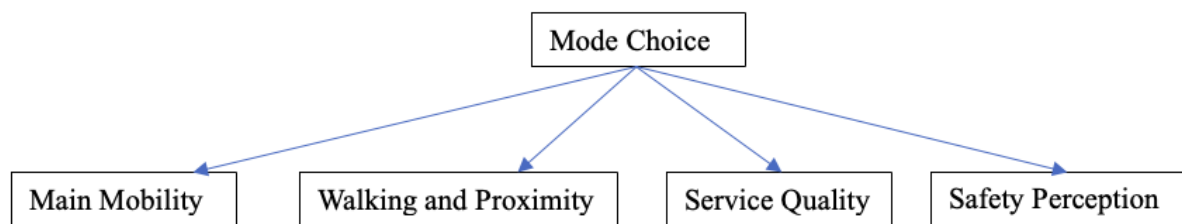


Figure 5.14: Maltese-related Themes Emerged from the First Keyword

#### *1.1 Main Mobility*

##### *1.1.1 Default Choice*

Maltese participants claim to live in central areas to enable flexible commuting both north and south, one interviewee shared:

*“we took into consideration when we were searching for places, we made sure that they are centrally located”* (L5, Female).

This choice is also culturally driven, as proximity to family supports strong intergenerational bonds. Such central living can make car use feel inevitable, combining practical accessibility with deep-rooted social values.

Participants consistently described the car as the most practical mode of transport. It was valued for enabling faster journeys, greater flexibility, and the ability to cover longer distances in less time. One participant expressed:

*“The car is faster, easier and practical. I mean it gets you where you want in less time”* (L5, Female).

The practicality of small cars that “*fit everywhere*” (L4, Female), was also noted as an advantage. For many, using the car was not simply a preference but an inevitable choice. This was more common for those balancing long commutes, multiple responsibilities, or complex daily routines. Another one expressed:

*“When my son is in the car, he has his tablet and toys. It is impossible to bring these on a bus”* (L10, Male).

Cars were widely perceived as unmatched in convenience, allowing people to leave and return on their own schedule, avoiding delays. One participant expressed:

*“For the car, I mean you can leave and come back whenever you feel like. So of course it is more convenient”* (L11, Female).

Another participant reaffirmed *“If you need to be more independent, it’s good to have a car”* (L3, Male).

He even credited car ownership with making it possible to “*work two jobs*” (L3, Male). This optimisation of daily routines was a recurring theme, with participants viewing time savings as central to quality of life.

Finally, efficiency strongly favoured the car. One participant who exclusively used a car mentioned that they would consider using the bus if it was “*more efficient*” (L1, Male), reflecting a conditional openness. Efficiency was particularly important for tasks like food shopping, which public transport users described as “*a logistic nightmare*” (L7, Male).

While ferries, when available, were praised as “*relaxing*” (L4, Female) and a way to avoid traffic. In contrast, walking was valued for exploring “*old towns*” and accessing “*narrow streets*” (L12, Male). These modes were supplementary rather than central to most participants’ mobility. The combination of practicality, convenience, and efficiency firmly anchored the car as the dominant choice for daily mobility in Malta.

### *1.1.2 Mode Paradox*

Alongside these benefits lies a pervasive frustration centred on traffic congestion and parking difficulties, creating a clear paradox. One participant lamented the daily challenge of finding parking:

*“I would leave my car parked, then try to park my partner’s car nearby... sometimes I go home late after work and have to drive around multiple times trying to find a place. It’s stressful” (L3, Male).*

He also highlighted the stress of parking as beyond his control:

*“ Parking is something you have to deal with, but it’s stressful” (L3, Male).*

Traffic delays further diminish the car’s appeal, particularly during peak hours. One recounted a complex journey extended by congestion:

*“After work I had to go to Mosta... there was a lot of traffic... it took me 40 minutes... after 7 PM it’s not a problem, but before that, it’s a nightmare” (L12, Male).*

Many adjust their schedules accordingly to avoid the worst congestion, echoing:

*“I try to avoid going out on Saturday mornings because everyone’s out shopping... so I go after 12 PM when there’s no traffic” (L12, Male).*

One participant adjusted her working schedule to avoid peak hours. She said:

*“I find that having adjusted my working hours has allowed me to travel quicker to work. So whereas normally I used to start at 7:15 reporting at the office which meant I had to leave my house quite early to be able to make it with the flexibility I have in the office which I opted for also for my personal quality of life. This flexibility where I start at home and continue at the office later has allowed me to get to work quicker because I avoid the morning rush” (L4, Female).*

Some people were aware of the frustrations of owning a car in Malta and chose to ride the bus instead, as it provides a sense of mental well-being. One participant described the bus ride as a *“luxury... I sit there, get driven around, stay on my phone, listen to music, do a crossword... I can really relax” (L3, Male).* Another described using bus time productively for personal tasks such as reading, organising their calendar, or sending emails, highlighting how bus travel could serve as a valuable opportunity for reflection or mental *“switching off” (L8, Female).*

To conclude, while cars are praised for autonomy, speed, and convenience, these advantages are frequently offset by practical frustrations with parking and traffic, compelling users to develop coping strategies such as scheduling trips off-peak or accepting stress as part of car



use. This reveals a tension between idealised car freedom and the lived realities of dense urban mobility in Malta.

### *1.1.3 Inequity*

Those reliant on buses often faced significant constraints on their autonomy and daily routines. For instance, engaging in activities such as playing sports after work was described as impractical, with one participant lamenting:

*“Without a car at the moment I can’t go to the gym. By the time I finish work, get home, have dinner, get gym stuff sorted, get to the gym, it can be closing”* (L7, Male).

Similarly, another participant highlighted the car’s role in creating financial opportunities, explaining that it enabled them to coordinate between two jobs to earn more income, something they considered impossible when relying solely on buses:

*“The fact that I can work two jobs was because I had a car”* (L3, Male).

The bus schedules often dictated personal plans, reducing opportunities, spontaneity and efficiency. Public transport was frequently criticised for being unreliable and inflexible compared to systems in places like London, where one participant lived for seven years and *“Had absolutely zero reason to drive”* (L7, Male) due to an effective network.

He even linked inequity with accessibility, pointing out that steep terrain and poor last-mile connectivity from bus stops to residential areas in Malta, can leave older adults and people with disabilities *“prisoners in their own home”* (L7, Male).

Ultimately, these contrasting narratives expose a deeper social issue: mobility in Malta is unevenly accessible in terms of freedom, time efficiency, and opportunity. Access to a car has become less a mere convenience and more a prerequisite for equitable participation in everyday activities. Thus, generating mobility-based inequalities.

### *1.2 Walking and Proximity Dimension*

Participants showed a clear preference for walking when distances were manageable, often finding it faster and more reliable than waiting for infrequent or delayed buses. For short trips, especially in urban areas like Sliema or Msida, walking was perceived as equally quick, if not quicker, than public transport, and in pleasant weather, it was even considered enjoyable.

Experiences abroad also influenced these habits; for instance, one heavy bus user, inspired after returning from Barcelona during the pandemic (Covid-19) period, began walking to work every day, adopting a healthier lifestyle.

Even frequent car owners sometimes integrated walking into their routines. One participant, who owned two cars for weekday and weekend use, lived and worked in the same area and admitted:

*“Not that we use the car very much, I have two cars for nothing”* (L9, Male).

Another chose to commute to work by bus and walk his son to kindergarten daily, covering around 5 km despite bad weather:

*“Walking and running are my 2025 resolutions. So, I have started since the beginning of the year to walk 5 km a day”* (L10, Male).

These exceptions, where Maltese interviewees adopted walking as a main or partial mode of transport, illustrate how Malta’s compact urban form and short distances can encourage active, car-free mobility. Notably, walking often goes hand in hand with a mindset more open to bus use.

### *1.3 Safety Perceptions*

Participants shared varied experiences that shaped their perceptions of safety while commuting in Malta. Many raised concerns about inadequate infrastructure, narrow pavements, poorly lit areas, and hilly terrain, which makes walking and cycling unsafe. Cycling was viewed as particularly risky, with one participant explaining:

*“Roads in Malta... they’re not designed for bikes. The primary design is for cars”* (L1, Male).

For pedestrians, Malta’s busy roads and drivers’ poor spatial awareness were seen as major hazards. One participant reported being hit by cars multiple times, something that had never happened during his time in England. He shared:

*“I lived in England for a number of years, and never got hit by a car. I’ve probably been hit by about 15 to 20 cars in Malta”* (L7, Male).

While another stated:

*“I cannot walk because it’s dangerous” (L12, Male).*

Safety concerns extended beyond active modes, with one participant suggesting that Malta’s roads are *“not safe, not even by car”* (L5, Female).

Perceptions, however, varied by location. A resident in Rabat described her area as quiet and safe for walking, thanks to promenades, green fields, and low traffic. Safety was also attributed to ferries, which were perceived as safe, reliable, and pleasant, offering a calm and predictable commuting alternative to road transport. These positive perceptions were mostly reported in coastal cities and towns, rather than in Rabat.

Public transport safety raised concerns. One Maltese man expressed feeling unsafe on buses at night due to poorly lit bus stops, noting:

*“It’s not the safest place in the world, you know, especially at night. Now for me being a man it feels one way, but for a woman it might be a bit different” (L1, Male).*

Overall, while safety perceptions vary, concerns about pedestrian infrastructure, driver behaviour, and limited safe, inclusive transport options remain prevalent.

#### *1.4 Service Quality*

##### *1.4.1 Information*

There appears to be a general lack of awareness among Maltese residents regarding recent improvements to the public transport system. Some participants expressed uncertainty or outdated perceptions of the service. For instance, one participant remarked:

*“I think there should be some express buses on certain times. For example, if you need to go to Mater Dei or to university, it will be very good to have these express buses” (L6, Female).*

This suggests that they were unaware that such routes or improvements may already exist. Similarly, despite some buses offering more direct routes that do not go through Valletta, many participants still perceived the system as heavily centralised around Valletta, highlighting a communication gap that affects how Maltese users perceive and utilise available transport services. As one interviewee shared:

*“Everything has to go to Valletta, because Valletta is the centre. It doesn’t make sense and you sometimes need to get two or three different buses to go to a place” (L5, Female).*

#### *1.4.2 Infrastructure*

Comfort and physical infrastructure challenges significantly shape user experiences. Many passengers described buses as crowded: *“The bus stop is often busy, especially in peak hour”* (L6, Female), which leads to discomfort. Cleanliness was also a recurring concern: *“The buses are dirty”* (L8, Female), although one participant appeared to accept it as an expected drawback of public transport. Beyond the buses themselves, users highlighted poor infrastructure at stops: *“Even sometimes bus shelters talk about that when it is raining, you normally have that”* (L1, Male), as well as along pedestrian routes, including narrow, broken pavements: *“I cannot cross the entire country, without thinking of a single stretch of pavement that is not broken”* (L7, Male) and insufficient lighting: *“The lack of lights sometimes I get a feeling that is enough to put you off something”* (L1, Male). These issues are particularly problematic during bad weather or at night, affecting both accessibility and safety.

Overcrowding and accessibility issues at busy stops, such as those in St. Paul’s Bay, were also highlighted. Peak hours see large crowds at key stops, and buses sometimes cannot accommodate all waiting passengers, forcing some to wait for subsequent buses. Additionally, some bus routes were criticised for taking unnecessarily long detours, adding to overall travel time. Missing a bus could lead to long waits, further exacerbating user frustration. One participant shared:

*“Sometimes the bus does not let you in. There are also some bus routes, they take very long, like the road can be shorter, but they really go around so that takes a little bit of extra time”*  
*(L6, Female).*

#### *1.4.3 Fare*

Economic considerations play a key role in transport choices, with many participants noting that public transport’s free fare policy is a strong incentive to use buses despite their flaws. The high cost of car ownership and driving in Malta makes the bus system a vital option for those who cannot afford cars or prefer not to drive. Others, however, did not find having free bus rides a luxury if the service is unreliable.

One participant highlights that while public transport is free, the significant time lost due to longer travel can translate into a high indirect cost, effectively making car use more time-efficient despite its financial expense. Thus, the perceived value of saving time often outweighs the monetary savings from using free public transport. He shared:

*“ If I take public transport it is free, OK, but if I want to do anything the way that I see it is I'm paying €1000 not to actually use the car. I'm paying €1000 to get back probably about 15 hours a week that I lose from public transport. If I'm going to use public transport to get anywhere, like say to get from where I live, to Valletta this morning, it took me about 45 minutes. If I'd driven it, I might have been here in 20 minutes, so the way that I see it, I've already lost 25 minutes of my day, just from commuting by bus. By car, I gain time. So for me, it is like I am paying a lot of money, I'm not paying for the car, I am paying for slightly less frustration” (L7, Male).*

## 2 Travel Behaviour

Figure 5.15 illustrates the thematic structure of Travel Behaviour emerging from the analysis. Two overarching themes were identified: Routine and Change of Behaviour. The theme of Routine captures participants' habitual and stable travel practices, reflecting regular modes of transport, fixed schedules, and established commuting patterns. In contrast, Change of Behaviour encompasses shifts in travel practices, including adaptations triggered by contextual factors such as safety perceptions, accessibility, infrastructure, or lifestyle changes. Each of these two main themes is further divided into a set of sub-themes, which provide a more nuanced understanding of the factors shaping everyday travel behaviour.

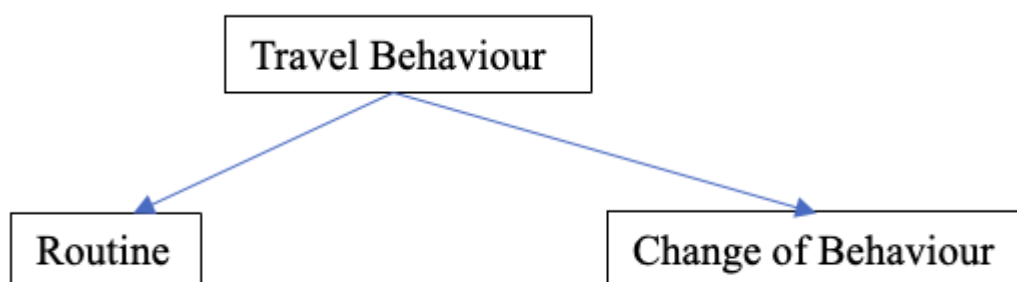


Figure 5.15: Maltese-related Themes Emerged from the Second Keyword

## 2.1 Routine

Travel habits among Maltese participants revealed a blend of routines shaped by practical needs, personal preferences, and available transport options. For many, habitual use of cars dominates, especially once they obtain a driving license. One participant explained:

*“When I did not drive, either my parents drove me or I would take the bus. Obviously in the past 12 years now that I drive, it’s been very rare that I have taken the bus maybe twice”* (L4, Female).

Similarly, another Maltese shared how obtaining a license shifted their travel patterns:

*“Before I got the license, I used to use the bus or my dad would take me somewhere... Ever since I got my license, 90% of the time I use my car”* (L5, Female).

Yet, some still combine different modes, optimising time and convenience, one interviewee stated:

*“Right now I think I found a very optimal routine for me travelling around. I get to combine car, bus and walking... I win a lot of time and to me that is important because I work for 40, maybe 45 hours a week”* (L3, Male).

Public transport remains an essential option for those without cars or during specific circumstances. One participant described a strict early morning bus commute *“At 6 am I take the bus from Paola to Msida”* (L1, Male). Families also adjust their travel habits, with cars preferred for weekend errands and buses used for daily commuting: *“During the weekend, I use my car, since with a bus, it is not comfortable with the pushchair”* (L10, Male).

Others recall earlier life stages relying on coordinated transport or buses, such as school or work shuttles: *“My dad always used to use the works transport... I started using the bus to go to Msida when I was 16, and at 18 I got my driving license and bought a car”* (L3, Male).

Ferry use appears more occasional but positive, with one participant noting:

*“The ferries where I can use them, for example from Sliema to Valletta, it is a nice trip... They are pretty convenient, reliable, and look safe”* (L1, Male).

To conclude, travel routines in Malta are shaped by access to cars, family needs, and balancing time efficiency with convenience.

## 2.2 Change of Behaviour

Several participants described notable shifts in their travel habits, often influenced by changes in lifestyle, car ownership, or external circumstances such as an inspiration from abroad. For example, one interviewee explained how the complexity of daily responsibilities made the car indispensable sharing:

*“I live relatively far from my workplace and have to pick up the kids, so catching the bus is difficult when the car is available” (L2, Female).*

However, to adapt to environmental and economic concerns, this participant recently switched to an electric car. She reported reducing costs on fuel by saving between 80 to 200 euros monthly. She was able to purchase her new electric car thanks to a government grant of €50,000.

In contrast, another participant currently sharing a car with his partner, using the bus and walking is reconsidering his car ownership altogether. He stated:

*“I’m quite convinced I want to sell my car... Where I grew up, we never had cars in the family, and we used to use public transport. My dad doesn’t drive, so the car just sits parked” (L3, Male).*

This reflects a shift away from solely relying on private cars when alternative options or lifestyle changes make it feasible.

External factors such as experiencing different mobility lifestyles abroad also prompted changes in mobility. A participant working in a health centre shared:

*“During Covid, I was walking a lot because I was going to work in Mosta and walking back home from there, which is around one hour. When I lived in Barcelona, I walked a lot too” (L6, Female).*

This illustrates how experiences abroad and unusual circumstances can promote more active travel modes. Unexpected car breakdowns can also trigger behaviour change. One interviewee

recounted how his old car caught fire and was no longer drivable. Such an incident forced him to use public transport, he said:

*“My car, which was old and terrible and just bad, decided that it was going to self combust ‘I’ve given up. I’m going to just catch on fire right now’ which was fun. And I’m like, OK, great. I can’t really drive this anymore” (L7, Male).*

He also compared Malta’s public transport to systems abroad, noting differences that influence travel behaviour. He expressed:

*“Back in the UK and London, buses and trains were mostly on time and very regular. Public transport was cheap and efficient. While here, parking is mostly free so people leave cars parked all day, making parking a nightmare. If the public transport here were more reliable and frequent, I might not bother driving so much” (L7, Male).*

In summary, these statements reflect that personal circumstances, infrastructure quality, and environmental concerns interact dynamically to shape significant shifts in travel behaviour among Maltese commuters. This suggests that targeted improvements in public transport reliability and incentives for electric transport could encourage more flexible and environmentally friendly mobility patterns.

### 3 Sustainable Mobility

Three main themes emerged under the key concept of Sustainable Mobility: Mental Discounting, Cultural Perception, and Between Optimism and Pessimism. Each of these themes comprises a set of sub-themes that further elaborate participants’ attitudes, interpretations, and experiences related to sustainable mobility, as illustrated in Figure 5.16.

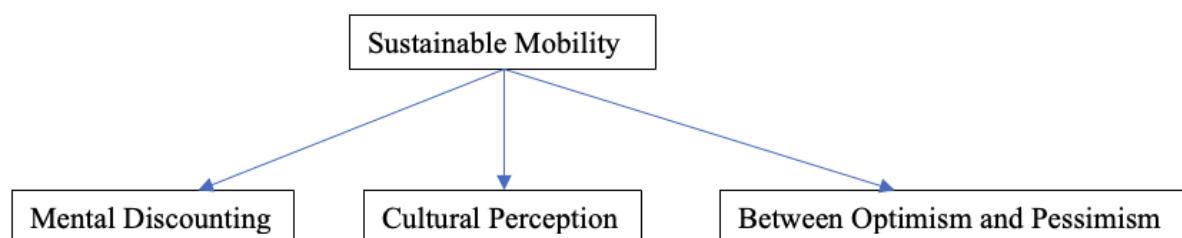


Figure 5.16: Maltese-related Themes Emerged from the Third Keyword



### 3.1 Mental Discounting

Building on the behavioural and cognitive barriers highlighted in the Literature Review Chapter (Chapter 2), particularly the concept of mental discounting, the interviews reveal that participants frequently undervalue the long-term consequences of car dependence in favour of short-term convenience and comfort. While participants are aware of environmental and financial costs, their decision-making often reflects the same cognitive tendencies identified in the literature (Frederick, Loewenstein et al. 2002, Gifford 2011, Thaler 1985, Wahlund, Gunnarsson 1996). For instance, several interviewees admitted prioritising convenience over sustainability, as illustrated below. One interviewee admitted:

*“To be fair, I am prioritising convenience and time over sustainability”*(L12, Male).

Another remarked:

*“Everyone loves comfort and everyone loves their own method of transport. Like they find it reliable, they can go where they want, and unless the buses are actually reliable, it’s not going to work”* (L8, Female).

In practice, this awareness seldom leads to behavioural change unless motivated by cost savings or structural support. One participant consciously tries to reduce car use or share rides:

*“I think it’s good to coordinate and to have one car is better in that case. Because really it’s an unnecessary expense and it is not a luxury at that point. It’s just another stress...I always was very conscious about the fact that having a car is using a lot of resources for just one person. It doesn’t make a lot of sense to me...I try to carpool with some colleagues that would live close by. We did it for a while, but then again, people in Malta especially I realised they don’t live without their cars, they have to have a car. So that’s a perception thing here”* (L3, Male).

### 3.2 Cultural Perception

Cultural perceptions strongly shape mobility choices in Malta, particularly regarding bus usage. One participant highlighted the stigma attached to public transport saying:

*“It’s very car dominant. I would say the public transport system is very under-utilised by the Maltese because they have their cars. The buses are being used mostly by expats and*

*migrants, and this is perceived by the Maltese as well. So I think they believe that by using the bus, they are becoming socially, economically inferior. It's like what poor people do, they use the bus. Old people and students use the bus. It was like that 20 years ago and they still like that today, unfortunately, and it's even worse now because it's old people, students and migrants. So you'll rarely get to see any Maltese, middle-aged or working people using public transport. I think it's something which you'll probably get in common with other Maltese bus users. The perception is very much outdated and it's not based on fiction, it's true. It's becoming a self-fulfilling prophecy type of thing because people think like that. So they don't use the bus and they use the cars as an alternative" (L3, Male).*

This demonstrates how negative perceptions contribute to the under-utilisation of buses and reinforce car dominance, despite improvements in the public transport system.

Car ownership carries significant cultural and symbolic meaning, closely tied to social identity, adulthood, and respectability. Many participants described holding a driver's licence and owning a car as milestones of maturity and responsibility. One interviewee noted:

*"I feel that there is a certain stigma associated with using the bus. It is not very common among young people and is more frequently associated with older generations. Interestingly, people in their thirties seem to form a bridge between those in their twenties and those in their forties. Bus use also appears to depend on individuals' social and economic backgrounds" (L1, Male).*

Alongside this symbolic value, participants often personified their cars, describing them as companions with moods, agency, or even decision-making power. One participant vividly recounted:

*"My car, which was old and terrible and just bad, decided that it was going to self-combust. I've given up. I'm going to just catch on fire right now" (L7, Male).*

This personification illustrates the intimacy and attachment Maltese drivers develop with their cars. Cars are not only status symbols or tools but also familiar presences embedded in daily routines.

Together, cultural symbolism and emotional personification reinforce a profound dependence on private cars. Even when participants acknowledged environmental problems or inefficiencies in car-centric systems, these deeply embedded meanings reduced their

willingness to consider alternatives. For some, disengagement from public transport was so entrenched that it no longer formed part of their lived experience, they shared:

*“I have no idea on how to catch buses and the whole system”* (L2, Female).

*“I have taken the bus maybe twice. Otherwise, it’s always by car”* (L4, Female).

*“I haven’t been on a bus for the last 10 to 15 years for sure”* (L5, Female).

Same participant criticised public transport indirectly, often from observation rather than experience, reinforcing her reliance on the private car, they shared:

*“I can see that buses are packed. I see people complaining especially in the morning. Three or four buses have to pass by before you actually get on the bus because they are packed, and the time it takes to travel on the bus... something that for me takes 15 minutes by car, for other people it takes them almost 30, 45 minutes, so it’s not that comfortable and I think that’s why people tend to own a car”* (L5, Female).

Overall, while participants displayed awareness of sustainability concerns, this recognition is consistently outweighed by ingrained cultural values, emotional attachment to cars, and perceptions of inefficiency in alternatives. The result is a persistent reliance on private cars, sustained by both social prestige and the symbolic and personal significance of car ownership.

### *3.3 Between Optimism and Pessimism*

#### *Pessimism*

Several participants expressed deep disappointment with Malta’s mobility system, often framing it around overpopulation, overcrowding, and insufficient infrastructure. Public transport was described as “*broken*” (L7, Male) with buses “*crammed up like sardines in a can*” (L11, Female) leaving people “*dehumanised*” (L11, Female). One participant explained:

*“I think at the moment the most prevalent word that comes to mind is overpopulation. Overcrowding, you know, has become quite an issue... there aren’t enough buses sometimes to meet the demand, that makes it even worse and you have to wait for more time. In a nutshell the system is broken”* (L11, Female).

Such frustrations reinforce car dependency, as ownership becomes a refuge against unreliable public transport. Even while recognising the unsustainability of car dominance, participants often viewed private cars as the only practical option.

### *Optimism*

Alongside negative experiences, some participants expressed hope and constructive suggestions, revealing potential for cultural and behavioural shifts, though these remain limited.

A small number demonstrated multimodal flexibility, combining walking, buses, and cars to optimise convenience, reduce stress, or improve efficiency. Such practices were more common among participants with fewer family responsibilities, more flexible schedules, or better access to diverse transport options, pointing to potential pathways toward sustainable travel behaviour.

Others experimented with shared or alternative practices, such as reducing to one family car, carpooling, or questioning the inefficiency of single-occupancy driving:

*“Having a car is using a lot of resources for just one person”* (L3, Male).

The transition toward low-emission mobility also emerged as a point of interest. Some participants invested in electric cars, *“I decided to invest in the future keeping the environment as a first thought”* (L2, Female), or considered electric motorcycles, motivated by environmental and economic benefits.

Practical workplace measures were identified as enablers of change. One participant highlighted improved facilities for active travel:

*“I think having more shower facilities will help even more... it would be an incentive for people to use bikes more often and start work fresh”* (L2, Female).

One marketing professional emphasised the importance of framing sustainability in personally meaningful ways. She suggested highlighting immediate benefits such as health, fitness, and overall well-being. Linking short-term personal gains to sustainability was seen as a way to gradually encourage cultural change. She said:

*“I think that when it comes to sustainability, its promotion should go hand in hand with physical benefits. Some people do not tend to think about the future. However, while sustainability is undoubtedly important, individuals can also benefit directly from it. I do not think this aspect is emphasised enough” (L2, Female).*

In conclusion, Maltese perspectives oscillate between pessimism and optimism. Pessimism is largely rooted in experiences of overcrowding and a widespread distrust of public transport. At the same time, optimism emerges through small but tangible steps toward shared mobility and the adoption of electric transport. Workplace adaptations also contribute to this positive outlook. Sustainability is increasingly framed around both personal well-being and collective responsibility.

#### 5.4 Comparison between Migrants and Maltese

Figure 5.17 is organised around three core green themes: *“Mode Choice”*, *“Travel Behaviour”* and *“Sustainable Mobility”*. The diagram distinguishes between two separate thematic structures using color coding, where orange indicates migrant perspectives and pink indicates Maltese perspectives. For the *“Mode Choice”* theme, both groups identify *“Service Quality”* as a key factor, yet migrants are specifically associated with *“Choosing to Walk”* and the *“Mode Paradox”*, while the Maltese themes include *“Main Mobility”*, *“Walking and Proximity Dimension”*, and *“Safety Perception”*. Under the Travel Behaviour theme, the migrant structure focuses on *“Stability”* and *“Intentions”*, while the Maltese structure emphasises *“Routine”* and *“Change of Behaviour”*. Finally, the *“Sustainable Mobility”* theme branches into migrant-related themes of *“Aspirations”* and a comparison of *“Sustainable mobility: Then and Now”*, which contrasts with Maltese sub-themes like *“Mental Discounting,”* *“Cultural perception”*, and *“Between Optimism and Pessimism”*.

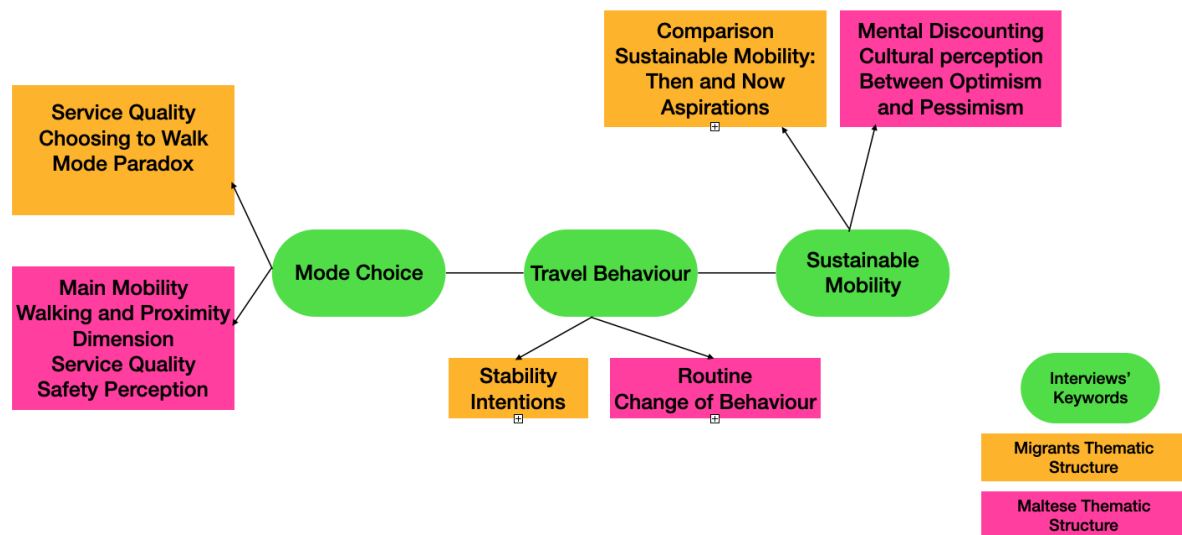


Figure 5.17: Migrants and Maltese Thematic Comparison Structure

### 1 Mode Choice

The experiences of migrants and Maltese reveal contrasting yet intersecting perspectives on mobility in Malta. Migrants highlighted three main themes: service quality, walking as a transport choice, and the “mode paradox.” Regarding service quality, migrants generally valued buses for being free, affordable, and safe. They noted that digitisation through the Tallinja app improved efficiency, while ferries were appreciated as scenic and convenient alternatives. Nonetheless, challenges such as overcrowding, unreliable schedules, inaccessibility, and skipped stops often undermined trust, leading some to abandon buses in favor of other transport modes.

Some migrants adopted walking as a primary mode of transport, viewing it not only as practical but also as a way to relax and boost their immune system. They considered walking in Malta to be safe, a perception shaped by their experiences in their home countries. While they enjoyed walking in areas near the beach, such as Sliema, their experience was often limited by poor pavements in certain locations. Finally, the “mode paradox” captured migrants’ ambivalence toward cars, which represented both freedom and flexibility but also stress, financial costs, and the pressure to assimilate into Malta’s car-centric culture.

In contrast, Maltese narratives centred on main mobility choices, walking and proximity, safety perceptions, and service quality. For Maltese participants, cars emerged as the dominant and almost inevitable mode of transport. This choice was justified by convenience, practicality, and alignment with family responsibilities and social expectations. Cars were seen as faster, more

flexible, and essential for balancing multiple jobs or managing complex routines. Parents in particular highlighted their indispensability for transporting children and belongings.

Yet, this reliance on cars also produced frustrations. Traffic congestion and the daily struggle to find parking were common complaints. To cope, participants rescheduled trips, adjusted work hours, or occasionally used ferries as a calmer alternative. Walking was generally framed as supplementary, suited for leisure, proximity, or exploration rather than daily commuting, despite Malta's compact urban form.

Safety perceptions further reinforced car use. Driving was viewed as the safest option given narrow pavements, poor lighting, and the absence of cycling infrastructure. Concerns about bus safety were especially acute at night, with men acknowledging risks and women facing even greater vulnerabilities. Public transport, although free, was widely criticised for being inefficient, overcrowded, slow, and unreliable. A communication gap also emerged: some participants were unaware of recent improvements or express routes, while many still perceived the system as rigidly centred on Valletta.

Frustration also came from crowded buses, poor shelters, and badly lit stops. Although the free fare policy was welcomed as an economic incentive, many stressed that the time lost outweighed the monetary savings. Some equated car ownership to *"paying for less frustration"* (L7, Male) noting that everyday activities, such as going to the gym or coordinating between two jobs, were difficult without a car. Structural barriers, including steep terrain and poor last-mile connections, effectively excluded older adults and people with disabilities.

Together, these accounts reveal a paradox. Cars are celebrated as symbols of autonomy and opportunity, yet their dominance entrenches inequities, inefficiencies, and urban stress. As a result, mobility in Malta remains deeply uneven and contested.

Overall, migrants appeared more adaptive and appreciative, relying strategically on walking and buses, whereas Maltese commuters were more critical and car-dependent. Although Malta has a relatively extensive bus stop network, participants reported that perceived convenience, walking distance, topography, and route directness vary by locality. Migrants often choose to live near major bus hubs or close to their workplaces. This strengthens their dependence on public transport and frames it as practical and accessible. In contrast, Maltese residents typically prioritise proximity to family or central areas, reinforcing car dependence and their more negative view of buses.

Given that most migrants rely on buses while the majority of Maltese commute by car, these contrasting patterns generate mobility inequities. In practice, migrants face greater constraints on time, opportunities, and accessibility, revealing how transport choices reproduce broader forms of social inequities in Malta.

Having said that, one migrant participant residing in a low-density residential neighbourhood reported difficulties reaching the nearest bus stop, requiring an approximately 30-minute walk. She perceived that public transport provision in the area was less convenient, which she associated with the neighbourhood's predominantly fully-detached residential character.

## *2 Travel Behaviour*

The second theme, 'travel behaviour', produced distinct thematic structures for migrants and Maltese. For migrants, the themes were Stability and Intentions. In contrast, for Maltese they were Routine and Change of Behaviour. These themes show how both groups shape their mobility practices. They balance consistency with adaptation. However, they do so in markedly different ways.

For migrants, Stability has three sub-themes. Before living in Malta, stability reflects mobility routines in their home or residence countries. These routines are structured but flexible. Multimodal systems, including public transport, cars, bicycles, and walking, coexist. This setup allows migrants to balance efficiency, adaptability, and sustainability. Choices vary depending on the journey's purpose. It highlights a culture of mobility as a matter of personal and practical choice.

Stability in Malta shows how migrants settle into consistent commuting routines. Some continue using the bus and walking regularly. These modes become reliable and central to their daily life. Others adapt over time, switching between taxis, rented or owned cars, buses, scooters, or walking. These changes respond to cost, convenience, housing location, and regulations. Eventually, they settle into a stable travel pattern.

Finally, 'intentions' capture forward-looking behaviours shaping future travel. Some participants expressed a desire to own motorcycles despite safety risks, motivated by congestion, affordability, or personal passion. Others anticipated car ownership as a sign of progress, convenience, or social integration, while a minority explicitly rejected driving, motivated by environmental concerns or personal preference for alternative modes.



In contrast, Maltese narratives were anchored in Routine and Change of Behaviour. Routine dominates, with habitual car use emerging as the main mode of transport once a driving licence is obtained. Cars are valued for convenience, efficiency, and the ability to manage family responsibilities or work commitments. Public transport and walking are used selectively, often for early-morning commutes, short trips, or when cars are unavailable. Ferries are appreciated when accessible, offering a reliable and pleasant alternative. Routines are also influenced by life stage, family needs, and the practicalities of balancing time and convenience. Change of behaviour occurs when personal circumstances, lifestyle transitions, or external influences prompt adaptations. Participants reported shifts driven by environmental concerns, economic considerations, experiences abroad, or unexpected events such as car breakdowns. Some switched to electric vehicles to reduce fuel costs, while others reconsidered car ownership entirely, particularly when shared cars or public transport offered feasible alternatives. Experiences abroad, including walking-heavy commuting during Covid-19 or exposure to efficient transport systems in cities like Barcelona and London, inspired more active or flexible travel patterns.

Overall, Maltese travel behaviour combines deeply ingrained routines with the capacity for adaptation. While cars remain dominant, participants demonstrate responsiveness to changing circumstances, infrastructure quality, environmental awareness, and lessons learned from international experiences. These insights indicate that improving public transport reliability, expanding sustainable alternatives, and incentivising electric mobility could support more flexible, efficient, and environmentally friendly travel among Maltese commuters.

In conclusion, Travel Behaviour shows clear differences between migrants and Maltese residents. Migrants balance past experiences, present routines, and future aspirations, relying on buses, walking, and occasionally cars or motorcycles. Their choices are shaped by efficiency, adaptability, and sustainability. Some migrants plan to acquire motorcycles or cars for convenience, while others reject driving, prioritising sustainability or maintaining home-country habits.

Maltese travel is largely routine-driven, dominated by car use once a license is obtained. Yet routines can change due to lifestyle shifts, economic factors, environmental concerns, or experiences abroad. Walking, buses, and ferries are integrated when circumstances allow.

Overall, migrants demonstrate adaptive and strategic mobility, while Maltese rely on habitual convenience but can adjust when needed. These insights highlight opportunities to support sustainable and flexible transport for both groups.

### *3 Sustainable Mobility*

The keyword Sustainable Mobility generated different thematic emphases for migrants and Maltese. Migrants framed sustainability around comparison, sustainable mobility: then and now experiences, and aspirations, whereas Maltese focused on mental discounting, cultural perception, and between optimism and pessimism. These contrasts reveal how migrants view sustainability through change and adaptation, while Maltese approach it through cultural norms and ambivalence toward systemic shortcomings.

For migrants, comparison highlights how migrants perceive Malta as highly car-dominated compared to their home countries or previous residences. Participants from China, Sweden, the UK, and other countries noted wider roads, reliable public transport, and diverse mobility options at home. In contrast, Malta's narrow streets, limited modal diversity, and entrenched car culture created frustration. Even those accustomed to walking, cycling, or public transport felt forced to navigate unsafe roads and assimilate into car reliance.

Sustainable Mobility: Then and Now captures adaptation patterns. Some migrants gradually assimilate to car culture, frustrated by Malta's infrastructure. Others maintain sustainability with adaptation, walking or taking buses and using cars only when necessary. Certain migrants pursue nostalgia or passion-based choices, recreating transport modes like motorcycles despite local challenges. Some migrants adopt new sustainability practices, preferring buses to reduce congestion and environmental impact, viewing cars as burdensome. Despite acknowledging flaws in Malta's bus system, some continue to rely on it due to limited economic means. At the same time, they view future car ownership as a symbol of stability and integration.

Migrants express aspirations for a more efficient and sustainable transport system in Malta. They draw inspiration both from the local context and from experiences abroad. Locally, they value proposed projects such as the metro system and the Malta–Gozo tunnel. These are seen as ways to ease congestion and reduce car dependency. Migrants also believe such projects could free urban space for green areas, playgrounds, and inclusive public spaces. In their view, these changes would enhance overall wellbeing. They also highlight the need for better bus coordination, safer pedestrian routes, and dedicated bus lanes to encourage public transport

use. Building on lessons from the Covid-19 pandemic, some migrants advocate for more flexible remote working policies to cut traffic, while urging the government to discourage further car ownership. At the same time, they look to examples from their home countries or previous residences. They cite Italian and Colombian practices such as car-free days, and calling on Malta to learn from other countries facing similar mobility challenges. These perspectives reflect their vision of a transport system that not only addresses congestion but also fosters sustainability, inclusivity, and healthier urban living.

For Maltese participants, sustainable mobility narratives revolved around an internalised struggle. Mental Discounting reflects awareness of the environmental and financial costs of car use, yet many prioritise short-term convenience. Participants acknowledged the unsustainable nature of daily car reliance but often engaged in habitual behaviours unless motivated by cost savings or structural incentives, such as carpooling. This shows that while awareness exists, it seldom translates into systematic behavioural change.

Cultural Perception highlights the symbolic and emotional attachment to cars. Car ownership is closely linked to social identity, adulthood, and personal independence. Public transport is often stigmatised, particularly among middle-aged working Maltese, who associate it with lower economic status, older people, students, or migrants. Emotional personification of cars reinforces dependence, as participants view cars as companions or extensions of themselves. This cultural embedding of cars creates a strong barrier to sustainable alternatives.

Between Optimism and Pessimism captures a tension in perspectives. Pessimism arises from overcrowding, poor infrastructure, and unreliable public transport. For instance, the feeling of overcrowding reinforces car dependency, as ownership becomes a refuge against unreliable public transport. The perception of Malta as “over flooded with cars” and “80 daily registrations of diesel cars” further highlights the paradox, despite recognising the unsustainability of this trend, participants still see private cars as the only practical option.

In contrast, Optimism emerges through small, tangible steps toward sustainable mobility. Some participants experiment with multimodal travel, carpooling, or reducing car ownership. Investments in electric cars, workplace facilities for cycling, and framing sustainability in terms of personal health and convenience indicate potential pathways for behavioural change.

The analysis of Sustainable Mobility shows clear contrasts between migrants and Maltese participants. Migrants focus on adaptation, learning, and aspirations. They compare Malta with

their home countries, adapt to its car-dominated infrastructure by assimilating, maintaining sustainable habits, or pursuing nostalgic choices, and envision improvements based on local realities and experiences abroad. Maltese participants approach mobility through cultural and emotional lenses. Mental discounting shows awareness of environmental and financial costs, yet convenience and habit dominate. Car ownership is tied to identity, status, and independence, reinforcing reliance on private cars. Perspectives vary between pessimism, driven by overcrowding and poor infrastructure, and optimism, seen in multimodal travel, carpooling, electrification, and workplace incentives. Overall, migrants show flexibility and negotiation, while Maltese behaviour is shaped by deep-rooted norms, emotional attachment, and ambivalence toward systemic shortcomings. This illustrates how experience and culture influence sustainable mobility engagement.

## 5.5 Conclusion

This chapter lays the groundwork for presenting the qualitative data gathered through interviews and activity diaries. It introduces key participants, contextualises their experiences, and outlines the thematic framework used to analyse Mode Choice, Travel Behaviour, and Sustainable Mobility.

For Mode Choice, migrants rely strategically on buses, walking, and occasionally cars. They value affordability, safety, and flexibility. In contrast, Maltese are predominantly car-dependent, prioritising convenience, family needs, and time efficiency.

Regarding Travel Behaviour, migrants balance past experiences, present routines, and future intentions. They show adaptive and multimodal practices. Maltese, on the other hand, follow routine-driven car use but adjust when lifestyle changes or external influences occur.

In terms of Sustainable Mobility, migrants focus on adaptation, learning, and aspirations for more efficient systems. Maltese display cultural attachment to cars, mental discounting, and ambivalence toward public transport improvements.

The qualitative findings presented in this chapter also informed and contextualised the subsequent quantitative phase of the study. The interviews and activity diaries helped identify recurring themes related to commuting behaviour, transport accessibility, residential location, and mobility adaptation, which later informed the interpretation of broader survey patterns.

This integration between qualitative and quantitative phases strengthened the overall mixed-methods design by linking participants' lived experiences with wider behavioural trends.

## **Chapter 6: Quantitative Analysis**

## 6.0 Quantitative Analysis

### 6.1 Introduction

This chapter presents the quantitative analysis of migrant commuters' mobility patterns in Malta, focusing on univariate and bivariate results. The univariate analysis offers a detailed overview of participants' socio-demographic characteristics, living conditions, commuting behaviours, and perceptions of sustainable transport. It provides insights into who the migrant commuters are, where they live, how they travel, and their attitudes toward sustainability in transport.

Following this, the bivariate analysis examines the associations between key variables using Chi-square tests of independence. These tests identify significant relationships between socio-demographic factors, commuting behaviours, influencing factors, and sustainable mobility awareness. The combined univariate and bivariate analyses address the study's research objectives by revealing mode choice and related factors, patterns of transport use, travel behaviour, and levels of awareness and willingness to adopt sustainable mobility among migrant commuters in Malta. This chapter thus forms the empirical foundation for understanding the complex interplay between migrants' characteristics, mobility choices, and sustainability perceptions.

### 6.2 Univariate Analysis

#### 6.2.1 Socio-Demographic Characteristics of Participants

Migrant commuters in Malta are predominantly male (58%), compared to females (42%). The sex composition of the sample is broadly consistent with national statistics, although the sampling frame in this research is migrant commuters rather than the entire migrant population. NSO figures indicate that around 57.7% of the net migration in 2024 were male. This close alignment supports the representativeness of the sample with respect to sex (NSO 2025c).

Figure 6.1 illustrates the distribution of respondents by age group. The largest share belongs to the 25-29 age group (35%), followed closely by the 30-34 group (33%), while the 35-39 and 40-44 groups represent smaller proportions of 15% and 17%, respectively. When compared to national statistics related to 2024, this age structure shows both convergence and divergence with migrants in Malta. According to the NSO, migrants are predominantly concentrated in

younger working-age cohorts, with 22.9% aged 20-29, 34.3% aged 30-39, and 18.3% aged 40-49. The sample used in this study is therefore slightly more skewed toward younger migrants, particularly those in their late twenties. While respondents in their late thirties and early forties are somewhat underrepresented relative to national proportions. Nonetheless, the overall pattern remains consistent with national trends, confirming that the sample reflects the general demographic tendency of Malta's foreign resident population to be concentrated in younger working-age groups (NSO 2025c).

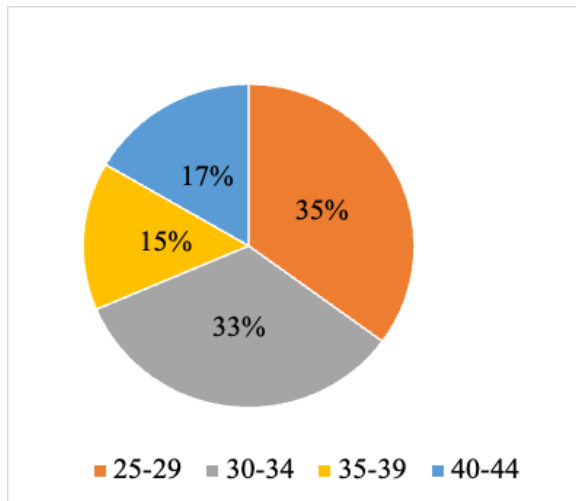


Figure 6.1 Age Distribution among Respondents

Figure 6.2 illustrates the status of migrants, distinguishing between those who are employed and those who combine employment with studies. Ninety four percent of migrant commuters are employed, while the remaining 6% balance both work and study. According to the Central Bank's 2023 data, 86% of all foreigners living in Malta are of working age, confirming that Malta's foreign population is primarily composed of individuals in employment-oriented age brackets. Although the national figure refers to working-age status rather than employment specifically, it nevertheless demonstrates that foreigners in Malta are largely present for work-related reasons. Compared with this national profile, the employment share in the sample (94%) is higher, which is expected given that the study focuses specifically on *migrant commuters*, who naturally represent the most economically active segment of the foreign population (Central Bank of Malta 2025).



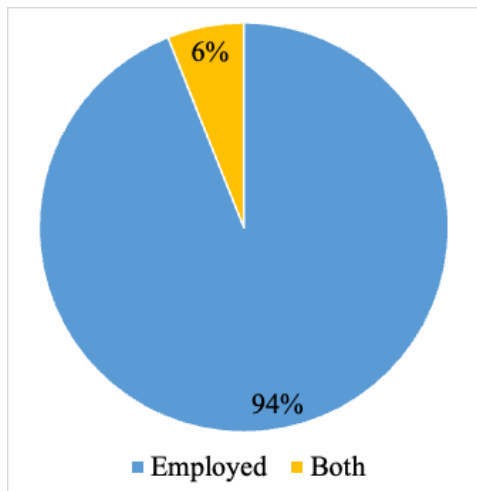


Figure 6.2 Migrants Commuters Status

Figure 6.3 shows that 37% of respondents work as professionals, 34% as service and sales workers, 14% as associate professionals and 8% as managers. This distribution broadly reflects the national pattern reported in the JobsPlus Annual Report 2023, where, as of December 2022, the largest share of migrants were employed in professional, scientific, technical, administrative, and support service activities, followed by wholesale and retail trade, transport and storage, information and communication, and then accommodation and food service activities, with smaller shares in construction and arts, entertainment, and recreation. While the sample groups occupations slightly differently, the dominance of professional and service roles among migrant workers is consistent with national trends, highlighting the key role of migrants in Malta's professional and service-oriented sectors (JobsPlus 2023).

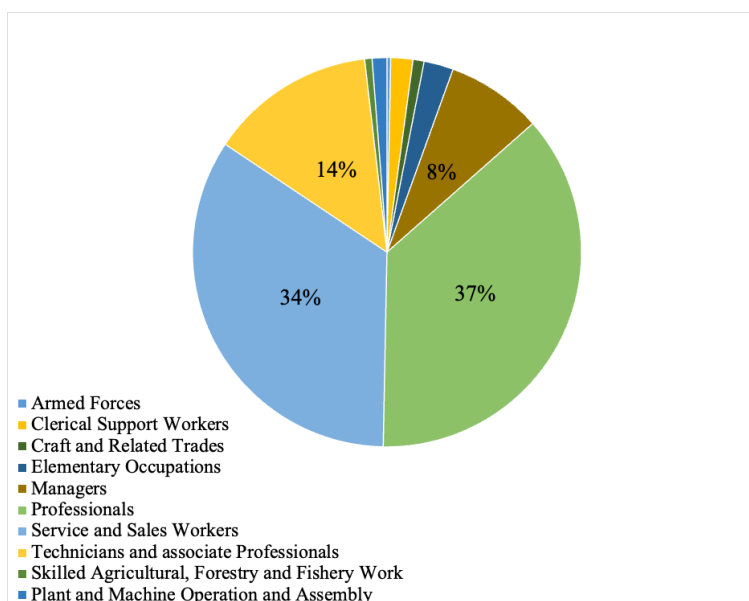


Figure 6.3 Employment Sector of Participants

Figure 6.4 shows that arrivals span from 2006 to 2025, with the majority of participants arriving in Malta between 2023 and 2024. The largest share arrived in 2024 (22%), followed by 2023 (19%), 2022 (14%), and 2025 (8%). The 2025 arrival figures require cautious interpretation, given that the study was conducted in 2025 and the data therefore represent only a partial year. National statistics indicate a substantial 49.4% decline in net migration from 2023 to 2024, dropping from 20,960 to 10,614. As a result, the sample's arrival-year distribution diverges from the national pattern for this period (NSO 2025c).

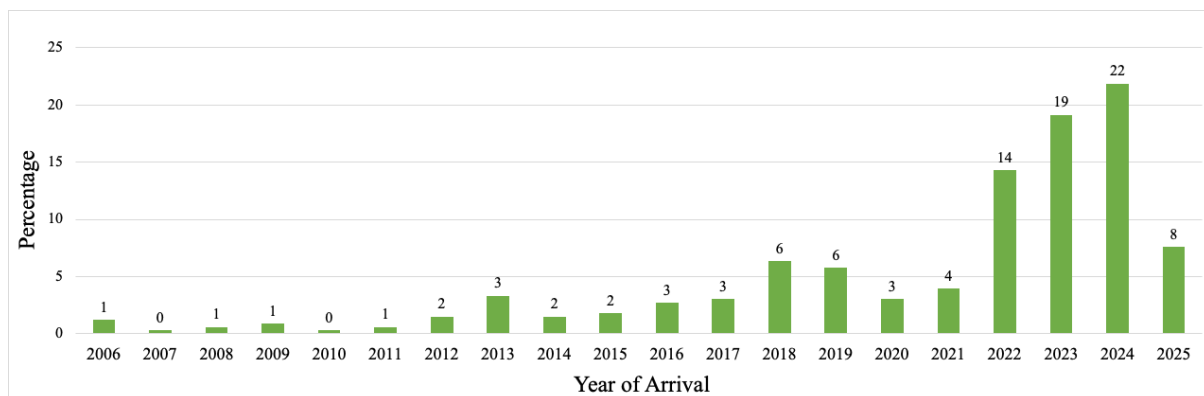


Figure 6.4 Arrival Year of participants in Malta

Figure 6.5 illustrates the regional distribution of migrant respondents' nationalities. The largest share are Europeans (34%), followed by participants from South and Central Asia (25%) and South America (15%). Respondents from Sub-Saharan Africa account for 10%, while those from Southeast Asia and Oceania represent 9%. Migrants from the Middle East and North Africa make up 6%, and only a small minority originate from North America and the Caribbean, Central America, and Mexico.

This distribution aligns closely with national demographic patterns reported in the Census of Population and Housing 2021 (NSO 2023a). According to the NSO, Europeans are by far the largest foreign nationality group residing in Malta, with major communities from Italy, the United Kingdom, Serbia, Bulgaria, and other EU Member States. This mirrors the prominence of Europeans in the sample, confirming that European mobility remains the dominant component of Malta's migrant population. Similarly, South and Central Asian nationalities such as Indians and Nepalese represent one of the fastest-growing groups nationally, consistent with their strong representation (25%) in the sample (NSO 2023a).

Overall, the sample reflects national trends in the sense that Europeans constitute the largest migrant group, followed by South and Central Asians, while other world regions appear in smaller but still comparable proportions to Malta's broader migrant resident population as captured in the national Census 2021.

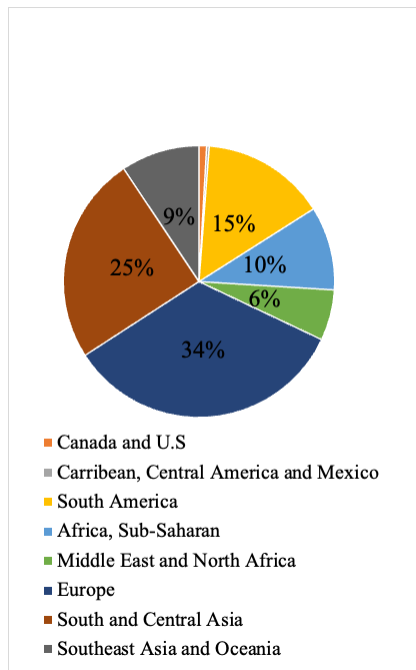


Figure 6.5 Regional Distribution of Migrants' Nationalities

Figure 6.6 shows the regional distribution of migrant commuters' previous countries of residence prior to moving to Malta. The largest shares originate from Europe (37%) and South and Central Asia (18%). The Middle East and North Africa (13%) and South America (also 13%) contribute similar proportions. Respondents from Southeast Asia and Oceania account for 9%, while those from Sub-Saharan Africa represent 7%. Only a small minority previously resided in East Asia, North America and the Caribbean, Central America, or Mexico.

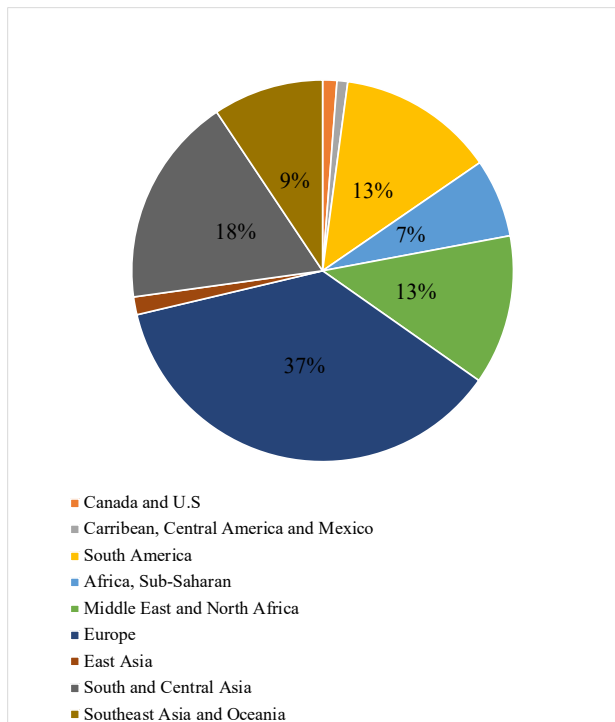


Figure 6.6 Regional Distribution of Migrants' Previous Countries of Residence

### 6.2.2 Living Conditions

Figure 6.7 indicates that the majority of migrants, around 60%, reside in the Northern Harbour region, followed by 15% in the Northern district, 12% in the South Eastern district, and the remainder in the Southern Harbour (9%) and western district (4%). When compared to the regional statistics of the NSO for 2022 (published in 2024), a similar overall pattern emerges, with foreigners nationally also concentrated primarily in the Northern Harbour district, followed by the Northern district. However, national data then show the Southern Harbour district as the third most common area of residence, followed by the South Eastern district, and lastly the Western district. In contrast, the districts in this study were the South Eastern district ahead of the Southern Harbour, reversing the national order. Overall, while both distributions highlight the dominant role of the Northern Harbour and Northern districts, the ranking of the remaining regions differs, indicating slight variations between the sample and national population patterns (NSO 2024c).

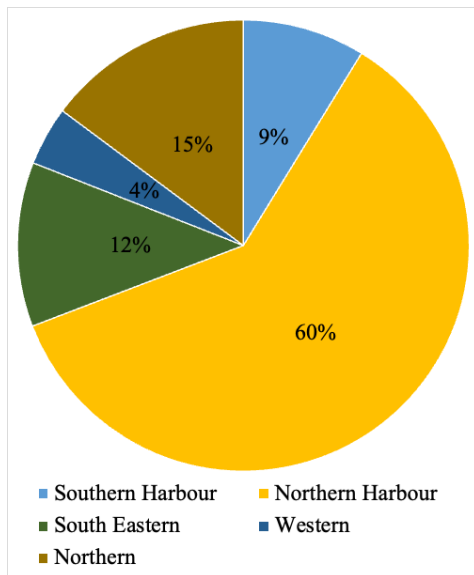


Figure 6.7 Residential District of Participants

Figure 6.8 shows that around 78% of respondents live in a flat with a minority living in Maisonette, terraced house, penthouse and Townhouse respectively 7%, 5%, 5%, 4%. When compared to national data from the Census published in 2023, approximately 83% of migrants live in flats, followed by 12% in maisonette, 4% in terraced houses, and 3% in semi- or fully detached houses. This comparison suggests that the housing pattern of the sampled migrant commuters largely reflects the national distribution, particularly in the predominance of flats, although the sample shows slightly higher proportions in penthouses and townhouses, which may be attributed to sample characteristics or urban residential choices NSO (2023d).

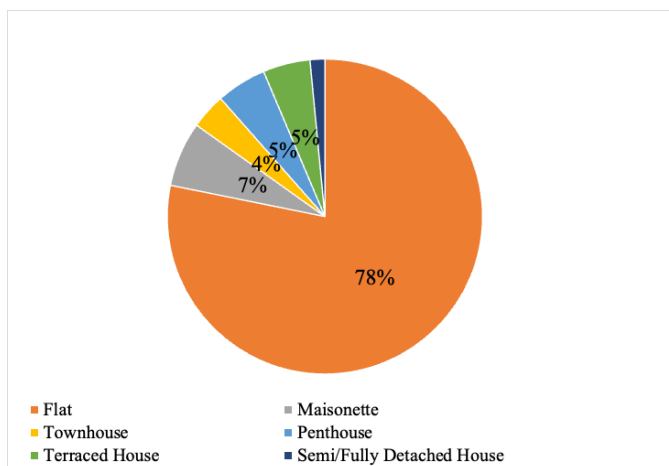


Figure 6.8 Dwelling Type of Participants

Figure 6.9 shows that almost half of the respondents (49%) live with friends or colleagues, 23% with a partner or spouse, 19% with family members, and only 9% live alone. According

to the Housing Authority’s 2024 Annual Report, a significant share of long-term rental units in Malta are shared accommodations, with 3,711 active long-term leases for shared-space contracts in 2024, reflecting the prevalence of communal living arrangements. The report also highlights issues of overcrowding, noting that several shared units house multiple unrelated tenants, which supports the finding in the sample that nearly half of migrants live with friends or colleagues. While the sample provides detailed categories of living arrangements, the Housing Authority data emphasises the density of shared housing, confirming that communal living is a common feature among migrants in Malta (Housing Authority 2024).

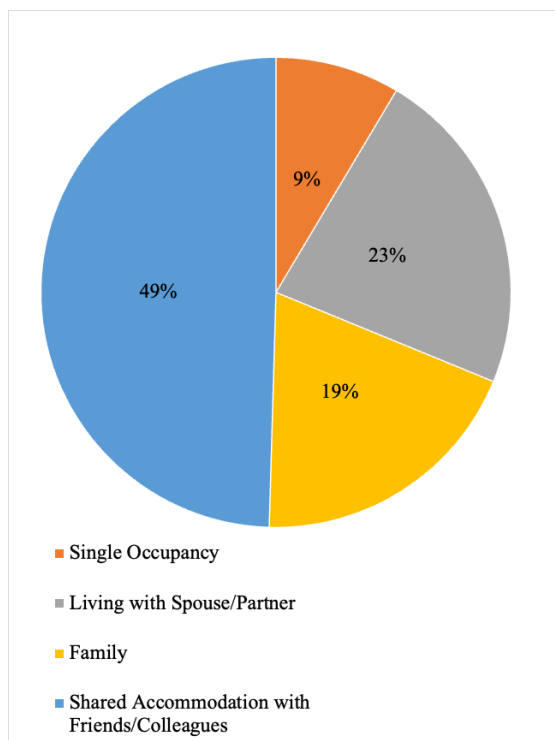


Figure 6.9 Household Composition

### 6.2.3 Commuting Patterns and Transport

Figure 6.10 illustrates that the majority of respondents (58%) work in the Northern Harbour district, followed by 26% in the Southern Harbour and 8% in the Northern district. A smaller proportion are employed in the South Eastern and Western districts (4%).

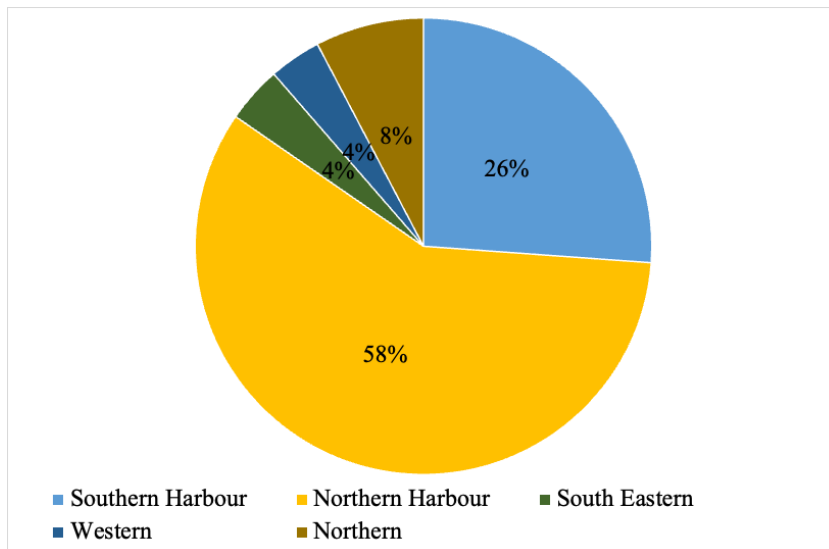


Figure 6.10 Work District of Migrants Commuters

Regarding possession of a driving licence in Malta, 52% of respondents hold a valid licence permitting them to drive in Malta, while 48% do not.

The majority of migrant respondents in Malta (77%) do not own a car, while 23% report owning one. This closely aligns with national statistics, which show that approximately 23.7% of migrants in Malta own a licensed vehicle (all categories, excluding kick scooters) as of the end of 2024 (Email Correspondence with Transport Malta 2025, NSO 2025c).

This comparison demonstrates that the sample is representative of the broader migrant population in terms of vehicle ownership, confirming that the observed patterns in the study reflect national trends.

Figure 6.11 illustrates the primary mode of transport among migrant commuters in Malta. The majority (61%) rely on the bus, followed by 24% who use cars (including private, carpooling, taxi, or electric/hybrid cars). About 8% primarily walk, 5% use motorbikes (including electric or hybrid), and 2% use micro-mobility options such as bicycles or electric scooters.

When compared with national travel behaviour among the general population aged 25 to 44, as reported in the National Household Travel Survey (NHTS 2021), a stark contrast emerges. Nationally, 89% of individuals in this age group use a private vehicle as their main mode of transport, with only the remaining 11% relying on the bus, walking, or other transport modes combined. In contrast, migrants in this study demonstrate a remarkably high dependence on public transport, with 61% using the bus as their primary mode compared to the small minority

represented in national figures. Conversely, car use among migrants (24%) is significantly lower than the national average of 89%, underscoring reduced access to car ownership and a greater reliance on collective transport solutions (NSO 2022b).

The high reliance on buses among migrant participants should also be interpreted within the Maltese policy context, where public buses are free for residents (Government of Malta 2022). This differs from many international case studies where transport cost remains a significant barrier to public transport use (Aberle, Daubitz et al. 2025, Perrotta 2016). The findings therefore suggest that affordability may play an important role in sustaining bus dependency among migrant commuters in Malta.

Walking, motorbike use, and micro-mobility remain relatively marginal in both groups; however, migrants exhibit a slightly higher uptake of motorbikes and micro-mobility than what is typically captured in national statistics. This comparison highlights the distinct mobility patterns of migrants in Malta and points to structural disparities in transport accessibility and reliance.

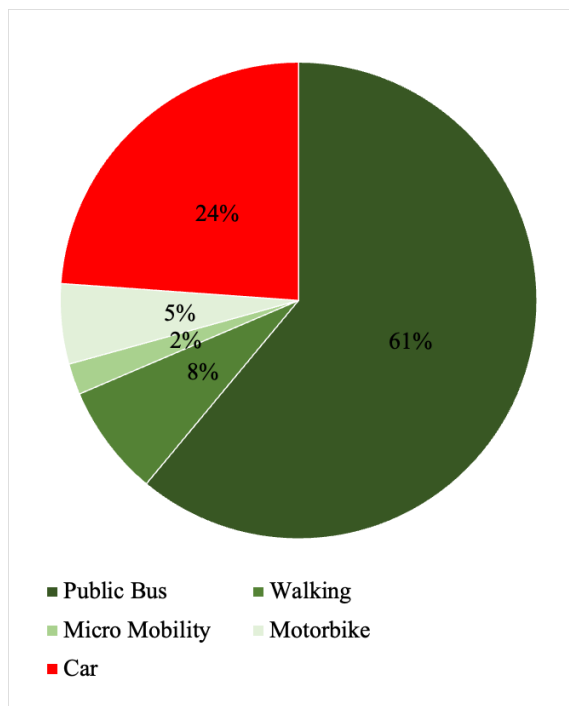


Figure 6.11 Main Mode of Transport of Participants

#### *Transport Mode Usage Frequency*

The frequency of use across different transport modes was measured using a five-point Likert scale (1 = not frequent at all, 5 = very frequent, with 3 representing the midpoint). It is important



to note that the reported frequency of use does not necessarily reflect transport mode choice or personal preference, but rather indicates observed usage patterns among respondents.

To improve clarity and facilitate direct comparison across transport modes, the results are presented in Figure 6.12 using mean frequency scores.

As illustrated in Figure 6.12, walking ( $M \approx 3.8$ ) and bus use ( $M \approx 3.5$ ) are the most frequently used transport modes, both exceeding the midpoint of the scale. Taxi use ( $M \approx 3.0$ ) lies around the midpoint, indicating moderate or occasional usage. Interestingly, the broader taxi market in Malta has grown significantly in recent years. Since a reform in 2019 that lowered barriers to entry, the number of Y-plate taxis has more than doubled between 2020 and 2024. This expansion has made taxi services more accessible and competitively priced, with improved affordability contributing to more frequent use by the general population. Y-plate taxis in Malta refer to licensed private hire vehicles that operate through booking platforms rather than traditional street hailing, forming part of the regulated ride-hailing sector. Cab platforms like Bolt, Uber and eCabs are expected to be barred from accepting cash payments for rides, under new plans to regulate the Y-plate sector (Malta Today 2025b, Times of Malta 2025).

In contrast, private car use ( $M \approx 2.4$ ) and ferry use ( $M \approx 1.9$ ) fall below the midpoint, suggesting relatively low levels of use. The lowest mean values are observed for bicycles, motorbikes, electric scooters, and electric or hybrid transport modes ( $M \approx 1.2\text{--}1.5$ ), indicating minimal usage among respondents. Overall, the results highlight a clear reliance on walking and bus transport, while private, alternative, and electric mobility options remain underutilised.

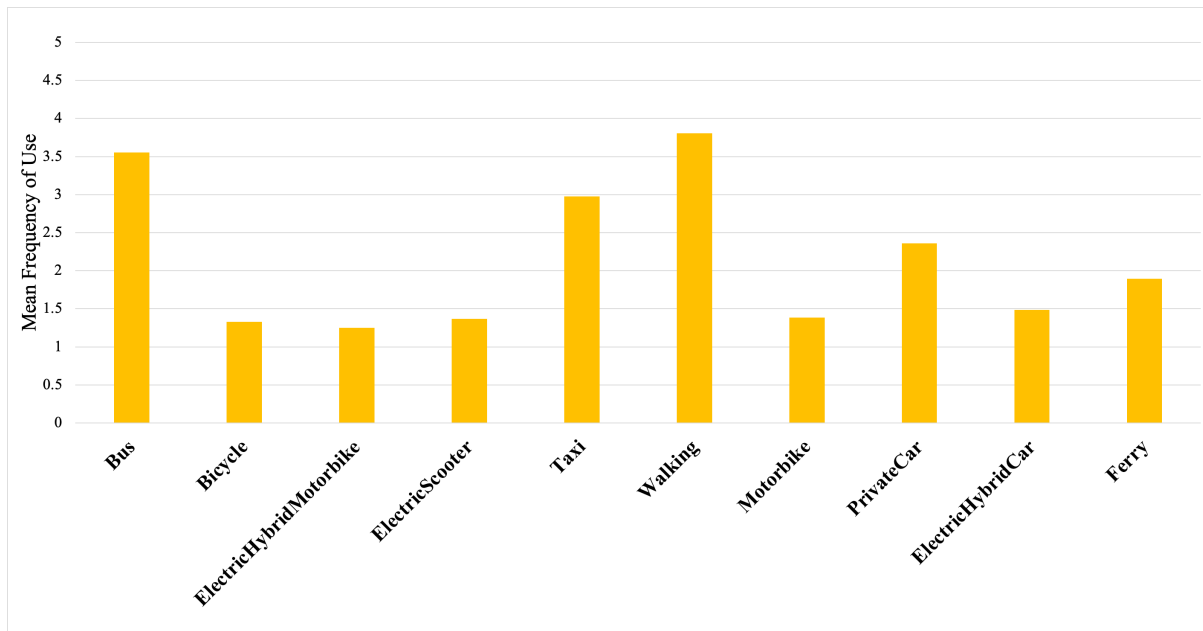


Figure 6.12: Mean Frequency of Transport Mode Use

#### *Perceptions and Attitudes Toward Public Transport: The Bus*

These 2 graphs present participants' perceptions of accessibility and reliability. Figure 6.13 and Figure 6.14 are measured using a 5-point Likert scale where 1 indicates 'not accessible/reliable', 3 corresponds to 'unsure' and 5 indicates 'very accessible/reliable'.

Figure 6.13 illustrates respondents' perceptions of bus accessibility. Overall, perceptions are largely positive: 48% of participants rated accessibility as good to very good (22% rated it 4 and 26% rated it 5). Meanwhile, 27% expressed negative perceptions (11% rated 1 and 16% rated 2), and 24% were unsure (rating 3). These results indicate that a plurality of migrant commuters finds Malta's buses accessible. However, it is important to note that such differences are strongly influenced by place of residence. Migrants living in the Northern Harbour district, where the majority reside and work, experience better bus accessibility compared to other areas of the island, which helps explain the more favourable ratings reported in this study.

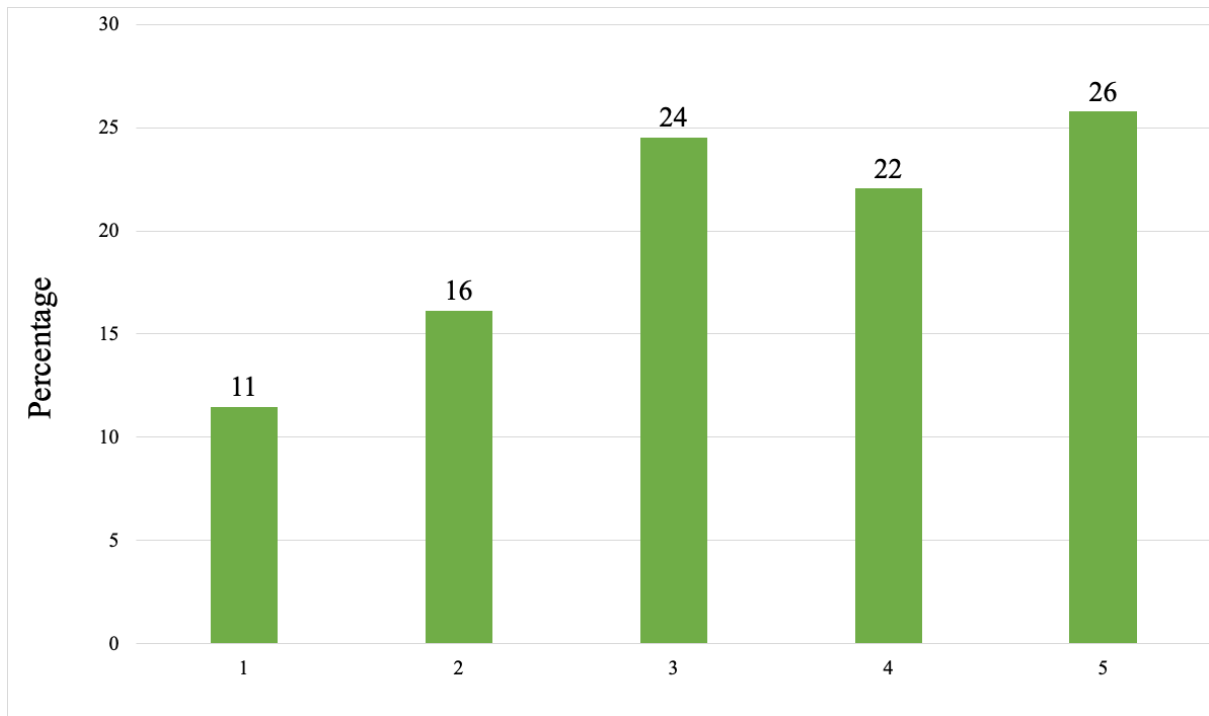


Figure 6.13 Bus Accessibility Perception

Figure 6.14 illustrates respondents' perceptions of bus reliability. Around 34% of participants perceive the bus service as unreliable, while 28% remain unsure. Meanwhile, 38% consider it reliable. Overall, these results indicate that perceptions of bus reliability among migrant commuters in Malta are mixed, though they lean slightly toward viewing the service as reliable.

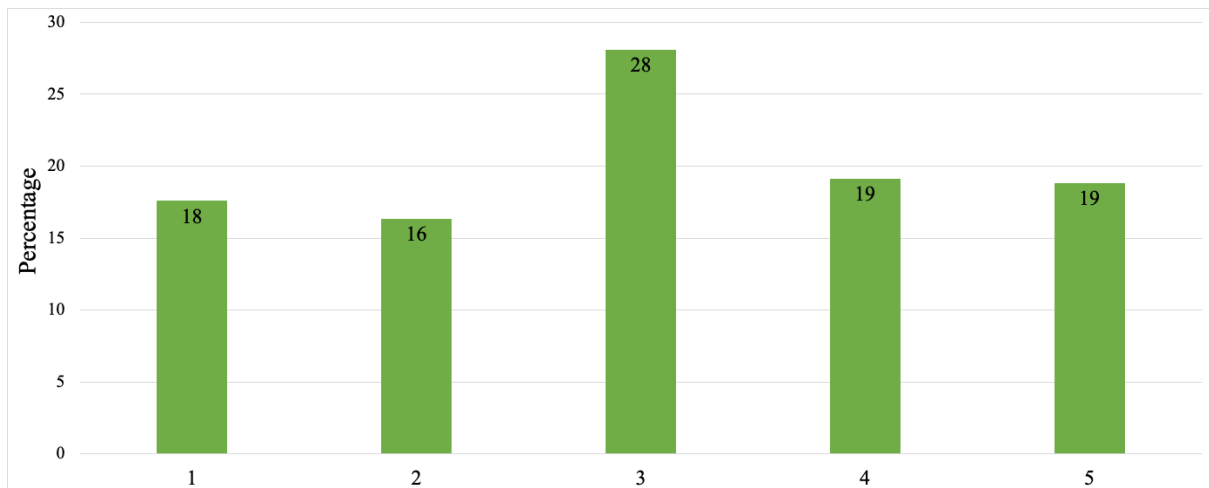


Figure 6.14 Bus Reliability Perception

## Factors Influencing the Choice of Main Travel Mode

Figure 6.15 illustrates the mean scores of key factors influencing the choice of transport mode among migrant commuters in Malta, based on a 5-point Likert scale where 1 indicates ‘not at all impactful’, 3 represents a neutral response, and 5 indicates ‘very impactful’.

The results show that travel time has the highest mean score (approximately 3.9), indicating that it is the most influential factor in shaping transport mode choice. This suggests that respondents generally place strong importance on minimising travel duration when making decisions. Convenience follows closely with a mean of around 3.8, reinforcing its role as a key determinant, as commuters tend to prioritise ease and practicality in their daily travel.

Traffic congestion records a mean score of approximately 3.6, suggesting that it is also considered an important factor, though slightly less influential than travel time and convenience. Cost has a moderate mean value (around 3.4), indicating that while financial considerations do play a role in decision-making, they are not as dominant as time-related or convenience factors.

In contrast, environmental concerns have the lowest mean score (approximately 2.9), placing them slightly below the neutral midpoint. This indicates that, on average, respondents tend to view environmental factors as having a comparatively limited influence on their choice of transport mode.

Overall, the findings highlight a clear pattern in which practical considerations, particularly travel time and convenience are the primary drivers of transport choices, whilst cost and congestion play secondary roles, and environmental concerns appear to have the least impact among the factors considered.

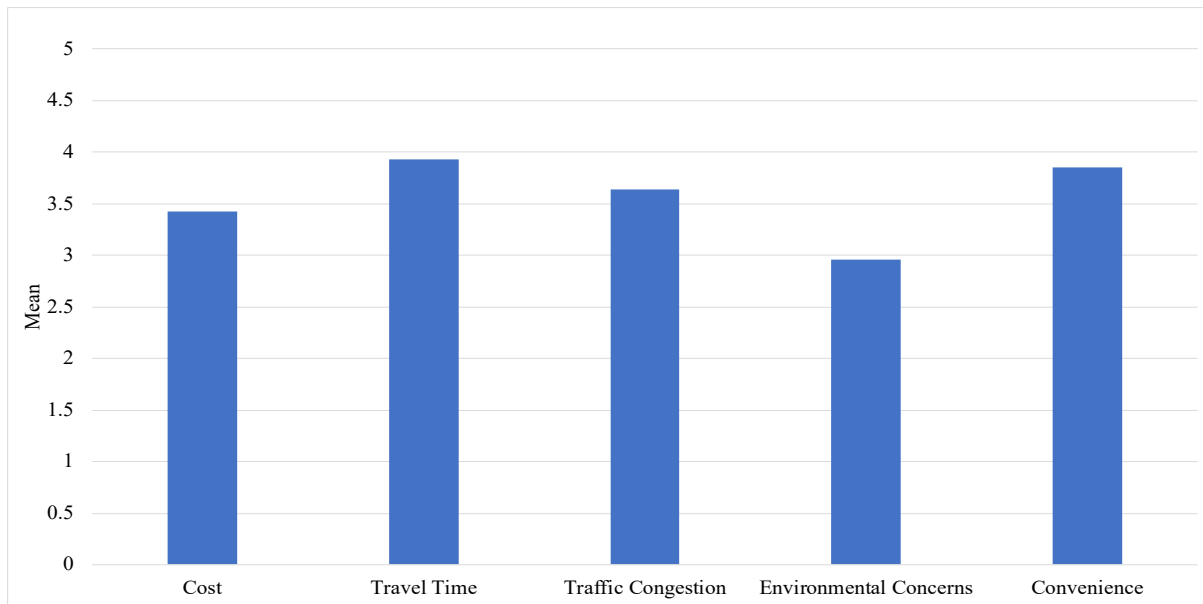


Figure 6.15: Mean Scores of Factors Influencing the Choice of Main Travel Mode

#### 6.2.4 Sustainable Mobility Awareness

All figures (from Figure 6.16 to Figure 6.20) use a 5-point Likert scale to measure participants' responses across different dimensions: importance, satisfaction, perception (positive or negative), and likelihood. A score of 1 indicates 'not at all important/not at all satisfied/very negative/ very unlikely', 3 indicates 'unsure' and 5 indicates 'very important/very satisfied/ very positive/ very likely'. This scale allows consistent comparison of attitudes, experiences, and intentions related to transport choices.

Figure 6.16 illustrates the perceived importance of choosing sustainable transport among migrant commuters in Malta. About 21% rated it as less important (1–2), 32% were unsure (3), and 47% rated it as important (4–5). Overall, these results indicate that while a considerable share of migrants values sustainable transport, opinions are mixed and a substantial portion remains uncertain about its priority.

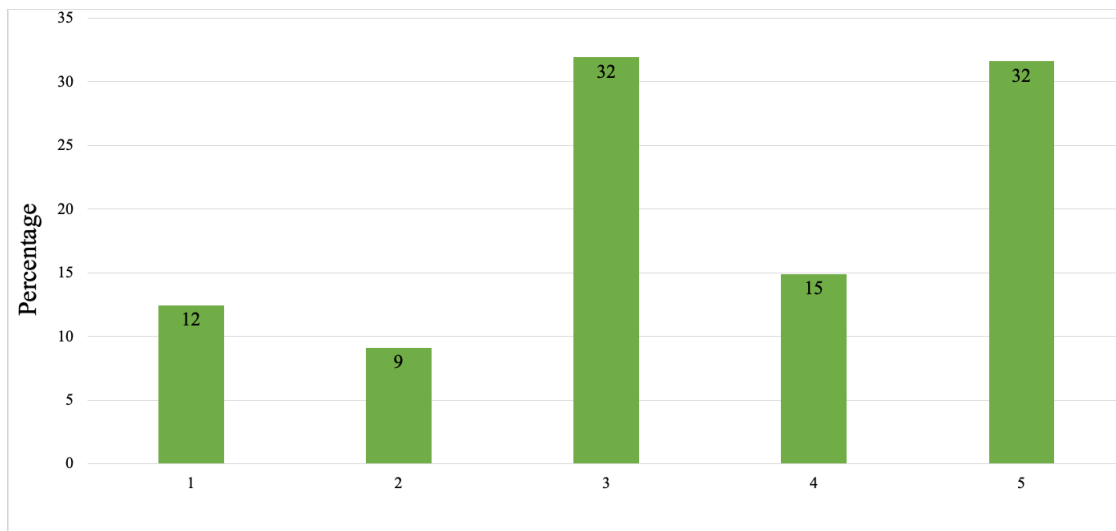


Figure 6.16 Importance of Sustainability in Transport Mode Choice

Figure 6.17 shows migrant commuters' satisfaction with sustainable transport options in Malta. Responses are fairly balanced, with 33% satisfied (15% rated 4, 18% rated 5), 36% neutral, and 31% dissatisfied (18% rated 1, 13% rated 2). Overall, satisfaction slightly outweighs dissatisfaction, indicating that while opinions are mixed, the tendency leans toward a positive perception of available sustainable transport options in Malta.

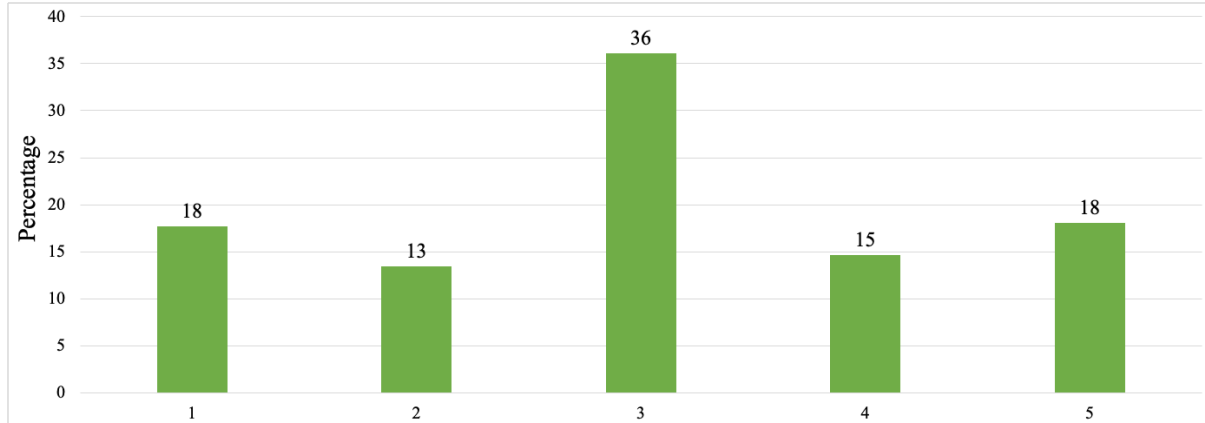


Figure 6.17 Satisfaction with Sustainable Transport Availability in Malta

Figure 6.18 shows migrant commuters' perceptions of how well Malta promotes eco-mobility options. Nearly half of respondents (46%) consider promotion limited (23% rated 1, 23% rated 2), 31% are unsure, and only 23% view it as sufficient (13% rated 4, 10% rated 5). Overall, these results suggest that Malta's efforts to promote eco-mobility are perceived as insufficient, indicating room for improvement.

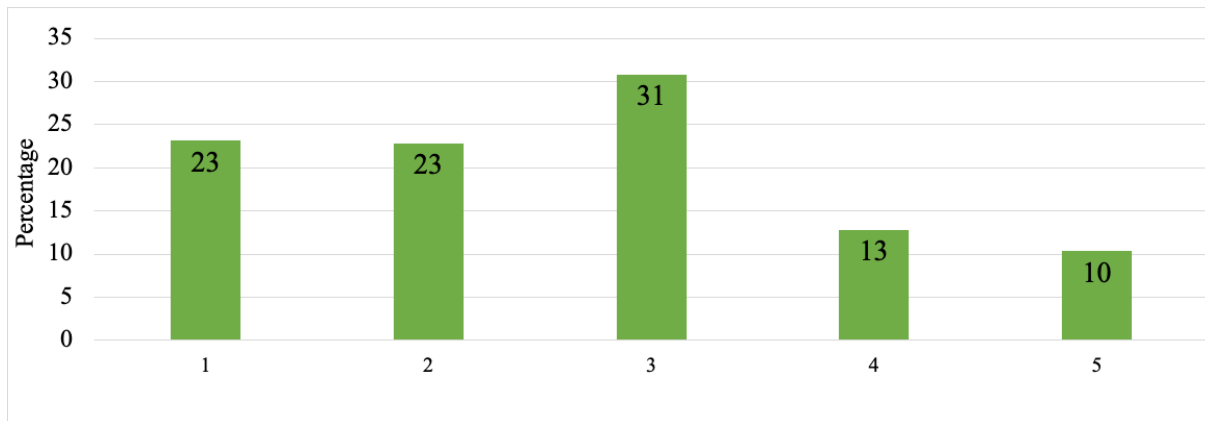


Figure 6.18 Perceptions of How Well Malta Promotes Sustainable Mobility

Figure 6.19 shows migrant commuters' likelihood of shifting to sustainable transport if public transport, mainly buses, is improved. Grouping responses, 64% are likely to shift (22% rated 4, 42% rated 5), 22% are unsure, and 13% are unlikely to shift (8% rated 1, 5% rated 2). Overall, these results suggest that improvements in public transport could strongly encourage a shift toward sustainable mobility. This indicates that, overall, migrant commuters in Malta are willing to adopt more sustainable travel habits if conditions improve, reflecting a positive and adaptable approach to sustainable mobility.

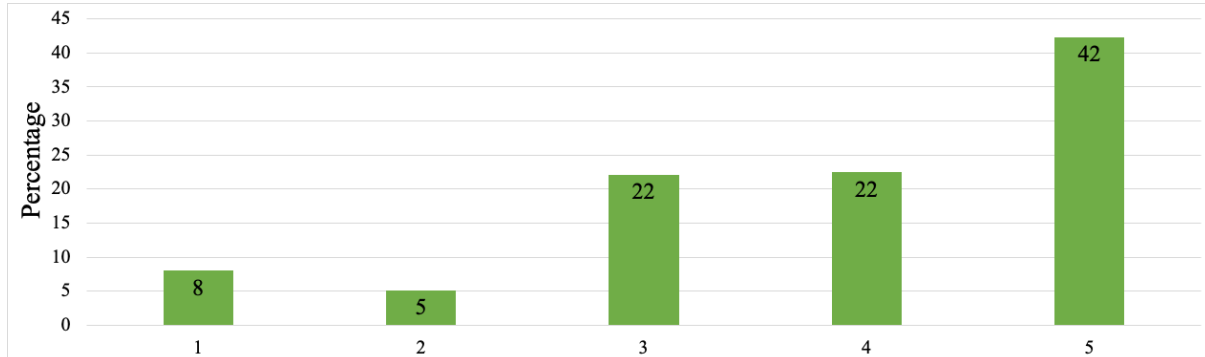


Figure 6.19 Likelihood of Switching to Sustainable Transport with Improvements

Figure 6.20 depicts migrant commuters' future intention to own a car among those who currently do not. Grouped responses indicate 44% are likely to own a car (ratings 4–5), 24% are unsure (rating 3), and 31% are unlikely (ratings 1–2). While car ownership appeals to some, many remain undecided. This uncertainty offers a chance to promote non-car use, while those leaning toward ownership may face the risks and costs of car dependency.

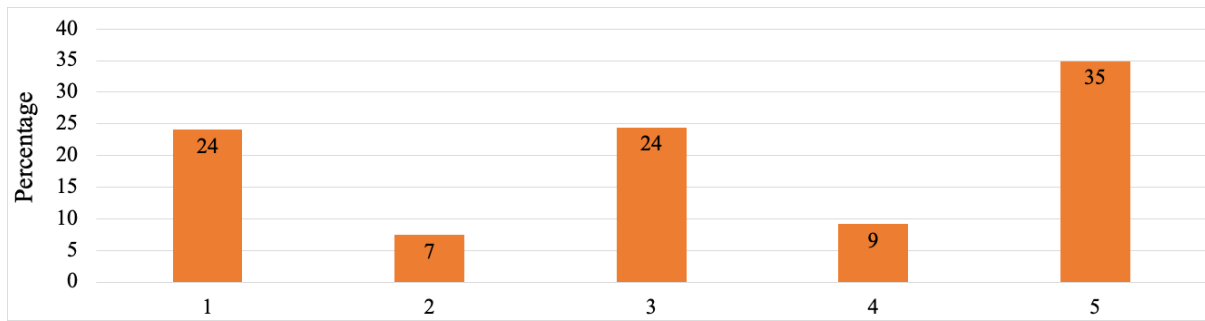


Figure 6.20 Future Intentions to Own a Car Among Non-Car Owners in Malta

### 6.2.5 Univariate Analysis Summary

The univariate analysis provides a detailed overview of the socio-demographic, residential, and mobility characteristics of migrant commuters residing in Malta, offering insights into their living conditions, commuting behaviours, and perceptions of sustainable transport.

The majority of migrant commuters are male (58%) and predominantly young adults aged 25-34 (68% combined), reflecting the mobility of working-age migrants.

Employment is nearly universal, with 94% of respondents employed and 6% combining work with study. Occupations are diverse yet skilled, with 37% professionals, 34% in service and sales, 14% associate professionals, and 8% managers. These percentages align with national trends showing that migrants primarily participate in professional and service-oriented sectors (JobsPlus 2023), though the sample slightly overrepresents professionals relative to the general foreign workforce.

Most participants are recent arrivals, with the largest shares coming between 2023 and 2024, indicating a dynamic inflow of migrants that contrasts with national net migration data showing a decline from 2023 to 2024 (NSO 2025c). Geographically, 34% are European, 25% South and Central Asian, and 15% South American, reflecting the national composition of foreign residents, where Europeans dominate and South and Central Asians form one of the fastest-growing groups (NSO 2023a).

Living conditions show that 60% reside in the Northern Harbour region, close to employment hubs and public transport networks, while 78% live in flats, reflecting Malta's dense urban housing pattern. Shared living is common: 49% live with friends or colleagues, 23% with partners, and 19% with family, aligning with national trends in shared accommodation among migrants (Housing Authority 2024). Migrants residing in Malta largely do not own a car (77%),



with only a small proportion reporting car ownership (23%), which is similar to national data on licensed vehicle ownership among migrants (Email Correspondence with Transport Malta 2025, NSO 2025c).

Commuting patterns highlight migrants' reliance on public transport. Only 24% use cars as their primary mode, while 61% rely on the bus, 8% walk, 5% use motorbikes, and 2% use micro-mobility. In contrast, national travel behaviour for residents aged 25-44 shows 89% rely on private vehicles, with bus, walking, and other modes forming just 11% (NHTS 2021).

### *Transport Mode Frequency*

The results reveal clear patterns in migrant commuters' everyday mobility in Malta. Walking ( $M \approx 3.8$ ) and bus transport ( $M \approx 3.5$ ) recorded the highest mean scores, indicating a strong reliance on active mobility and public transport. Taxi use ( $M \approx 3.0$ ) reflected moderate usage, suggesting its role as a supplementary travel option, potentially linked to increased accessibility and affordability following Malta's 2019 market reform (Malta Today 2025b). In contrast, private car use ( $M \approx 2.4$ ) and ferry transport ( $M \approx 1.9$ ) registered lower mean scores. Bicycles, motorbikes, electric scooters, and electric or hybrid modes ( $M \approx 1.2-1.5$ ) recorded the lowest usage levels. Overall, the findings suggest that migrant commuters in Malta primarily depend on walking and buses, while private, alternative, and low-emission mobility options remain comparatively underutilised.

### *Perceptions of Bus Accessibility and Reliability*

Perceptions of Malta's bus system show more positive sentiment toward accessibility than reliability. Nearly half of respondents (48%) rated bus accessibility as good to very good, while only 27% viewed it negatively. This positive evaluation is influenced by place of residence; migrants living in the Northern Harbour area, where services are most frequent, report better accessibility. In contrast, perceptions of reliability are more mixed. While 38% view the bus as reliable, 34% consider it unreliable and 28% are unsure. Overall, migrant commuters tend to find buses accessible but remain divided regarding their consistency and punctuality.

### *Factors Influencing Mode Choice*

Among migrant commuters residing in Malta, travel time ( $M \approx 3.9$ ) emerged as the most influential factor in the choice of main travel mode, followed closely by convenience ( $M \approx 3.8$ ), highlighting the importance of efficiency and practicality in everyday mobility decisions.

Traffic congestion ( $M \approx 3.6$ ) and cost ( $M \approx 3.4$ ) also recorded moderate to high mean scores, indicating a secondary but relevant influence on transport choices. In contrast, environmental concerns ( $M \approx 2.9$ ) registered the lowest mean score, suggesting a comparatively limited role in shaping mode selection. Overall, the findings indicate that migrant commuters in Malta prioritise practical and time-related considerations over environmental factors when choosing how to travel.

### *Sustainable Mobility Awareness and Intentions*

Attitudes toward sustainable mobility are generally moderate but show signs of potential growth. While almost half (47%) consider choosing sustainable transport important, a substantial proportion remains unsure. Satisfaction with existing sustainable mobility options is balanced but leans slightly positive, suggesting moderate approval of current offerings. Perceptions regarding Malta's promotion of eco-mobility are more critical, with 46% viewing efforts as insufficient and only 23% perceiving them as adequate.

Importantly, willingness to shift to sustainable transport is high: 64% of respondents report that they would switch to sustainable modes, primarily buses if public transport improved. This indicates strong potential for behavioural change given targeted policy improvements. Regarding future car ownership, 44% of current non-car owners express interest in owning a car, while 24% remain undecided. This large undecided segment represents both an opportunity for policymakers to encourage sustainable choices and a risk of increasing car dependency if alternatives remain weak.

In summary, migrant commuters in Malta primarily rely on buses and walking, perceive access to buses positively but reliability with caution, and base their transport decisions mainly on convenience, travel time, and cost. While environmental concerns and sustainable mobility hold moderate importance, their influence remains secondary to practical constraints. Nevertheless, the strong willingness to shift to sustainable modes if supported by improved public transport reveals significant potential for advancing sustainable mobility among this population.

### 6.3 Bivariate Analysis

Bivariate analysis was selected because it allows the researcher to examine the relationship between two variables and identify possible associations between socio-demographic characteristics and travel behaviour, making it suitable for understanding the travel behaviour of migrant commuters residing in Malta towards sustainable transport.

The bivariate analysis examined the relationships between migrants' socio-demographic characteristics, transport behaviours, and sustainability awareness variables through Chi-Square tests of association. All reported results indicated statistically significant associations ( $p < .05$ ), demonstrating that the variables tested are not independent of one another. It is important to note that additional variables were initially explored during the analysis. However, those that did not yield statistically significant results were excluded and are therefore not presented in this dissertation. This ensures that the findings reported focus solely on meaningful and analytically relevant relationships.

The results are presented in a structured format in which each graph is used to visually illustrate the findings. The corresponding Chi-Square statistical analysis is reported in the main text of this chapter, displaying the Chi-Square value ( $\chi^2$ ), the degrees of freedom (df), and the exact p-value, as follows:  $\chi^2(df) = \text{value}$ ,  $p = \text{value}$ .

Appendix 6.1 presents cross-tabulation tables that provide more detailed numerical support for the results discussed in the main body of the dissertation. While the findings are illustrated through percentage-based bar charts in the main text, Appendix 6.1 supports these visuals by reporting frequency counts and percentages.

#### *Migrants' Background Characteristics and Transport Behaviour*

Several associations were identified between migrants' background variables and their transport behaviours. Nationality region was significantly associated with main mode of transport ( $\chi^2(28) = 89.900$ ,  $<0.001$ ), car ownership ( $\chi^2(7) = 41.879$ ,  $<0.001$ ), and car ownership intention ( $\chi^2(28) = 66.309$ ,  $<0.001$ ). This indicates that transport mode, current car ownership, and future ownership intentions differ across nationality regions.

Figure 6.21 indicates clear differences in current transport choices across respondents' regions of nationality. Bus use is dominant among respondents from the Caribbean, Central America and Mexico, Africa Sub-Saharan, South and Central Asia, Southeast Asia and South America,

where between 75% and 100% rely on public buses. In contrast, respondents from Canada and the U.S., the Middle East and North Africa and Europe show higher reliance on cars (100%, 50% and 38% respectively). Walking is more common among Europeans (14%) than in other groups, while South Americans display a more mixed pattern, combining bus use with notable shares of walking and car travel. Motorbike use appears mainly among respondents from South and Central Asia (12%) and MENA (10%). Overall, transport patterns vary significantly by region of origin, with some groups depending more on public transport and others showing stronger preferences for private modes.

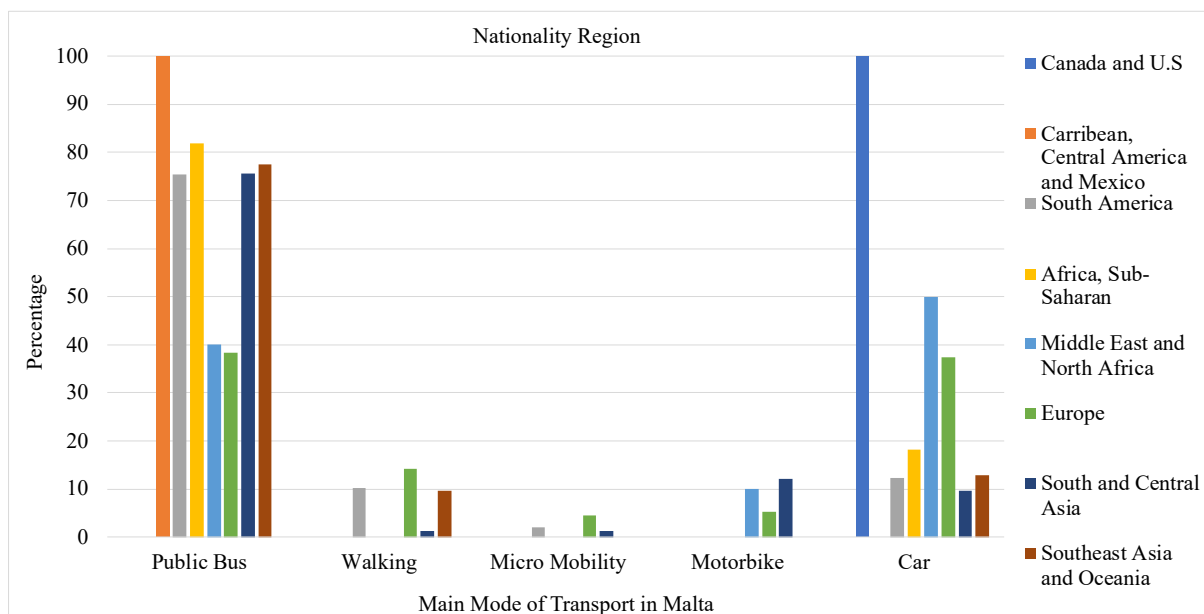


Figure 6.21 Main Mode of Transport in Malta by Nationality Region

Figure 6.22 reveals marked differences in car ownership in Malta across nationality regions. Migrants from the Caribbean, Central America and Mexico (100%), South America (96%), South and Central Asia (88%), Southeast Asia and Oceania (90%), and Sub-Saharan Africa (73%) predominantly do not own a car, highlighting a strong reliance on alternative modes of transport. In contrast, respondents from Canada and the U.S. (67%), Europe (37%), and the Middle East and North Africa (50%) show higher levels of car ownership. These patterns emphasise that migrants from most non-Western regions largely depend on public or shared transport, while ownership is more common among North American, European, and MENA nationals.

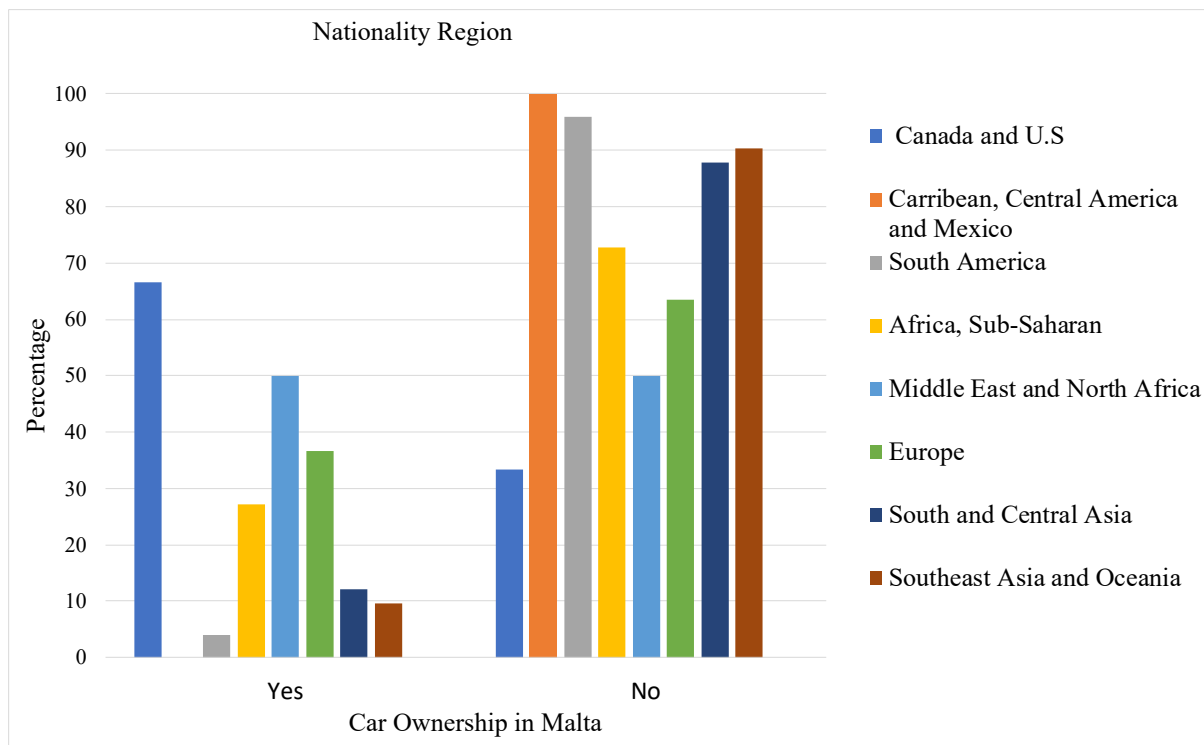


Figure 6.22 Car Ownership in Malta by Nationality Region

Figure 6.23 presents migrants' nationality regions and their intentions regarding car ownership in Malta. Migrants' car ownership intentions on a 5-point Likert scale grouped as ("Never", "No") = not willing, and ("Yes", "Definitely Yes") = willing. Among Canada and U.S. migrants, half (50%) are willing to own a car, while the other half are not willing. Migrants from the Caribbean, Central America, and Mexico currently do not own cars, yet 100% express willingness to own one. South Americans show mixed intentions, with 22% not willing, 33% unsure, and 23% willing. For Sub-Saharan Africans, a clear majority (69%) are willing to own a car. Middle East and North Africa migrants are 50% willing. Among Europeans, 48% are not willing. South and Central Asians display strong willingness with 61% willing to own a car. Finally, Southeast Asia and Oceania migrants show 39% not willing, 29% unsure, and 32% willing. Overall, while non-car owners rely heavily on shared transport, several regions, particularly Caribbean, Central America, and Mexico, South and Central Asia, and Sub-Saharan Africa, indicate a significant potential shift toward private car ownership.

Overall, most migrants from the Caribbean, Central America and Mexico, South and Central Asia, and Sub-Saharan Africa are willing to own a car, while Europeans and some from Southeast Asia and Oceania are generally not willing. Non-car owners currently rely on shared transport, but willingness in certain regions indicates a potential shift toward private car use.

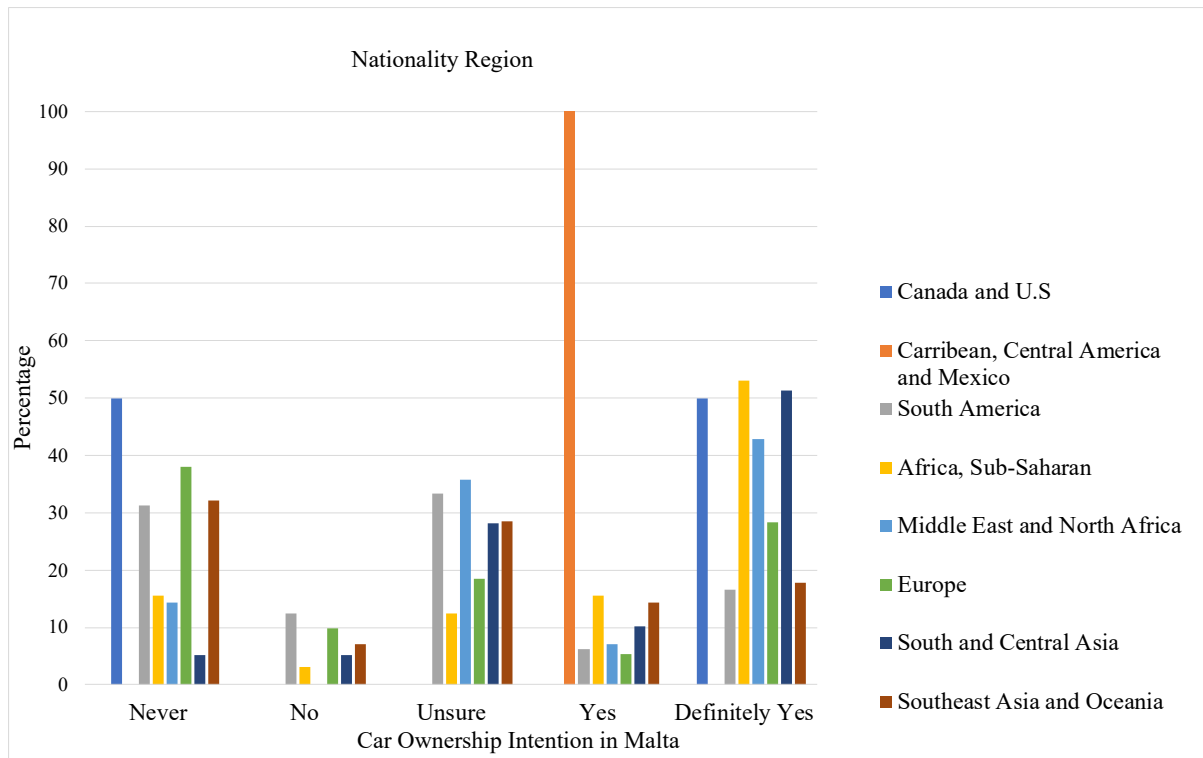


Figure 6.23 Car Ownership Intention in Malta by Nationality Region

Age was also significantly associated with the main mode of transport ( $\chi^2(12)=28.278, < .005$ ), indicating variation in preferred commuting modes among different age groups. Figure 6.24 shows that public buses are the primary mode of transport for migrants aged 25-29 (71%), 30-34 (61%), and 40-44 (60%). In contrast, car use is most common among those aged 35-39 (35%). Walking, motorbikes, and micro-mobility remain secondary options across all age groups.

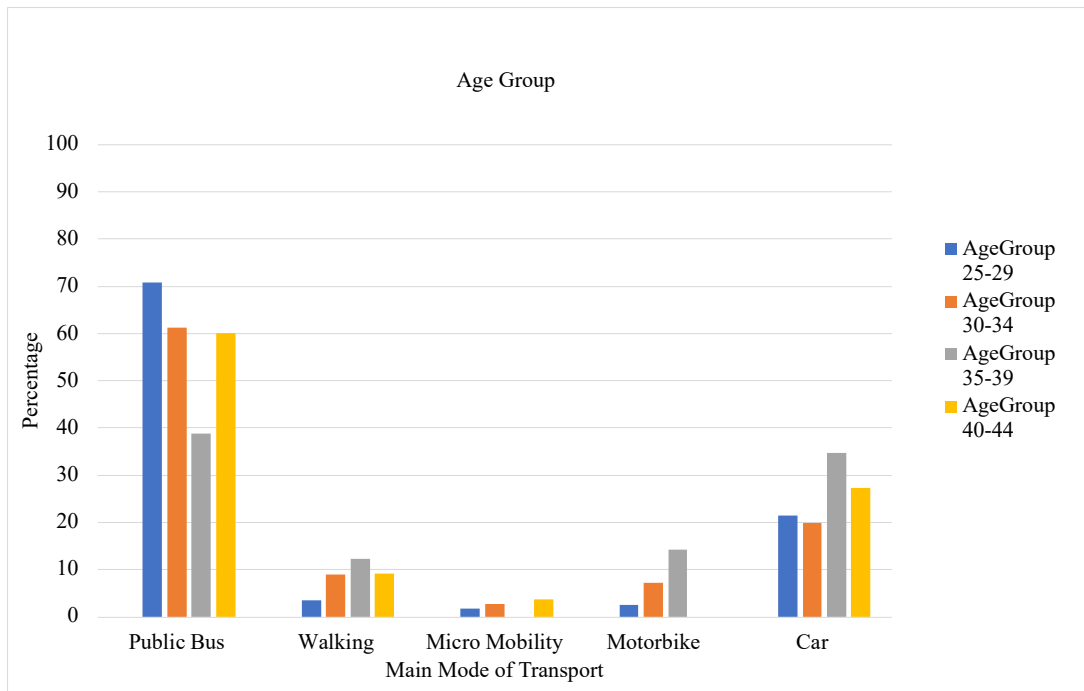


Figure 6.24 Main Mode of Transport by Age Group

Pre-Malta regions of residence showed significant associations with both main mode of transport ( $\chi^2(32) = 62.784, <0.001$ ) and car ownership ( $\chi^2(8) = 30.427, < 0.001$ ). This means that migrants' previous place of residence influences their transport choices and ownership status after migration to Malta.

Figure 6.25 shows that migrants who heavily rely on public buses in Malta mostly come from South and Central Asia (80%), South America (73%), Sub-Saharan Africa (73%), the Middle East and North Africa (71%), and Southeast Asia and Oceania (71%). In contrast, car-heavy users in Malta are primarily from Canada and the U.S. (50%), Europe (36%), Sub-Saharan Africa (27%), and Southeast Asia and Oceania (26%).

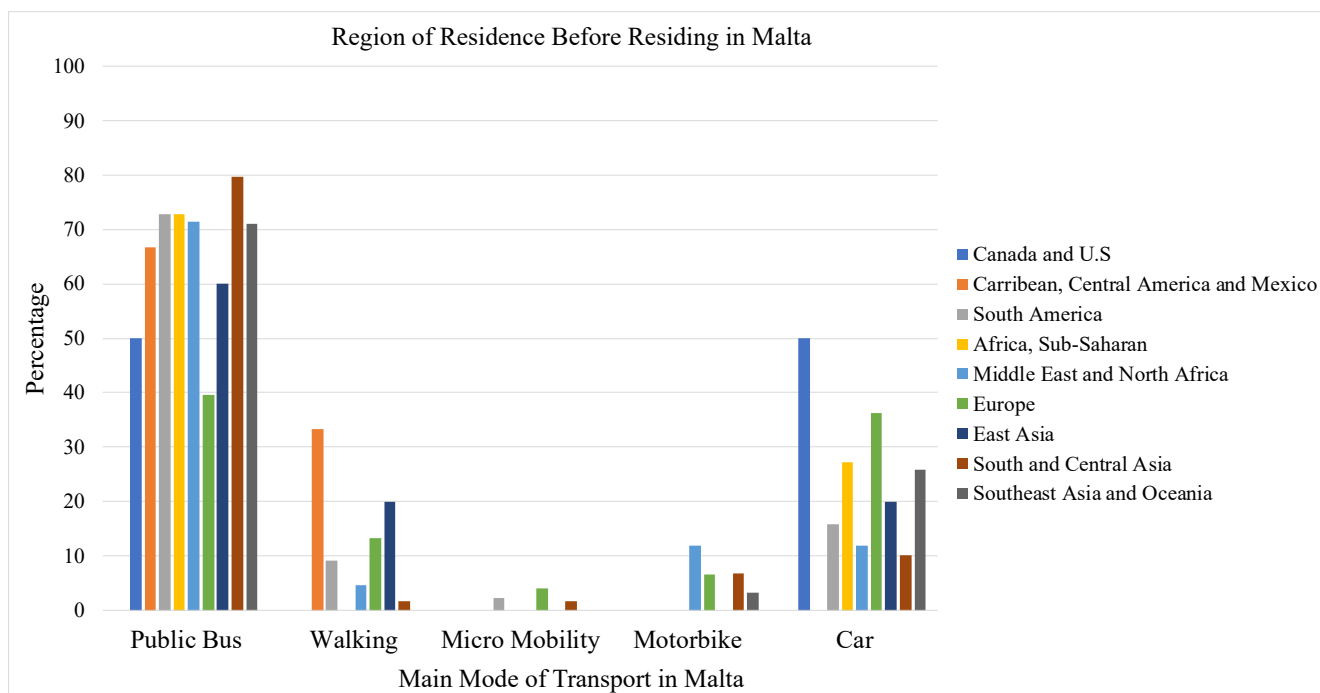


Figure 6.25 Main Mode of transport in Malta by Region of Residence Before Residing in Malta

The Figure 6.26 presents the relationship between migrants' previous region of residence before moving to Malta and their current car ownership in Malta. The results indicate that migrants from Canada and the U.S. are more likely to own a car, whereas those from the Caribbean, South America, Middle East and North Africa, South and Central Asia, Southeast Asia and Oceania, and East Asia predominantly do not own a car. Sub-Saharan Africans and Europeans show a more balanced pattern, with notable shares owning and not owning cars. Overall, the findings highlight that car ownership among migrants is strongly influenced by their region of origin, suggesting cultural and structural factors from previous residence play a role in their mobility choices.

The bar charts in Figures 6.22 and 6.26 highlight distinct patterns in migrants' car ownership in Malta. Figure 6.22 shows that migrants from the Caribbean, Central America and Mexico (100%), South America (96%), South and Central Asia (88%), Southeast Asia and Oceania (90%), and Sub-Saharan Africa (73%) predominantly do not own a car, whereas ownership is more common among Canada and the U.S. (67%), Europe (37%), and the Middle East and North Africa (50%). Figure 6.26, which considers migrants' region of residence before moving to Malta, provides additional nuance: low ownership persists among most non-Western regions, while even migrants who resided before in Canada and the U.S. show only 25% car ownership in Malta, reflecting how prior mobility patterns and adaptation to Malta's transport



environment influence current ownership. While nationality provides a general context, the region where migrants lived before moving to Malta better reflects their actual car ownership. Overall, the transport culture of the host country exerts a powerful influence on car ownership, interacting with the mobility habits shaped by migrants' previous environment of residence.

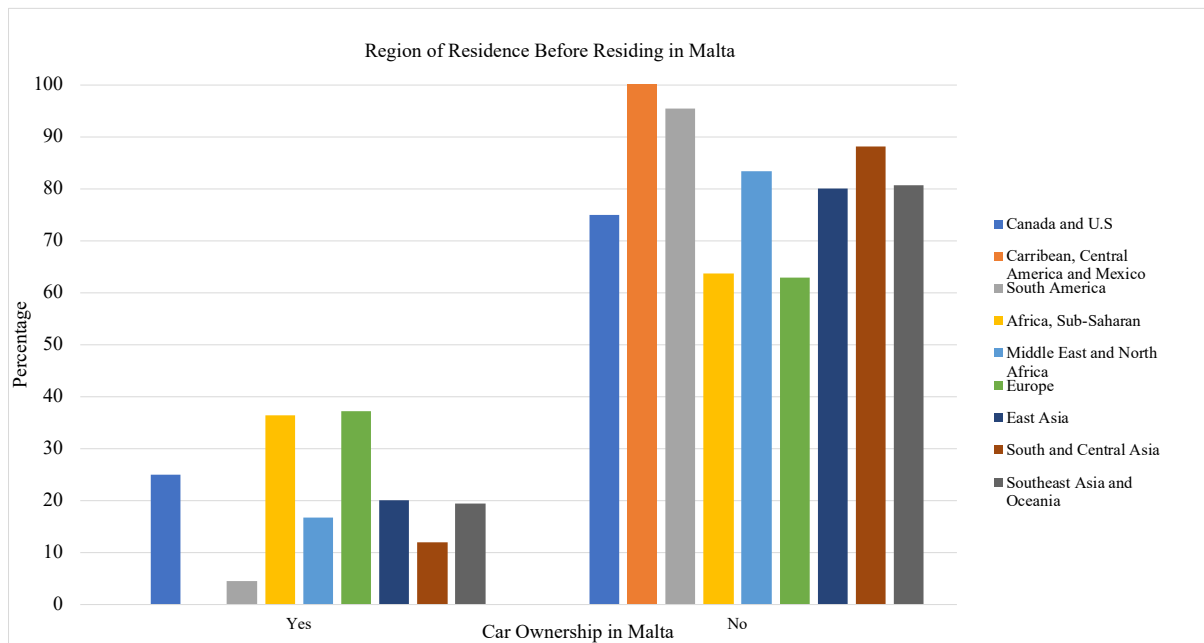


Figure 6.26 Car Ownership in Malta by Region of Residence Before Residing in Malta

#### *Nationality Region by Year of Arrival in Malta*

To provide contextual insight into the composition of arrival cohorts, Figure 6.27 presents migrants' year of arrival in Malta by nationality region, highlighting differences between longer-established and more recent migrant groups within the sample.

Figure 6.27 shows that arrivals increased notably between 2022 and 2025, reflecting continued migrant inflows in recent years. The highest proportion is observed among respondents from South and Central Asia, peaking at approximately 10% in 2025 and around 5% in 2024, suggesting that this group represents one of the most recent migrant cohorts.

European respondents display a broader spread across arrival years, with proportions generally ranging between 1% and 4%, indicating a longer-established and more continuous presence in Malta. Respondents from Sub-Saharan Africa, South America, and Southeast Asia and Oceania are also more represented in recent years, particularly between 2022 and 2025, with values mostly ranging from 1% to 5%.

Overall, the findings highlight the coexistence of long-established and newer migrant groups, reflecting the increasing diversity of Malta's migrant population.

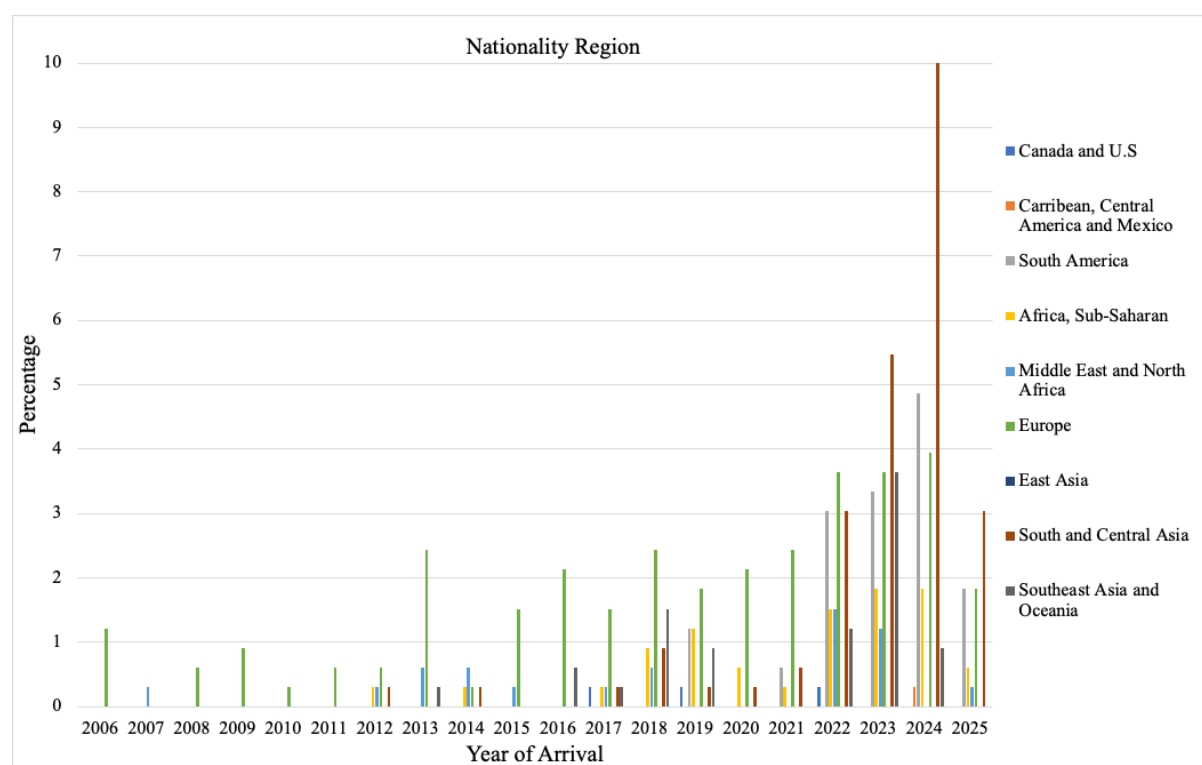


Figure 6.27: Year of Arrival in Malta by Nationality Region

Arrival year in Malta was another variable found to be significantly related to transport behaviour. The Chi-Square results for arrival year with main mode of transport ( $\chi^2(76) = 168.467, <0.001$ ) and with car ownership ( $\chi^2(19) = 110.497, <0.001$ ) both indicate differences in transport preferences and ownership across different arrival cohorts.

Figure 6.28 shows migrants' main mode of transport in Malta by arrival year, revealing distinct patterns. Recent arrivals, particularly those from 2023, 2024, and 2025, rely heavily on public buses, with usage rates of 76%, 86%, and 80% respectively, reflecting initial adaptation to the local transport system. In contrast, earlier arrivals, such as those from 2006, 2009, 2010, 2013, and 2015, show a strong preference for private cars, with proportions ranging from 64% to 100%, suggesting greater assimilation into Malta's car-dependent mobility culture over time. Walking, micro-mobility, and motorbike use remain marginal across most cohorts, with only slight increases for walking among arrivals in 2013 and 2016. Overall, these trends indicate that newer migrant cohorts are more dependent on public transport, while earlier arrivals exhibit patterns consistent with longer-term assimilation into private car use.

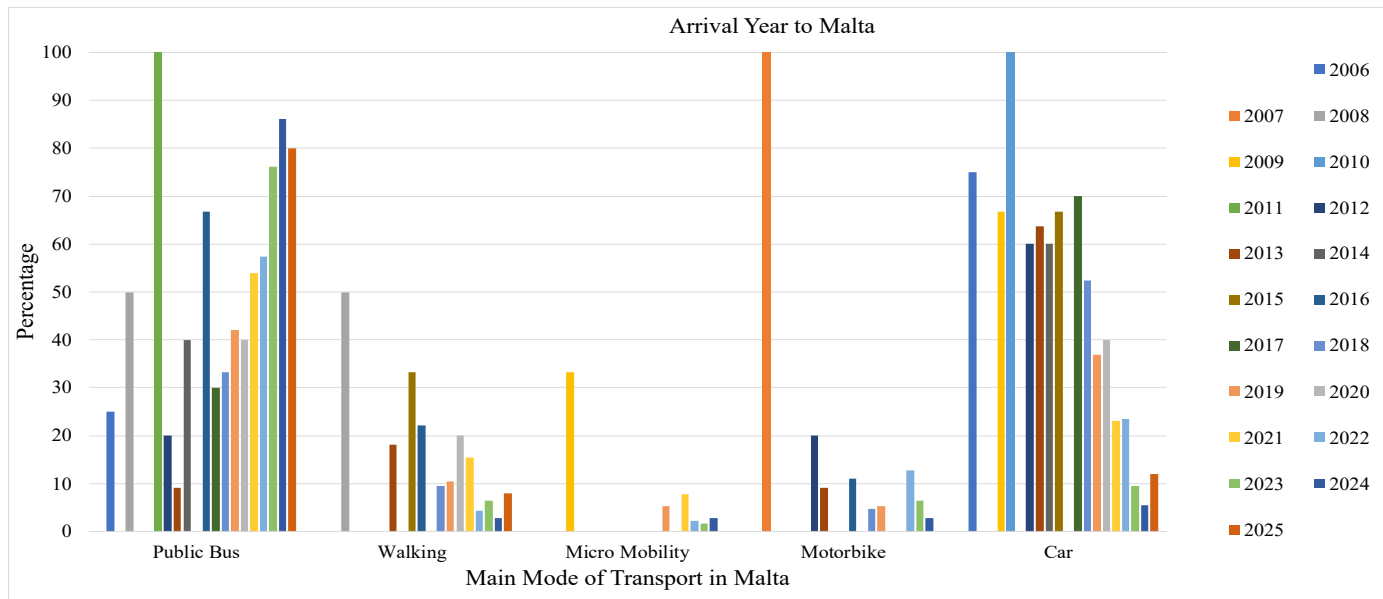


Figure 6.28 Main Mode of Transport in Malta by Arrival Year to Malta

Figure 6.29 shows car ownership in Malta among migrants by arrival year in Malta. It highlights a clear temporal trend. Early arrivals, particularly those from 2006 to 2010, overwhelmingly own cars, indicating a strong assimilation into Malta's car-dependent lifestyle. In contrast, more recent arrivals from 2016 onward largely do not own cars, with ownership as low as 4% for 2024 arrivals. Thus, reflecting reliance on shared or public transport. This pattern mirrors the previous table's findings on main transport mode and suggests that car ownership increases over time as migrants settle and assimilate into local mobility practices.

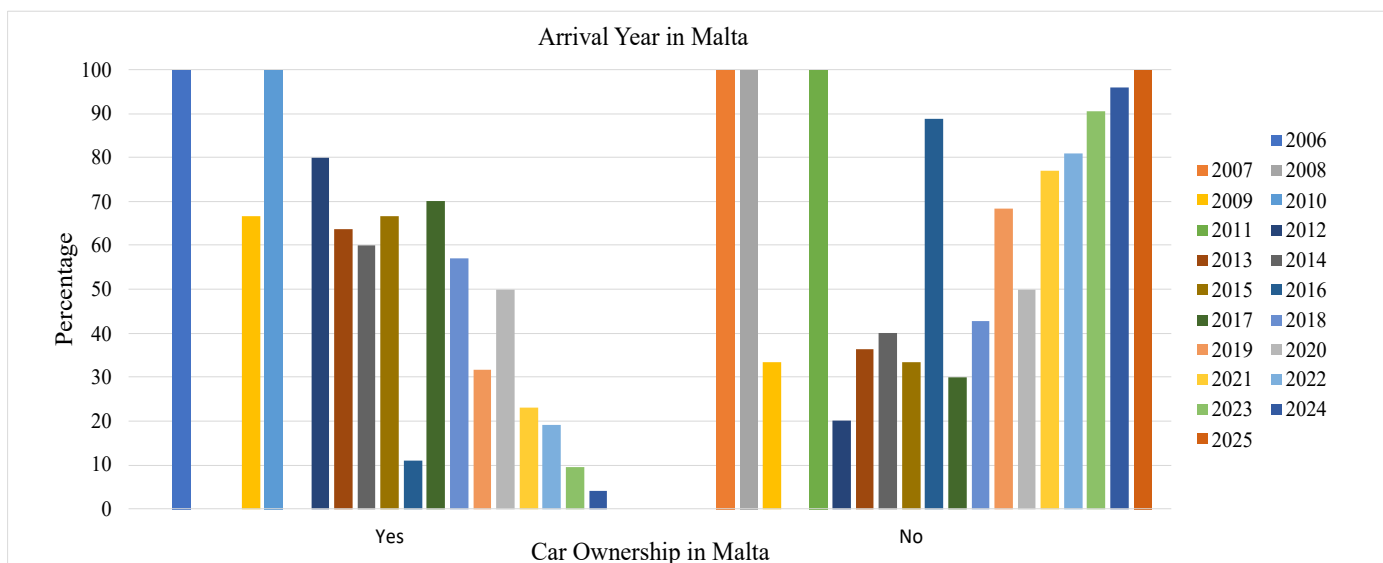


Figure 6.29 Car Ownership in Malta by Arrival Year in Malta

### *Main Mode of Transport and Influencing Factors*

Three significant associations were found between the main mode of transport and influencing factors. The association between main mode and cost was significant ( $\chi^2(16) = 49.093, <0.001$ ), showing that cost perception differs according to transport mode. Main mode was also significantly associated with perceived convenience ( $\chi^2(16) = 40.488, <0.001$ ), and with perceived traffic congestion ( $\chi^2(16) = 34.974, 0.004$ ). These results confirm that perceptions of cost, convenience, and congestion differ depending on the type of transport used. Below Figures 6.30, 6.31, 6.32 examines the impact of these factors on the choice of main mode of transport, using a 5-point Likert scale grouped as (“Not Impactful at All”, “Not Impactful”) = low impact, and (“Impactful”, “Very Impactful”) = high impact.

Figure 6.30 presents the relationship between the impact of cost on transport mode choice in Malta. The Figure shows that public bus users are most likely to consider cost highly impactful (67%), with motorbike users also perceiving cost as highly impactful (44%). In contrast, car users display mixed responses, suggesting cost is less consistently decisive. Since public buses are free for all migrant commuters residing in Malta, many may choose them primarily to save money, particularly new arrivals who are still adapting financially, which reinforces the high perception of cost impact.

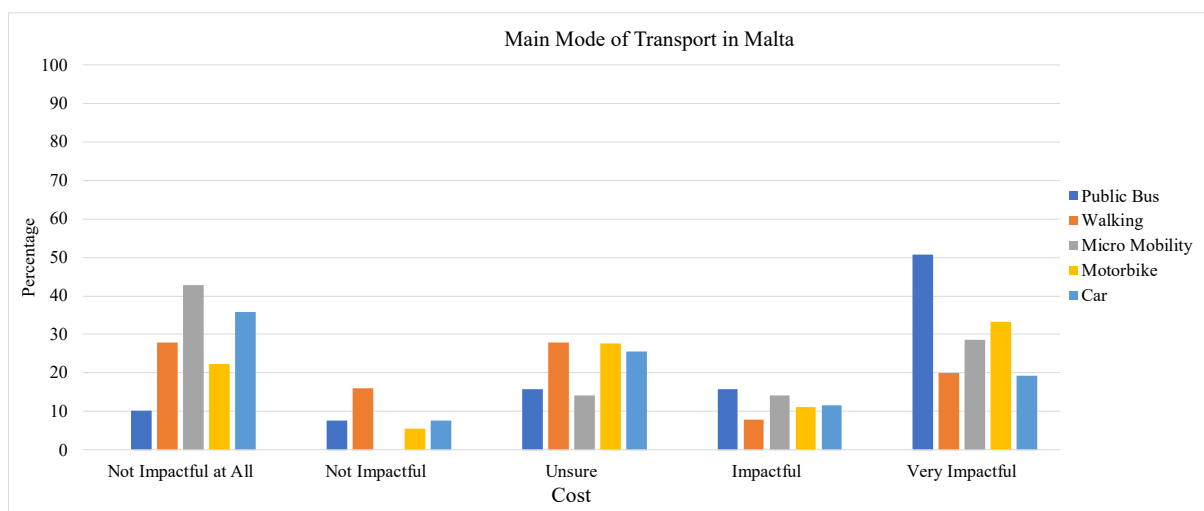


Figure 6.30 Influence of Cost on Main Mode of Transport in Malta

Figure 6.31 examines the impact of convenience on the choice of main mode of transport in Malta. The Figure shows that convenience is a highly decisive factor for car users, with 61% rating it very impactful, followed by micro-mobility users (57%) and motorbike users (50%).

Public bus users also consider convenience very impactful, though to a slightly lesser extent (35%). Walking shows a more unsure pattern, with 44% being unsure, indicating moderate impact. Overall, convenience plays a significant role in mode choice, particularly for private and flexible modes of transport, reflecting the importance of ease, speed, and comfort in commuting decisions.

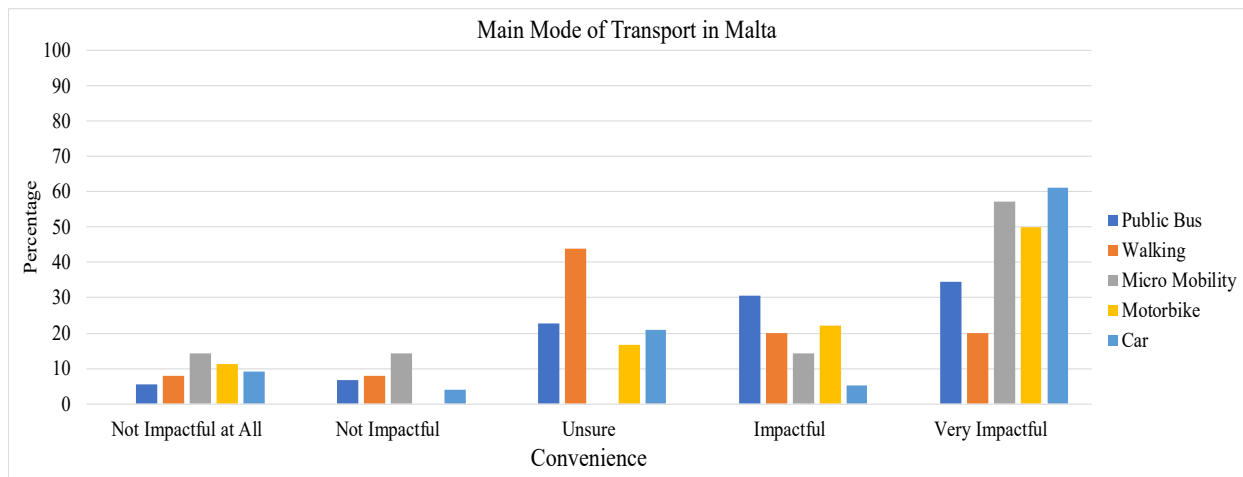


Figure 6.31 Influence of Convenience on Main Mode of Transport in Malta

Figure 6.32 examines perceptions of traffic congestion across different main modes of transport in Malta. The Figure shows that car users report the highest level of concern about congestion, with 60% rating it highly impactful. Motorbike users similarly show high concern (61%), reflecting the impact of road traffic on two-wheel mobility. Micro-mobility users also display elevated concern, with 57% being highly impacted, indicating that congestion strongly shapes their experience. Among public bus users, responses are more distributed, though 52% fall within the high-concern range, suggesting that bus users perceive congestion as a relevant but not dominant issue. Walking, by contrast, shows a more varied pattern, with a relatively high proportion being very impacted (36%), but also considerable responses at lower levels, indicating mixed perceptions. Overall, traffic congestion emerges as an issue that affects all modes to varying degrees, with higher concern among motorised and micro-mobility modes.

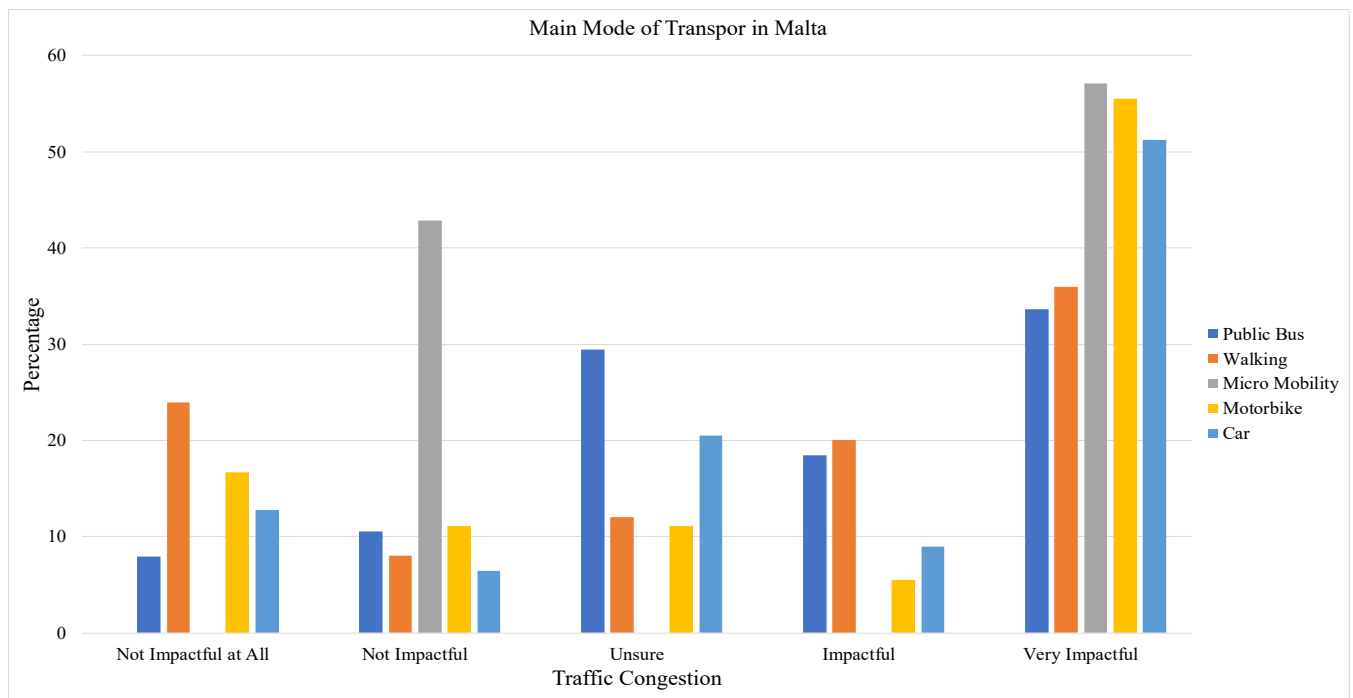


Figure 6.32 Influence of Traffic Congestion on on Main Mode of Transport in Malta

### *Travel Behaviour*

Three key relationships emerged from the analysis of travel behaviour. A strong association was observed between the main mode of transport and car ownership ( $\chi^2(4) = 162.785, < .001$ ), indicating that respondents' choice of transport is closely linked to whether they own a car. Similarly, driving licence possession was significantly associated with the main mode of transport ( $\chi^2(4) = 61.738, < .001$ ), suggesting that having a licence influences commuting choices. Finally, a significant relationship was found between work district and transport mode ( $\chi^2(16) = 30.996, 013$ ), highlighting that the commute distance affects the modes of transport used by respondents.

Figure 6.33 explores the link between car ownership in Malta and main transport mode in Malta, showing clear differences across groups. As expected, car users report the highest ownership rate (76%), confirming a strong connection between having a private car and using it as the primary mode. Ownership is very low among other users, with public bus users showing the smallest rate (5%), followed by walking (8%) and micro-mobility (14%), indicating that these modes are mainly used by those without cars or who prefer alternatives. Motorbike users show slightly higher ownership (17%) but still far below car users. Overall, the pattern demonstrates that car ownership strongly predicts choosing a car as the main mode of transport.

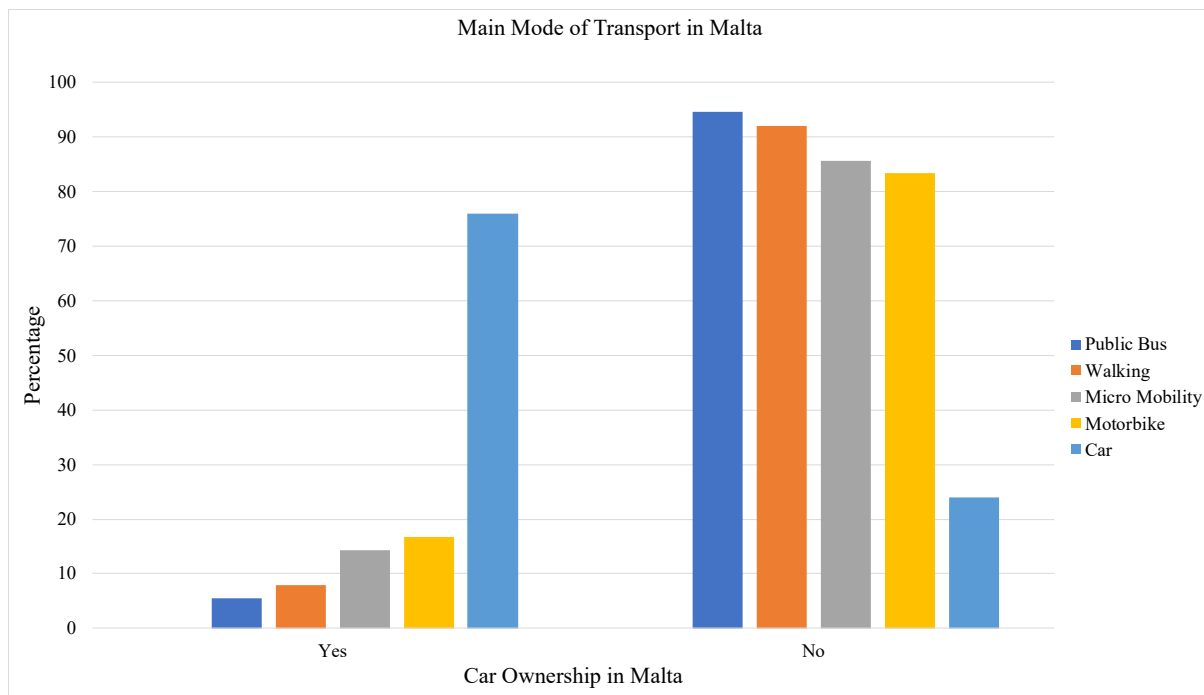


Figure 6.33 Car Ownership in Malta among Different Transport Mode Users in Malta

Figure 6.34 examines the link between holding a valid driving licence and main transport mode in Malta, revealing clear differences across groups. Car users show high licence ownership (84%), as do motorbike users (89%). In contrast, public bus users report the lowest ownership (36%), reflecting greater reliance on public transport among those without a licence. Walking (52%) and micro-mobility users (57%) show moderate licence possession, suggesting that some licence holders still choose these modes for reasons such as convenience, cost, or short distances. Overall, the results indicate that possessing a driving licence strongly increases the likelihood of choosing motorised personal modes over public or active transport.

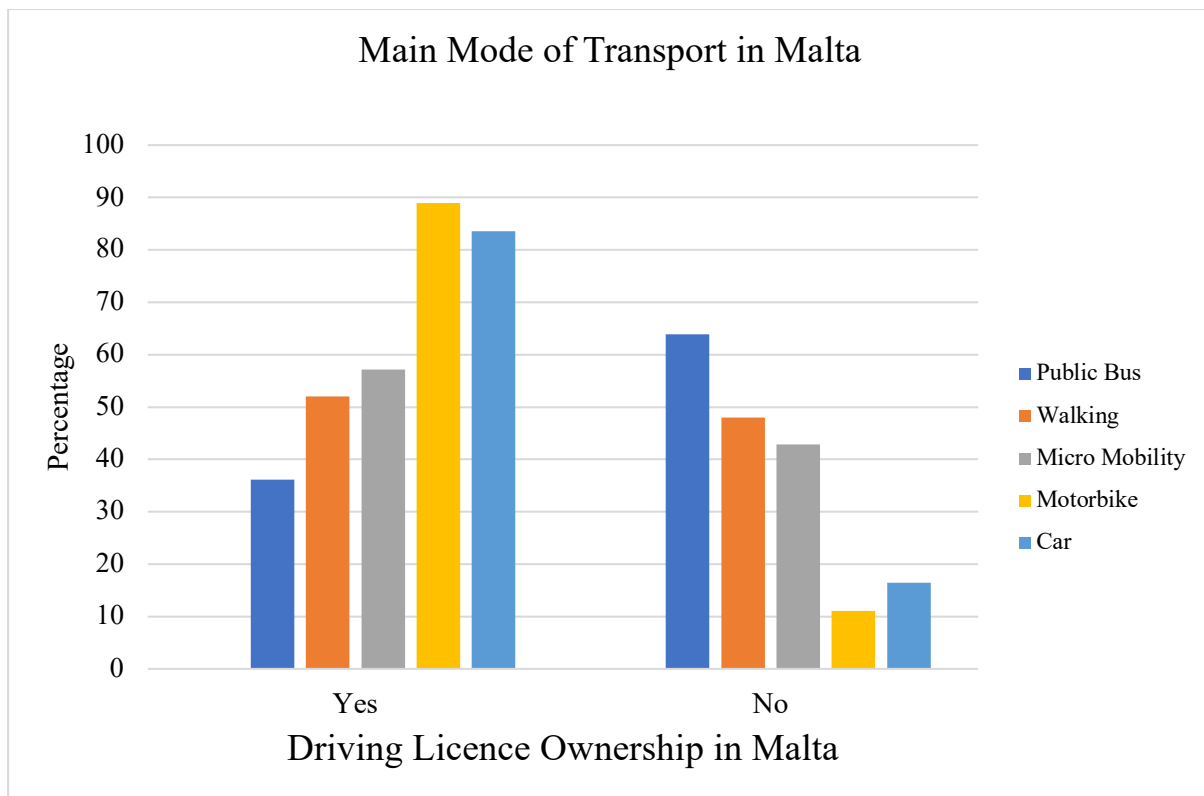


Figure 6.34 Driving Licence Ownership in Malta Among Different Transport Mode Users in Malta

Figure 6.35 examines how work districts are distributed across different transport modes, showing a clear concentration in the Northern Harbour across most groups. Public bus users are mainly based there (51%), reflecting stronger service coverage, while walking is highly concentrated in the same district (88%), likely due to shorter commuting distances and higher density. Micro-mobility users are split between the Northern Harbour (43%) and Southern Harbour (29%), and both motorbike (56%) and car users (72%) cluster heavily in the Northern Harbour. This pattern aligns with the fact that many migrants both live (Figure 6.7) and work in this district. Overall, the results show marked spatial patterns in commuting, but also indicate a degree of inequality in transport coverage between Malta's north and south.



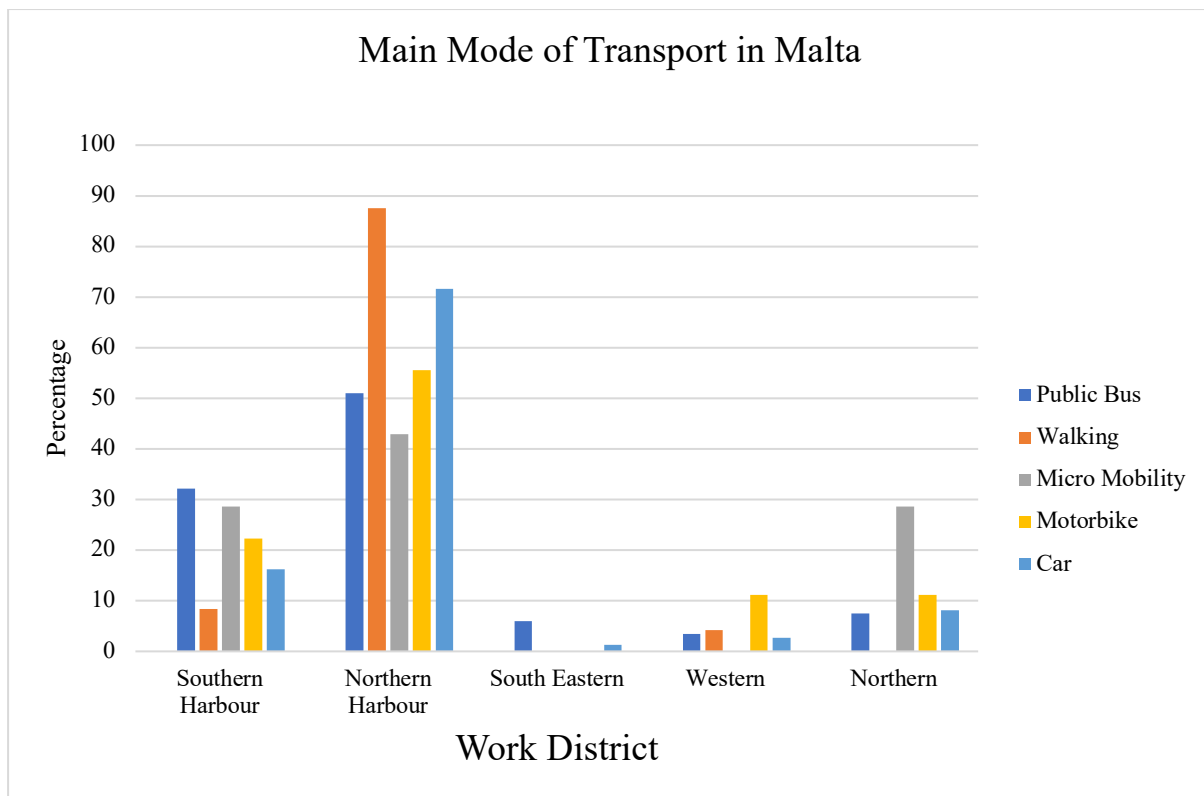


Figure 6.35 Work District Distribution among Different Transport Mode Users in Malta

#### *Sustainable Mobility Awareness and Behaviour*

Several significant relationships were observed within sustainability-related variables. The perceived importance of sustainable mobility was strongly associated with satisfaction regarding sustainable transport options ( $\chi^2(16) = 96.462, <0.001$ ), and with perceptions of Malta's eco-mobility promotion ( $\chi^2(16) = 51.585, <0.001$ ). Responses were measured using a 5-point Likert.

Figure 6.36 examines satisfaction with the availability of sustainable transport in Malta in relation to the perceived importance of sustainability in transport mode choice. The Figure 6.35 indicates that respondents who consider sustainability less important ("Not at all important" and "Not important") tend to report lower levels of satisfaction with sustainable transport, with 42% and 43%, respectively, indicating that they are not satisfied at all or not satisfied. Those who are unsure about the importance of sustainability display a more mixed pattern, with 50% reporting medium satisfaction. In contrast, respondents who rate sustainability as highly important ("Important" and "Very important") generally report higher levels of satisfaction, with 31% and 38%, respectively. This suggests an alignment between the value placed on

sustainability and satisfaction with its availability. Overall, individuals who value sustainability are more likely to perceive Malta's sustainable transport options positively.

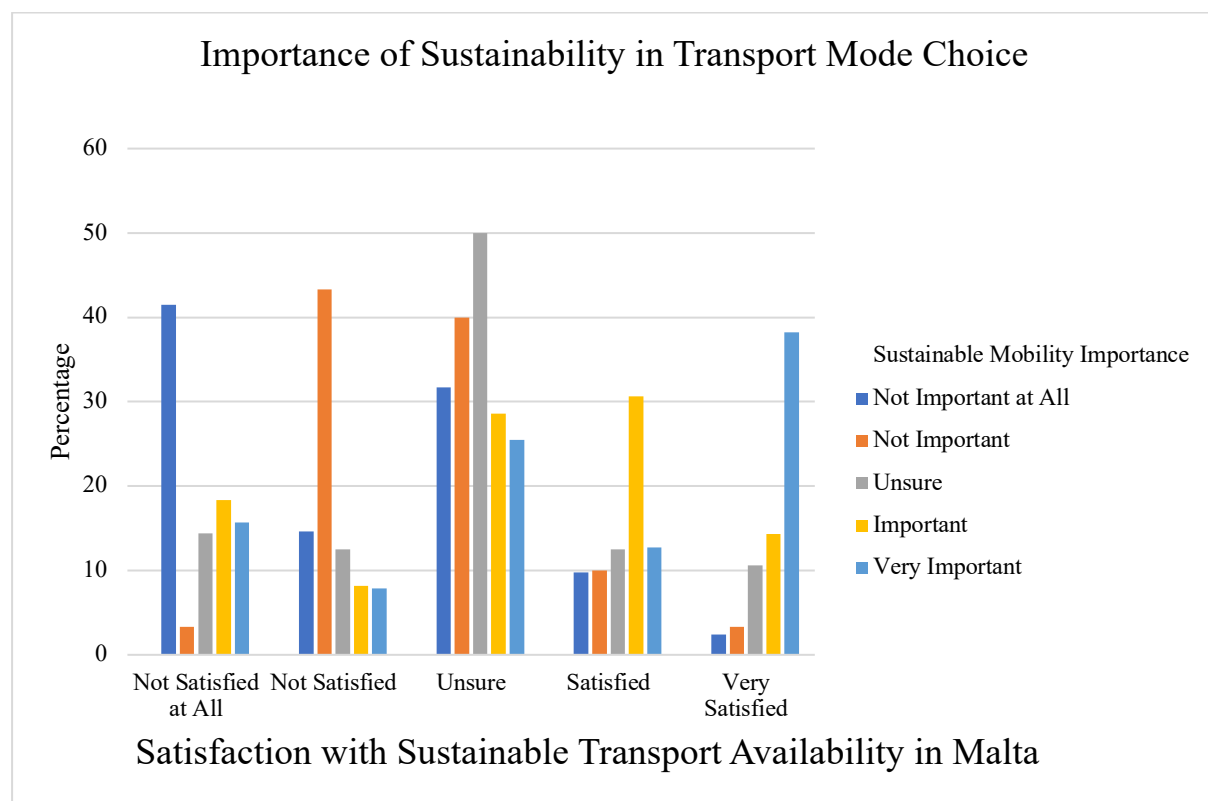


Figure 6.36 Satisfaction with Sustainable Transport Availability in Malta by Importance of Sustainability in Mode Choice

Figure 6.37 examines how perceptions of Malta's efforts to promote sustainable mobility vary according to the importance respondents attach to sustainability in their transport mode choices. Among respondents who consider sustainability not important at all, nearly half (46%) perceive government efforts as very negative, while only 15% provide a positive assessment (combined share of Positive and Very Positive responses). Respondents who are unsure about the importance of sustainability display a more mixed pattern; however, positive perceptions remain limited, with 14% reporting a combined share of positive and very positive responses. In contrast, respondents who consider sustainability very important express more favourable perceptions, with 33% selecting a combined share of positive and very positive responses. Overall, the figure indicates that the greater the importance respondents place on sustainability, the more likely they are to perceive Malta's sustainable mobility initiatives positively, highlighting the role of personal values in shaping perceptions.

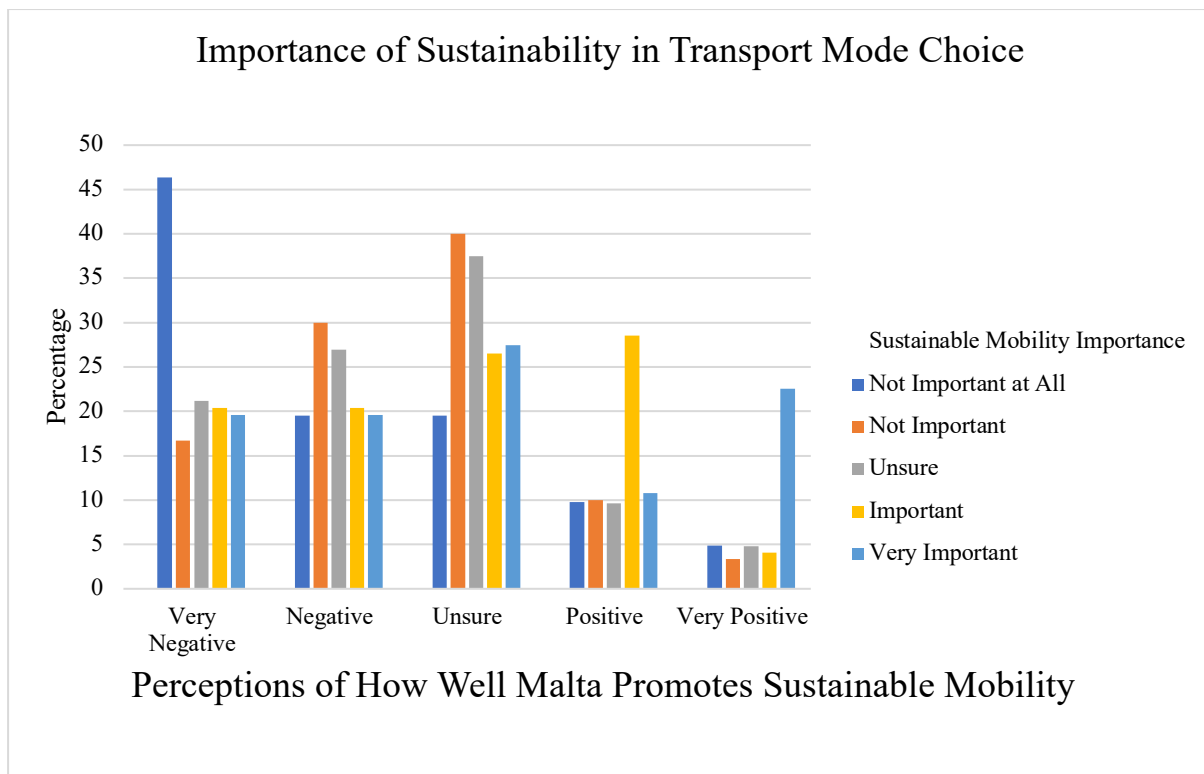


Figure 6.37 Perceptions of Malta's Efforts to Promote Sustainable Mobility by Importance of Sustainability in Mode Choice

The likelihood of shifting to sustainable transport modes was significantly associated with satisfaction with current options ( $\chi^2(16) = 45.852, < 0.001$ ) and with perceptions of eco-mobility promotion ( $\chi^2(16) = 31.378, .012$ ). Finally, a significant association was also found between likelihood of shifting to sustainable transport and future car ownership intention ( $\chi^2(16) = 26.383, 0.049$ ).

Figure 6.38 presents sustainable transport satisfaction in Malta by willingness to switch to sustainable modes in Malta if improved. Respondents who are not satisfied at all with Malta's current availability of sustainable transport largely display low willingness to switch, with substantial proportions reporting that they are Not Willing at all (32%) or Not Willing (25%). Those who are unsure tend to cluster around a moderate likelihood of switching, with 57% indicating a medium level of willingness. In contrast, respondents who are satisfied or very satisfied show greater openness to change, with higher proportions reporting a high likelihood of switching, notably, 25% indicate the highest likelihood of switching if improvements are made. Overall, the figure demonstrates that higher satisfaction with current sustainable transport availability is associated with greater readiness to switch to improved bus.

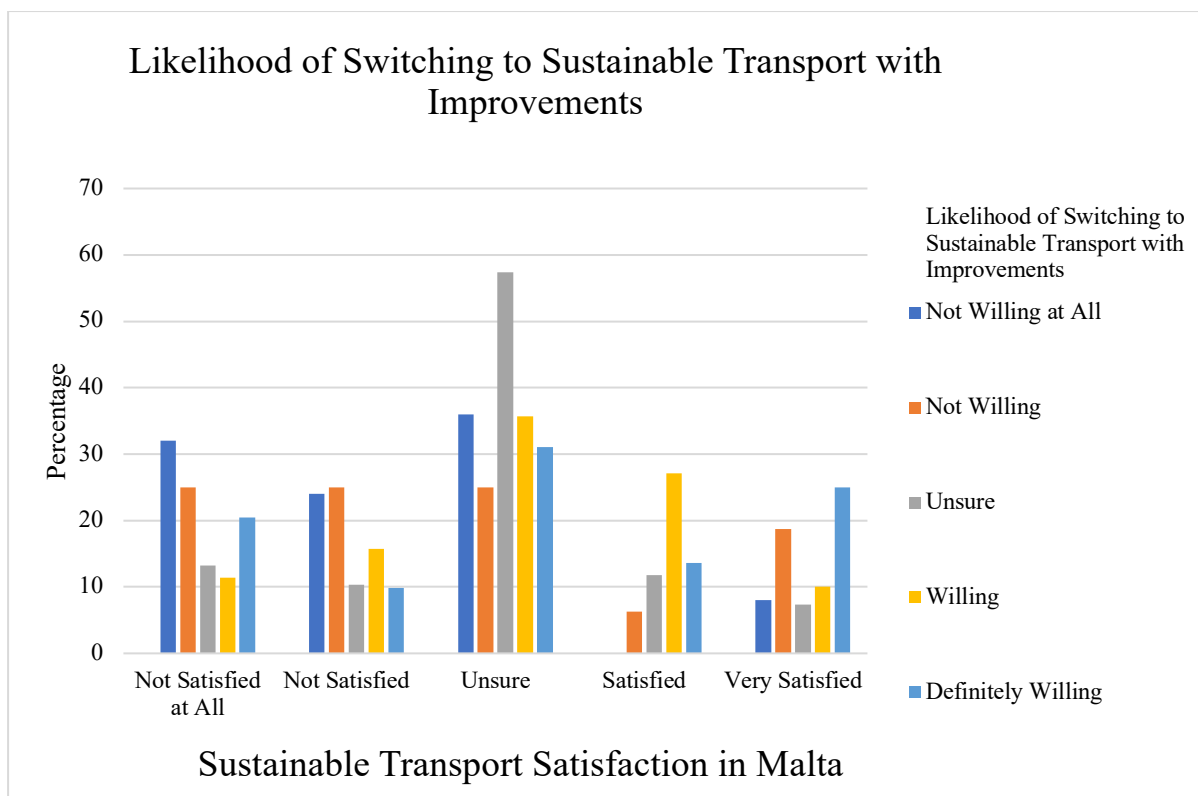


Figure 6.38 Sustainable Transport Satisfaction in Malta by Willingness to Switch to Sustainable Modes in Malta if Improved

Figure 6.39 examines the relationship between satisfaction with Malta's promotion of sustainable mobility and readiness to switch to sustainable transport if improvements are made. Respondents with negative perceptions (Very Negative to Negative) generally demonstrate low readiness to switch, with up to 44% indicating that they are not willing at all. Those who are unsure tend to cluster around a moderate level of readiness, with 49% reporting a medium likelihood of switching. In contrast, respondents with positive perceptions (Positive to Very Positive) show greater readiness for change, with up to 31% (Positive) and 18% (Very Positive) indicating a high likelihood of switching (combined Willing to Definitely Willing). Overall, more positive perceptions of Malta's efforts are associated with a higher readiness to adopt improved sustainable transport options.

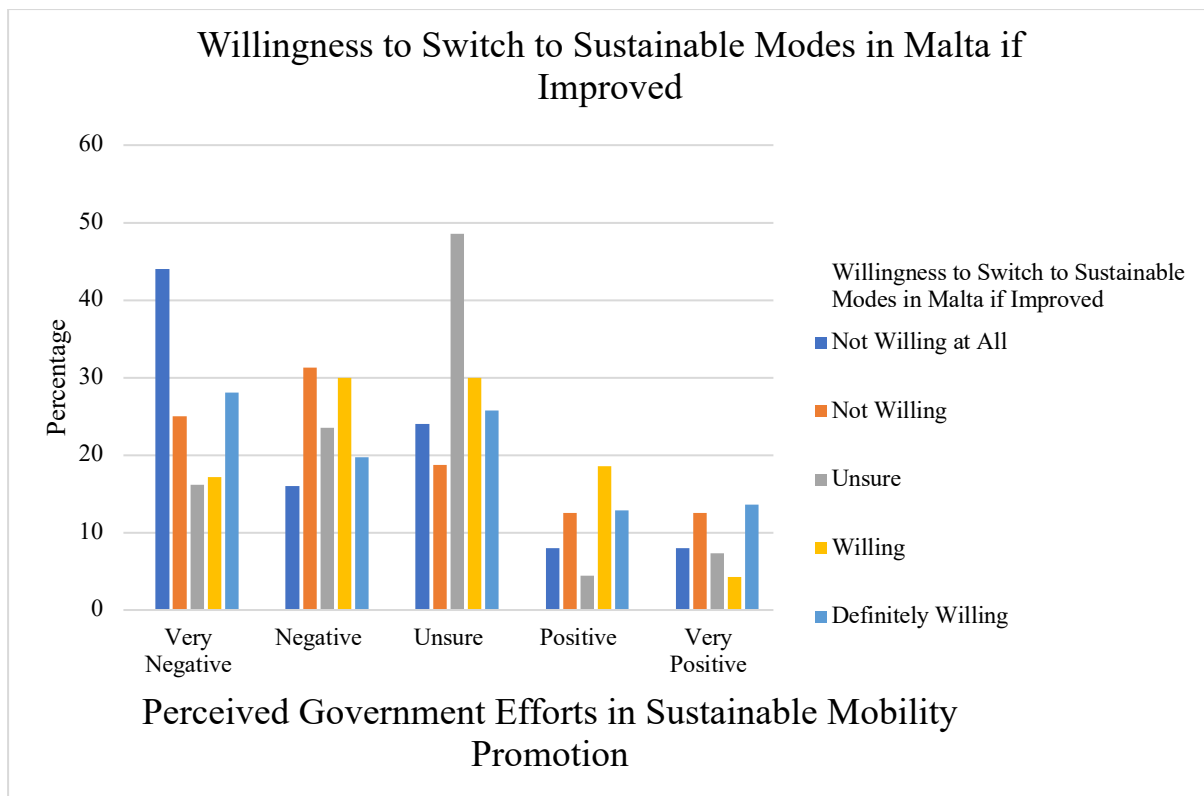


Figure 6.39 Perceived Government Efforts and Willingness to Switch to Sustainable Transport if Improved

Figure 6.40 illustrates the relationship between respondents' intention to own a car in Malta and their likelihood of switching to sustainable transport if improvements are made. The results reveal a clear pattern: respondents with low car ownership intentions (Never) report the lowest likelihood to switch, at 42%. In contrast, respondents with a definite intention to own a car (Definitely yes) show a mixed pattern: 26% are willing to switch, 42% are definitely willing, but another 42% are not willing to switch. Overall, the figure indicates an inverse relationship: the stronger the intention to own a car, the more respondents are unwilling to adopt sustainable transport. However, this intention to own a car comes with individuals more open to switching to the public bus if improved.

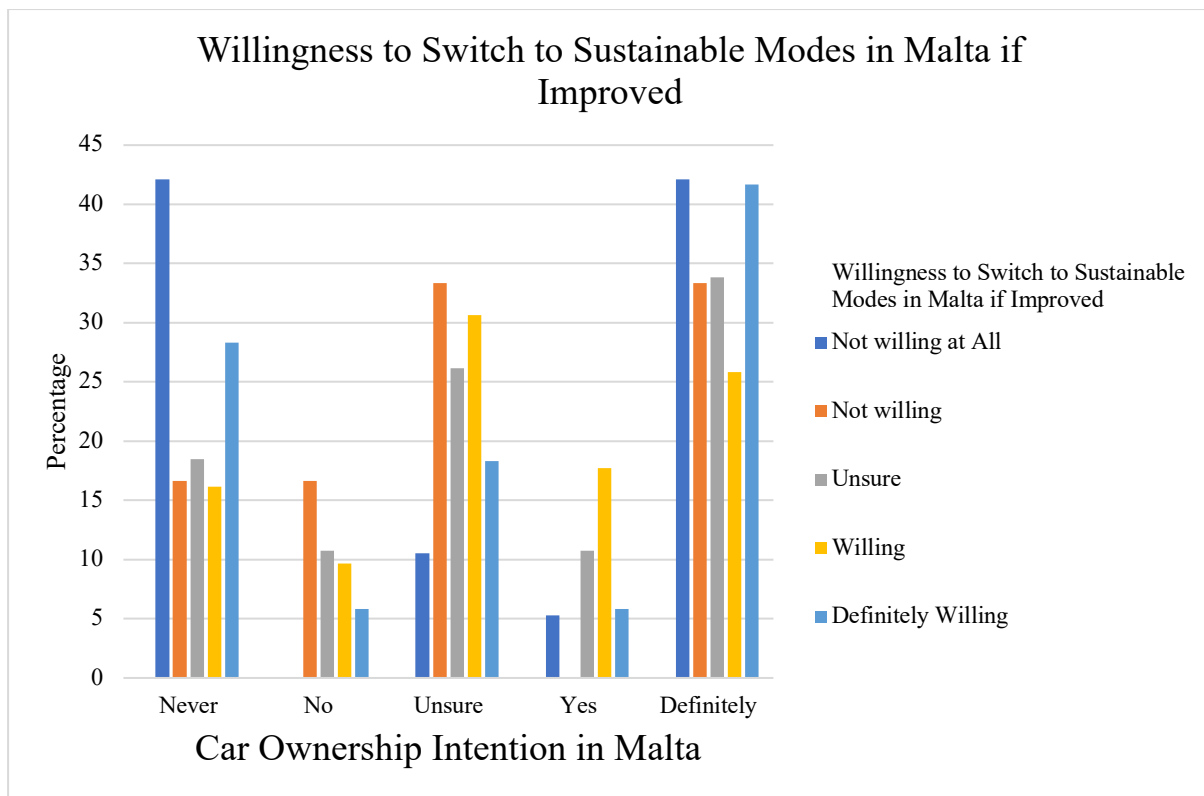


Figure 6.40 Car Ownership Intention in Malta by Likelihood of Switching to Sustainable Transport if Improved

### 6.3.1 Bivariate Analysis Summary

The bivariate analysis examined the relationships between migrants' socio-demographic characteristics, transport behaviours, and sustainability awareness using Chi-Square tests. Therefore various statistically significant associations were identified ( $p < 0.05$ ). Nationality region, age, pre-Malta residence, and arrival year significantly influenced transport behaviours. Migrants from the Caribbean, Central and South America, Sub-Saharan Africa, and South and Central Asia predominantly rely on public buses, whereas those from Canada, the U.S., Europe, and the Middle East and North Africa are more likely to use private cars. Walking and motorbike use vary across regions, with Europeans walking more and South and Central Asian and MENA migrants using motorbikes. Age influences commuting choices: younger migrants tend to favour buses, while middle-aged groups are more likely to use cars; however, older migrants often return to public transport, reflecting changing mobility needs over the life course. Prior residence and arrival year also shape mobility, with earlier arrivals demonstrating higher car ownership use, reflecting assimilation to Malta's car-dependent mobility culture.

Transport behaviour is closely linked to contextual factors. Car ownership and possession of a driving licence strongly predict main transport mode, with car users overwhelmingly owning cars and holding licences, while public bus, walking, and micro-mobility users generally do not. The work district also affects commuting patterns, with most migrants concentrated in the Northern Harbour, reflecting both residential clustering and service coverage. Cost, convenience, and traffic congestion significantly influence mode choice. Public bus users perceive cost as decisive, car users prioritise convenience, and motorised and micro-mobility users are highly affected by congestion.

Sustainable mobility awareness influences transport decisions and openness to change. Migrants who value sustainability report higher satisfaction with available eco-friendly options and view Malta's promotion of sustainable transport more positively. They are also more likely to shift to improved sustainable modes. Conversely, stronger intentions to own a car are associated with lower readiness to adopt sustainable transport, although some high-intent individuals remain open to change.

Overall, migrants' transport behaviours result from the interaction of socio-demographic background, prior mobility habits, adaptation to local infrastructure, and sustainability attitudes. The findings highlight structural and individual determinants of commuting choices and provide insights for promoting sustainable transport among migrant populations.

## 6.4 Addressing Objectives through Quantitative Findings

### 6.4.1 Objective 1: Main Modes of Transport and Factors Influencing Mode Choice

The univariate analysis revealed that the bus is the predominant mode of transport among migrant commuters (61%), followed by private cars (18%) and walking (8%). Car ownership is relatively low (23%), and only around half of respondents hold a valid driving licence in Malta.

The bivariate analysis provided further insight into the factors influencing these mode choices. Statistically significant associations were found between the main mode of transport and perceptions of cost ( $\chi^2(16) = 49.093, <0.001$ ), convenience ( $\chi^2(16) = 40.488, <0.001$ ), and traffic congestion ( $\chi^2(16) = 34.974, 0.004$ ). These results indicate that cost and convenience strongly shape migrants' mobility behaviour, while congestion concerns also play a role in determining commuting mode choice.

Overall, the combination of univariate and bivariate analyses shows that the bus remains the dominant mode due to accessibility and affordability, but that preferences are significantly influenced by perceptions of convenience and travel efficiency.

#### 6.4.2 Objective 2: Travel Behaviour Patterns among Migrant Commuters.

The univariate findings established a clear travel behaviour profile. Most migrants live and work in the Northern Harbour region, often commuting short distances within this area. Car ownership is limited, and the majority rely on public transport or walking.

The bivariate analysis showed that travel behaviour varies significantly by nationality region ( $\chi^2(28) = 89.900, <0.001$ ), previous region of residence ( $\chi^2(32) = 62.784, < 0.001$ ), age group ( $\chi^2(12) = 28.278, 0.005$ ), and arrival year ( $\chi^2(76) = 168.467, <0.001$ ). Moreover, strong relationships exist between the main mode of transport and car ownership ( $\chi^2(7) = 41.879, < 0.001$ ) and between main mode and driving licence possession ( $\chi^2(4) = 61.738, <0.001$ ).

These findings indicate that mobility patterns are not homogeneous: older migrants and those from car-dependent regions tend to rely more on private cars, while newer arrivals and those from public transport-oriented regions predominantly use buses. Hence, demographic background, migration experience, and access to resources collectively shape the mobility patterns of migrants in Malta.

#### 6.4.3 Objective 3: Sustainable Mobility Awareness and Intentions

The univariate analysis revealed moderate awareness and interest in sustainable mobility. While many respondents consider sustainable transport important (32% rated it “very important”), satisfaction levels with available options are mixed, and perceptions of Malta’s eco-mobility promotion remain relatively low.

The bivariate results further explain these patterns. A significant association was found between sustainable mobility importance and satisfaction with sustainable transport options ( $\chi^2(16) = 96.462, <0.001$ ), suggesting that those who value sustainability more are also more likely to be satisfied with current initiatives. Additionally, importance of sustainability was linked to perceptions of Malta’s eco-mobility promotion ( $\chi^2(16) = 51.585, <0.001$ ), and satisfaction with sustainable transport correlated with likelihood to shift to public transport if services improved ( $\chi^2(16) = 45.852, < 0.001$ ).



Furthermore, respondents' likelihood of shifting to sustainable modes was significantly associated with perceptions of eco-mobility promotion ( $\chi^2(16) = 31.378, .012$ ) and future car ownership intentions ( $\chi^2(16) = 26.383, 0.049$ ). This implies that migrants who are more positive about Malta's sustainability efforts and satisfied with transport options are more willing to adopt sustainable commuting practices, while those planning to own a car are less inclined to shift.

Overall, these results indicate a latent willingness among migrants to adopt sustainable mobility if the transport system is improved, particularly in terms of reliability and infrastructure support.

## 6.5 Conclusion

The analysis of migrant commuters' mobility in Malta presents a comprehensive picture of their socio-demographic characteristics, travel behaviours, and attitudes toward sustainable transport. Univariate results show that the majority of migrants are young, employed adults, primarily residing in urban areas such as the Northern Harbour region. They are largely skilled workers, with a substantial proportion in professional and service occupations. Housing patterns reflect Malta's dense urban environment, with shared flats being common.

Commuting behaviours reveal a strong reliance on public transport, especially buses (61%), while car ownership remains relatively low (24%) and active micro-mobility modes are rarely used. Perceptions of bus accessibility are generally positive, yet reliability is mixed, highlighting the importance of consistent service. Practical considerations such as convenience, travel time, cost, and congestion emerge as the dominant factors influencing mode choice, while environmental considerations play a secondary, though not negligible, role. Sustainable mobility awareness is moderate, with nearly half of respondents considering eco-friendly transport important (47%), and a majority expressing willingness to shift to sustainable modes if services improve (64%).

Bivariate analysis reinforces these patterns and provides additional nuance by demonstrating statistically significant associations between migrants' socio-demographic characteristics and transport behaviours. Nationality region, age, prior residence, and arrival year influence mode choice, with migrants from Europe, North America, and MENA regions more likely to use private cars, while those from South and Central Asia, Sub-Saharan Africa, and Latin America predominantly rely on buses. Car ownership and possession of a driving licence strongly

predict motorised commuting, whereas work district influences commuting patterns, reflecting the combined effects of residential clustering and transport service coverage. Importantly, sustainable mobility awareness and attitudes also shape behaviour: migrants who value sustainability are more satisfied with current options, more positive about Malta's eco-mobility promotion, and more likely to adopt sustainable modes, whereas stronger car ownership intentions reduce readiness to shift.

Overall, migrant commuting patterns in Malta result from the interplay of personal characteristics, prior mobility habits, contextual infrastructure, and attitudinal factors. While public transport dominates due to accessibility and affordability, there is clear potential to foster sustainable commuting among migrants, particularly if improvements are made to reliability, infrastructure, and service coverage.

## **Chapter 7: Discussion**

## 7.0 Discussion

### 7.1 Introduction

This chapter discusses the findings of the study by integrating qualitative and quantitative results on the travel behaviour, mode choice, and sustainable mobility awareness of migrant commuters residing in Malta. The aim of this discussion is to interpret the empirical findings in light of the study's research objectives and situate them within the broader literature on migrant mobility, transport behaviour, and sustainable transport.

The discussion is structured according to the three research objectives. First, it examines the main modes of transport used by migrant commuters and the key factors influencing their mode choice (Section 7.2). Second, it explores broader travel behaviour patterns, including stability, adaptation, and transport assimilation processes (Section 7.3). Third, it analyses migrants' awareness of sustainable mobility (7.4). Finally, Section 7.5 concludes the chapter by synthesising the key findings and articulating the study's added value and contributions to the existing literature.

### 7.2 Objective 1: Main Modes of Transport and Factors Influencing Mode Choice

Mode choice among commuters in Malta reflects a dynamic process of adaptation shaped by affordability, accessibility, convenience, and structural constraints within a deeply car-dependent transport system. Rather than being driven by individual preferences alone, mobility practices, particularly among migrants, emerge as negotiated responses to infrastructural conditions, socio-economic limitations, and prior mobility experiences, a pattern widely documented in international migration and mobility literature (Delbosc, Shafi 2023, Hrelja, Rye 2023, Lucas 2012, Vertovec 2023).

As demonstrated in Chapters 6, migrant commuters in Malta relied predominantly on buses, while car ownership and driving licence possession remained comparatively limited. These findings closely align with international evidence (chapter 2) showing that migrants often depend more heavily on public transport and walking than native-born populations, particularly during the early stages of settlement (Welsch, Conrad et al. 2018, Welsch, Mattioli 2025, Migration Policy Institute 2021).

In Germany and the Netherlands, for example, immigrants are significantly more likely to use public transport than non-immigrants, reflecting both socioeconomic constraints and regulatory

barriers (Welsch, Conrad et al. 2018). Similar trends have been documented in the United Kingdom, where migrants exhibit higher public transport use compared to native-born populations (Migration Policy Institute 2021). Beyond Europe, comparable patterns emerge in Canada (Bruce Newbold, Scott et al. 2017) and the United States (Blumenberg, Evans 2010), where immigrants generally rely more heavily on public transport, particularly during early settlement phases.

Taken together, the findings position Malta within a broader international pattern in which migrant mobility practices are shaped by structural constraints, affordability, and access to transport infrastructure rather than purely individual preference (Khalil, Noseir et al. 2024).

Bivariate analysis further reveals that cost, convenience, and traffic congestion are the most influential determinants of mode choice among migrants in Malta. Cost sensitivity aligns closely with findings from Literature (Chapter 2). In Germany, for instance, immigrants, particularly refugees, are significantly less likely to hold a driving licence and more likely to rely on buses, walking, and shared rides, reflecting both economic constraints and regulatory barriers (Geis 2019). In Paris, deteriorating public transport services in outer suburbs have been shown to restrict immigrants' access to employment and education, reinforcing transport-related social exclusion (Rachline 2011 cited in Assum 2020).

Qualitative findings (Chapter 5) from Malta provide deeper insight into how these structural determinants are experienced in everyday life. Migrants frequently described buses as affordable, safe, and accessible, particularly given the availability of free fares and digital navigation tools such as the Tallinja app. Unlike many international contexts discussed in the literature (Chapter 2) (Aberle, Daubitz et al. 2025, Perrotta 2016), Malta offers free nationwide bus transport for residents, a policy distinction that is highly relevant when interpreting migrants' relatively high reliance on buses in the present study (Government of Malta 2022). While international literature frequently identifies transport cost as a barrier to public transport use, the Maltese case demonstrates how fare-free public transport may support more sustainable commuting practices among migrant populations, even within a strongly car-oriented society. This resonates with evidence from Austria and Canada, where migrants strategically rely on public transport systems when they are affordable and spatially accessible, even in otherwise car-oriented contexts (Fassmann, Reeger 2014, Bruce Newbold, Scott et al. 2017). However, migrants in Malta also highlighted persistent service limitations, including

overcrowding, skipped stops, and unreliable schedules, which at times forced them to switch modes or rely on walking (Chapter 5).

Walking emerged as both a necessity and a wellbeing-oriented strategy, particularly in coastal areas such as Sliema. Comparable patterns have been observed in the United States, where immigrants are more likely than native-born residents to walk for short-distance trips related to shopping and daily errands (Smart 2014). In Egypt, migrants also report higher levels of walking and public transport use compared to natives, largely due to lower car access and residential proximity to workplaces (Khalil, Noseir et al. 2024). However, in Malta, poor pavement quality and fragmented pedestrian infrastructure limit the feasibility of walking in many localities, reflecting challenges, where inadequate last-mile infrastructure disproportionately affects non-car users (Chapter 5).

A recurring theme in migrants' narratives is the "mode paradox" (Chapter 5): cars are simultaneously perceived as symbols of freedom, flexibility, and social integration, and as sources of financial pressure, stress, and forced assimilation into Malta's car-centric mobility culture. This ambivalence closely aligns with findings (Chapter 2) from Australia, where South Asian immigrants initially display sustainable mobility practices but rapidly assimilate into car-dependent travel as socio-economic barriers diminish (Shafi, Delbosc et al. 2022). Similar dynamics have been observed in the United States and the U.K, where higher-income and skilled immigrants adopt car use earlier, while lower-income groups remain reliant on public transport for longer periods (Blumenberg, Shiki 2007, Xu 2018).

In contrast, Maltese participants demonstrate predominantly habitual and car-dependent mobility patterns. Cars are perceived as indispensable for managing family responsibilities, multiple work commitments, and time efficiency. Walking and public transport are largely supplementary, reserved for leisure or constrained situations. This mirrors findings (Chapter 2) from Italy and Canada, where native-born populations display greater willingness to allocate time and financial resources to car-based commuting, even in congested environments (Bruce Newbold, Scott et al. 2017, Istituto Nazionale di Statistica 2025). Despite free public transport in Malta, Maltese participants frequently described buses as unreliable, overcrowded, and unsafe, perceptions that reinforce car dependence.

These divergent mobility practices expose deep-seated mobility inequities within Malta's transport system. Migrants often adopt strategic residential choices by locating near major

transport corridors to optimise accessibility, a pattern also observed in literature (Chapter 2) among immigrants in Egypt, where proximity to employment and services reduces commuting distances (Khalil, Noseir et al. 2024). However, some migrant participants residing in low-density residential neighbourhoods in Malta reported long walks to access nearby bus stops, indicating perceived last-mile accessibility challenges. Similar spatial and infrastructural barriers have been documented in Canada, Toronto, where Syrian refugees experienced mobility constraints that hindered social integration and access to opportunities (Farber, Mifsud et al. 2018). Comparable patterns are also observed in German cities, where immigrants spend more time on daily travel than native residents due to residential segregation, limited access to private cars, and safety perceptions, factors that further impede access to employment and essential services (George, Salomo et al. 2025).

Beyond spatial accessibility, the quality and reliability of public transport play a critical role in shaping migrants' life opportunities. Unreliable public transport can restrict immigrants' ability to pursue education and stable employment. This is evident in Paris, where immigrants living in suburban areas have been negatively affected by degrading public transport infrastructure, leading to educational and professional disadvantages (Rachline 2011 cited in Assum 2020).

Taken together, these findings reveal that migrants' mode choices in Malta are shaped less by preference than by a continuous negotiation with affordability, accessibility, and infrastructural reliability within a highly car-dependent system. While migrants demonstrate adaptive and resource-efficient mobility practices, relying heavily on public transport and walking, these strategies often come at the cost of longer travel times, limited flexibility, and heightened exposure to service unreliability and last-mile deficiencies. In contrast, Maltese commuters' entrenched car dependence reflects both habitual practices and structural advantages that insulate them from these constraints.

The qualitative findings and activity diary data further reinforce these quantitative trends. Interview participants frequently described choosing buses and walking not only because of affordability, but also due to limited access to private vehicles, driving licences, and parking availability. Activity diaries similarly demonstrated recurring reliance on public transport for everyday commuting routines. Integrating these findings highlights how migrant mobility behaviour in Malta is shaped simultaneously by structural constraints, residential location, and adaptive transport practices rather than by individual preference alone.

Malta, thus, reflects patterns observed in other national contexts, such as Germany, France, and Canada where migrants disproportionately bear the consequences of inadequate public transport, spatial segregation, and limited car access. However, the small island geography and intensity of car dependence in Malta amplify these disparities, magnifying the everyday impacts of infrastructural shortcomings on migrant commuters' access to employment, education, and social participation. Rather than representing a simple trajectory toward car assimilation, migrants' mobility in Malta underscores the need to understand transport behaviour through the lenses of structural constraint, accessibility, and mobility equity.

### 7.3 Objective 2: Travel Behaviour Patterns Among Migrant Commuters

The findings presented in Chapters 5 and 6 reveal that migrant travel behaviour in Malta is dynamic, adaptive, and strongly shaped by settlement experiences. Rather than following fixed mobility patterns, participants continuously adjusted their transport practices according to affordability, work location, accessibility, previous mobility experiences, and familiarity with Malta's transport system. These findings support the concept of transport assimilation discussed in Chapter 2, whereby migrants progressively adapt to the dominant mobility culture of the host society (Blumenberg, Evans 2010, Tal, Handy 2010, Delbosc, Shafi 2023). However, assimilation was neither automatic nor universal. While some migrants gradually shifted toward private car dependency, others maintained multimodal and relatively sustainable mobility habits despite prolonged residence in Malta.

The quantitative findings (Chapter 6) provide a clear profile of travel behaviour among migrant commuters in Malta. Most respondents live and work within the Northern Harbour region, travel relatively short distances, and exhibit low levels of car ownership, relying predominantly on public transport and walking. Only 23% of respondents own a car, a pattern that aligns with national data (Email Correspondence with Transport Malta 2025). In addition, approximately half hold a valid Maltese driving licence. Similar trends are observed internationally (Chapter 2). In Germany and the United Kingdom, immigrants consistently show lower rates of car ownership and licensing than native-born populations, alongside higher dependence on public transport and walking (Migration Policy Institute 2021, Welsch, Conrad et al. 2018). Comparable patterns have been reported in Canada and the United States, where immigrants, particularly during their initial years of settlement, tend to rely more heavily on public transport and other non-car modes (Blumenberg, Evans 2010, Newbold, Scott et al. 2017).



Aggregate trends, however, conceal significant internal variation. Travel behaviour differs according to nationality region, age group, previous region of residence, and year of arrival in Malta. Older migrants and those originating from more car-dependent contexts are more likely to rely on private cars, while younger migrants, newer arrivals, and those from public-transport-oriented regions predominantly use buses and walking. Similar differentiation has been documented in the United States, where Asian and Hispanic immigrants exhibit distinct trajectories of car adoption depending on length of residence, income, and residential location (Hu 2017, Blumenberg, Shiki 2007). Access to key mobility resources, particularly car ownership and possession of a driving licence, strongly structures mode choice in Malta, underscoring the role of material and institutional constraints rather than individual preference alone. This aligns with findings from Germany, Austria, and the Netherlands, where studies have shown that when cars are equally accessible to migrants and natives, migrants are just as likely to use them as natives (Welsch, Conrad et al. 2018, Welsch, Mattioli 2025).

Qualitative findings (Chapter 5) deepen this understanding by illustrating how mobility practices evolve over time. Migrants commonly describe an initial phase characterised by adaptation and constraint, during which public transport and walking are used out of necessity, affordability, and familiarity with dense urban environments. In Malta, this early phase reflects a provisional form of stability in which mobility choices are shaped by uncertainty, limited resources, and the need to navigate a new transport system.

Interview narratives (chapter 5) revealed that migrants often adapt their mobility practices progressively after arrival in Malta. While some initially relied heavily on buses and walking due to financial limitations or unfamiliarity with the transport system, several participants described gradual transitions toward car use as income stability, residential mobility, and familiarity with Malta increased. The integration of qualitative and quantitative findings therefore illustrates that mobility adaptation in Malta is not static but evolves through ongoing interaction between personal circumstances and the wider transport environment.

As migrants become more settled, secure employment, and gain access to driving licences or cars, mobility routines tend to stabilise further and, in some cases, align more closely with Malta's car-oriented transport culture. This transition reflects processes of transport assimilation, whereby migrants' mobility practices progressively converge towards dominant local norms rather than remaining anchored in pre-migration habits. Similar assimilation dynamics have been observed in Australia, where South Asian immigrants initially display

relatively sustainable travel behaviour but rapidly adopt car-dependent mobility once structural barriers diminish (Shafi, Delbosc et al. 2022), as well as in the United States and the United Kingdom (Blumenberg, Evans 2010, Blumenberg, Shiki 2007, Tsang, Rohr 2011). In Malta, some migrants who practised sustainable or multimodal mobility in their home countries report growing frustration with unreliable public transport and adopt car use as a coping strategy rather than a preferred choice.

At the same time, assimilation is neither uniform nor inevitable. Some migrants maintain more sustainable mobility practices through adaptation, continuing to rely on buses and walking while using cars only when strictly necessary. Others pursue nostalgia or passion-based mobility choices, such as motorcycle use, despite safety risks and infrastructural challenges, highlighting the emotional and identity-based dimensions of travel behaviour (Chapter 5). These findings resonate with studies from Norway and Austria for native Norwegians and Austrians as their identity, where cultural meanings attached to certain modes influence travel behaviour independently of infrastructure availability and Pakistanis in Norway consider bicycles as an inefficient means of transport which is only used by poor people (Aftenposten 2011 cited in Assum 2020, Fassmann, Reeger 2014 cited in Welsch, Conrad et al. 2018).

Future mobility intentions further underscore the dynamic nature of migrant travel behaviour. While some migrants aspire to car or motorcycle ownership as symbols of stability, convenience, or social integration, others explicitly reject driving, motivated by environmental concerns or a desire to preserve mobility habits formed in their countries of origin. Similar tensions have been documented among immigrants in Germany, where aspirations for car ownership coexist with strong preferences for public transport and active modes (Geis 2019). These intentions coexist with present-day constraints, illustrating that travel behaviour is shaped by both immediate necessity and forward-looking aspirations.

In contrast, Maltese travel behaviour is largely anchored in routine. Once a driving licence is obtained, car use becomes habitual and dominant, reinforced by family responsibilities, time pressures, and social expectations. Public transport, walking, and ferries are used selectively rather than forming the backbone of daily mobility. This pattern reflects entrenched car-oriented mobility patterns similar to that observed in highly car-oriented contexts such as Italy and Australia (Istituto Nazionale di Statistica 2025, Shafi, Delbosc et al. 2022). Nevertheless, Maltese participants also demonstrate a capacity for behavioural change when prompted by life-course transitions, economic pressures, environmental awareness, or experiences abroad.

Taken together, these findings suggest that stability and routine play a central role in shaping travel behaviour, but they operate differently for migrants and Maltese commuters. Migrants' mobility remains more adaptive, strategic, and multimodal, particularly during early settlement, while Maltese mobility is more deeply routinised and structurally reinforced. Travel behaviour thus emerges not solely from individual preference but from the interaction between demographic background, migration experience, life stage, and access to mobility resources over time. Consistent with evidence from Europe, North America, and Australia, the results highlight the importance of early policy intervention, as mobility practices formed during initial settlement phases may either consolidate sustainable behaviours or accelerate assimilation into car-dependent routines (Blumenberg, Evans 2010, Blumenberg, Shiki 2007, Shafi, Delbosc et al. 2022).

Overall, the integration of interviews, activity diaries, and questionnaire findings provided a more comprehensive understanding of migrant travel behaviour in Malta than either method could have achieved independently. Quantitative findings identified broader behavioural patterns and mobility trends, while qualitative findings explained the personal experiences, motivations, and constraints shaping these patterns. The mixed-methods approach therefore strengthened the interpretation of migrant mobility by connecting measurable commuting behaviour with participants' lived realities and adaptive experiences within Malta's car-dependent context.

#### 7.4 Objective 3: Sustainable Mobility Awareness and Intentions

Chapters 5 and 6 demonstrated that migrant commuters in Malta generally displayed moderate awareness of sustainable mobility principles. However, environmental concerns rarely emerged as the primary determinant of transport behaviour. Instead, practical considerations such as convenience, affordability, accessibility, and travel efficiency remained more influential in shaping everyday mobility decisions.

The findings reveal a nuanced relationship between awareness of sustainable mobility and the actual travel behaviour of migrant commuters in Malta. Quantitative results (Chapter 6) indicate that, although sustainable mobility is attributed only moderate importance with just 47% of respondents considering sustainable transport "important", migrants' everyday travel practices appear comparatively sustainable. Specifically, 61% report using the public bus including 77% who do not own a private car. This aligns with patterns observed internationally

(Chapter 2). In Germany, Austria, and the Netherlands, immigrants rely more on public transport than native-born populations, especially in early settlement years, yet demonstrate readiness to use cars when accessible (Welsch, Conrad et al. 2018, Welsch, Mattioli 2025). Similarly, U.S. studies show that recent immigrants are more likely to walk, cycle, or carpool, with these behaviours shaped by social networks, neighbourhood density, and economic constraints (Blumenberg, Evans 2010, Smart 2012, Xu 2018). In Australia, South Asian immigrants initially display sustainable travel practices but gradually assimilate into car-dependent routines as socio-economic status increases, mirroring patterns seen in the U.S. (Shafi, Delbosc et al. 2022, Tal, Handy 2010).

In Malta, these quantitative patterns are reinforced by qualitative findings (Chapter 5 and 6). Migrants commonly compare Malta to previous places of residence, framing sustainable mobility not as an abstract value but as a lived experience influenced by infrastructure, safety, and convenience. Many describe Malta as highly car-oriented, with narrow streets, limited modal diversity, and unsafe conditions for walking and cycling. Consequently, migrants who previously practised sustainable travel may gradually adapt to local car-oriented norms, using cars as a coping strategy rather than reflecting a shift in values. However, heterogeneity exists. Some migrants persist with sustainable practices through adaptation, walking, cycling, or using buses while minimising car use, while others adopt sustainability newly, perceiving car ownership as burdensome.

Intentions regarding future car ownership illustrate the tension between integration aspirations and sustainability awareness. While some migrants view cars as symbols of stability, adulthood, and quality of life, these intentions inversely correlate with openness to sustainable transport. This mirrors Australian and U.S. evidence (Chapter 2), where skilled immigrants initially use sustainable modes but eventually adopt car-dependent behaviours as their economic and social integration advances (Shafi, Delbosc et al. 2022, Blumenberg, Evans 2010, Blumenberg, Shiki 2007). In Malta, this tension is amplified by infrastructural constraints and low perceptions of eco-mobility promotion, highlighting a critical window during early settlement where policy interventions could shape long-term mobility practices.

Comparisons with native Maltese commuters highlight additional structural and cultural barriers. Car ownership is deeply embedded in local cultural identity and perceived adulthood, while environmental awareness is often outweighed by convenience and habit. In contrast, migrants' perspectives are more aspirational, drawing on international experiences and

envisioning improvements such as metro systems, dedicated bus lanes, car-free days, and teleworking options. Quantitative findings reinforce this narrative: satisfaction with existing transport infrastructure strongly associates with willingness to adopt public transport, suggesting that improving system reliability could unlock latent sustainable mobility potential among migrants.

In Egypt (Chapter 2), immigrants commute shorter distances than natives due to residential clustering near workplaces, leading to higher satisfaction despite lower car use (Khalil, Noseir et al. 2024). Similar patterns appear in Canada, while Spain exhibits the opposite trend, with immigrants commuting longer distances than natives (Bruce Newbold, Scott et al. 2017, Casado-Díaz, Simón-Albert et al. 2022).

These findings collectively confirm that awareness of sustainable mobility among migrant commuters in Malta is present but unevenly enacted. Behaviour is constrained by structural, socio-cultural, and safety-related factors, as observed in other national contexts. Yet, migrants' comparative perspectives and adaptive strategies reveal a significant potential for promoting sustainable transport if policy interventions address infrastructure gaps, system reliability, and cultural barriers. Integrating lessons from international cases, in particular Freiburg's successful cycling and transport policies highlights the value of context-sensitive approaches combining infrastructure, policy, and behavioural incentives to facilitate sustainable mobility transitions and prevent assimilation into car-dependent systems (Buehler, Pucher 2011, Beim, Haag 2011, Takman, Gonzalez-Aregall 2023).

Overall, Malta exemplifies the international pattern in which migrants display latent sustainable mobility awareness but adapt to car-oriented realities in the absence of enabling infrastructure and supportive policy. Most migrants rely solely on buses, reflecting a highly sustainable mobility habit. However, this habit is at risk of being eroded as migrants gradually assimilate into Malta's car-oriented culture. Early settlement, often described as a "honeymoon period," represents a critical window to retain and attract migrants to sustainable modes. Drawing on cross-national evidence (Chapter 2), factors such as reliability, safety, cultural framing, and social support are key determinants of migrant mobility behaviour (Blumenberg, Evans 2010 Shafi, Delbosc et al. 2022, Tal, Handy 2010). Addressing these factors could catalyse long-term sustainable mobility adoption and foster equitable, low-carbon transport systems in Malta.

## 7.5 Conclusion

This chapter has discussed the study's findings in relation to the three research objectives, highlighting key insights into migrant commuters' mode choice, travel behaviour, and sustainable mobility awareness in Malta. The findings show that migrants' mobility practices are shaped by adaptation, structural constraints, and comparative experiences, rather than individual preference alone. Most migrants rely predominantly on buses, reflecting a highly sustainable mobility habit. However, this habit is at risk of erosion as migrants gradually assimilate into Malta's car-oriented culture.

Early settlement, often described as a "honeymoon period," represents a critical window to retain and attract migrants to sustainable modes. Travel behaviour during this phase is dynamic and adaptive, shaped by prior mobility experiences, settlement trajectories, and access to resources. Comparative perspectives reveal both challenges, such as unreliable infrastructure, limited modal diversity, and socio-cultural pressures, and opportunities, including migrants' readiness to adopt non-car modes if conditions improve.

This study contributes to debates on transport assimilation, mobility justice, and sustainable transport planning by demonstrating that mobility practices formed during initial settlement phases can either consolidate sustainable behaviours or accelerate assimilation into car-dependent routines. Policy interventions targeting reliability, safety, infrastructure, and cultural framing during this critical period have the potential to promote long-term sustainable mobility and foster equitable, low-carbon transport systems in Malta.

## **Chapter 8: Conclusion**

## 8.0 Conclusion

### 8.1 Research Summary

This study addresses the pressing challenges of urban mobility in Malta, a small and densely populated island characterised by rapid population growth, heavy car dependency, and mounting environmental pressures. These challenges are further intensified by a growing migrant population, whose travel behaviours and attitudes towards sustainable mobility have remained largely underexplored. By focusing on migrant commuters, the research responds directly to this gap, aiming to understand their main modes of transport, travel behaviour and patterns, and awareness of sustainable mobility options within Malta's highly motorised context. Three research questions guide the investigation, framing the analysis of mobility choices and sustainability awareness among migrant commuters.

The analytical foundation of the study is informed by a comprehensive engagement with literature on urban mobility, sustainable transport, and immigrant travel behaviour. Existing research highlights the complex interplay between infrastructure, policy frameworks, socio-cultural norms, and economic conditions in shaping travel patterns. Urban mobility challenges such as rapid urbanisation, car dependency, and environmental degradation are widely documented, while sustainable transport is conceptualised as a multidimensional approach integrating planning, governance, technology, and behavioural change. The literature also identifies significant barriers to sustainable mobility, including fragmented governance, inconsistent planning, and cognitive and behavioural constraints, alongside policy tools designed to encourage modal shifts through “push” and “pull” measures. Importantly, international scholarship on immigrant travel behaviour demonstrates that migrants bring diverse mobility practices from their countries of origin, adapt over time, and often rely more on public transport, walking, cycling, and car sharing. These patterns are shaped by cultural background, socio-economic position, and residential location, while comparative evidence from Europe and beyond highlights both mobility disadvantages and processes of transport assimilation. Despite this rich body of research, mobility and migration in Malta have traditionally been examined separately, creating a significant gap in understanding how migration intersects with transport behaviour in a highly car-dependent island context. Addressing this underexplored intersection provides the conceptual grounding for the present study.



Malta is examined as a case study to demonstrate how localised, in-depth research can connect theory to lived experience. The island's insular geography, high population density, and car-oriented mobility system intersect with migration patterns to generate pressures on infrastructure, social cohesion, and sustainable urban development. Migration has become a key driver of population growth and labour market transformation, yet access to employment, services, and mobility remains uneven across migrant groups, exposing both social and transport-related inequities. Exploring these dynamics illustrates the value of context-sensitive analysis in capturing how migration, mobility, and sustainability interact within specific spatial and institutional settings, and how such insights can inform policy and planning.

Methodologically, the study investigates the travel behaviour and sustainable mobility attitudes of international migrant commuters aged 25-44 residing on the main island of Malta. Adopting a case study approach, it focuses on employed migrant commuters while excluding individuals whose status is limited to studying. A mixed-methods, exploratory sequential design is employed to generate both in-depth and generalisable insights. The qualitative phase consists of semi-structured interviews and activity diaries conducted with 12 migrant participants and 12 Maltese participants as a control group, enabling detailed exploration of commuting patterns and subjective mobility experiences. The quantitative phase follows with a questionnaire administered to 331 migrant commuters, allowing validation and generalisation of qualitative findings. Primary data are complemented by secondary sources such as census data and policy documents. Ethical considerations, purposive sampling, pilot testing, and systematic analytical strategies ensure methodological rigour, while acknowledged limitations are balanced against the strengths of the mixed-methods approach in producing nuanced and robust findings.

Qualitative findings reveal clear differences in car ownership, mode choice, and spatial settlement between migrant and Maltese participants. Migrants rely more heavily on public transport and walking, whereas Maltese participants exhibit pronounced car dependency. Analysis structured around mode choice, travel behaviour, and sustainable mobility shows that migrants develop a distinct mobility identity shaped by adaptation, choice, and varying degrees of sustainability awareness. Some gradually assimilate into Malta's car-dominated mobility system due to public transport limitations, while others maintain more sustainable practices, relying primarily on buses and walking and using cars only when necessary. A smaller group makes nostalgic or passion-driven mobility choices, such as motorcycle use, despite awareness of safety risks and high accident rates. Migrants generally value buses for their affordability,

predictability, and convenience, with proximity to bus routes often influencing residential choices. Notably, migrants report higher satisfaction with public transport than Maltese participants, frequently evaluating it positively in comparison with transport conditions in their countries of origin. They also propose potential solutions informed by both international experience and local realities to reduce car dependency and improve the transport landscape. For some migrants, however, car ownership remains a long-term aspiration associated with stability, social integration, or improved quality of life. In contrast, Maltese mobility practices are strongly shaped by convenience, family responsibilities, and entrenched cultural norms. Car use is deeply embedded in identity and daily routines, reinforced through mental discounting that prioritises short-term convenience over environmental or social costs. Public transport is often stigmatised and used opportunistically, while walking is largely confined to leisure or very short distances. Overall, migrant mobility is characterised by flexibility, strategic decision-making, and multimodality, whereas Maltese mobility remains routine-driven and emotionally embedded in car culture, highlighting contrasting perceptions of transport, safety, and sustainability as well as broader mobility inequities.

Quantitative analysis reinforces and expands these insights. Migrant commuters are predominantly young, working-age adults, with 58% male, the largest age group being 25–34, and 94% employed. Most reside in shared flats (78%) within urban areas, particularly the Northern Harbour region (60%). Car ownership remains relatively low at 23%, which is reflected in commuting behaviour: 61% primarily use buses, followed by 24% using private cars and 8% walking. Bus accessibility is generally perceived positively (48%), although

The bivariate analysis further explains these patterns by highlighting significant relationships between transport behaviour and nationality region, age, prior residence, and arrival year, indicating that both pre-migration mobility habits and adaptation to Malta's transport context shape commuting choices. Migrants from South and Central Asia, Sub-Saharan Africa, and Latin America are significantly more likely to rely on buses, while those from Europe, North America, and the MENA region show higher private car use. Car ownership and possession of a driving licence strongly predict private vehicle use, while living and working in the Northern Harbour supports more sustainable commuting through bus and walking reliance. Importantly, the factors responsible of the mode choice are cost, convenience, and traffic congestion. Sustainable mobility attitudes further influence behaviour: migrants who value sustainability report higher satisfaction with existing transport options, more positive perceptions of Malta's

eco-mobility promotion, and greater willingness to shift to sustainable modes, whereas stronger intentions to own a car increase readiness not to change. Overall, the findings show that migrant commuting in Malta is shaped by the interaction of socio-demographic background, migration experience, structural conditions, and attitudinal factors, while revealing substantial potential to promote sustainable mobility through improvements in public transport reliability and infrastructure.

When interpreted in light of international research, these findings confirm that buses are the dominant mode of transport among migrants (61%), while car ownership remains comparatively low (23%), mirroring evidence from Germany, the U.K, Canada and the U.S that migrants consistently exhibit lower car ownership and greater reliance on public transport and walking (Welsch, Conrad et al. 2018, Migration Policy Institute 2021, Blumenberg, Evans 2010). Migrant mobility in Malta emerges as dynamic and adaptive, shaped by prior mobility experiences, settlement trajectories, and access to resources. While many migrants commute short distances and rely on buses and walking, variation by nationality region, age, and arrival year reflects differing mobility cultures and stages of settlement. Qualitative evidence highlights an initial phase of constraint and adaptation, followed by stabilisation and, in some cases, transport assimilation into Malta's car-oriented system as access to cars and licences increases, consistent with findings from the UK, Australia, and North America (Blumenberg, Evans 2010, Blumenberg, Shiki 2007, Shafi, Delbosc et al. 2022, Tal, Handy 2010, Welsch, Mattioli 2025, Xu 2018). Assimilation, however, is not inevitable, as some migrants continue to prioritise sustainable, multimodal practices shaped by identity, wellbeing, or environmental concern.

Finally, sustainable mobility awareness reveals a clear disconnect between attitudes and behaviour. Although only 47% of migrants consider sustainable transport important, everyday practices remain comparatively sustainable, with 77% not owning a private car. Sustainability is experienced pragmatically rather than ideologically, shaped by infrastructure quality, safety concerns, and adaptation to Malta's car-oriented environment. Intentions to own a car are inversely related to willingness to shift modes, while satisfaction with transport infrastructure significantly increases openness to public transport. Together, these findings underline both the vulnerability and the potential of migrant mobility patterns, suggesting that improvements in public transport reliability and infrastructure could play a decisive role in sustaining and strengthening more sustainable urban mobility in Malta.

## 8.2 Addressing Research Questions and Objectives

This study seeks to understand the mobility practices of international migrant commuters aged 25 to 44 in Malta through the following research questions:

1. **What is the primary mode of transport used by international migrant commuters in Malta, and what factors influence their mode choices?**
2. **What are the travel behaviour patterns of these migrant commuters?**
3. **To what extent do migrant commuters demonstrate awareness of sustainable transport options?**

Correspondingly, the study is guided by three objectives aligned with these questions:

- **Objective 1:** To identify and analyse the main modes of transport used by migrant commuters and the factors shaping their choices.
- **Objective 2:** To examine travel behaviour patterns among migrant commuters.
- **Objective 3:** To assess migrant commuters' awareness and understanding of sustainable mobility practices.

By addressing these objectives, the research seeks to fill key gaps in the literature while informing policy interventions that promote equitable, accessible, and sustainable mobility within Malta's car-dependent context. In doing so, it aims to support migrant integration and contribute to reducing transport-related inequalities experienced by migrant commuters.

### **1. What is the primary mode of transport used by international migrant commuters in Malta, and what factors influence their mode choices?**

This question was addressed through both qualitative interviews and quantitative surveys (Chapters 5 and 6). The study found that buses are the dominant mode of transport among migrant commuters (61%), with relatively low car ownership (23%). Key factors influencing mode choice included cost, convenience, and traffic congestion. Qualitative data revealed migrants appreciate the affordability and accessibility of buses but highlighted issues such as unreliability and overcrowding. Some migrants aspire to car ownership as a symbol of integration and improved quality of life, but economic and infrastructural barriers limit this. Thus, mode choice is shaped by a mix of practical considerations and broader socio-economic constraints within Malta's car-dependent transport system.

## **2. What are the travel behaviour patterns of these migrant commuters?**

Travel behaviour patterns were explored through detailed qualitative insights and supported by quantitative demographic and spatial analysis. Most migrants live and work in urban areas, particularly the Northern Harbour region, and their commuting distances tend to be short, favouring bus use and walking. The study identified dynamic and adaptive behaviour, where migrants initially rely heavily on public transport due to constraints but may gradually assimilate into Malta's car-centric culture over time as access to cars and licenses increases. Variations in travel patterns are linked to nationality region, age, and arrival year. Migrants from car-dependent countries show a higher tendency toward private car use, while others maintain more sustainable, multimodal practices shaped by identity and environmental concerns.

## **3. To what extent do migrant commuters demonstrate awareness of sustainable transport options?**

The dissertation assessed sustainable mobility awareness through interviews and surveys exploring attitudes and perceptions. While only 47% of migrants considered sustainable transport important, many practiced comparatively sustainable travel behaviours such as reliance on buses and low car ownership, largely out of pragmatism rather than ideology. The research revealed a disconnect between attitudes and behaviour, with many migrants adapting to Malta's car-oriented infrastructure and safety challenges. Satisfaction with public transport and infrastructure positively influenced openness to sustainable modes, while aspirations for car ownership reduced willingness to shift away from private cars. This indicates potential for promoting sustainable mobility, contingent on improvements in service quality and infrastructure.

### **8.3 Impact of the Study**

This study makes a significant and novel contribution to academic knowledge by filling a critical gap at the intersection of migration and urban mobility within the distinctive context of Malta. As a small, densely populated island with intense car dependence, Malta presents unique mobility inequities and infrastructural challenges that are underexplored in existing literature. Utilising a robust mixed-methods design, the research offers a nuanced understanding of international migrant commuters' travel behaviours, mode choices, and sustainable mobility awareness. By integrating qualitative and quantitative data, the study enriches theoretical insights on transport assimilation, socio-economic influences, and the negotiation of cultural

and structural factors shaping migrant mobility. This case study advances academic discourse on inclusive, sustainable urban transport and migrant integration, providing a valuable framework for future research in similarly complex, car-dependent settings.

The study highlights the everyday mobility challenges faced by migrant commuters in Malta, underscoring how transport inequalities disproportionately impact their access to employment, services, and social inclusion. Migrants are the heaviest users of public transport, especially buses, which are often unreliable and overcrowded, exacerbating their mobility constraints. By centering migrant experiences, the research calls attention to the urgent need to listen to this key user group and address their specific needs. Doing so offers a powerful opportunity not only to improve the public transport system but also to foster a fairer and more equitable society where migrants can overcome barriers imposed by transport inequity. This enhanced understanding promotes empathy and supports community dialogue, emphasising that migrants' pragmatic mobility adaptations are central to their integration and participation in Maltese society.

The study provides vital evidence-based insights to inform policymaking aimed at creating equitable, accessible, and sustainable transport systems in Malta. Key factors influencing migrant mode choices, such as cost, convenience, and traffic congestion, are identified alongside critical gaps in public transport reliability and infrastructure. Importantly, the research focuses on the concept of a “honeymoon period,” an early settlement phase when migrants exhibit adaptive and sustainable mobility habits. This period represents a strategic window for policymakers and stakeholders to implement targeted interventions that encourage migrants to remain loyal to public transport, particularly buses, thereby reducing long-term car ownership ambitions. By enhancing service reliability, safety, and cultural framing, and by providing social support tailored to migrants' needs, Malta can retain this vital user group within sustainable mobility systems. These policy recommendations not only address transport inequities but also contribute to Malta's broader environmental objectives and sustainable urban development goals.

#### 8.4 Recommendations for Policy

The highest priority is to capitalise on the “honeymoon period” experienced by migrants during their initial settlement. This is the stage when migrants are most receptive to adopting sustainable travel habits, particularly the use of buses. Policy initiatives should target this phase

through clear communication, orientation programmes, and guidance on navigating the public transport system. Supporting migrants at this stage can foster long-term loyalty to public transport and reduce future reliance on private cars.

This can happen through improving service reliability and comfort. Overcrowding on busy routes must be addressed by increasing bus frequency where passenger demand is consistently high, particularly during peak hours and seasonal surges caused by tourism. Reducing crowding enhances hygiene and safety, while providing a more pleasant commuting experience that allows passengers to relax, read, or focus during their journey.

Harmonising bus schedules and routes is another key recommendation. Transfers between buses should be seamless, with synchronised timetables to minimise waiting times. Routes should be more direct, connecting residential areas with major work hubs. Service planning should continue to assess last-mile accessibility in lower-density residential districts and peripheral localities, ensuring equitable pedestrian access to public transport infrastructure. Well-lit and sheltered bus stops should be installed to improve safety and convenience.

Additionally, a dynamic and flexible approach to planning is essential. Timetables should be adjusted based on real-time demand, peak hours, and seasonal variations rather than following a fixed schedule. Continuous monitoring of passenger patterns and route effectiveness will allow authorities to better tailor services to the needs of migrants and other users. By combining early engagement, improved comfort, harmonised routes, and responsive planning, Malta can retain migrant commuters as regular public transport users and strengthen sustainable urban mobility across the island.

Last but not least, the continuation of fare-free public transport should remain a central component of Malta's sustainable mobility strategy, particularly for migrant commuters and other economically vulnerable groups. However, affordability alone is insufficient to ensure long-term modal shift without simultaneous improvements in reliability, efficiency, and network connectivity.

## 8.5 Future Work

Future research could build on this study by adopting a longitudinal approach to track changes in migrant commuting patterns over time, capturing how travel behaviour evolves as migrants

settle and whether they ultimately shift towards car use. Comparative studies with other islands, such as Sicily, could offer valuable insights into how differing transport infrastructures, policies, and cultural contexts shape migrant mobility within an island setting. Furthermore, future work could adopt a more culturally sensitive perspective, examining the mobility experiences of specific migrant groups, including refugees, asylum seekers, or undocumented migrants, to better understand the barriers and adaptations that influence their travel behaviour in Malta.



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# Appendices

## Appendix 4.1: The Consent Form for the Interviews and the Activity Diaries



### Participant's Consent Form

#### Understanding Travel Behaviour, and Attitudes Towards Sustainable Mobility Amongst Migrant Commuters in Malta

I, the undersigned, give my consent to take part in the study conducted by **Amina Semaoui**. This consent form specifies the terms of my participation in this research study.

1. I have been given written and/or verbal information about the purpose of the study; I have had the opportunity to ask questions and any questions that I had were answered fully and to my satisfaction.
2. I also understand that I am free to accept to participate, or to refuse or stop participation at any time without giving any reason and without any penalty. Should I choose to participate, I may choose to decline to answer any questions asked. In the event that I choose to withdraw from the study, any data collected from me will be erased as long as this is technically possible (for example, before it is anonymised or published), unless erasure of data would render impossible or seriously impair achievement of the research objectives, in which case it shall be retained in an anonymised form.

I understand that I have been invited to participate in a semi-structured interview in which the researcher will **ask questions about mobility and sustainable mobility. At the end of the interview, participants will be asked to fill out a travel diary to document detailed daily travel experience based on their activities. Participants will record comprehensive daily travel experiences, such as a typical commute day like Tuesday and a weekend day. They will detail their activities and modes of transport, alongside trip purposes, durations, destinations, environmental considerations, satisfaction levels, challenges, incidents of lateness for work or school, and observations.**

**From this, the researcher aims to explore the travel behaviour and attitudes towards sustainable mobility among migrant commuters aged 25 to 44 in Malta.** I am aware that **I will participate by conducting a semi-structured interview and filling in a travel diary, lasting approximately 45 minutes, allowing for an in-depth exploration of my experiences and perspectives.** I understand that this research is to be conducted in a place and at a time that is convenient for me.

3. I understand that my participation *does not entail any known or anticipated risks.*

4. I understand that *there are no direct benefits to me from participating in this study*. I also understand that this research may benefit others **by identifying opportunities to encourage a shift towards more sustainable transport among international migrant commuters in Malta. By understanding the travel behaviour and attitudes of this demographic group, the research can inform policies, initiatives, and interventions that promote the uptake of sustainable mobility options among international migrant commuters in Malta. Furthermore, this research will suggest recommendations for stakeholders to re-orient transport policies towards a mindset that considers the specific needs of the environment and international migrants residing in Malta.**

5. I understand that, under the General Data Protection Regulation (GDPR) and national legislation, I have the right to access, rectify, and where applicable, ask for the data concerning me to be erased.

6. I understand that all data collected will be *erased on completion of the study*.

7. I am aware that my identity and personal information will not be revealed in any publications, reports or presentations arising from this research.

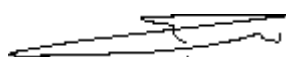
8. I have been provided with a copy of the information letter and understand that I will also be given a copy of this consent form.

I have read and understood the above statements and agree to participate in this study.

Name of participant: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



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## ADDITIONAL CLAUSES TO BE INCLUDED ONLY IF APPLICABLE:

### *If applicable (audio recording):*

9. I am aware that, by marking the first-tick box below, I am giving my consent for this **study** to be **audio recorded** and converted to text as it has been recorded (transcribed).

### **MARK ONLY IF AND AS APPLICABLE**

- I agree to this **research** being **audio recorded**.
- I do not agree to this **research** being **audio recorded**.

### *If applicable (interviews only):*

#### *In the case of participants who will NOT be identifiable*

10. I am aware that extracts from my interview may be published (e.g., in a dissertation, academic journals) and/or presented (e.g., during conferences, meetings), either in anonymous form, or using a pseudonym (a made-up name or code, e.g., respondent A).

### *If there is a need to ensure confidentiality (e.g., when collecting special categories of personal data):*

11. I am aware that my data will be pseudonymised, i.e., my identity will not be noted on transcripts or notes from my interview, but instead, a code will be assigned. The codes that link my data to my identity will be stored securely and separately from the data. Raw identifiable data will be encrypted and stored offline on an external hard drive or flash drive, or a secure UM server (not the UM Google Drive). Any material in hard copy form will be placed in a locked cupboard. Only my supervisor and myself (and in exceptional cases, examiners) will have access to this data.

## **Appendix 4.2: The Consent Statement for the Questionnaires**

This questionnaire is part of a Master's Dissertation at the University of Malta, Institute for Climate Change and Sustainable Development. It explores the travel behaviour and attitudes of migrant commuters in Malta towards sustainable mobility.

**Examples of sustainable mobility options include:** walking, cycling, using public transport (such as buses and ferries), and owning hybrid or electric vehicles (including cars, motorcycles, and bicycles).

**Eligibility criteria:** Please ensure you meet the following criteria before proceeding:

- You are a non-Maltese individual residing in Malta.
- You are employed.
- You have lived in Malta for at least 12 months or intend to stay for 12 months or more.
- You are 25 years or older.

This research complies with the University of Malta's Research Code of Practice and Research Ethics Review Procedures. All responses will remain strictly anonymous. Participation is entirely voluntary, and you may withdraw at any time.

For any inquiries, please contact:

 [amina.semaoui.24@um.edu.mt](mailto:amina.semaoui.24@um.edu.mt) | [therese.bajada@um.edu.mt](mailto:therese.bajada@um.edu.mt)

**Estimated completion time:** 3–5 minutes.

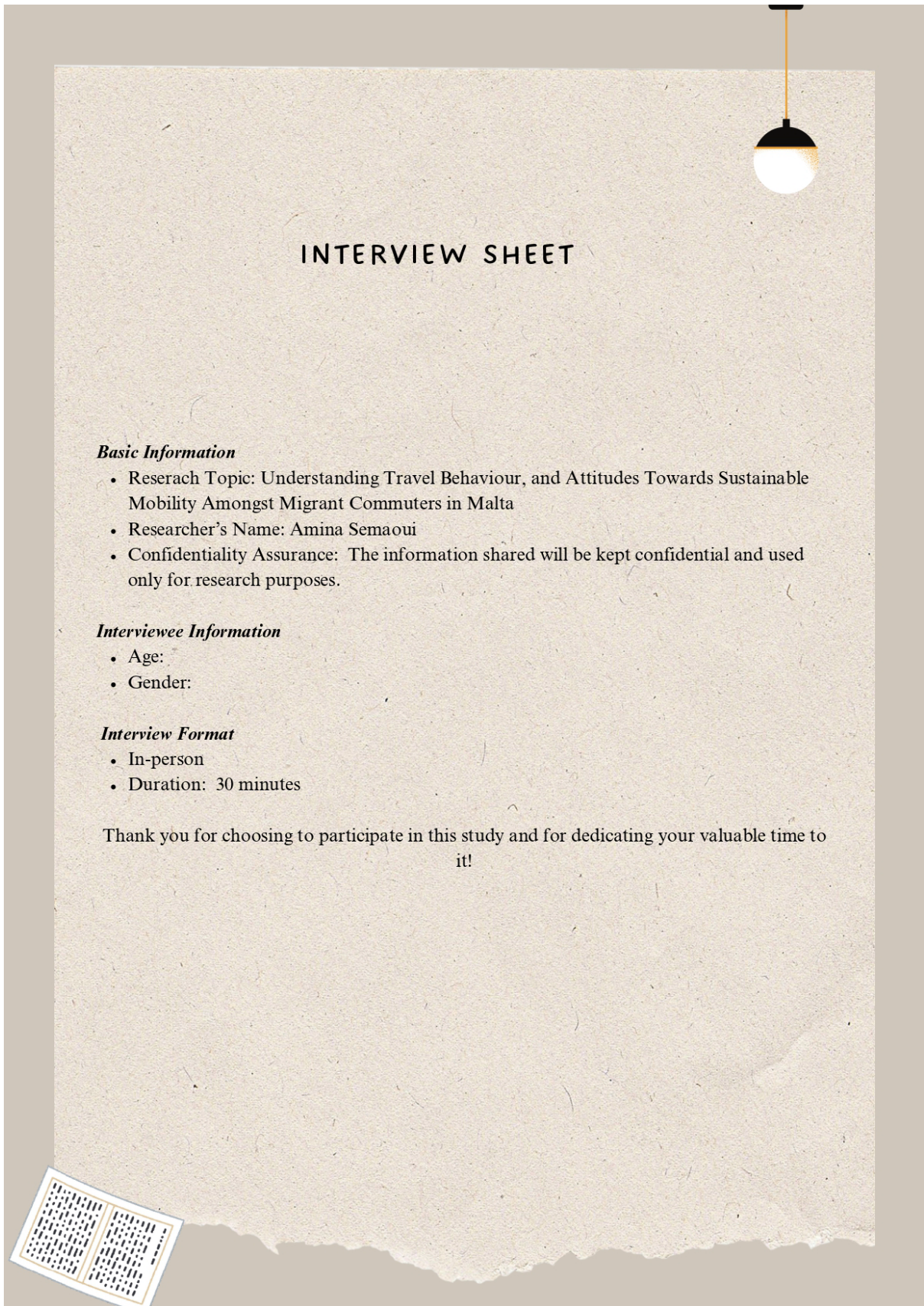
## Appendix 4.3: A Summary of the Interview Questions and their Rationale

| Semi-Structured Interview Questions                             | Justification                                                                                                                   |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Close ended Questions</b>                                    |                                                                                                                                 |
| Nationality                                                     | Identifying nationality helps understand cultural and geographical factors that might influence transport choices.              |
| Place of Birth                                                  | Place of birth provides insights into the respondent's prior transport environment and habits.                                  |
| Place of Residence Before Arriving in Malta                     | Establishing the interviewee's previous residence helps analyse changes in behaviour after moving to Malta.                     |
| Driving License Acquisition and Place                           | Understanding driving license status is crucial for assessing car dependency and access to private transport.                   |
| Car Ownership                                                   | Car ownership is a significant factor influencing mode choices and access to private transport.                                 |
| Year of Arrival in Malta                                        | Helps examine changes in travel patterns over time and assess integration into Malta's transport system.                        |
| Occupation                                                      | Occupation type often correlates with commute frequency, travel distance, and choice of transport modes.                        |
| Residential Location in Malta                                   | Residential location determines proximity to work and accessibility of transport options.                                       |
| Dwelling Type                                                   | Dwelling type may influence the overall well-being, including the satisfaction towards transport choice.                        |
| Type of Household                                               | Household composition can impact travel needs, such as carpooling or school drop-offs.                                          |
| Employment Location                                             | The location of employment influences commute distance and transport mode choice.                                               |
| <b>Open ended Questions</b>                                     |                                                                                                                                 |
| Introduce yourself the way you feel like to introduce yourself. | Allows interviewees to share context about their background, providing nuanced insights into their mobility patterns and needs. |
| Describe a typical day of work.                                 | Understanding daily routines helps identify regular travel patterns and preferred transport modes.                              |
| Describe a typical weekend day.                                 | Captures differences between workday and weekend travel behaviours.                                                             |

|                                                                                                                       |                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| What transport modes do you generally use?                                                                            | Directly addresses the research question by identifying the transport modes used.                                                                 |
| Have you changed your mode of transport since arriving in Malta? What is your current preferred mode?                 | Explores adaptation to Malta's transport system and reasons for any changes in mode preferences.                                                  |
| What did you notice in Malta in terms of transport?                                                                   | Assesses perceptions of Malta's transport system, including awareness and experiences with sustainable modes.                                     |
| Why did you choose where you live, and have you changed addresses since arriving in Malta?                            | Examines how residential location impacts transport choices and accessibility.                                                                    |
| Where do you work, and have you changed your place of work since arriving in Malta?                                   | Captures the relationship between work location and commute patterns.                                                                             |
| Can you tell me about your travel activities in the country where you lived before Malta?                             | Provides a comparative perspective on travel behaviours before and after migration.                                                               |
| What do you think about changing modes of transport? Would you consider using a car, ferry, bus, walking, or cycling? | Explores openness to change and factors driving such changes.<br>Identifies preferences and motivations for sustainable or non-sustainable modes. |
| Do you think there are barriers to using sustainable options?                                                         | Identifies perceived challenges to adopting sustainable transport options.                                                                        |



## Appendix 4.4: The Interview Sheet with Prompts



### INTERVIEW SHEET

**Basic Information**

- Reserach Topic: Understanding Travel Behaviour, and Attitudes Towards Sustainable Mobility Amongst Migrant Commuters in Malta
- Researcher's Name: Amina Semaoui
- Confidentiality Assurance: The information shared will be kept confidential and used only for research purposes.

**Interviewee Information**

- Age:
- Gender:

**Interview Format**

- In-person
- Duration: 30 minutes

Thank you for choosing to participate in this study and for dedicating your valuable time to it!



# INTERVIEW SHEET

## Semi Structured Interview

### *Close ended questions*

#### 1) Nationality

- Italian
- British
- Indian
- Filipino
- Bulgarian
- Serbian
- Libyan
- Nepalese
- Albanian
- Syrian
- Other: (Please specify)

#### 2) Place of Birth

(Open-ended response)

#### 3) Place of Residence Before Arriving in Malta

(Open-ended response)

#### 4) Driving License Acquisition and Place

(Open-ended response)

#### 5) Car Ownership

- Yes, I own a car
- No, I do not own a car
  - If not, do you intend to own a car?
    - Yes
    - No
    - Maybe





## INTERVIEW SHEET

6) Year of Arrival in Malta

(Open-ended response)

7) Occupation

- Armed Forces
- Managers
- Professionals
- Technicians and Associate Professionals
- Clerical Support Workers
- Service and Sales Workers
- Skilled Agricultural, Forestry, and Fishery Workers
- Craft and Related Trades Workers
- Plant and Machine Operators, and Assemblers
- Elementary Occupations
- Other services (Specify): \_\_\_\_\_

8) Residential Location in Malta (e.g. Attard)

(Open-ended response)

9) Dwelling Type

- Terraced House
- Semi/Fully Detached House
- Maisonette
- Flat/Penthouse
- Other: (Please specify)

10) Type of Household (Please select all that apply)

- Single Occupancy
- Spouse/partner
- Children
  - How many (Please specify)
- Other relatives
- Shared with Friends/Colleagues
- Other: (Please specify)

11) Employment Location

(Open-ended response)





## INTERVIEW SHEET

### *Open ended questions*

- 1) Introduce yourself the way you feel like to introduce yourself.  
Include details about your background, lifestyle, and why you moved to Malta.
- 2) Describe a typical day of work.
- 3) Describe a typical weekend day.
- 4) What transport modes do you generally use?  
Include car, motorcycle, bus, ferry, walking, cycling, or ride-sharing.
- 5) Have you changed your mode of transport since arriving in Malta? What is your current preferred mode of transport?
  - Can you elaborate upon Opportunities?  
(*Consider economic, environmental, health or social benefits*).
  - Can you elaborate upon Barriers?
- 6) What did you notice in Malta in terms of transportation?
- 7) Why did you choose where you live, and have you changed addresses since arriving in Malta?
- 8) Where do you work, and have you changed your place of work since arriving in Malta?
- 9) Can you tell me about your travel activities in the country where you lived before Malta?  
What did you notice about transportation in your previous place of residence before moving to Malta?





## INTERVIEW SHEET

10) What do you think about changing modes of transport?

Would you consider using a car, ferry, bus, walking, or cycling? Why?

(For example, it could be for physical or health-related well-being, or due to economic factors.)

11) Do you think there are barriers to using sustainable options like the bus, ferry, walking, or cycling?

Barriers could be related to safety, infrastructure, or personal preferences.

12) Is there anything else you would like to share that was not covered in the interview?



### Appendix 4.5: A Summary of the Activity Diary Questions and their Rationale

| Activity Diary Question                                                                                                                    | Justification                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reporting a typical workday. e.g., Tuesday                                                                                                 |                                                                                                                                                                     |
| Please describe your main activities for Work.                                                                                             | Understanding daily work-related activities helps identify travel purposes and how work shapes commuting patterns.                                                  |
| Choose Origin.                                                                                                                             | Identifying origin points provides insights into residential location and its impact on commuting patterns.                                                         |
| Choose Destination.                                                                                                                        | Destination data is essential for analysing work-related travel and understanding commuting distances.                                                              |
| Specify the approximate time you leave your origin and arrive at your destination.                                                         | Captures travel times, which are crucial for analysing commute durations and their influence on mode choices.                                                       |
| At what time does your workday start?                                                                                                      | Work start times provide context for peak commuting periods and transport system usage.                                                                             |
| What sector do you work in?                                                                                                                | The type of employment sector often influences mode choice due to job location, schedule, and income.                                                               |
| Do you leave work during the day? If yes, how many times?                                                                                  | Captures mid-day travel patterns and secondary trip purposes, highlighting the complexity of travel behaviours.                                                     |
| How long does each trip typically take?                                                                                                    | Helps quantify travel times and evaluate efficiency and satisfaction with the transport system.                                                                     |
| Transport Modes: What modes of transport do you use during the day?                                                                        | Identifies transport modes, allowing for the analysis of mode preferences and dependencies.                                                                         |
| Satisfaction Indicators: Rate aspects of your daily transport experience (e.g., satisfaction, punctuality, customer care, infrastructure). | Measures commuter satisfaction and highlights areas for improvement in transport services and infrastructure.                                                       |
| Opportunities: Which opportunities does your current transport mode provide? Which opportunity is most important to you?                   | Identifies the perceived benefits of different modes of transport, such as time or cost savings, which influence preferences.                                       |
| Barriers: Have you experienced barriers while commuting? If applicable, how frequently?                                                    | Identifies challenges faced by commuters, including safety concerns, discrimination, or inadequate infrastructure, which may hinder sustainable transport adoption. |
| Questions per mode                                                                                                                         |                                                                                                                                                                     |
| Car                                                                                                                                        |                                                                                                                                                                     |
| Was this trip entirely by car, or did you combine the car with another mode of transport?                                                  | Identifies multimodal transport patterns and highlights the role of cars in combined trips.                                                                         |

|                                                                                           |                                                                                                                                                         |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| How long did it take for you to walk to the car?                                          | Provides insights into access times, which influence overall trip durations and convenience.                                                            |
| Did you park at a designated facility at your destination?                                | Understanding parking behaviour helps assess the availability and convenience of infrastructure supporting car use.                                     |
| Did you have to make stops or detours during this trip?                                   | Highlights interruptions in travel, which may affect travel time reliability and satisfaction.                                                          |
| How long did it take to find parking at your destination?                                 | Assesses the efficiency of parking systems, which is a key factor in the attractiveness of car use.                                                     |
| Was there a parking fee?                                                                  | Captures the economic aspect of car use and its influence on mode choice decisions.                                                                     |
| How would you rate the traffic conditions for this trip?                                  | Provides data on potential congestion levels, which impact travel time and commuter stress.                                                             |
| How long did it take you to walk from the parking location to your final destination?     | Captures egress times, which contribute to the overall efficiency and satisfaction of car-based travel.                                                 |
| Bus                                                                                       |                                                                                                                                                         |
| Was this trip entirely by bus, or did you combine the bus with another mode of transport? | Identifies multimodal transport patterns and highlights the role of buses in combined trips.                                                            |
| What was the bus number for this trip?                                                    | Collecting bus numbers helps map specific routes used by commuters and assess route popularity and coverage.                                            |
| Did you experience any barriers during your bus journey? (Please select all that apply)   | Identifies challenges like overcrowding or safety concerns that may hinder the adoption of bus travel as a sustainable mode of transport.               |
| How long did you have to walk to reach the bus stop?                                      | Captures access times, which are critical for evaluating the convenience and accessibility of bus services.                                             |
| How long did you have to wait for the bus to arrive?                                      | Helps assess the efficiency of bus services and their adherence to schedules, which influence satisfaction and reliability.                             |
| Do you take other buses?                                                                  | Identifies multimodal journeys involving multiple bus routes, which may indicate gaps in direct route availability.                                     |
| How long did you have to wait for your next bus to arrive?                                | Evaluates transfer wait times, which are significant for assessing the overall efficiency of bus travel and the satisfaction of interviewees.           |
| How long did it take to reach your destination by bus?                                    | Captures travel times, which are key for evaluating the efficiency of bus services and the satisfaction of interviewees.                                |
| How long did you have to walk from the bus stop to your final destination?                | Captures egress times, contributing to the overall convenience and efficiency of bus-based travel.                                                      |
| Please rate the following characteristics of the current bus quality service              | Provides a comprehensive assessment of bus service quality, highlighting strengths and areas for improvement to promote sustainable transport adoption. |
| Ferry                                                                                     |                                                                                                                                                         |

|                                                                                               |                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Was this trip entirely by ferry, or did you combine the ferry with another mode of transport? | Identifies multimodal transport patterns and highlights the role of ferries in combined trips.                                                                                                                                                |
| What was the ferry name or number for this trip?                                              | Collecting ferry names or numbers helps analyse specific routes used and assess route popularity and coverage.                                                                                                                                |
| Did you experience any barriers during your ferry journey? (Please select all that apply)     | Identifies challenges like overcrowding or safety concerns that may hinder the adoption of ferry travel as a sustainable mode of transport.                                                                                                   |
| How long did you have to walk to reach the ferry terminal?                                    | Captures access times, which are critical for evaluating the convenience and accessibility of ferry services.                                                                                                                                 |
| How long did you have to wait for the ferry to arrive?                                        | Helps assess the efficiency of ferry services and their adherence to schedules, which influence satisfaction and reliability.                                                                                                                 |
| How long did you have to walk from the ferry terminal to your final destination?              | Captures egress times, contributing to the overall convenience and efficiency of ferry-based travel.                                                                                                                                          |
| How long did it take to reach your destination by ferry?                                      | Captures travel times, which are key for evaluating the efficiency and competitiveness of ferry services.                                                                                                                                     |
| Please rate the following characteristics of the current ferry quality service                | Provides a comprehensive assessment of ferry service quality, highlighting strengths and areas for improvement to promote sustainable transport adoption.                                                                                     |
| Bicycle                                                                                       |                                                                                                                                                                                                                                               |
| Was this trip entirely by bicycle, or did you combine cycling with another mode of transport? | This question directly identifies the main transport mode(s) used by commuters, helping to analyse the modal choices and the potential reasons for combining modes.                                                                           |
| What type of bicycle was this?                                                                | This question directly identifies the main transport mode(s) used by commuters, helping to analyse the modal choices and the potential reasons for combining modes.                                                                           |
| Where did you store your bicycle?                                                             | The storage location reflects barriers or conveniences in choosing bicycles, linking to commuters' patterns of using bicycles for commuting.                                                                                                  |
| How long did you have to walk with your bicycle ?                                             | Walking with the bicycle reveals important behaviour patterns, including the extent of integration between cycling and walking, which provides insight into travel habits and challenges faced by cyclists.                                   |
| How long did you have to walk from the bicycle to your final destination?                     | Similar to the previous question, this assesses the extent of combined cycling and walking, shedding light on the broader commuting behaviour and how migrants balance modes.                                                                 |
| How long did it take to reach your destination by bicycle?                                    | The travel duration by bicycle gives direct insight into commuting times, which is central to understanding daily patterns and preferences for transport.                                                                                     |
| How much did you pay to park your bicycle?                                                    | Parking costs can be a key factor influencing cycling choices. This question helps explore whether the costs associated with using bicycles (a more sustainable mode) affect mode choices, especially when compared to other transport modes. |



|                                                                                             |                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Did you encounter any barriers to cycling on this trip?                                     | Barriers to cycling (e.g., poor infrastructure, traffic congestion) reflect both practical and behavioural challenges, providing a deeper understanding of travel patterns and decision-making in relation to cycling.                                 |
| Motorcycle                                                                                  |                                                                                                                                                                                                                                                        |
| Was this trip entirely by motorcycle, or did you combine it with another mode of transport? | This question helps identify the primary and secondary transport modes used. This directly addresses the modal choice behaviour of commuters, indicating whether motorcycles are used alone or in combination with other transport modes.              |
| What type of motorcycle did you use for this trip?                                          | By categorising the type of motorcycle (e.g., scooter, electric motorcycle), this question provides deeper insight into the types of motorcycle used for commuting, which can suggest the participant's views on sustainability.                       |
| How long did you have to walk to access your motorcycle (including walking time)?           | Walking to access the motorcycle is an important part of the travel behaviour, as it reflects the convenience or inconvenience of using motorcycles for commuting and contributes to understanding travel patterns and modal choice.                   |
| How long did you have to walk from the motorcycle to your final destination?                | This question assesses the final stage of the commute, shedding light on the balance between using motorcycles and the walking required to reach the final destination, which can influence commuter preferences.                                      |
| How long did it take to reach your destination by motorcycle?                               | Travel time by motorcycle directly relates to commuter behaviour and preferences. Understanding how long it takes to reach a destination helps reveal how practical and efficient motorcycles are compared to other modes of transport.                |
| How much did you pay to park your motorcycle?                                               | Parking fees impact the decision to use motorcycles, as cost is often a determining factor in the choice of transport. This question examines how parking costs influence commuter decisions and whether they factor into their choice of motorcycles. |
| Did you encounter any barriers to riding your motorcycle on this trip?                      | Identifying barriers to using motorcycles (e.g., road infrastructure, parking issues, weather) provides a deeper understanding of challenges faced by commuters, influencing their travel choices and behaviours.                                      |
| Walk                                                                                        |                                                                                                                                                                                                                                                        |
| Was this trip entirely on foot, or did you combine walking with another mode of transport?  | This question helps identify the primary mode of transport (walking) and whether it is used in combination with other modes. This links directly to understanding commuters' mode choices and behaviours.                                              |
| How long did it take to reach your destination on foot?                                     | Walking time is an important factor in understanding the convenience and efficiency of walking as a mode of transport. The duration provides insights into how walking fits into the broader commuting patterns.                                       |
| How do you assess your walk?                                                                | This question explores how commuters perceive their walking experience, which reflects their satisfaction and preferences for walking as a mode of transport.                                                                                          |

|                                                                                                                                                                              |                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Did you encounter any barriers during your walk?                                                                                                                             | Identifying barriers during walking helps understand the challenges commuters face, influencing their choice to walk or use alternative modes. It provides insight into the physical and environmental factors affecting walking behaviour.                                 |
| How would you rate the accessibility of pedestrian pathways for this trip?                                                                                                   | Accessibility of pedestrian pathways directly affects the walking experience and is a key factor in understanding why commuters may choose walking or avoid it.                                                                                                             |
| Did your walk include stairways or steep inclines?                                                                                                                           | Steep inclines or stairways can be a significant barrier or challenge to walking. This question helps assess the physical demands of walking and how such factors influence walking as a preferred mode.                                                                    |
| Telework                                                                                                                                                                     |                                                                                                                                                                                                                                                                             |
| Frequency of Telework: How often do you telework?                                                                                                                            | The frequency of teleworking is an important factor in understanding how telework might affect the need for physical commuting. This information helps to analyse the extent to which telework reduces dependency on traditional transport.                                 |
| Opportunities and Barriers to Teleworking: Opportunities What opportunities do you see in teleworking?                                                                       | Opportunities in teleworking, like better work-life balance or reduced commuting time, are linked to the potential environmental benefits of telework, which can influence awareness and adoption of more sustainable commuting practices.                                  |
| Barriers What barriers do you experience when teleworking?                                                                                                                   | Understanding barriers to teleworking, such as technical issues or difficulty separating work from home life, helps assess how these challenges might affect commuter behaviour and their decision to telework versus commuting physically.                                 |
| Feelings During Teleworking (Anxiety Present or Absent): When you telework, how do you typically feel?                                                                       | Feelings of anxiety during teleworking can influence the effectiveness and frequency of telework. This question helps assess emotional responses to telework and can explain how feelings of stress or calm may impact the need for commuting and overall travel behaviour. |
| Reporting a typical week-end day (when you are not working)<br>Note: All the questions used to report a typical weekend day are identical to those used to report a weekday. |                                                                                                                                                                                                                                                                             |
| Leisure and Errands: Please describe your main activities for Leisure and Errands.                                                                                           | This question helps identify how international migrant commuters allocate their time on the weekend, revealing patterns in their mobility choices and preferences for activities like leisure or running errands.                                                           |

## Appendix 4.6: The Activity Diary Template

# Activity Diary Booklet

## Activity Diary Typical Workday

Reporting a typical working day. e.g., Tuesday

1. 1) Please describe your main activities for Work

How you were mobile e.g. walked, used the car, and explain where you went.

---

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---

---

2. 2) Choose Origin

---

3. 3) Choose Destination

---

- 4) Specify the approximate time you leave your origin and arrive at your destination.

4. Time of Departure

---

5. Time of Arrival

---

6. 5) At what time does your workday start?

*(Specify the start time of your workday)*

---

6) What sector do you work in?

7. *(Choose one)*

⌵ Dropdown

*Mark only one oval.*

- ☐ Armed Forces
- ☐ Managers
- ☐ Professionals
- ☐ Technicians and Associate Professionals
- ☐ Clerical Support Workers
- ☐ Service and Sales Workers
- ☐ Skilled Agricultural, Forestry, and Fishery Workers
- ☐ Craft and Related Trades Workers
- ☐ Plant and Machine Operators, and Assemblers
- ☐ Elementary Occupations
- ☐ Other services

8. Other services (Specify)

---

7) Do you leave work during the day?

9. Choose one

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes
- ☐ No
- ☐ Occasionally

10. If yes, how many times?

*(Specify the number of trips made during the day)*

---

11. 8) How long does each trip typically take?

*(Please provide an approximate duration in minutes for each trip)*

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#### Satisfaction Indicators

Rate the following aspects of your daily transport experience on a scale of 1 to 5 (where 1 is very poor and 5 is excellent)

12. 1. Consumer Satisfaction

*How satisfied are you overall?*

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

13. 2. Punctuality

*Are the transport modes timely?*

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

14. 3. Customer Care

*How well do you feel treated by transport providers?*

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

15. 4. Infrastructure

*How would you rate the quality of the transport facilities?*

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

Opportunities

1) Which of the following opportunities does your current transport mode provide?

16. *(Select all that apply)*

*Tick all that apply.*

- ☐ Time savings
- ☐ Cost savings
- ☐ Improved physical health (e.g., walking, cycling)
- ☐ Convenience and accessibility
- ☐ Environmental sustainability (e.g., using bus, ferry)
- ☐ Improved mental well-being (e.g., less stress)
- ☐ None of the above

17. None of the above *(Please specify)*

---

18. 2) Which opportunity is most important to you?  
(Select one)

⌵ Dropdown

*Mark only one oval.*

- ☐ Time savings
- ☐ Cost savings
- ☐ Improved physical health (e.g., walking, cycling)
- ☐ Convenience and accessibility
- ☐ Environmental sustainability (e.g., using bus, ferry)
- ☐ Improved mental well-being (e.g., less stress)

#### Barriers

1) Have you experienced any of the following barriers while commuting?

19. *(Select all that apply)*

*Tick all that apply.*

- ☐ Incidents of lateness for work
- ☐ Violence or harassment
- ☐ Discrimination
- ☐ Safety concerns (e.g., accidents or dangerous conditions)
- ☐ Inadequate infrastructure (e.g., lack of bus stops, cycle paths)
- ☐ None of the above

20. None of the above (please specify)

---

21. How frequently do you experience these barriers?

⌵ Dropdown

*Mark only one oval.*

- ☐ Daily
- ☐ Weekly
- ☐ Occasionally
- ☐ Rarely
- ☐ Never

Transportation Modes

1) What modes of transport do you use during the day?



22. (Please specify)

Dropdown

Mark only one oval.

- ☐ Car Skip to question 24
- ☐ Ferry Skip to question 58
- ☐ Bus Skip to question 36
- ☐ Walk Skip to question 97
- ☐ Bicycle Skip to question 76
- ☐ Motorcycle Skip to question 87
- ☐ I telework Skip to question 108
- ☐ Other Skip to question 120

23. Other (please specify)

---

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---

Skip to question 120

Car

Specific questions per mode: **Think about a typical workday trip: Tuesday**

24. 1. Was this trip entirely by car, or did you combine the car with another mode of transport?

Dropdown

Mark only one oval.

- ☐ Entirely by car
- ☐ Combined with another mode

25. Combined with another mode (Please specify)

⌵ Dropdown

*Mark only one oval.*

☐ Car + Motorcycle

☐ Car + Bicycle

☐ Car + Walking

☐ Car + Ferry

☐ Car + Bus

26. 2. How long did it take for you to walk to the car?

⌵ Dropdown

*Mark only one oval.*

☐ Did not have to walk

☐ Less than 2 minutes

☐ 2-4 minutes

☐ 5-10 minutes

☐ Over 10 minutes

27. 3. Did you park at a designated facility at your destination?

⌵ Dropdown

*Mark only one oval.*

☐ Yes

☐ No

28. 4. Did you have to make stops or detours during this trip?

⌵ Dropdown

*Mark only one oval.*

☐ Yes

☐ No

29. If yes, how many ?

*Mark only one oval.*

- ☐ One stop
- ☐ Two stops
- ☐ Three stops
- ☐ More
- ☐ None

30. More stops (please specify)

---

31. 5. How long did it take to find parking at your destination?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

32. 6. Was there a parking fee?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes
- ☐ No

33. If yes, how much ?

⌵ Dropdown

*Mark only one oval.*

☐ Less than €1.00

☐ €1.00 - €1.99

☐ €2.00 - €2.99

☐ €3.00 - €3.99

☐ €4.00 - €4.99

☐ €5.00 or more

34. 7. How would you rate the traffic conditions for this trip?

⌵ Dropdown

*Mark only one oval.*

☐ No congestion

☐ Mild congestion

☐ Moderate congestion

☐ Severe congestion

35. 8. How long did it take you to walk from the parking location to your final destination?

⌵ Dropdown

*Mark only one oval.*

☐ Did not have to walk

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ Over 10 minutes

*Skip to question 120*

Bus

Specific questions per mode: **Think about a typical workday trip: Tuesday**

36. 1. Was this trip entirely by bus, or did you combine the bus with another mode of transport?  Dropdown

*Mark only one oval.*

- ☐ Entirely by bus  
☐ Combined with another mode

37. Combined with another mode (Please specify)  Dropdown

*Mark only one oval.*

- ☐ Bus + Motorcycle  
☐ Bus + Car  
☐ Bus + Ferry  
☐ Bus + Bicycle  
☐ Bus + Walking

38. 2. What was the bus number for this trip?

---

39. 3. Did you experience any barriers during your bus journey? *(Please select all that apply)*

*Tick all that apply.*

- ☐ Overcrowding
- ☐ Long waiting time
- ☐ Lack of seating
- ☐ Safety concerns (e.g., theft, harassment)
- ☐ Poor road or traffic conditions
- ☐ Other
- ☐ No

40. Other (please specify)

---

41. 5. How long did you have to walk to reach the bus stop?

 Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

42. 6. How long did you have to wait for the bus to arrive?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2-4 minutes

☐ 5-10 minutes

☐ 11-15 minutes

☐ 16-20 minutes

☐ Over 20 minutes

43. 7. Do you take other buses?

⌵ Dropdown

*Mark only one oval.*

☐ Yes

☐ No

If you took more than one:

44. Please specify how many

---

45. Please specify Bus number(s)

---

46. 8. How long did you have to wait for your next bus to arrive?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2-4 minutes
- ☐ 5-10 minutes
- ☐ 11-15 minutes
- ☐ 16-20 minutes
- ☐ Over 20 minutes
- ☐ No, I only took one bus

47. 9. How long did it take to reach your destination by bus?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 5 minutes
- ☐ 6-10 minutes
- ☐ 11-15 minutes
- ☐ 16-20 minutes
- ☐ 21-30 minutes
- ☐ Over 30 minutes

48. 10. How long did you have to walk from the bus stop to your final destination?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2-4 minutes
- ☐ 5-10 minutes
- ☐ 11-15 minutes
- ☐ Over 15 minutes



11. Please rate the following characteristics of the current bus quality service

(Where 5 = Excellent and 1 = Very Poor)

49. Availability: Extent of the service offer, in terms of geography, time frequency and transport mode

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

50. Accessibility: How easy is it to use the bus service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

51. Information: Is sufficient and clear information available to users?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

52. Time: Does the service adhere to schedules (punctuality) and offer reasonable trip lengths?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

53. Customer Care: How would you rate the behaviour and helpfulness of staff?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

54. Fare: How would you rate the cost of the service?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

55. Comfort: How comfortable is the bus service in terms of seating, space, and cleanliness?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

56. Security: How safe do you feel using the bus service?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

57. Impact on the Environment: How environmentally friendly do you think the bus service is?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

*Skip to question 120*

## Ferry

Specific questions per mode: **Think about a typical workday trip: Tuesday**

58. 1) Was this trip entirely by ferry, or did you combine the ferry with another mode of transport?

⌵ Dropdown

*Mark only one oval.*

- ☐ Entirely by ferry
- ☐ Combined with another mode

59. Combined with another mode (please specify)

*Mark only one oval.*

- ☐ Ferry + Motorcycle
- ☐ Ferry + Car
- ☐ Ferry + Bus
- ☐ Ferry + Bicycle
- ☐ Ferry + Walking

60. 2) What was the ferry name or number for this trip?

---

61. 3) Did you experience any barriers during your ferry journey? *(Please select all that apply)*

*Tick all that apply.*

- ☐ Overcrowding
- ☐ Long waiting time
- ☐ Lack of seating
- ☐ Safety concerns (e.g., theft, harassment)
- ☐ Poor weather or sea conditions
- ☐ Other
- ☐ No

62. If other (Please specify)

---

63. 4) How long did you have to walk to reach the ferry terminal?

 Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

64. 5) How long did you have to wait for the ferry to arrive?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 5 minutes

☐ 6–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ 21–30 minutes

☐ Over 30 minutes

65. 6) How long did you have to walk from the ferry terminal to your final destination?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ 11–15 minutes

☐ Over 15 minutes

66. 7) How long did it take to reach your destination by ferry?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 5 minutes

☐ 6–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ 21–30 minutes

☐ Over 30 minutes

8) Please rate the following characteristics of the current ferry quality service

(Where 5 = Excellent and 1 = Very Poor)

67. Availability: Extent of the service offer, in terms of geography, time frequency, and transport mode

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

68. Accessibility: How easy is it to use the ferry service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

69. Information: Is sufficient and clear information available to users?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

70. Time: Does the service adhere to schedules (punctuality) and offer reasonable trip lengths?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

71. Customer Care: How would you rate the behaviour and helpfulness of staff?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

72. Fare: How would you rate the cost of the service?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

73. Comfort: How comfortable is the ferry service in terms of seating, space, and cleanliness?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

74. Security: How safe do you feel using the ferry service?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

75. Impact on the Environment: How environmentally friendly do you think the ferry service is?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

*Skip to question 120*

## Bicycle

Specific questions per mode: **Think about a typical workday trip: Tuesday**

76. 1) Was this trip entirely by bicycle, or did you combine cycling with another mode of transport?  Dropdown

*Mark only one oval.*

- ☐ Entirely by bicycle  
☐ Combined with another mode

77. If combined with another mode (please choose one)  Dropdown

*Mark only one oval.*

- ☐ Cycling + Car  
☐ Cycling + Motorcycle  
☐ Cycling + Public Transport (Bus)  
☐ Cycling + Ferry  
☐ Cycling + Walking

78. 2) What type of bicycle was this?  Dropdown

*Mark only one oval.*

- ☐ Bicycle  
☐ E-Bike  
☐ Other

79. If other (Please specify)

---



80. 3) Where did you store your bicycle?

⌵ Dropdown

*Mark only one oval.*

- ☐ Inside the destination
- ☐ Just outside the destination
- ☐ In close proximity (Up to 5 minutes walk)
- ☐ Over 5 minutes walk
- ☐ This was not the last stage of my trip

81. 4) How long did you have to walk with your bicycle?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ Over 20 minutes

82. 5) How long did you have to walk from the bicycle to your final destination?

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ Over 20 minutes

83. 6) How long did it take to reach your destination by bicycle?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 5 minutes

☐ 6–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ 21–30 minutes

☐ Over 30 minutes

84. 7) How much did you pay to park your bicycle?

⌵ Dropdown

*Mark only one oval.*

☐ Free

☐ Less than €1.00

☐ €1.00–€1.99

☐ €2.00–€2.99

☐ €3.00–€3.99

☐ €4.00–€4.99

☐ €5.00 or more

85. 8) Did you encounter any barriers to cycling on this trip? (Please select all that apply)

*Tick all that apply.*

☐ Poor road infrastructure

☐ Lack of cycling lanes

☐ Traffic congestion

☐ Weather conditions

☐ Other

☐ No

86. If other (please specify)

---

*Skip to question 120*

Motorcycle

Specific questions per mode: **Think about a typical workday trip: Tuesday**

87. 1) Was this trip entirely by motorcycle, or did you combine it with another mode of transport?

⌵ Dropdown

*Mark only one oval.*

- ☐ Entirely by motorcycle
- ☐ Combined with another mode

88. Combined with another mode (Please choose one)

⌵ Dropdown

*Mark only one oval.*

- ☐ Motorcycle + Car
- ☐ Motorcycle + Bicycle
- ☐ Motorcycle + Public Transport (Bus)
- ☐ Motorcycle + Ferry
- ☐ Motorcycle + Walking

89. 2) What type of motorcycle did you use for this trip?

⌵ Dropdown

*Mark only one oval.*

- ☐ Standard Motorcycle
- ☐ Scooter
- ☐ Electric Motorcycle
- ☐ Other

90. If other (please specify)

---

91. 3) How long did you have to walk to access your motorcycle ?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ Over 20 minutes

92. 4) How long did you have to walk from the motorcycle to your final destination?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ Over 20 minutes

93. 5) How long did it take to reach your destination by motorcycle?

*Mark only one oval.*

- ☐ Less than 5 minutes
- ☐ 6–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ 21–30 minutes
- ☐ Over 30 minutes

94. 6) How much did you pay to park your motorcycle?

⌵ Dropdown

*Mark only one oval.*

- ☐ Free
- ☐ Less than €1.00
- ☐ €1.00–€1.99
- ☐ €2.00–€2.99
- ☐ €3.00–€3.99
- ☐ €4.00–€4.99
- ☐ €5.00 or more

95. 7) Did you encounter any barriers to riding your motorcycle on this trip?  Dropdown  
(Please select all that apply)

*Mark only one oval.*

- ☐ Poor road infrastructure
- ☐ Traffic congestion
- ☐ Limited parking availability
- ☐ Weather conditions
- ☐ Safety concerns (e.g., theft or accidents)
- ☐ Other
- ☐ No

96. If other (please specify)

---

*Skip to question 120*

Walk

Specific questions per mode: **Think about a typical workday trip: Tuesday**

97. 1) Was this trip entirely on foot, or did you combine walking with another mode of transport?  Dropdown

*Mark only one oval.*

- ☐ Entirely on foot
- ☐ Combined with another mode

98. Combined with another mode (Please choose one)

⌵ Dropdown

*Mark only one oval.*

- ☐ Walking + Car
- ☐ Walking + Motorcycle
- ☐ Walking + Public Transport (Bus)
- ☐ Walking + Ferry
- ☐ Walking + Cycling

99. 2) How long did it take to reach your destination on foot?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 5 minutes
- ☐ 6–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ 21–30 minutes
- ☐ Over 30 minutes

3) How do you assess your walk?

Rate the following aspects of your walk experience on a scale of 1 to 5 (where 1 is very poor and 5 is excellent)

100. How safe your walk experience is?  
(Where 1=unsafe, 3= unsure, 5= safe)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

101. How comfortable your walk experience is?  
(Where 1= uncomfortable, 3= unsure, 5= comfortable)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

102. How pleasant your walk experience is?  
(Where 1= unpleasant, 3= unsure, 5= pleasant)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

103. How vibrant your walk experience is?  
(Where 1= dull, 3= unsure, 5= vibrant)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

104. 4) Did you encounter any barriers during your walk?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes  
☐ No

105. If yes (please specify)

---



106. 5) How would you rate the accessibility of pedestrian pathways for this trip?  
Rate the following aspects on a scale of 1 to 5 (where 1= inaccessible, 3=unsure and 5=accessible)

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

107. 6) Did your walk include stairways or steep inclines?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes  
☐ No

*Skip to question 120*

Telework

Specific questions per mode: **Think about a typical workday trip: Tuesday**

108. 1. Frequency of Telework:  
How often do you telework?

⌵ Dropdown

*Mark only one oval.*

- ☐ Never  
☐ Rarely (1-2 days a month)  
☐ Sometimes (1-2 days a week)  
☐ Often (3-4 days a week)  
☐ Always

2. Opportunities and Barriers to Teleworking:

109. Opportunities

What opportunities do you see in teleworking? (Select all that apply)

*Tick all that apply.*

- ☐ Better work-life balance
- ☐ Increased productivity
- ☐ Reduced commuting time
- ☐ Other

110. If other (Please specify)

---

111. Barriers

What barriers do you experience when teleworking? (Select all that apply)

⌵ Dropdown

*Mark only one oval.*

- ☐ Lack of direct communication with colleagues
- ☐ Feelings of isolation
- ☐ Difficulty separating work from home life
- ☐ Technical issues (internet, software, etc.)
- ☐ Other

112. If other (please specify)

---

3. Feelings during teleworking (Anxiety Present or Absent):

When you telework, how do you typically feel? (Select the option that best describes your usual feelings during telework)

113. Do you feel anxiety while teleworking?

⌵ Dropdown

*Mark only one oval.*

☐ Yes

☐ No

114. For anxiety present

To what extent do you feel tense?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

115. For anxiety present

To what extent do you feel upset?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

116. For anxiety present

To what extent do you feel worried?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

117. For anxiety absent  
To what extent do you feel calm?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

118. For anxiety absent  
To what extent do you feel relaxed?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

119. For anxiety absent  
To what extent do you feel content?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

*Skip to question 120*

Activity Diary Typical Week-end day (When you are not working)

Reporting a typical week-end day. e.g., Saturday

Please describe your main activities for leisure and errands.

How you were mobile e.g. walked, used the car, and explain where you went.

120. Leisure

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121. Errands

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122. 2) Choose Origin

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123. 3) Choose destination

---

4) Specify the approximate time you leave your origin and arrive at your destination.

124. Time of Departure

---

125. Time of Arrival

---

126. 5) How long does each trip typically take?  
(Please provide an approximate duration in minutes or hours for each trip)

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127. 6) At what time do your activities start on a typical Saturday?  
(Specify the start time of your activity.)

---

#### Satisfaction Indicators

Rate the following aspects of your week-end transport experience on a scale of 1 to 5 (where 1 is very poor and 5 is excellent)

128. 1. Consumer Satisfaction

*How satisfied are you overall?*

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

129. 2. Punctuality

*Are the transport modes timely?*

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

130. 3. Customer Care

*How well do you feel treated by transport providers?*

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

131. 4. Infrastructure

*How would you rate the quality of the transport facilities?*

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

Opportunities

1) Which of the following opportunities does your current transport mode provide?

132. *(Select all that apply)*

*Tick all that apply.*

- ☐ Time savings
- ☐ Cost savings
- ☐ Improved physical health (e.g., walking, cycling)
- ☐ Convenience and accessibility
- ☐ Environmental sustainability (e.g., using bus, ferry)
- ☐ Improved mental well-being (e.g., less stress)
- ☐ None of the above

133. None of the above *(Please specify)*

---

134. 2) Which opportunity is most important to you?  
(Select one)

⌵ Dropdown

*Mark only one oval.*

- ☐ Time savings
- ☐ Cost savings
- ☐ Improved physical health (e.g., walking, cycling)
- ☐ Convenience and accessibility
- ☐ Environmental sustainability (e.g., using bus, ferry)
- ☐ Improved mental well-being (e.g., less stress)

#### Barriers

- 1) Have you experienced any of the following barriers while commuting?

135. *(Select all that apply)*

*Tick all that apply.*

- ☐ Incidents of lateness
- ☐ Violence or harassment
- ☐ Discrimination
- ☐ Safety concerns (e.g., accidents or dangerous conditions)
- ☐ Inadequate infrastructure (e.g., lack of bus stops, cycle paths)
- ☐ None of the above

136. None of the above (please specify)

---



137. How frequently do you experience these barriers?

⌵ Dropdown

*Mark only one oval.*

- ☐ Daily
- ☐ Weekly
- ☐ Occasionally
- ☐ Rarely
- ☐ Never

Transportation Modes

1) What modes of transport do you use during the week end?

138. *(Please specify)*

⌵ Dropdown

*Mark only one oval.*

- ☐ Car *Skip to question 140*
- ☐ Ferry *Skip to question 174*
- ☐ Bus *Skip to question 152*
- ☐ Walk *Skip to question 213*
- ☐ Bicycle *Skip to question 192*
- ☐ Motorcycle *Skip to question 203*
- ☐ Other

139. Other (please specify)

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Car

Specific questions per mode: **Think about a typical week-end day: Saturday**

140. 1. Was this trip entirely by car, or did you combine the car with another mode of transport?  Dropdown

*Mark only one oval.*

- ☐ Entirely by car  
☐ Combined with another mode

141. Combined with another mode (Please specify)  Dropdown

*Mark only one oval.*

- ☐ Car + Motorcycle  
☐ Car + Bicycle  
☐ Car + Walking  
☐ Car + Ferry  
☐ Car + Bus

142. 2. How long did it take for you to walk to the car?  Dropdown

*Mark only one oval.*

- ☐ Did not have to walk  
☐ Less than 2 minutes  
☐ 2-4 minutes  
☐ 5-10 minutes  
☐ Over 10 minutes

143. 3. Did you park at a designated facility at your destination?

⌵ Dropdown

*Mark only one oval.*

☐ Yes

☐ No

144. 4. Did you have to make stops or detours during this trip?

⌵ Dropdown

*Mark only one oval.*

☐ Yes

☐ No

145. If yes how many ?

*Mark only one oval.*

☐ One stop

☐ Two stops

☐ Three stops

☐ More

☐ None

146. More stops (please specify)

---

147. 5. How long did it take to find parking at your destination?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

148. 6. Was there a parking fee?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes
- ☐ No

149. If yes, how much ?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than €1.00
- ☐ €1.00 - €1.99
- ☐ €2.00 - €2.99
- ☐ €3.00 - €3.99
- ☐ €4.00 - €4.99
- ☐ €5.00 or more

150. 7. How would you rate the traffic conditions for this trip?

⌵ Dropdown

*Mark only one oval.*

- ☐ No congestion
- ☐ Mild congestion
- ☐ Moderate congestion
- ☐ Severe congestion

151. 8. How long did it take you to walk from the parking location to your final destination?

⌵ Dropdown

*Mark only one oval.*

- ☐ Did not have to walk
- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ Over 10 minutes

Bus

Specific questions per mode: **Think about a typical week-end day: Saturday**

152. 1. Was this trip entirely by bus, or did you combine the bus with another mode of transport?

⌵ Dropdown

*Mark only one oval.*

- ☐ Entirely by bus
- ☐ Combined with another mode

153. Combined with another mode (Please specify)

 Dropdown

*Mark only one oval.*

☐ Bus + Motorcycle

☐ Bus + Car

☐ Bus + Ferry

☐ Bus + Bicycle

☐ Bus + Walking

154. 2. What was the bus number for this trip?

---

155. 3. Did you experience any barriers during your bus journey? *(Please select all that apply)*

*Tick all that apply.*

☐ Overcrowding

☐ Long waiting time

☐ Lack of seating

☐ Safety concerns (e.g., theft, harassment)

☐ Poor road or traffic conditions

☐ Other

☐ No

156. Other (please specify)

---

157. 5. How long did you have to walk to reach the bus stop?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

158. 6. How long did you have to wait for the bus to arrive?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ Over 20 minutes

159. 7. Do you take other buses?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes
- ☐ No

If you took more than one:

160. Please specify how many

---

161. Please specify Bus number(s)

---

162. 8. How long did you have to wait for your next bus to arrive?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2-4 minutes
- ☐ 5-10 minutes
- ☐ 11-15 minutes
- ☐ 16-20 minutes
- ☐ Over 20 minutes
- ☐ No, I only took one bus

163. 9. How long did it take to reach your destination by bus?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 5 minutes
- ☐ 6-10 minutes
- ☐ 11-15 minutes
- ☐ 16-20 minutes
- ☐ 21-30 minutes
- ☐ Over 30 minutes



164. 10. How long did you have to walk from the bus stop to your final destination?  Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

11. Please rate the following characteristics of the current bus quality service

(Where 5 = Excellent and 1 = Very Poor)

165. Availability: Extent of the service offer, in terms of geography, time frequency and transport mode

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

166. Accessibility: How easy is it to use the bus service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

167. Information: Is sufficient and clear information available to users?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

168. Time: Does the service adhere to schedules (punctuality) and offer reasonable trip lengths?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

169. Customer Care: How would you rate the behaviour and helpfulness of staff?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

170. Fare: How would you rate the cost of the service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

171. Comfort: How comfortable is the bus service in terms of seating, space, and cleanliness?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

172. Security: How safe do you feel using the bus service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

173. Impact on the Environment: How environmentally friendly do you think the bus service is?

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

Ferry

Specific questions per mode: **Think about a typical week-end day: Saturday**

174. 1) Was this trip entirely by ferry, or did you combine the ferry with another mode of transport?

⌵ Dropdown

*Mark only one oval.*

- ☐ Entirely by ferry
- ☐ Combined with another mode

175. Combined with another mode (please specify)

*Mark only one oval.*

- ☐ Ferry + Motorcycle
- ☐ Ferry + Car
- ☐ Ferry + Bus
- ☐ Ferry + Bicycle
- ☐ Ferry + Walking

176. 2) What was the ferry name or number for this trip?

---

177. 3) Did you experience any barriers during your ferry journey? *(Please select all that apply)*

*Tick all that apply.*

- ☐ Overcrowding
- ☐ Long waiting time
- ☐ Lack of seating
- ☐ Safety concerns (e.g., theft, harassment)
- ☐ Poor weather or sea conditions
- ☐ Other
- ☐ No

178. If other (Please specify)

---

179. 4) How long did you have to walk to reach the ferry terminal?

 Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ Over 15 minutes

180. 5) How long did you have to wait for the ferry to arrive?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 5 minutes

☐ 6–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ 21–30 minutes

☐ Over 30 minutes

181. 6) How long did you have to walk from the ferry terminal to your final destination?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ 11–15 minutes

☐ Over 15 minutes

182. 7) How long did it take to reach your destination by ferry?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 5 minutes

☐ 6–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ 21–30 minutes

☐ Over 30 minutes

8) Please rate the following characteristics of the current ferry quality service

(Where 5 = Excellent and 1 = Very Poor)

183. Availability: Extent of the service offer, in terms of geography, time frequency, and transport mode

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

184. Accessibility: How easy is it to use the ferry service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

185. Information: Is sufficient and clear information available to users?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

186. Time: Does the service adhere to schedules (punctuality) and offer reasonable trip lengths?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

187. Customer Care: How would you rate the behaviour and helpfulness of staff?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

188. Fare: How would you rate the cost of the service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

189. Comfort: How comfortable is the ferry service in terms of seating, space, and cleanliness?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

190. Security: How safe do you feel using the ferry service?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

191. Impact on the Environment: How environmentally friendly do you think the ferry service is?

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

## Bicycle

Specific questions per mode: **Think about a typical week-end day: Saturday**

192. 1) Was this trip entirely by bicycle, or did you combine cycling with another mode of transport?  Dropdown

*Mark only one oval.*

- ☐ Entirely by bicycle  
☐ Combined with another mode

193. If combined with another mode (please choose one)  Dropdown

*Mark only one oval.*

- ☐ Cycling + Car  
☐ Cycling + Motorcycle  
☐ Cycling + Public Transport (Bus)  
☐ Cycling + Ferry  
☐ Cycling + Walking

194. 2) What type of bicycle was this?  Dropdown

*Mark only one oval.*

- ☐ Bicycle  
☐ E-Bike  
☐ Other

195. If other (Please specify)

---



196. 3) Where did you store your bicycle?

⌵ Dropdown

*Mark only one oval.*

- ☐ Inside the destination
- ☐ Just outside the destination
- ☐ In close proximity (Up to 5 minutes walk)
- ☐ Over 5 minutes walk
- ☐ This was not the last stage of my trip

197. 4) How long did you have to walk with your bicycle?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ Over 20 minutes

198. 5) How long did you have to walk from the bicycle to your final destination?

*Mark only one oval.*

- ☐ Less than 2 minutes
- ☐ 2–4 minutes
- ☐ 5–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ Over 20 minutes

199. 6) How long did it take to reach your destination by bicycle?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 5 minutes

☐ 6–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ 21–30 minutes

☐ Over 30 minutes

200. 7) How much did you pay to park your bicycle?

⌵ Dropdown

*Mark only one oval.*

☐ Free

☐ Less than €1.00

☐ €1.00–€1.99

☐ €2.00–€2.99

☐ €3.00–€3.99

☐ €4.00–€4.99

☐ €5.00 or more

201. 8) Did you encounter any barriers to cycling on this trip? (Please select all that apply)

*Tick all that apply.*

☐ Poor road infrastructure

☐ Lack of cycling lanes

☐ Traffic congestion

☐ Weather conditions

☐ Other

☐ No

202. If other (please specify)

---

Motorcycle

Specific questions per mode: **Think about a typical week-end day: Saturday**

203. 1) Was this trip entirely by motorcycle, or did you combine it with another mode of transport?

⌵ Dropdown

*Mark only one oval.*

- ☐ Entirely by motorcycle
- ☐ Combined with another mode

204. Combined with another mode (Please choose one)

⌵ Dropdown

*Mark only one oval.*

- ☐ Motorcycle + Car
- ☐ Motorcycle + Bicycle
- ☐ Motorcycle + Public Transport (Bus)
- ☐ Motorcycle + Ferry
- ☐ Motorcycle + Walking

205. 2) What type of motorcycle did you use for this trip?

⌵ Dropdown

*Mark only one oval.*

- ☐ Standard Motorcycle
- ☐ Scooter
- ☐ Electric Motorcycle
- ☐ Other

206. If other (please specify)

---

207. 3) How long did you have to walk to access your motorcycle ?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ Over 20 minutes

208. 4) How long did you have to walk from the motorcycle to your final destination?

⌵ Dropdown

*Mark only one oval.*

☐ Less than 2 minutes

☐ 2–4 minutes

☐ 5–10 minutes

☐ 11–15 minutes

☐ 16–20 minutes

☐ Over 20 minutes

209. 5) How long did it take to reach your destination by motorcycle?

*Mark only one oval.*

- ☐ Less than 5 minutes
- ☐ 6–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ 21–30 minutes
- ☐ Over 30 minutes

210. 6) How much did you pay to park your motorcycle?

⌵ Dropdown

*Mark only one oval.*

- ☐ Free
- ☐ Less than €1.00
- ☐ €1.00–€1.99
- ☐ €2.00–€2.99
- ☐ €3.00–€3.99
- ☐ €4.00–€4.99
- ☐ €5.00 or more

211. 7) Did you encounter any barriers to riding your motorcycle on this trip?  Dropdown  
(Please select all that apply)

*Mark only one oval.*

- ☐ Poor road infrastructure
- ☐ Traffic congestion
- ☐ Limited parking availability
- ☐ Weather conditions
- ☐ Safety concerns (e.g., theft or accidents)
- ☐ Other
- ☐ No

212. If other (please specify)

---

Walk

Specific questions per mode: **Think about a typical week-end day: Saturday**

213. 1) Was this trip entirely on foot, or did you combine walking with another mode of transport?  Dropdown

*Mark only one oval.*

- ☐ Entirely on foot
- ☐ Combined with another mode

214. Combined with another mode (Please choose one)

⌵ Dropdown

*Mark only one oval.*

- ☐ Walking + Car
- ☐ Walking + Motorcycle
- ☐ Walking + Public Transport (Bus)
- ☐ Walking + Ferry
- ☐ Walking + Cycling

215. 2) How long did it take to reach your destination on foot?

⌵ Dropdown

*Mark only one oval.*

- ☐ Less than 5 minutes
- ☐ 6–10 minutes
- ☐ 11–15 minutes
- ☐ 16–20 minutes
- ☐ 21–30 minutes
- ☐ Over 30 minutes

3) How do you assess your walk?

Rate the following aspects of your walk experience on a scale of 1 to 5 (where 1 is very poor and 5 is excellent)

216. How safe your walk experience is?  
(Where 1=unsafe, 3= unsure, 5= safe)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

217. How comfortable your walk experience is?  
(Where 1= uncomfortable, 3= unsure, 5= comfortable)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

218. How pleasant your walk experience is?  
(Where 1= unpleasant, 3= unsure, 5= pleasant)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

219. How vibrant your walk experience is?  
(Where 1= dull, 3= unsure, 5= vibrant)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

220. 4) Did you encounter any barriers during your walk?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes  
☐ No

221. If yes (please specify)

---



222. 5) How would you rate the accessibility of pedestrian pathways for this trip?  
Rate the following aspects on a scale of 1 to 5 (where 1= inaccessible, 3=unsure and 5=accessible)

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

223. 6) Did your walk include stairways or steep inclines?

⌵ Dropdown

*Mark only one oval.*

- ☐ Yes
- ☐ No

---

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#### Appendix 4.7: A Detailed Summary of the Questionnaire Content and their Rationale

| Questionnaire Item                                                               | Related Research Question (RQ)        | Related Objective (OBJ)                          | Question Description                                                                                                                          |
|----------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Section 1: Demographic Information                                               |                                       |                                                  |                                                                                                                                               |
| 1. Kindly specify your nationality:                                              | N/A                                   | N/A                                              | Identifies the nationality of the respondent to differentiate between Maltese and migrant participants.                                       |
| 2. What is your gender                                                           | N/A                                   | N/A                                              | Identifies the gender of the respondent to differentiate between Male and Female Travel behaviour.                                            |
| 3. Are you intending to stay or have you stayed in Malta for at least 12 months? | RQ1: Primary transport modes          | OBJ1: Identify & analyse primary transport modes | The length of stay enables the Researcher to understand whether an individual carries the status of a migrant according to the NSO definition |
| 4. Are you currently a student or employed in Malta?                             | RQ2: Travel behaviour patterns        | OBJ2: Examine travel behaviour patterns          | Explores respondents' current employment or student status, which may impact commuting choices.                                               |
| 5. Year of arrival in Malta                                                      | RQ2: Travel behaviour patterns        | OBJ2: Examine travel behaviour patterns          | Indicates how long migrants have been in Malta, affecting their mobility adaptation.                                                          |
| 6. Country of residence before arriving in Malta                                 | RQ3: Awareness of sustainable options | OBJ3: Assess sustainability awareness            | Identifies prior experience in different countries and the likelihood of using sustainable transport.                                         |

|                                            |                                |                                                  |                                                                                                         |
|--------------------------------------------|--------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 7. Age Group                               | RQ1: Primary transport modes   | OBJ1: Identify & analyse primary transport modes | Categorises respondents based on age to identify transport mode preferences among different age groups. |
| 8. Residential location in Malta           | RQ1: Primary transport modes   | OBJ1: Identify & analyse primary transport modes | Explores the residential area of respondents, which affects transport options.                          |
| Section 2: Employment Details              |                                |                                                  |                                                                                                         |
| 9. Which sector do you work in?            | RQ2: Travel behaviour patterns | OBJ2: Examine travel behaviour patterns          | Identifies the sector the respondent works in to see if it affects commuting patterns.                  |
| 10. Work location in Malta                 | RQ1: Primary transport modes   | OBJ1: Identify & analyse primary transport modes | Looks at the workplace location to understand its impact on transport choices.                          |
| Section 3: Housing and Living Arrangements |                                |                                                  |                                                                                                         |
| 11. Type of dwelling                       | RQ2: Travel behaviour patterns | OBJ2: Examine travel behaviour patterns          | Looks at living conditions to understand how residential type influences transport options.             |
| 12. Household composition                  | RQ2: Travel behaviour patterns | OBJ2: Examine travel behaviour patterns          | Identifies household composition to understand its potential impact on travel decisions.                |
| Section 4: Transport Modes & Accessibility |                                |                                                  |                                                                                                         |

|                                                                            |                                           |                                                       |                                                                                                       |
|----------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 13. Do you have a driving licence ?                                        | RQ1: Primary transport modes              | OBJ1: Analyse transport modes and influencing factors | Identifies whether respondents hold a valid driving licence, influencing their transport choices.     |
| 14. Do you have a car?                                                     | RQ1: Primary transport modes              | OBJ1: Analyse transport modes and influencing factors | Determines car ownership among migrant commuters, affecting reliance on private vs. public transport. |
| 15. What is the main mode of transport that you use?                       | RQ1: Primary transport modes              | OBJ1: Identify & analyse primary transport modes      | Explores the accessibility of public transport in Malta.                                              |
| 16. How frequently do you use the following transport modes in Malta?      | RQ1: Primary transport modes              | OBJ1: Identify & analyse primary transport modes      | Identifies primary transport modes and the frequency of their use.                                    |
| 17. How accessible do you find public transport in Malta?                  | RQ2: Travel behaviour patterns            | OBJ2: Examine travel behaviour patterns               | Assesses perceptions of public transport accessibility, impacting travel behaviour.                   |
| Section 5: Travel Behaviour & Daily Mobility                               |                                           |                                                       |                                                                                                       |
| 18. How often do you change transport modes based on different activities? | RQ2: Travel behaviour patterns            | OBJ2: Examine travel behaviour patterns               | Measures flexibility in transport mode use depending on different activities.                         |
| 19. How reliable do you find Malta's public transport?                     | RQ2: Travel behaviour patterns            | OBJ2: Examine travel behaviour patterns               | Evaluates the reliability of public transport for daily commuting.                                    |
| 20. How much do the following factors influence your choice of transport?  | RQ1 & RQ2: Mode choice & travel behaviour | OBJ1 & OBJ2: Explore factors influencing mobility     | Identifies the main factors influencing transport mode choices.                                       |

|                                                                                              |                                       |                                                                                                             |                                                                                       |
|----------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Section 6: Environmental Awareness & Perceptions                                             |                                       |                                                                                                             |                                                                                       |
| 21. How important is sustainability when choosing your transport mode?                       | RQ3: Awareness of sustainable options | OBJ3: Assess sustainability awareness                                                                       | Assesses the importance of sustainability in transport choices.                       |
| 22. How satisfied are you with the availability of sustainable transport options in Malta?   | RQ3: Awareness of sustainable options | OBJ3: Assess sustainability awareness                                                                       | Evaluates satisfaction with current sustainable transport options in Malta.           |
| 23. How well does Malta promote sustainable mobility?                                        | RQ3: Awareness of sustainable options | OBJ3: Assess sustainability awareness                                                                       | Examines how well Malta supports sustainable transport practices from migrant lenses. |
| Section 7: Future Mobility Plans                                                             |                                       |                                                                                                             |                                                                                       |
| 24. How likely are you to shift to more sustainable transport options if they were improved? | RQ3: Awareness of sustainable options | OBJ3: Assess sustainability awareness   Explores the likelihood of shifting to sustainable transport modes. | Explores the likelihood of shifting to sustainable transport modes.                   |
| 25. If you do not own a car, do you plan to own a car in Malta in the future?                | RQ1: Primary transport modes          | OBJ1: Analyse primary transport modes                                                                       | Assesses intentions regarding private car ownership.                                  |

## Appendix 4.8: The Questionnaire Template

# Questionnaire: Understanding Travel Behaviour and Attitudes Towards Sustainable Mobility Amongst Migrant Commuters in Malta

This questionnaire is part of a Master's Dissertation at the University of Malta, Institute for Climate Change and Sustainable Development. It explores the travel behaviour and attitudes of migrant commuters in Malta towards sustainable mobility.

**Examples of sustainable mobility options include:** walking, cycling, using public transport (such as buses and ferries), and owning hybrid or electric vehicles (including cars, motorcycles, and bicycles).

**Eligibility criteria:** Please ensure you meet the following criteria before proceeding:

- You are a non-Maltese individual residing in Malta.
- You are employed.
- You have lived in Malta for at least 12 months or intend to stay for 12 months or more.
- You are 25 years or older.

This research complies with the University of Malta's Research Code of Practice and Research Ethics Review Procedures. All responses will remain strictly anonymous. Participation is entirely voluntary, and you may withdraw at any time.

For any inquiries, please contact:

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**Estimated completion time:** 3–5 minutes.

Section 1: Demographic Information

1. 1) Kindly specify your nationality

⌵ Dropdown

*Mark only one oval.*

- ☐ Afghan
- ☐ Albanian
- ☐ Algerian
- ☐ American
- ☐ Andorran
- ☐ Angolan
- ☐ Antiguan
- ☐ Argentinean
- ☐ Armenian
- ☐ Australian
- ☐ Austrian
- ☐ Azerbaijani
- ☐ Bahamian
- ☐ Bahraini
- ☐ Bangladeshi
- ☐ Barbadian
- ☐ Barbudans
- ☐ Batswana
- ☐ Belarusian
- ☐ Belgian
- ☐ Belizean
- ☐ Beninese
- ☐ Bhutanese
- ☐ Bolivian
- ☐ Bosnian
- ☐ Brazilian
- ☐ British
- ☐ Bruneian

- ☐ Bulgarian
- ☐ Burkinabe
- ☐ Burmese
- ☐ Burundian
- ☐ Cambodian
- ☐ Cameroonian
- ☐ Canadian
- ☐ Cape Verdean
- ☐ Central African
- ☐ Chadian
- ☐ Chilean
- ☐ Chinese
- ☐ Colombian
- ☐ Comoran
- ☐ Congolese
- ☐ Congolese
- ☐ Costa Rican
- ☐ Croatian
- ☐ Cuban
- ☐ Cypriot
- ☐ Czech
- ☐ Danish
- ☐ Djibouti
- ☐ Dominican
- ☐ Dominican
- ☐ Dutch
- ☐ Dutchman
- ☐ Dutchwoman
- ☐ East Timorese
- ☐ Ecuadorean
- ☐ Egyptian



- ☐ Emirian
- ☐ Equatorial Guinean
- ☐ Eritrean
- ☐ Estonian
- ☐ Ethiopian
- ☐ Fijian
- ☐ Filipino
- ☐ Finnish
- ☐ French
- ☐ Gabonese
- ☐ Gambian
- ☐ Georgian
- ☐ German
- ☐ Ghanaian
- ☐ Greek
- ☐ Grenadian
- ☐ Guatemalan
- ☐ Guinea-Bissauan
- ☐ Guinean
- ☐ Guyanese
- ☐ Haitian
- ☐ Herzegovinian
- ☐ Honduran
- ☐ Hungarian
- ☐ I-Kiribati
- ☐ Icelandic
- ☐ Indian
- ☐ Indonesian
- ☐ Iranian
- ☐ Iraqi
- ☐ Irish

- ☐ Italian
- ☐ Ivorian
- ☐ Jamaican
- ☐ Japanese
- ☐ Jordanian
- ☐ Kazakhstani
- ☐ Kenyan
- ☐ Kittian and Nevisian
- ☐ Kuwaiti
- ☐ Kyrgyz
- ☐ Laotian
- ☐ Latvian
- ☐ Lebanese
- ☐ Liberian
- ☐ Libyan
- ☐ Liechtensteiner
- ☐ Lithuanian
- ☐ Luxembourgger
- ☐ Macedonian
- ☐ Malagasy
- ☐ Malawian
- ☐ Malaysian
- ☐ Maldivan
- ☐ Malian
- ☐ Maltese
- ☐ Marshallese
- ☐ Mauritanian
- ☐ Mauritian
- ☐ Mexican
- ☐ Micronesian
- ☐ Moldovan

- ☐ Monacan
- ☐ Mongolian
- ☐ Moroccan
- ☐ Mosotho
- ☐ Motswana
- ☐ Mozambican
- ☐ Namibian
- ☐ Nauruan
- ☐ Nepalese
- ☐ Netherlander
- ☐ New Zealander
- ☐ Ni-Vanuatu
- ☐ Nicaraguan
- ☐ Nigerian
- ☐ Nigerien
- ☐ North Korean
- ☐ Northern Irish
- ☐ Norwegian
- ☐ Omani
- ☐ Pakistani
- ☐ Palauan
- ☐ Palestinian
- ☐ Panamanian
- ☐ Papua New Guinean
- ☐ Paraguayan
- ☐ Peruvian
- ☐ Polish
- ☐ Portuguese
- ☐ Qatari
- ☐ Romanian
- ☐ Russian

- ☐ Rwandan
- ☐ Saint Lucian
- ☐ Salvadoran
- ☐ Samoan
- ☐ San Marinese
- ☐ Sao Tomean
- ☐ Saudi
- ☐ Scottish
- ☐ Senegalese
- ☐ Serbian
- ☐ Seychellois
- ☐ Sierra Leonean
- ☐ Singaporean
- ☐ Slovakian
- ☐ Slovenian
- ☐ Solomon Islander
- ☐ Somali
- ☐ South African
- ☐ South Korean
- ☐ Spanish
- ☐ Sri Lankan
- ☐ Sudanese
- ☐ Surinamer
- ☐ Swazi
- ☐ Swedish
- ☐ Swiss
- ☐ Syrian
- ☐ Taiwanese
- ☐ Tajik
- ☐ Tanzanian
- ☐ Thai

- ☐ Togolese
- ☐ Tongan
- ☐ Trinidadian or Tobagonian
- ☐ Tunisian
- ☐ Turkish
- ☐ Tuvaluan
- ☐ Ugandan
- ☐ Ukrainian
- ☐ Uruguayan
- ☐ Uzbekistani
- ☐ Venezuelan
- ☐ Vietnamese
- ☐ Welsh
- ☐ Yemenite
- ☐ Zambian
- ☐ Zimbabwean

2. 2)What is your gender ?

*Mark only one oval.*

- ☐ Male
- ☐ Female
- ☐ Prefer not to say
- ☐ Other: \_\_\_\_\_

3. 3) Are you intending to stay or have you stayed in Malta for at least 12 months?

*Mark only one oval.*

☐ Yes

☐ No

4. 4) Are you currently a student or employed in Malta?

*Mark only one oval.*

☐ I am employed

☐ I am a student

☐ Both

☐ Neither

5. 5) Year of arrival in Malta

---

6. 6) Country of residence before arriving in Malta

Dropdown

*Mark only one oval.*

- ☐ Afghanistan
- ☐ Åland Islands (Åland)
- ☐ Albania (Shqipëri)
- ☐ Algeria (الجزائر)
- ☐ American Samoa
- ☐ Andorra
- ☐ Angola
- ☐ Anguilla
- ☐ Antarctica
- ☐ Antigua and Barbuda
- ☐ Argentina
- ☐ Armenia (Հայաստան)
- ☐ Aruba
- ☐ Australia
- ☐ Austria (Österreich)
- ☐ Azerbaijan (Azərbaycan)
- ☐ Bahamas
- ☐ Bahrain (البحرين)
- ☐ Bangladesh (বাংলাদেশ)
- ☐ Barbados
- ☐ Belarus (Беларусь)
- ☐ Belgium (België)
- ☐ Belize
- ☐ Benin (Bénin)
- ☐ Bermuda
- ☐ Bhutan (འབྲུག)
- ☐ Bolivia
- ☐ Bosnia and Herzegovina (Босна и Херцеговина)

- ☐ Botswana
- ☐ Bouvet Island (Bouvetøya)
- ☐ Brazil (Brasil)
- ☐ British Indian Ocean Territory
- ☐ British Virgin Islands
- ☐ Brunei
- ☐ Bulgaria (България)
- ☐ Burkina Faso
- ☐ Burundi (Uburundi)
- ☐ Cambodia (កម្ពុជា)
- ☐ Cameroon (Cameroun)
- ☐ Canada
- ☐ Cape Verde (Kabu Verdi)
- ☐ Caribbean Netherlands
- ☐ Cayman Islands
- ☐ Central African Republic (République Centrafricaine)
- ☐ Chad (Tchad)
- ☐ Chile
- ☐ China (中国)
- ☐ Christmas Island
- ☐ Cocos (Keeling) Islands (Kepulauan Cocos (Keeling))
- ☐ Colombia
- ☐ Comoros (جزر القمر)
- ☐ Congo (DRC) (Jamhuri ya Kidemokrasia ya Kongo)
- ☐ Congo (Republic) (Congo-Brazzaville)
- ☐ Cook Islands
- ☐ Costa Rica
- ☐ Côte d'Ivoire
- ☐ Croatia (Hrvatska)
- ☐ Cuba
- ☐ Curaçao



- ☐ Cyprus (Κύπρος)
- ☐ Czech Republic (Česká republika)
- ☐ Denmark (Danmark)
- ☐ Djibouti
- ☐ Dominica
- ☐ Dominican Republic (República Dominicana)
- ☐ Ecuador
- ☐ Egypt (مصر)
- ☐ El Salvador
- ☐ Equatorial Guinea (Guinea Ecuatorial)
- ☐ Eritrea
- ☐ Estonia (Eesti)
- ☐ Ethiopia
- ☐ Falkland Islands (Islas Malvinas)
- ☐ Faroe Islands (Føroyar)
- ☐ Fiji
- ☐ Finland (Suomi)
- ☐ France
- ☐ French Guiana (Guyane française)
- ☐ French Polynesia (Polynésie française)
- ☐ French Southern Territories (Terres australes françaises)
- ☐ Gabon
- ☐ Gambia
- ☐ Georgia (საქართველო)
- ☐ Germany (Deutschland)
- ☐ Ghana (Gaana)
- ☐ Gibraltar
- ☐ Greece (Ελλάδα)
- ☐ Greenland (Kalaallit Nunaat)
- ☐ Grenada
- ☐ Guadeloupe

- ☐ Guam
- ☐ Guatemala
- ☐ Guernsey
- ☐ Guinea (Guinée)
- ☐ Guinea-Bissau (Guiné Bissau)
- ☐ Guyana
- ☐ Haiti
- ☐ Heard Island and McDonald Islands
- ☐ Honduras
- ☐ Hong Kong (香港)
- ☐ Hungary (Magyarország)
- ☐ Iceland (Ísland)
- ☐ India (भारत)
- ☐ Indonesia
- ☐ Iran (ایران)
- ☐ Iraq (العراق)
- ☐ Ireland
- ☐ Isle of Man
- ☐ Italy (Italia)
- ☐ Jamaica
- ☐ Japan (日本)
- ☐ Jersey
- ☐ Jordan (الأردن)
- ☐ Kazakhstan (Казакстан)
- ☐ Kenya
- ☐ Kiribati
- ☐ Kosovo (Kosovë)
- ☐ Kuwait (الكويت)
- ☐ Kyrgyzstan (Кыргызстан)
- ☐ Laos (ລາວ)
- ☐ Latvia (Latvija)

- ☐ Lebanon (لبنان)
- ☐ Lesotho
- ☐ Liberia
- ☐ Libya (ليبيا)
- ☐ Liechtenstein
- ☐ Lithuania (Lietuva)
- ☐ Luxembourg
- ☐ Macau (澳門)
- ☐ Macedonia (FYROM) (Македонија)
- ☐ Madagascar (Madagasikara)
- ☐ Malawi
- ☐ Malaysia
- ☐ Maldives
- ☐ Mali
- ☐ Malta
- ☐ Marshall Islands
- ☐ Martinique
- ☐ Mauritania (موريتانيا)
- ☐ Mauritius (Moris)
- ☐ Mayotte
- ☐ Mexico (México)
- ☐ Micronesia
- ☐ Moldova (Republica Moldova)
- ☐ Monaco
- ☐ Mongolia (Монгол)
- ☐ Montenegro (Срна Gora)
- ☐ Montserrat
- ☐ Morocco (المغرب)
- ☐ Mozambique (Moçambique)
- ☐ Myanmar (Burma) (မြန်မာ)
- ☐ Namibia (Namibië)

- ☐ Nauru
- ☐ Nepal (नेपाल)
- ☐ Netherlands (Nederland)
- ☐ New Caledonia (Nouvelle-Calédonie)
- ☐ New Zealand
- ☐ Nicaragua
- ☐ Niger (Nijar)
- ☐ Nigeria
- ☐ Niue
- ☐ Norfolk Island
- ☐ North Korea (조선 민주주의 인민 공화국)
- ☐ Northern Mariana Islands
- ☐ Norway (Norge)
- ☐ Oman (عُمان)
- ☐ Pakistan (پاکستان)
- ☐ Palau
- ☐ Palestine (فلسطين)
- ☐ Panama (Panamá)
- ☐ Papua New Guinea
- ☐ Paraguay
- ☐ Peru (Perú)
- ☐ Philippines
- ☐ Pitcairn Islands
- ☐ Poland (Polska)
- ☐ Portugal
- ☐ Puerto Rico
- ☐ Qatar (قطر)
- ☐ Réunion (La Réunion)
- ☐ Romania (România)
- ☐ Russia (Россия)
- ☐ Rwanda

- ☐ Saint Barthélemy (Saint-Barthélemy)
- ☐ Saint Helena
- ☐ Saint Kitts and Nevis
- ☐ Saint Lucia
- ☐ Saint Martin (Saint-Martin (partie française))
- ☐ Saint Pierre and Miquelon (Saint-Pierre-et-Miquelon)
- ☐ Saint Vincent and the Grenadines
- ☐ Samoa
- ☐ San Marino
- ☐ São Tomé and Príncipe (São Tomé e Príncipe)
- ☐ Saudi Arabia (المملكة العربية السعودية)
- ☐ Senegal (Sénégal)
- ☐ Serbia (Србија)
- ☐ Seychelles
- ☐ Sierra Leone
- ☐ Singapore
- ☐ Sint Maarten
- ☐ Slovakia (Slovensko)
- ☐ Slovenia (Slovenija)
- ☐ Solomon Islands
- ☐ Somalia (Soomaaliya)
- ☐ South Africa
- ☐ South Georgia & South Sandwich Islands
- ☐ South Korea (대한민국)
- ☐ South Sudan (جنوب السودان)
- ☐ Spain (España)
- ☐ Sri Lanka (ශ්‍රී ලංකාව)
- ☐ Sudan (السودان)
- ☐ Suriname
- ☐ Svalbard and Jan Mayen (Svalbard og Jan Mayen)
- ☐ Swaziland

- ☐ Sweden (Sverige)
- ☐ Switzerland (Schweiz)
- ☐ Syria (سوريا)
- ☐ Taiwan (台灣)
- ☐ Tajikistan
- ☐ Tanzania
- ☐ Thailand (ไทย)
- ☐ Timor-Leste
- ☐ Togo
- ☐ Tokelau
- ☐ Tonga
- ☐ Trinidad and Tobago
- ☐ Tunisia (تونس)
- ☐ Turkey (Türkiye)
- ☐ Turkmenistan
- ☐ Turks and Caicos Islands
- ☐ Tuvalu
- ☐ Uganda
- ☐ Ukraine (Україна)
- ☐ United Arab Emirates (الإمارات العربية المتحدة)
- ☐ United Kingdom
- ☐ United States
- ☐ U.S. Minor Outlying Islands
- ☐ U.S. Virgin Islands
- ☐ Uruguay
- ☐ Uzbekistan (O‘zbekiston)
- ☐ Vanuatu
- ☐ Vatican City (Città del Vaticano)
- ☐ Venezuela
- ☐ Vietnam (Việt Nam)
- ☐ Wallis and Futuna

☐ Western Sahara (الصحراء الغربية)

☐ Yemen (اليمن)

☐ Zambia

☐ Zimbabwe

7. 7) Age Group

*Mark only one oval.*

☐ 25-29

☐ 30-34

☐ 35-39

☐ 40-44

8. 8) Residential location in Malta:

⌵ Dropdown

*Mark only one oval.*

- ☐ Birkirkara
- ☐ Birżebbuġa
- ☐ Bormla
- ☐ Floriana
- ☐ Ghajnsielem and Comino
- ☐ H'Attard
- ☐ Had-Dingli
- ☐ Hal Balzan
- ☐ Hal Gharghur
- ☐ Hal Ghaxaq
- ☐ Hal Kirkop
- ☐ Hal Luqa
- ☐ Hal Lija
- ☐ Hal Qormi
- ☐ Hal Safi
- ☐ Hal Tarxien
- ☐ Haż-Żabbar
- ☐ Haż-Żebbuġ
- ☐ Il-Birgu
- ☐ Il-Fgura
- ☐ Il-Fontana
- ☐ Il-Gudja
- ☐ Il-Gżira
- ☐ Il-Hamrun
- ☐ Il-Kalkara
- ☐ Il-Marsa
- ☐ Il-Mellieha
- ☐ Il-Mosta



- ☐ Il-Munxar
- ☐ Il-Qala
- ☐ Il-Qrendi
- ☐ In-Nadur
- ☐ In-Naxxar
- ☐ Ir-Rabat (Gozo)
- ☐ Ir-Rabat (Malta)
- ☐ Is-Siġġiewi
- ☐ Is-Swieqi
- ☐ Ix-Xagħra
- ☐ Ix-Xewkija
- ☐ Ix-Xgħajra
- ☐ Iż-Żebbuġ (Gozo)
- ☐ Iż-Żejtun
- ☐ Iż-Żurrieq
- ☐ L-Għarb
- ☐ L-Għasri
- ☐ L-Iklin
- ☐ L-Imdina
- ☐ L-Imġarr
- ☐ L-Imqabba
- ☐ L-Imsida
- ☐ L-Imtarfa
- ☐ L-Isla
- ☐ Marsaskala
- ☐ Marsaxlokk
- ☐ Pembroke
- ☐ Raħal Ġdid
- ☐ San Ġiljan
- ☐ San Ġwann
- ☐ San Lawrenz

- ☐ San Pawl Il-Baħar
- ☐ Santa Luċija
- ☐ Santa Venera
- ☐ Ta' Kerċem
- ☐ Ta' Sannat
- ☐ Ta' Xbiex
- ☐ Tal-Pietà
- ☐ Tas-Sliema
- ☐ Valletta

## Section 2: Employment Details

9. 9) Which sector do you work in?

*Mark only one oval.*

- ☐ Armed Forces
- ☐ Management
- ☐ Professional Services
- ☐ Technicians and Associate Professionals
- ☐ Clerical Support
- ☐ Service and Sales
- ☐ Skilled Agricultural, Forestry, and Fishery Work
- ☐ Craft and Related Trades
- ☐ Plant and Machine Operation, and Assembly
- ☐ Elementary Occupations
- ☐ Other: \_\_\_\_\_

10. 10) Work location in Malta

⌵ Dropdown

*Mark only one oval.*

- ☐ Birkirkara
- ☐ Birżebbuġa
- ☐ Bormla
- ☐ Floriana
- ☐ Għajnsielem and Comino
- ☐ H'Attard
- ☐ Had-Dingli
- ☐ Hal Balzan
- ☐ Hal Gharghur
- ☐ Hal Ghaxaq
- ☐ Hal Kirkop
- ☐ Hal Luqa
- ☐ Hal Lija
- ☐ Hal Qormi
- ☐ Hal Safi
- ☐ Hal Tarxien
- ☐ Haż-Żabbar
- ☐ Haż-Żebbuġ
- ☐ Il-Birgu
- ☐ Il-Fgura
- ☐ Il-Fontana
- ☐ Il-Gudja
- ☐ Il-Gżira
- ☐ Il-Hamrun
- ☐ Il-Kalkara
- ☐ Il-Marsa
- ☐ Il-Mellieħa
- ☐ Il-Mosta

- ☐ Il-Munxar
- ☐ Il-Qala
- ☐ Il-Qrendi
- ☐ In-Nadur
- ☐ In-Naxxar
- ☐ Ir-Rabat (Gozo)
- ☐ Ir-Rabat (Malta)
- ☐ Is-Siġġiewi
- ☐ Is-Swieqi
- ☐ Ix-Xagħra
- ☐ Ix-Xewkija
- ☐ Ix-Xgħajra
- ☐ Iż-Żebbuġ (Gozo)
- ☐ Iż-Żejtun
- ☐ Iż-Żurrieq
- ☐ L-Għarb
- ☐ L-Għasri
- ☐ L-Iklin
- ☐ L-Imdina
- ☐ L-Imġarr
- ☐ L-Imqabba
- ☐ L-Imsida
- ☐ L-Imtarfa
- ☐ L-Isla
- ☐ Marsaskala
- ☐ Marsaxlokk
- ☐ Pembroke
- ☐ Raġal Ġdid
- ☐ San Ġiljan
- ☐ San Ġwann
- ☐ San Lawrenz

- ☐ San Pawl Il-Baħar
- ☐ Santa Luċija
- ☐ Santa Venera
- ☐ Ta' Kerċem
- ☐ Ta' Sannat
- ☐ Ta' Xbiex
- ☐ Tal-Pietà
- ☐ Tas-Sliema
- ☐ Valletta

### Section 3: Housing and Living Arrangements

#### 11. 11) Type of dwelling

*Mark only one oval.*

- ☐ Terraced House
- ☐ Townhouse
- ☐ Semi/Fully Detached House
- ☐ Maisonette
- ☐ Flat
- ☐ Penthouse
- ☐ Other: \_\_\_\_\_

#### 12. 12) Household composition

*Tick all that apply.*

- ☐ Living with spouse/partner
- ☐ Living with children
- ☐ Living with other relatives
- ☐ Shared accommodation with friends/colleagues
- ☐ Other: \_\_\_\_\_

#### Section 4: Transport Modes & Accessibility

13. 13) Do you have a driving licence that can be used in Malta?

*Mark only one oval.*

☐ Yes

☐ No

14. 14) Do you have a car ?

*Mark only one oval.*

☐ Yes

☐ No

15. 15) What is the main mode of transport that you use :

*Mark only one oval.*

☐ Public bus

☐ Bicycle

☐ Electric scooter

☐ Walking

☐ Private car

☐ Electric/hybrid car

☐ Ride-hailing (Uber, Bolt, Minibus)

☐ Ferry

☐ Motorbike

☐ Electric/hybrid motorbike

☐ Other: \_\_\_\_\_

16) How frequently do you use the following transport modes in Malta?  
(1 = Never, 2 = Very Rarely, 3 = Rarely, 4 = Frequently, 5 = Very Frequently)

16. Bus

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

17. Bicycle

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

18. Electric scooter

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

19. Walking

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

20. Private car

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

21. Electric/hybrid car

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

22. Ride-hailing (Uber, Bolt, Minibus)

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

23. Ferry

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

24. Motorbike

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |



25. Electric/hybrid Motorbike

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

26. 17) How accessible do you find public transport in Malta?  
(1= Not Accessible, 3= Unsure, 5= Very Accessible)

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

#### Section 5: Travel Behaviour & Daily Mobility

18) How often do you change transport modes based on different activities (1 = Never, 2 = Very Rarely, 3 = Rarely, 4 = Frequently, 5 = Very Frequently)

27. Work

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

28. Leisure

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ☆ | ☆ | ☆ | ☆ | ☆ |

29. Errands

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

30. 19) How reliable do you find Malta's public transport?  
(1= Very Unreliable, 3= Unsure, 5= Very Reliable)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

20) How much do the following factors influence your choice of transport?  
(1= Not at all, 3= Unsure, 5= Very Much)

31. Cost

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

32. Travel time

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

33. Traffic congestion

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

34. Environmental concerns

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

35. Convenience

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

#### Section 6: Environmental Awareness & Perceptions

36. 21) How important is sustainability when choosing your transport mode?  
(1= Not Important, 3= Average, 5= Very Important)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

37. 22) How satisfied are you with the availability of sustainable transport options in Malta?  
(1= Very Dissatisfied, 3= Average, 5 = Very Satisfied)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

38. 23) How well does Malta promote sustainable mobility?  
(1= Very Poorly, 2= Average, 5= Very Well)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

#### Section 7: Future Mobility Plans

39. 24) How likely are you to shift to more sustainable transport options if they were improved?  
(1= Not Likely, 3= Unsure, 5= Very Likely)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

40. 25) If you do not own a car, do you plan to own a car in Malta in the future?  
(1= Definitely Not, 3= unsure 5= Definitely Yes)

|       |   |   |   |   |
|-------|---|---|---|---|
| 1     | 2 | 3 | 4 | 5 |
| <hr/> |   |   |   |   |
| ☆     | ☆ | ☆ | ☆ | ☆ |
| <hr/> |   |   |   |   |

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#### **Appendix 4.9: The Questionnaire Flyer**

**-You are a non-Maltese individual residing in Malta.**

**-You are employed.**

**-You have lived in Malta for at least 12 months or intend to stay for 12 months or more.**

**-You are 25 years or older.**



## Appendix 6.1 Cross-Tabulation Tables Supporting Bar Chart Results in the Bivariate Analysis

Table 6.1 Main Mode of Transport in Malta by Nationality Region

|                    |                                       |            | Main Mode of Transport in Malta |         |                |           |      |
|--------------------|---------------------------------------|------------|---------------------------------|---------|----------------|-----------|------|
|                    |                                       |            | Public Bus                      | Walking | Micro Mobility | Motorbike | Car  |
| Nationality Region | Canada and U.S                        | Count      | 0                               | 0       | 0              | 0         | 3    |
|                    |                                       | Percentage | 0%                              | 0%      | 0%             | 0%        | 100% |
|                    | Caribbean, Central America and Mexico | Count      | 1                               | 0       | 0              | 0         | 0    |
|                    |                                       | Percentage | 100%                            | 0%      | 0%             | 0%        | 0%   |
|                    | South America                         | Count      | 37                              | 5       | 1              | 0         | 6    |
|                    |                                       | Percentage | 76%                             | 10%     | 2%             | 0%        | 12%  |
|                    | Africa, Sub-Saharan                   | Count      | 27                              | 0       | 0              | 0         | 6    |
|                    |                                       | Percentage | 82%                             | 0%      | 0%             | 0%        | 18%  |
|                    | Middle East and North Africa          | Count      | 8                               | 0       | 0              | 2         | 10   |
|                    |                                       | Percentage | 40%                             | 0%      | 0%             | 10%       | 50%  |
|                    | Europe                                | Count      | 43                              | 16      | 5              | 6         | 42   |
|                    |                                       | Percentage | 38%                             | 14%     | 4%             | 5%        | 38%  |
|                    | South and Central Asia                | Count      | 62                              | 1       | 1              | 10        | 8    |
|                    |                                       | Percentage | 76%                             | 1%      | 1%             | 12%       | 10%  |
|                    | Southeast Asia and Oceania            | Count      | 24                              | 3       | 0              | 0         | 4    |
|                    |                                       | Percentage | 77%                             | 10%     | 0%             | 0%        | 13%  |

Table 6.2 Car Ownership in Malta by Nationality Region

|                    |                                       |            | Car Ownership in Malta |      |
|--------------------|---------------------------------------|------------|------------------------|------|
|                    |                                       |            | Yes                    | No   |
| Nationality Region | Canada and U.S                        | Count      | 2                      | 1    |
|                    |                                       | Percentage | 67%                    | 33%  |
|                    | Caribbean, Central America and Mexico | Count      | 0                      | 1    |
|                    |                                       | Percentage | 0%                     | 100% |
|                    | South America                         | Count      | 2                      | 47   |
|                    |                                       | Percentage | 4%                     | 96%  |
|                    | Africa, Sub-Saharan                   | Count      | 9                      | 24   |
|                    |                                       | Percentage | 27%                    | 73%  |
|                    | Middle East and North Africa          | Count      | 10                     | 10   |
|                    |                                       | Percentage | 50%                    | 50%  |

|  |                            |            |     |     |
|--|----------------------------|------------|-----|-----|
|  | Europe                     | Count      | 41  | 71  |
|  |                            | Percentage | 37% | 63% |
|  | South and Central Asia     | Count      | 10  | 72  |
|  |                            | Percentage | 12% | 88% |
|  | Southeast Asia and Oceania | Count      | 3   | 28  |
|  |                            | Percentage | 10% | 90% |

Table 6.3 Car Ownership Intention in Malta by Nationality Region

|                    |                                       |            | Car Ownership Intention in Malta |     |        |      |            |
|--------------------|---------------------------------------|------------|----------------------------------|-----|--------|------|------------|
|                    |                                       |            | Never                            | No  | Unsure | Yes  | Definitely |
| Nationality Region | Canada and U.S                        | Count      | 1                                | 0   | 0      | 0    | 1          |
|                    |                                       | Percentage | 50%                              | 0%  | 0%     | 0%   | 50%        |
|                    | Carribean, Central America and Mexico | Count      | 0                                | 0   | 0      | 1    | 0          |
|                    |                                       | Percentage | 0%                               | 0%  | 0%     | 100% | 0%         |
|                    | South America                         | Count      | 15                               | 6   | 16     | 3    | 8          |
|                    |                                       | Percentage | 31%                              | 13% | 33%    | 6%   | 17%        |
|                    | Africa, Sub-Saharan                   | Count      | 5                                | 1   | 4      | 5    | 17         |
|                    |                                       | Percentage | 16%                              | 3%  | 13%    | 16%  | 53%        |
|                    | Middle East and North Africa          | Count      | 2                                | 0   | 5      | 1    | 6          |
|                    |                                       | Percentage | 14%                              | 0%  | 36%    | 7%   | 43%        |
|                    | Europe                                | Count      | 35                               | 9   | 17     | 5    | 26         |
|                    |                                       | Percentage | 38%                              | 10% | 18%    | 5%   | 28%        |
|                    | South and Central Asia                | Count      | 4                                | 4   | 22     | 8    | 40         |
|                    |                                       | Percentage | 5%                               | 5%  | 28%    | 10%  | 51%        |
|                    | Southeast Asia and Oceania            | Count      | 9                                | 2   | 8      | 4    | 5          |
|                    |                                       | Percentage | 32%                              | 7%  | 29%    | 14%  | 18%        |

Table 6.4 Main Mode of Transport in Malta by Age Group

|           |       |            | Main Mode of Transport in Malta |         |                |           |     |
|-----------|-------|------------|---------------------------------|---------|----------------|-----------|-----|
|           |       |            | Public Bus                      | Walking | Micro Mobility | Motorbike | Car |
| Age Group | 25-29 | Count      | 82                              | 4       | 2              | 3         | 25  |
|           |       | Percentage | 71 %                            | 3%      | 2%             | 3%        | 22% |
|           | 30-34 | Count      | 68                              | 10      | 3              | 8         | 22  |
|           |       | Percentage | 61%                             | 9 %     | 3%             | 7%        | 20% |
|           | 35-39 | Count      | 19                              | 6       | 0              | 7         | 17  |
|           |       | Percentage | 39%                             | 12%     | 0%             | 14%       | 35% |
|           | 40-44 | Count      | 33                              | 5       | 2              | 0         | 15  |
|           |       | Percentage | 60%                             | 9 %     | 4%             | 0%        | 27% |

Table 6.5 Main Mode of transport in Malta by Region of Residence Before Residing in Malta

|                                              |                                       |            | Main Mode of Transport in Malta |         |                |           |     |
|----------------------------------------------|---------------------------------------|------------|---------------------------------|---------|----------------|-----------|-----|
|                                              |                                       |            | Public Bus                      | Walking | Micro Mobility | Motorbike | Car |
| Region of Residence Before Residing in Malta | Canada and U.S                        | Count      | 2                               | 0       | 0              | 0         | 2   |
|                                              |                                       | Percentage | 50%                             | 0%      | 0%             | 0%        | 50% |
|                                              | Caribbean, Central America and Mexico | Count      | 2                               | 1       | 0              | 0         | 0   |
|                                              |                                       | Percentage | 67%                             | 33%     | 0%             | 0%        | 0%  |
|                                              | South America                         | Count      | 32                              | 4       | 1              | 0         | 7   |
|                                              |                                       | Percentage | 73%                             | 9%      | 2%             | 0%        | 16% |
|                                              | Africa, Sub-Saharan                   | Count      | 16                              | 0       | 0              | 0         | 6   |
|                                              |                                       | Percentage | 73%                             | 0%      | 0%             | 0%        | 27% |
|                                              | Middle East and North Africa          | Count      | 30                              | 2       | 0              | 5         | 5   |
|                                              |                                       | Percentage | 71%                             | 5%      | 0%             | 12%       | 12% |
|                                              | Europe                                | Count      | 48                              | 16      | 5              | 8         | 44  |
|                                              |                                       | Percentage | 40%                             | 13%     | 4%             | 7%        | 36% |
|                                              | East Asia                             | Count      | 3                               | 1       | 0              | 0         | 1   |
|                                              |                                       | Percentage | 60%                             | 20%     | 0%             | 0%        | 20% |
|                                              | South and Central Asia                | Count      | 47                              | 1       | 1              | 4         | 6   |
|                                              |                                       | Percentage | 80%                             | 2%      | 2%             | 7%        | 10% |
|                                              | Southeast Asia and Oceania            | Count      | 22                              | 0       | 0              | 1         | 8   |
|                                              |                                       | Percentage | 71%                             | 0%      | 0%             | 3%        | 26% |

Table 6.6 Car Ownership in Malta by Region of Residence Before Residing in Malta

|                                              |                                       |            | Car Ownership in Malta |     |
|----------------------------------------------|---------------------------------------|------------|------------------------|-----|
|                                              |                                       |            | No                     | Yes |
| Region of Residence Before Residing in Malta | Canada and U.S                        | Count      | 3                      | 1   |
|                                              |                                       | Percentage | 75%                    | 25% |
|                                              | Caribbean, Central America and Mexico | Count      | 3                      | 0   |
|                                              |                                       | Percentage | 100%                   | 0%  |
|                                              | South America                         | Count      | 42                     | 2   |
|                                              |                                       | Percentage | 95%                    | 5%  |
|                                              | Africa, Sub-Saharan                   | Count      | 14                     | 8   |
|                                              |                                       | Percentage | 64%                    | 36% |
|                                              | Middle East and North Africa          | Count      | 35                     | 7   |
|                                              |                                       | Percentage | 83%                    | 17% |



|  |                            |            |     |     |
|--|----------------------------|------------|-----|-----|
|  | Europe                     | Count      | 76  | 45  |
|  |                            | Percentage | 63% | 37% |
|  | East Asia                  | Count      | 4   | 1   |
|  |                            | Percentage | 80% | 20% |
|  | South and Central Asia     | Count      | 52  | 7   |
|  |                            | Percentage | 88% | 12% |
|  | Southeast Asia and Oceania | Count      | 25  | 6   |
|  |                            | Percentage | 81% | 19% |

Table 6.7 Main Mode of Transport in Malta by Arrival Year to Malta

|                       |      |            | Main Mode of Transport in Malta |         |                |           |      |
|-----------------------|------|------------|---------------------------------|---------|----------------|-----------|------|
|                       |      |            | Public Bus                      | Walking | Micro Mobility | Motorbike | Car  |
| Arrival Year to Malta | 2006 | Count      | 1                               | 0       | 0              | 0         | 3    |
|                       |      | Percentage | 25%                             | 0%      | 0%             | 0%        | 75%  |
|                       | 2007 | Count      | 0                               | 0       | 0              | 1         | 0    |
|                       |      | Percentage | 0%                              | 0%      | 0%             | 100%      | 0%   |
|                       | 2008 | Count      | 1                               | 1       | 0              | 0         | 0    |
|                       |      | Percentage | 50%                             | 50%     | 0%             | 0%        | 0%   |
|                       | 2009 | Count      | 0                               | 0       | 1              | 0         | 2    |
|                       |      | Percentage | 0%                              | 0%      | 33%            | 0%        | 67%  |
|                       | 2010 | Count      | 0                               | 0       | 0              | 0         | 1    |
|                       |      | Percentage | 0%                              | 0%      | 0%             | 0%        | 100% |
|                       | 2011 | Count      | 2                               | 0       | 0              | 0         | 0    |
|                       |      | Percentage | 100%                            | 0%      | 0%             | 0%        | 0%   |
|                       | 2012 | Count      | 1                               | 0       | 0              | 1         | 3    |
|                       |      | Percentage | 20%                             | 0%      | 0%             | 20%       | 60%  |
|                       | 2013 | Count      | 1                               | 2       | 0              | 1         | 7    |

|      |            |            |     |     |     |     |     |
|------|------------|------------|-----|-----|-----|-----|-----|
|      |            | Percentage | 9%  | 18% | 0%  | 9%  | 64% |
| 2014 | Count      | 2          | 0   | 0   | 0   | 3   |     |
|      | Percentage | 40%        | 0%  | 0%  | 0%  | 60% |     |
| 2015 | Count      | 0          | 2   | 0   | 0   | 4   |     |
|      | Percentage | 0%         | 33% | 0%  | 0%  | 67% |     |
| 2016 | Count      | 6          | 2   | 0   | 1   | 0   |     |
|      | Percentage | 67%        | 22% | 0%  | 11% | 0%  |     |
| 2017 | Count      | 3          | 0   | 0   | 0   | 7   |     |
|      | Percentage | 30%        | 0%  | 0%  | 0%  | 70% |     |
| 2018 | Count      | 7          | 2   | 0   | 1   | 11  |     |
|      | Percentage | 33%        | 10% | 0%  | 5%  | 52% |     |
| 2019 | Count      | 8          | 2   | 1   | 1   | 7   |     |
|      | Percentage | 42%        | 11% | 5%  | 5%  | 37% |     |
| 2020 | Count      | 4          | 2   | 0   | 0   | 4   |     |
|      | Percentage | 40%        | 20% | 0%  | 0%  | 40% |     |
| 2021 | Count      | 7          | 2   | 1   | 0   | 3   |     |
|      | Percentage | 54%        | 15% | 8%  | 0%  | 23% |     |
| 2022 | Count      | 27         | 2   | 1   | 6   | 11  |     |
|      | Percentage | 57%        | 4%  | 2%  | 13% | 23% |     |
| 2023 | Count      | 48         | 4   | 1   | 4   | 6   |     |
|      | Percentage | 76%        | 6%  | 2%  | 6%  | 10% |     |
| 2024 | Count      | 62         | 2   | 2   | 2   | 4   |     |
|      | Percentage | 86%        | 3%  | 3%  | 3%  | 6%  |     |
| 2025 | Count      | 20         | 2   | 0   | 0   | 3   |     |

|  |  |            |     |    |    |    |     |
|--|--|------------|-----|----|----|----|-----|
|  |  | Percentage | 80% | 8% | 0% | 0% | 12% |
|--|--|------------|-----|----|----|----|-----|

Table 6.8 Car Ownership in Malta by Arrival Year to Malta

|                       |      |            | Car Ownership in Malta |      |
|-----------------------|------|------------|------------------------|------|
|                       |      |            | Yes                    | No   |
| Arrival Year to Malta | 2006 | Count      | 4                      | 0    |
|                       |      | Percentage | 100%                   | 0%   |
|                       | 2007 | Count      | 0                      | 1    |
|                       |      | Percentage | 0%                     | 100% |
|                       | 2008 | Count      | 0                      | 2    |
|                       |      | Percentage | 0%                     | 100% |
|                       | 2009 | Count      | 2                      | 1    |
|                       |      | Percentage | 67%                    | 33%  |
|                       | 2010 | Count      | 1                      | 0    |
|                       |      | Percentage | 100%                   | 0%   |
|                       | 2011 | Count      | 0                      | 2    |
|                       |      | Percentage | 0%                     | 100% |
|                       | 2012 | Count      | 4                      | 1    |
|                       |      | Percentage | 80%                    | 20%  |
|                       | 2013 | Count      | 7                      | 4    |
|                       |      | Percentage | 64%                    | 36%  |
|                       | 2014 | Count      | 3                      | 2    |
|                       |      | Percentage | 60%                    | 40%  |
|                       | 2015 | Count      | 4                      | 2    |
|                       |      | Percentage | 67%                    | 33%  |
|                       | 2016 | Count      | 1                      | 8    |
|                       |      | Percentage | 11%                    | 89%  |
|                       | 2017 | Count      | 7                      | 3    |
|                       |      | Percentage | 70%                    | 30%  |
|                       | 2018 | Count      | 12                     | 9    |
|                       |      | Percentage | 57%                    | 43%  |
|                       | 2019 | Count      | 6                      | 13   |
|                       |      | Percentage | 32%                    | 68%  |
|                       | 2020 | Count      | 5                      | 5    |
|                       |      | Percentage | 50%                    | 50%  |
|                       | 2021 | Count      | 3                      | 10   |
|                       |      | Percentage | 23%                    | 77%  |
|                       | 2022 | Count      | 9                      | 38   |

|  |      |            |     |      |
|--|------|------------|-----|------|
|  | 2023 | Percentage | 19% | 81%  |
|  |      | Count      | 6   | 57   |
|  |      | Percentage | 10% | 90%  |
|  | 2024 | Count      | 3   | 69   |
|  |      | Percentage | 4%  | 96%  |
|  | 2025 | Count      | 0   | 25   |
|  |      | Percentage | 0%  | 100% |

Table 6.9 Influence of Cost on Main Mode of Transport in Malta

|                                 |                |            | Cost                 |               |        |           |                |
|---------------------------------|----------------|------------|----------------------|---------------|--------|-----------|----------------|
|                                 |                |            | Not Impactful at All | Not Impactful | Unsure | Impactful | Very Impactful |
| Main Mode of Transport in Malta | Public Bus     | Count      | 20                   | 15            | 31     | 31        | 100            |
|                                 |                | Percentage | 10%                  | 8%            | 16%    | 16%       | 51%            |
|                                 | Walking        | Count      | 7                    | 4             | 7      | 2         | 5              |
|                                 |                | Percentage | 28%                  | 16%           | 28%    | 8%        | 20%            |
|                                 | Micro Mobility | Count      | 3                    | 0             | 1      | 1         | 2              |
|                                 |                | Percentage | 43%                  | 0%            | 14%    | 14%       | 29%            |
|                                 | Motorbike      | Count      | 4                    | 1             | 5      | 2         | 6              |
|                                 |                | Percentage | 22%                  | 6%            | 28%    | 11%       | 33%            |
|                                 | Car            | Count      | 28                   | 6             | 20     | 9         | 15             |
|                                 |                | Percentage | 36%                  | 8%            | 26%    | 12%       | 19%            |

Table 6.10 Influence of Convenience on Main Mode of Transport in Malta

|                                 |                |            | Convenience          |               |        |           |                |
|---------------------------------|----------------|------------|----------------------|---------------|--------|-----------|----------------|
|                                 |                |            | Not Impactful at All | Not Impactful | Unsure | Impactful | Very Impactful |
| Main Mode of Transport in Malta | Public Bus     | Count      | 11                   | 13            | 45     | 60        | 68             |
|                                 |                | Percentage | 6%                   | 7%            | 23%    | 30%       | 35%            |
|                                 | Walking        | Count      | 2                    | 2             | 11     | 5         | 5              |
|                                 |                | Percentage | 8%                   | 8%            | 44%    | 20%       | 20%            |
|                                 | Micro Mobility | Count      | 1                    | 1             | 0      | 1         | 4              |
|                                 |                | Percentage | 14%                  | 14%           | 0%     | 14%       | 57%            |
|                                 | Motorbike      | Count      | 2                    | 0             | 3      | 4         | 9              |
|                                 |                | Percentage |                      |               |        |           |                |

|  |     |            |     |    |     |     |     |
|--|-----|------------|-----|----|-----|-----|-----|
|  |     | Percentage | 11% | 0% | 17% | 22% | 50% |
|  | Car | Count      | 7   | 3  | 16  | 4   | 47  |
|  |     | Percentage | 9%  | 4% | 21% | 5%  | 61% |

Table 6.11 Influence of Traffic Congestion on Main Mode of Transport in Malta

|                                 |                |            | Traffic Congestion   |               |        |           |                |
|---------------------------------|----------------|------------|----------------------|---------------|--------|-----------|----------------|
|                                 |                |            | Not Impactful at All | Not Impactful | Unsure | Impactful | Very Impactful |
| Main Mode of Transport in Malta | Public Bus     | Count      | 15                   | 20            | 56     | 35        | 64             |
|                                 |                | Percentage | 8%                   | 11%           | 29%    | 18%       | 34%            |
|                                 | Walking        | Count      | 6                    | 2             | 3      | 5         | 9              |
|                                 |                | Percentage | 24%                  | 8%            | 12%    | 20%       | 36%            |
|                                 | Micro Mobility | Count      | 0                    | 3             | 0      | 0         | 4              |
|                                 |                | Percentage | 0%                   | 43%           | 0%     | 0%        | 57%            |
|                                 | Motorbike      | Count      | 3                    | 2             | 2      | 1         | 10             |
|                                 |                | Percentage | 17%                  | 11%           | 11%    | 6%        | 56%            |
|                                 | Car            | Count      | 10                   | 5             | 16     | 7         | 40             |
|                                 |                | Percentage | 13%                  | 6%            | 21%    | 9%        | 51%            |

Table 6.12 Car Ownership in Malta among Different Transport Mode Users in Malta

|                                 |                |            | Car Ownership in Malta |     |
|---------------------------------|----------------|------------|------------------------|-----|
|                                 |                |            | Yes                    | No  |
| Main Mode of Transport in Malta | Public Bus     | Count      | 11                     | 191 |
|                                 |                | Percentage | 5%                     | 95% |
|                                 | Walking        | Count      | 2                      | 23  |
|                                 |                | Percentage | 8%                     | 92% |
|                                 | Micro Mobility | Count      | 1                      | 6   |
|                                 |                | Percentage | 14%                    | 86% |
|                                 | Motorbike      | Count      | 3                      | 15  |
|                                 |                | Percentage | 17%                    | 83% |
|                                 | Car            | Count      | 60                     | 19  |
|                                 |                | Percentage | 76%                    | 24% |

Table 6.13 Driving Licence Ownership in Malta among Different Transport Mode Users in Malta

|                                       |                |            | Driving Licence Ownership<br>in Malta |     |
|---------------------------------------|----------------|------------|---------------------------------------|-----|
|                                       |                |            | Yes                                   | No  |
| Main Mode<br>of Transport<br>in Malta | Public Bus     | Count      | 73                                    | 129 |
|                                       |                | Percentage | 36%                                   | 64% |
|                                       | Walking        | Count      | 13                                    | 12  |
|                                       |                | Percentage | 52%                                   | 48% |
|                                       | Micro Mobility | Count      | 4                                     | 3   |
|                                       |                | Percentage | 57%                                   | 43% |
|                                       | Motorbike      | Count      | 16                                    | 2   |
|                                       |                | Percentage | 89%                                   | 11% |
|                                       | Car            | Count      | 66                                    | 13  |
|                                       |                | Percentage | 84%                                   | 16% |

Table 6.14 Work District Distribution Among Different Transport Mode Users in Malta

|                                          |                |            | Work District       |                     |               |         |          |
|------------------------------------------|----------------|------------|---------------------|---------------------|---------------|---------|----------|
|                                          |                |            | Southern<br>Harbour | Northern<br>Harbour | South Eastern | Western | Northern |
| Main<br>Mode of<br>Transport<br>in Malta | Public Bus     | Count      | 65                  | 103                 | 12            | 7       | 15       |
|                                          |                | Percentage | 32%                 | 51%                 | 6%            | 3%      | 7%       |
|                                          | Walking        | Count      | 2                   | 21                  | 0             | 1       | 0        |
|                                          |                | Percentage | 8%                  | 88%                 | 0%            | 4%      | 0%       |
|                                          | Micro Mobility | Count      | 2                   | 3                   | 0             | 0       | 2        |
|                                          |                | Percentage | 29%                 | 43%                 | 0%            | 0%      | 29%      |
|                                          | Motorbike      | Count      | 4                   | 10                  | 0             | 2       | 2        |
|                                          |                | Percentage | 22%                 | 56%                 | 0%            | 11%     | 11%      |
|                                          | Car            | Count      | 12                  | 53                  | 1             | 2       | 6        |
|                                          |                | Percentage | 16%                 | 72%                 | 1%            | 3%      | 8%       |

Table 6.15 Satisfaction with Sustainable Transport Availability in Malta by Importance of Sustainability in Mode Choice

|  |  |       | Satisfaction with Sustainable Transport Availability in Malta |                  |        |           |                   |
|--|--|-------|---------------------------------------------------------------|------------------|--------|-----------|-------------------|
|  |  |       | Not<br>Satisfied<br>at All                                    | Not<br>Satisfied | Unsure | Satisfied | Very<br>Satisfied |
|  |  | Count | 17                                                            | 6                | 13     | 4         | 1                 |

|                                             |                      |            |     |     |     |     |     |
|---------------------------------------------|----------------------|------------|-----|-----|-----|-----|-----|
| Importance of Sustainability in Mode Choice | Not Important at All | Percentage | 41% | 15% | 32% | 10% | 2%  |
|                                             |                      | Count      | 1   | 13  | 12  | 3   | 1   |
|                                             | Not Important        | Percentage | 3%  | 43% | 40% | 10% | 3%  |
|                                             |                      | Count      | 15  | 13  | 52  | 13  | 11  |
|                                             | Unsure               | Percentage | 14% | 13% | 50% | 13% | 11% |
|                                             |                      | Count      | 9   | 4   | 14  | 15  | 7   |
|                                             | Important            | Percentage | 18% | 8%  | 29% | 31% | 14% |
|                                             |                      | Count      | 16  | 8   | 26  | 13  | 39  |
|                                             | Very Important       | Percentage | 16% | 8%  | 25% | 13% | 38% |
|                                             |                      | Count      |     |     |     |     |     |

Table 6.16 Perceptions of Malta’s Efforts to Promote Sustainable Mobility by Importance of Sustainability in Mode Choice

|                                             |                      |            | Perceptions of Malta’s Efforts to Promote Sustainable Mobility |          |        |          |               |
|---------------------------------------------|----------------------|------------|----------------------------------------------------------------|----------|--------|----------|---------------|
|                                             |                      |            | Very Negative                                                  | Negative | Unsure | Positive | Very Positive |
| Importance of Sustainability in Mode Choice | Not Important at All | Count      | 19                                                             | 8        | 8      | 4        | 2             |
|                                             |                      | Percentage | 46%                                                            | 20%      | 20%    | 10%      | 5%            |
|                                             | Not Important        | Count      | 5                                                              | 9        | 12     | 3        | 1             |
|                                             |                      | Percentage | 17%                                                            | 30%      | 40%    | 10%      | 3%            |
|                                             | Unsure               | Count      | 22                                                             | 28       | 39     | 10       | 5             |
|                                             |                      | Percentage | 21%                                                            | 27%      | 38%    | 10%      | 5%            |
|                                             | Important            | Count      | 10                                                             | 10       | 13     | 14       | 2             |
|                                             |                      | Percentage | 20%                                                            | 20%      | 27%    | 29%      | 4%            |
|                                             | Very Important       | Count      | 20                                                             | 20       | 28     | 11       | 23            |
|                                             |                      | Percentage | 20%                                                            | 20%      | 27%    | 11%      | 23%           |

Table 6.17 Table 6.17 Sustainable Transport Satisfaction in Malta by Willingness to Switch to Sustainable Modes in Malta if Improved

|  |                    |            | Sustainable Transport Satisfaction in Malta |               |        |           |                |
|--|--------------------|------------|---------------------------------------------|---------------|--------|-----------|----------------|
|  |                    |            | Not Satisfied at All                        | Not Satisfied | Unsure | Satisfied | Very Satisfied |
|  | Not Willing at All | Count      | 8                                           | 6             | 9      | 0         | 2              |
|  |                    | Percentage | 32%                                         | 24%           | 36%    | 0%        | 8%             |

|                                                                 |                    |            |     |     |     |     |     |
|-----------------------------------------------------------------|--------------------|------------|-----|-----|-----|-----|-----|
| Willingness to Switch to Sustainable Modes in Malta if Improved | Not Willing        | Count      | 4   | 4   | 4   | 1   | 3   |
|                                                                 |                    | Percentage | 25% | 25% | 25% | 6%  | 19% |
|                                                                 | Unsure             | Count      | 9   | 7   | 39  | 8   | 5   |
|                                                                 |                    | Percentage | 13% | 10% | 57% | 12% | 7%  |
|                                                                 | Willing            | Count      | 8   | 11  | 25  | 19  | 7   |
|                                                                 |                    | Percentage | 11% | 16% | 36% | 27% | 10% |
|                                                                 | Definitely Willing | Count      | 27  | 13  | 41  | 18  | 33  |
|                                                                 |                    | Percentage | 20% | 10% | 31% | 14% | 25% |

Table 6.18 Perceived Government Efforts in Sustainable Mobility Promotion by Willingness to Switch to Sustainable Modes in Malta if Improved

|                                                                 |                    |            | Perceived Government Efforts in Sustainable Mobility Promotion |          |        |          |               |
|-----------------------------------------------------------------|--------------------|------------|----------------------------------------------------------------|----------|--------|----------|---------------|
|                                                                 |                    |            | Very Negative                                                  | Negative | Unsure | Positive | Very Positive |
| Willingness to Switch to Sustainable Modes in Malta if Improved | Not Willing at All | Count      | 11                                                             | 4        | 6      | 2        | 2             |
|                                                                 |                    | Percentage | 44%                                                            | 16%      | 24%    | 8%       | 8%            |
|                                                                 | Not Willing        | Count      | 4                                                              | 5        | 3      | 2        | 2             |
|                                                                 |                    | Percentage | 25%                                                            | 31%      | 19%    | 13%      | 13%           |
|                                                                 | Unsure             | Count      | 11                                                             | 16       | 33     | 3        | 5             |
|                                                                 |                    | Percentage | 16%                                                            | 24%      | 49%    | 4%       | 7%            |
|                                                                 | Willing            | Count      | 12                                                             | 21       | 21     | 13       | 3             |
|                                                                 |                    | Percentage | 17%                                                            | 30%      | 30%    | 19%      | 4%            |
|                                                                 | Definitely Willing | Count      | 37                                                             | 26       | 34     | 17       | 18            |
|                                                                 |                    | Percentage | 28%                                                            | 20%      | 26%    | 13%      | 14%           |

Table 6.19 Car Ownership Intention in Malta by Likelihood of Switching to Sustainable Transport if Improved

|  | Car Ownership Intention in Malta |    |        |     |            |
|--|----------------------------------|----|--------|-----|------------|
|  | Never                            | No | Unsure | Yes | Definitely |



|                                                                 |                    |            |     |     |     |     |     |
|-----------------------------------------------------------------|--------------------|------------|-----|-----|-----|-----|-----|
| Willingness to Switch to Sustainable Modes in Malta if Improved | Not Willing at All | Count      | 8   | 0   | 2   | 1   | 8   |
|                                                                 |                    | Percentage | 42% | 0%  | 11% | 5%  | 42% |
|                                                                 | Not Willing        | Count      | 2   | 2   | 4   | 0   | 4   |
|                                                                 |                    | Percentage | 17% | 17% | 33% | 0%  | 33% |
|                                                                 | Unsure             | Count      | 12  | 7   | 17  | 7   | 22  |
|                                                                 |                    | Percentage | 18% | 11% | 26% | 11% | 34% |
|                                                                 | Willing            | Count      | 10  | 6   | 19  | 11  | 16  |
|                                                                 |                    | Percentage | 16% | 10% | 31% | 18% | 26% |
|                                                                 | Definitely Willing | Count      | 34  | 7   | 22  | 7   | 50  |
|                                                                 |                    | Percentage | 28% | 6%  | 18% | 6%  | 42% |