

# Transport poverty in Haarlemmermeer and Zoetermeer, the Netherlands: the ‘inside versus outside perspective’ of reality?

A qualitative study exploring the experiences of women with a distance to the labour market living in suburban Dutch cities – and how this relates to the risk of transport poverty as experts perceive it



Master thesis (Spatial Planning), University of Utrecht

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## Colophon

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# Goudappel

**MOBILITY MOVES US**

*Image on the cover page: picture of the former (withdrawn) bus stop ‘sporthal Driemanspolder’, in Zoetermeer. Own material / taken on February 21<sup>st</sup>, 2023; by B.G.P. Janson-Goossens.*

## Preface

Finally, after more than a year, the day has arrived: the end of the master thesis! I'm proud to see a finished product laying in front of me: I did it! – However, I did not do this on my own; quite the contrary, actually. There are so many people I must, and want to thank, from the bottom of my heart, before I take a much needed – and, dare I say so myself, well-deserved – break.

First off: my Utrecht University thesis supervisors, Claudia (for the first half) and Patrick (for the last). You both know me very well, so I trust you know, I mean this wholeheartedly: I'm super glad I got to work with you! I couldn't have asked for a better match. For me, either of you were excellent as thesis supervisors, albeit for different reasons. (For example, Claudia in her exact, theoretical knowledge, 'sharpening' my academic language; Patrick, in his lightning-quick e-mail replies! ... And of course many other reasons, that I'm not doing justice... anyhow.) Thanks for all the time and effort – you rock.

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Thanks to all my friends and family, for the words of encouragement and general support – and your understanding, as I was (understandably, but nonetheless) physically or mentally absent – or both. And, specifically, I owe my thanks to all who read and commented on my thesis: mum (who also ran one test-interview with me!), Annemarie, Maaïke, Arjen, and of course my dear husband (who read my work several times!). Yes – we got married while I was still writing my thesis! It was a turbulent but truly amazing time. I wouldn't change a thing. And you supported me through all of it like a champ.

Last but not least, I want to thank God for the support. I wouldn't have had the strength without You.

Without much further ado, I now present my master's thesis. I hope you enjoy reading it!

Janneke Janson-Goossens  
Zoetermeer, March 2023

## Executive summary (English)

Transport poverty negatively impacts an individual's ability to participate in society, making it a socially relevant issue regarding which further research is needed. Despite their relevance, 'transport poor' are often not visible as such in the statistics. The issue is multi-faceted, as its causes and consequences can lie within *and* beyond the mobility domain (Lucas, Mattioli, Verlinghieri, & Guzman, 2016).

In the Netherlands, the scientific as well as the political world are still exploring transport poverty as of now. Research on the matter only started to be systematically conducted just over ten years ago (Martens, Ten Holder, & Thijssen, 2011). There is no clear view yet of how and where transport poverty manifests in the Netherlands (Rottier, 2018). This makes it hard for Dutch governments and authorities to create workable, effective policies on it (Lucas et al., 2016a). In 2019, the Dutch national statistics and environmental assessment agency formulated an indicator 'risk of transport poverty', aiming to give a first insight to the issue (Kampert, Nijenhuis, Nijland, Uitbeijerse, & Verhoeven, 2019). However, this indicator does not include individual experience and local context, although both are important to transport poverty (Pot, Koster, Tillema, & Jorritsma, 2020; Van der Aa, Damen, & Rispen, 2021).

Therefore, the main objective of this research is to juxtapose the reality of transport poverty the way experts and government officials perceive it, with the experienced dimension on the part of individuals. The research group concerns persons who are arguably at risk of being transport poor, according to the CBS/PBL transport poverty risk indicator. And, as women's mobility patterns and experiences differ from men's (Borgato, Maffii, Malgieri, & Chiffi, 2021); job status has shown to be influential on transport poverty (Bastiaanssen, 2012); and, 'in-between', suburban regions in the Netherlands have not been researched as much as the biggest cities or rural areas have, this specific 'niche' group was selected: women with a distance to the labour market (non-working; no full-time, paid job), living in suburban municipalities in the Netherlands. The main question is thus as follows: ***"To what extent are the perceived and experienced reality of the risk of transport poverty of non-working women, living in Haarlemmermeer or Zoetermeer, consistent?"***

Firstly, the notion of 'risk of transport poverty' and currently relevant policies on the topic were explored by expert interviews and desk research. The (policy) desk research was in addition to the local and regional government interviews that were conducted to investigate the current attitudes of (governmental) authorities on the issue. Then, importantly, in-depth interviews followed with the target group: non-working women in suburban Dutch areas. Using the Netherlands Verplaatsingspanel (NVP) database, the sample was selected on the aforementioned characteristics ( $N=15$ ), and (after sample validation: applying the risk indicator to the group) approached to participate. Interviewees ( $n=6$ ) were asked about experiences regarding living environment, mobility situation, and capabilities.

However there is some variation in the perception of transport poverty, the general understanding of the issue was found to be somewhat similar between the in- and outside view. The risk indicator was a good enough 'lens' as a means to find people who are vulnerable— but it does not tell the full story. In practice, the navigation of either perspective showed a need for action. An institutional culture may be needed, to finetune policies to people's needs. Governments ought to keep in contact with their people and the local context. Most importantly through research- and policy actions on TP; and listening to the people's voices, enabling policy- and decision makers to place oneself in others' shoes. Future research could explore different sample (sources) -in order to gather people who are more at-risk of transport poverty than the sample of this study; and specific research methods -in order to test the perception of transport poverty on other groups- whilst using a similar set-up as this study.

## Samenvatting (Nederlands)

Vervoersarmoede heeft een negatieve invloed op de mogelijkheid voor een individu om mee te doen in de samenleving. Dit maakt dat het een sociaal relevantie kwestie is, waar meer onderzoek naar dient te worden gedaan. Mensen die vallen onder de noemer vervoersarm, zijn echter vaak onzichtbaar in de statistieken. Het is namelijk een kwestie met vele facetten, waarvan zowel de oorzaken als gevolgen zowel in als buiten het mobiliteitsdomein reiken (Lucas et al., 2016a). In Nederland zijn de wetenschap, en de politiek in beginnende mate, bezig vervoersarmoede te doorgronden. Systematisch onderzoek begon hier pas iets meer dan een decennium geleden (Martens et al., 2011); er is nog geen helder beeld van wat vervoersarmoede is, of hoe en waar het zich manifesteert in Nederland (Rottier, 2018). Dit bemoeilijkt maken van werkbaar, effectief beleid voor (overheids)autoriteiten (Lucas et al., 2016a). In 2019 ontwikkelden CBS en PBL de indicator 'risico op vervoersarmoede', om een eerste inzicht te bieden in de kwestie (Kampert et al., 2019). Desalniettemin ontbraken geografische context en persoonlijke ervaring – beide van belang in vervoersarmoede (Pot et al., 2020; Van der Aa et al., 2021).

Daarom heeft dit onderzoek als doel om twee perspectieven tegenover elkaar te zetten, en te kijken waar het overeenkomt en waar het juist schuurt. Enerzijds de realiteit van vervoersarmoede zoals gezien of geschetst door experts en ambtenaren (perception) en anderzijds de ervaren dimensie, vanuit een individu zelf (experienced). De onderzoeksgroep betreft mensen die, volgens de criteria van de risico-indicator, enig risico hebben op vervoersarmoede. Bovendien betreft de onderzoeksgroep verder: vrouwen met een afstand tot de arbeidsmarkt, woonachtig in Zoetermeer of de Haarlemmermeer. Immers, mobiliteitspatronen en -ervaringen van vrouwen verschillen degelijk van mannen (Borgato et al., 2021); werkzaamheid blijkt van invloed op vervoersarmoede (Bastiaanssen, 2012); en Nederlandse suburbane steden -'tussen' de G4, en landelijk gebied- vooralsnog onderbelicht gebleven in onderzoek. De hoofdvraag luidt dus als volgt: **“Tot in hoeverre zijn de van buitenaf waargenomen (*outside*) en ervaren realiteit (*inside perspective*) van het risico op vervoersarmoede bij niet-werkende vrouwen, woonachtig in de Haarlemmermeer of Zoetermeer, consequent?”**

Allereerst is onderzocht wat 'risico op vervoersarmoede' inhoudt volgens de literatuur, alsmede actueel, vervoersarmoede-gerelateerd beleid. Dit beleid was in aanvulling op de interviews die met ambtenaren zijn gehouden, om te achterhalen wat de houding van de lokale en regionale (overheids)autoriteiten (in Zoetermeer en Haarlemmermeer) is tegenover de kwestie van vervoersarmoede, en de stand van zaken rondom het onderwerp. Daarna, en het meest belangrijk voor dit onderzoek, zijn er diepte-interviews gehouden met de onderzoeksgroep: vrouwen zonder baan, woonachtig in een 'suburbaan gebied' (en voormalige groeikern). De steekproef (N=15) is getrokken via het Nederlands Verplaatsingspaneel (NVP), gefilterd op de genoemde groepskenmerken, en (na toepassen van de PBL/CBS risico-indicator op de groep om hun kwetsbaarheid voor vervoersarmoede te 'valideren') benaderd om te participeren in het onderzoek. De geïnterviewden (n=6) zijn gevraagd naar ervaringen omtrent leefomgeving, mobiliteitssituatie, opties en vaardigheden.

Alhoewel er wat variatie is, komen de twee perspectieven redelijk overeen. De indicator bleek een prima 'lens' voor dit onderzoek om mensen te *framen* wat risico op vervoersarmoede betreft. Maar, het is niet compleet. Zowel *in-* als *outside* benadrukken actie die moet worden ondernomen: er is wellicht een cultuurverandering nodig om echt een verschil te maken wat vervoersarmoede betreft. Daartoe moeten overheden in contact met de mensen blijven; door te blijven luisteren, en door onderzoek en beleid. Vervolgonderzoek kan de nadruk leggen op andere (en meer representatieve) steekproeven, en vergelijkbare methoden, om de percepties van andere groepen te testen.



## Glossary: list of abbreviations

AOW = Algemene Ouderdomswet (Dutch governmental law for retirement payment)

BW = Brede Welvaart ('broad definition of well-being')

CBS = Centraal Bureau voor de Statistiek (Dutch national institute for statistics)

CPB = Centraal Planbureau (Dutch central planning/assessment(?) agency)

G4 = The four largest municipalities in the Netherlands: Amsterdam, The Hague, Rotterdam, Utrecht.

HLMM = Municipality of Haarlemmermeer

IM = Inclusive Mobility

KiM = Kennisinstituut voor Mobiliteitsbeleid (Dutch knowledge institute for mobility policy)

BZK/IenW = Ministerie van Binnenlandse Zaken en Koninkrijksrelaties/Infrastructuur en Waterstaat (Dutch Ministry of the Interior and Kingdom Relations/Infrastructure and Water Management)

MRA = Metropolitan region of Amsterdam

MRDH = Metropolitan region of Rotterdam-the Hague

NVP = Nederlands Verplaatsingspanel (panel from which the participants were sampled)

PBL = Planbureau voor de Leefomgeving (Dutch national environmental assessment agency)

PT = Public transport

SWB = Subjective well-being

TP = Transport poverty

TRSE = Transport-related social exclusion

UWV = Uitvoeringsinstituut Werknemersverzekeringen (Dutch governmental institute that takes care of employee insurances, including but not limited to the WW and WAO)

Vervoerregio / ATR = Vervoerregio Amsterdam / Amsterdam Transport Region (the transport Authority of the Amsterdam city-region)

WAO = Wet arbeidsongeschiktheidsverzekering (Dutch government insurance for incapacitation)

Wlz = Wet Langdurige Zorg (Dutch governmental law for people who are chronically ill)

Wmo = Wet Maatschappelijke Ondersteuning 2015 (Dutch governmental law for healthcare – municipalities ought to provide care and ensure social independency of the sick and elderly)

WW = Werkloosheidsuitkering (temporary government payment during a period of unemployment under certain circumstances )

ZTM = Municipality of Zoetermeer

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# 1. Introduction

## 1.1 Background and urgency

The Netherlands is known for its dense, high-quality transport networks (Raad voor de Leefomgeving en Infrastructuur (Rli), 2020). The transport system in Dutch cities is designed to facilitate the movement of large groups of people efficiently. Most people commute within their urban region, making the majority of trips of relatively short-distance (ibid.). Especially compared to other countries, the dense Dutch road networks and compact urban structure is beneficial from a spatial point of view (Geurs & Van Wee, 2006; Pot et al., 2020). There are bicycle lanes and pedestrian ways, public transport (PT) is fairly well-organised, and road networks within, around and in-between cities are extensive. On average, many people benefit from the transport system in Dutch cities (Rli, 2020). However, research shows that certain groups have trouble accessing their destinations in the city – such as jobs, education, or healthcare (Bastiaanssen, 2012; Bastiaanssen, Martens, & Polhuijs, 2013; Van der Bijl & Van der Steenhoven, 2019). Additionally, access to transport options in cities in the Netherlands appears to be distributed disproportionately amongst individuals – and their socio-economic position in society is an important factor in this (Rli, 2020). This situation, where these ‘social disadvantages’ -such as low skills, poor health and low social capital- exist in combination with ‘transport disadvantages’ -such as having no access to a car, or poor PT provision- is also referred to in literature as ‘transport poverty’ or ‘transport-related social exclusion’ (Lucas, 2012). Some studies underline the importance of spatial planning as well: where everything is located, also plays a role in transport poverty (Pot et al., 2020). Mobility is a derived demand – it facilitates education and job opportunities, access to services and facilities, and involvement in social contacts (Bascom & Christensen, 2017; Mattioli, Lucas, & Marsden, 2017). Limitations in personal resources and inaccessibility of transport options may thus lead to transport poverty and other negative effects such as social exclusion (Lucas, 2012; Preston & Rajé, 2007).

Research on topics related to accessibility, social exclusion, and transport justice has been around as early as the late 1950s (Lucas, 2012). However, around the 1990s and 2000s, research as well as policy interest in subjects such as social inclusion (or exclusion) and social justice came up more, and it is still growing in (political) interest to date (Jorritsma, Berveling, De Haas, Bakker, & Harms, 2018; Lucas, 2012). A reason for this is the growing inequality –and thus polarisation– between socio-demographic groups that is observed to be taking place in several countries, including the Netherlands (De Voogd & Cuperus, 2021; Rli, 2020). According to the Dutch socio-cultural planning agency (Sociaal en Cultureel Planbureau, SCP), the differences between poor and rich, working and non-working, amongst others, have increased (Jorritsma et al., 2018).

The connection between social inclusion or justice, and mobility, is clear – as mentioned previously, in developed countries, transport is key to participation in society (Lucas, 2012; Preston & Rajé, 2007). Notably, the United Kingdom’s Social Exclusion Unit (SEU) published a report on transport and social exclusion, marking the topic of accessibility poverty on the political agenda (SEU, 2003). Since then, research has grown considerably: by now, a large body of research has come out on transport poverty. This includes but is not limited to: the UK, USA, Australia, Canada, various European countries such as France, Germany, Denmark, and Flanders (Belgium), and countries in the Global South also (Jorritsma et al., 2018; Lucas et al., 2016a; Van der Bijl & Van der Steenhoven, 2019). Literature discusses various aspects of transport poverty, such as transport affordability -one’s inability to meet transport costs; mobility poverty -a systemic lack of transport options; and accessibility poverty -the difficulty in reaching key activities or destinations (Lucas et al., 2016a).

As for the Netherlands, research concerning transport poverty is relatively new, compared to other countries. The article by Martens et al. (2011) is one of the first advances in the Dutch scientific world on the topic. By now, however, transport poverty has been recognised increasingly, and a number of studies in the Netherlands have been dedicated to studying specific groups in relation to transport poverty. This includes, but is not limited to: elderly people, notably elderly women (ZB Planbureau, 2016); people on low income; the job-seeking unemployed (Bastiaanssen, 2012); people with a migration background; people without a driver's licence (Bastiaanssen et al., 2013); and people with a disability. Most research has focused either on rural areas in the Netherlands –such as the province of Zeeland (Pot et al., 2020)– or on the big cities –the G4, for instance, by Van der Bijl and Van der Steenhoven (2019)– because the transport poor tend to be concentrated in big cities and ‘shrinking areas’ (Jorritsma et al., 2018). In the latter type of area, a characterising feature is population decline and subsequent fall in the level of facilities.

Further, Dutch research agencies have been studying aspects of transport poverty, including the accessibility of jobs and facilities, in the past years – one of the more recent publications was by the Dutch Environmental Assessment Agency (Planbureau voor de Leefomgeving, PBL), (Bastiaanssen & Breedijk, 2022). And in 2019, Statistics Netherlands (Centraal Bureau voor de Statistiek, CBS), in a joint effort with the PBL, made a first attempt to quantify transport poverty. The indicator ‘risk of transport poverty’ gives a hypothetical overview of where households are expected to be more vulnerable to the phenomenon, on neighbourhood level, for the municipalities of Heerlen (‘shrinking area’) and Utrecht (G4) (Kampert et al., 2019). Nonetheless, neither personal experiences nor local geographical context –which are of importance to transport poverty– are included in the indicator (Pot et al., 2020; Van der Aa et al., 2021). In short, as of now, there is not yet enough knowledge to be able to determine the extent of transport poverty in the Netherlands (Rottier, 2018).

## 1.2 Problem statement

Although transport poverty is gaining political attention in the Netherlands and progress on the topic is being made in the scientific world, many things are still missing or unknown. What exactly transport poverty entails, in general, is not entirely clear or consistently articulated; it is very difficult to construct a good and comprehensive definition for the phenomenon (Lucas et al., 2016a). As mentioned before, destinations and services –which mobility is seen to provide access to– are socially, temporally and geographically context-specific (ibid.). And subjective perception and experience appear to be of great importance to measuring, quantifying or even conceptualising transport poverty (Churchill & Smyth, 2019; Coppola & Silvestri, 2020; Pot et al., 2020). Additionally, a wide variety of persons can be subject to it; there is not a typical ‘transport poor’ individual (Fransen, Vertriest, Bracke, Delespaul, & Vandebroek, 2020). Amongst others, these factors make transport poverty (and thus, finding out who is affected, also) a very complex and multifaceted issue; and constructing definitive indicators a difficult task (Lucas et al., 2016a; Van der Veen, Annema, Martens, Van Arem, & Correia, 2020). Let alone for the Netherlands, where research, and certainly policy attention, are still in earlier stages.

The question may arise, however: how can transport poverty happen in the Netherlands in the first place? It may be expected that the relatively compact Dutch urban structure, and extensive (public) transport network, provides all people with various opportunities to move from one place to another (Rli, 2020). Additionally, in the Dutch context, the bicycle has an important, potentially mediating role– especially for short-distance trips (Bastiaanssen, 2012).

This apparent discrepancy can be explained – a couple of points have been introduced before. As for the social state of the Netherlands, the differences between the better and worse-off have increased – thus, the poor became poorer, for example (Jorritsma et al., 2018). In addition, transport poverty has a strong individualised component; which may cause even a good (transport) system, as is arguably the case in the Netherlands, to exclude certain groups (Rli, 2020). This may put the Netherlands more at-risk of transport poverty than what would appear from the surface.

Since the 1950s-60s, the need to travel has increased as societies became organised around motorised transport, especially the car (Martens & Bastiaanssen, 2014). Activity locations within urban regions are more spatially dispersed compared to how it used to be, making it more important for the transport system to be refined and in accordance with people’s needs (Rli, 2020). However, this refinement has not been the case, especially not for former ‘growth centres’ – which used to be assigned satellite cities for the expanding big cities, as a result of the Dutch ‘bundled deconcentration’ policy in the 1970s (Schwanen, Dijst, & Dieleman, 2004). There is a mismatch between housing and employment in growth centres, resulting in larger commute distances – creating a hard situation for jobless, carless individuals (ibid.). However, it is a product of its time: a time in which separate functions and a main role for the car were prevalent – making Dutch suburbs/former growth centres, car-dependent (Markink, 2015). A comparable case can be made for policies and indicators/measurements of mobility or accessibility. More capacity and time-efficacy have been the benchmarks for infrastructural design in the Netherlands for years. Most financial means are targeted at increasing capacity for the car and PT – and the main motivation behind it is minimising or solving congestion and the economic damage that follows from it (Rli, 2020). However, efficiency or ‘the biggest benefit for the largest group of people’ is unfavourable from a perspective of equal opportunities or social inclusion (Van Wee & Geurs, 2011).

Therefore, the main objective of this research is to compare – and ‘juxtapose’ – the perceived effects of transport poverty between (possibly) affected individuals, and Dutch governmental institutions. The research group thus concerns persons who may be at risk of transport poverty, following the 2019 CBS/PBL indicator. Additionally, a specific niche group was selected, which adds to the power of analysis: women with a distance to the labour market, living in large ‘sub-urban’ municipalities in the Netherlands –specifically: Haarlemmermeer and Zoetermeer. Namely, women’s mobility patterns and experiences differ from men’s (Borgato et al., 2021). Further, job status has shown to be influential on transport poverty (Bastiaanssen, 2012). And lastly, suburban areas -which are usually auto-oriented- may potentially be vulnerable to transport poverty (Allen & Farber, 2020).

The main question of this research is thus as follows: ***“To what extent are the perceived and experienced reality of the risk of transport poverty of non-working women, living in Haarlemmermeer or Zoetermeer, consistent?”***

In order to answer the main question, four sub-questions were formulated. They will be laid out briefly.

1. *What criteria have concurred to the formulation of the indicator of ‘risk of transport poverty’ in the Netherlands, and how does the indicator inform relevant policies?*
2. *What is the perception of experts and government officials on the risk of transport poverty?*
3. *What is the experienced reality of non-working women living in Haarlemmermeer or Zoetermeer, who are at risk of transport poverty, of their own (mobility) situation, well-being and capabilities?*
4. *What insights for future policies can the reflection on these ‘real life experiences’ of transport poverty generate?*

Sub-questions one and two concern the outside perspective, or experts' and policy- or decision makers' perception of transport poverty. On the one hand, the notion of 'risk of transport poverty' will be explored, including the literature that lies at its foundation, and what it means in the Dutch (policy) context – this is sub-question one. On the other hand, the outside perspective also concerns the perception of the respective Dutch (governmental) authorities. How do they view transport poverty? Are there policies put in place or in the making by these governments, concerning the issue- and if so, what does it entail? The essence of these questions is captured by the second sub-question.

Sub-question three concerns the 'inside perspective' of risk of transport poverty: the experiences of the research group, regarding 'mobility thresholds' (possible transport poverty risk factors).

Now having explored both the measured and experienced 'realities' of transport poverty of this niche group, some first insights can be taken from this by juxtaposing them. Is there a gap, and if so, where? Sub-question four represents this comparison of either view on transport poverty -which enables the main question to be answered-, and the recommendations that result from this.

## 1.3 Relevance

### 1.3.1 Societal relevance

Transport poverty is an important issue, as it negatively impacts affected individuals' partaking in society and daily life (Lucas, 2012). Therefore, research exploring and aiming to give insight into this complex phenomenon is socially, and societally, relevant. Besides, this study specifically investigates a niche group of people (which will be elaborated upon, and justified, in subsections 3.2.3–3.2.4): women with a distance to the labour market, living in Haarlemmermeer or Zoetermeer; who are also supposedly at a risk of transport poverty (following the CBS/PBL risk indicator). Their experiences and narratives will be juxtaposed with the 'reality of transport poverty' from the respective governmental authorities' attitudes (and policies). In doing so, these individuals' voices will be given a platform – which allows the juxtaposition to the prevailing, assumed or generally accepted perspective on the issue (Rli, 2020, p. 25). People who are 'transport poor' (possibly socially excluded), may not be as 'well documented' as the less vulnerable groups are; this makes having a platform to tell their own stories and experiences, a relevant endeavour (ibid.). After all, for example, the transport network in the Netherlands is seen as good and inclusive. However, is that actually the case; do individuals also experience it as such? (Rli, 2020). Thus, the issue of transport poverty is approached from an 'inside – versus outside' perspective in this study. (Hopefully, this may provide the insights to 'bring in- and outside closer together'– that is, due to more understanding of each other's views or 'lived realities', better-suited policies can be made).

### 1.3.2 Scientific relevance

Transport poverty is a relevant issue to investigate, as has been highlighted before (Lucas, 2012). In general, the extent to which it is present in the Netherlands, is not clear yet (Jorritsma et al., 2018; Kampert, Nijenhuis, Verhoeven, & Dahlmans, 2018). However, it is a very broad topic as well, encompassing a wide range of factors and drivers (Lucas et al., 2016a). Therefore, this research focuses on a niche group. The experiences of women arguably need more research and policy attention – although there are gender differences in travel frequency, time, mode and purpose, these are not accounted for in policies, nor infrastructure, as is (Borgato et al., 2021). The same argument can be

made for Dutch suburban municipalities: the biggest cities, as well as rural areas in the Netherlands, have been the subject of a number of transport poverty studies (for example: (Bastiaanssen et al., 2013; Pot et al., 2020; Van der Bijl & Van der Steenhoven, 2019; ZB Planbureau, 2016). However, research in ‘suburban’ urban regions (in-between the G4 and rural areas) has not yet been done on such a scale. Therefore, this research is scientifically relevant. By choosing a specific socio-demographic and geographic group that has not extensively been researched by now, this study fills a ‘population gap’, as stated by Robinson et al. (2011), cited in: (Miles, 2017). It will hopefully lead to a better understanding of the experiences of a niche group, regarding (the risk of) transport poverty (and how it relates to the ‘outside perspective’ – see 1.3.1, societal relevance).

#### 1.4 Reading guide

This document is further structured as follows. In chapter 2 (theoretical framework), the theoretical assumptions for the research will be presented and discussed – these include the complex notion of poverty, deprivation, and (transport-related) social exclusion – and a deeper dive will be done into transport poverty generally, and risk factors of transport poverty (mobility thresholds) specifically. Lastly, a synthesis section brings the theories and concepts together, and closes off the chapter.

Chapter 3 (methods) concerns the explanation and justification of methodological choices, and the description of the data collection – and processing. Also included here, is the justification of the sampling and, more generally, a description of the research materials (socio-demographic and geographical scoping) of this research: women with no job, living in the municipality of Haarlemmermeer or Zoetermeer. Additionally, concepts that were introduced earlier are made operational in a dedicated section. The last paragraph is dedicated to ethical considerations.

Then, two results chapters follow. In chapter 4 (results: outside perspective), governmental attitudes on transport poverty will be presented, as well as Dutch policies and reports related to the issue – including the transport poverty risk indicator by the CBS and PBL. Chapter 5 (results: inside perspective) then lays down the outcomes of the in-depth interviews with the study group.

In chapter 6 (conclusion and discussion), the juxtaposition of the inside and outside perspectives on transport poverty will be made, finally. The findings are interpreted in such a way to answer the research question, ‘wrapping up’ the research. After this, a discussion section reflects on the (interpretation of the) results and findings. The chapter ends looking forward, with recommendations– for practice (policy/societal), as well as directions for future research.

## 2. Theoretical framework

The objective of this research is concerned with an alleged inconsistency between reality as seen and told 'from outside', versus individual narratives – the experienced reality of the risk of transport poverty. Following this, there are three main topics (paragraphs 1–3, respectively) that will be reviewed in this chapter, in the light of the theoretical approach. These are: the complexity of poverty, deprivation and (transport-related) social exclusion; an overview of theoretical perspectives on transport poverty; and a particular focus on mobility thresholds (transport poverty risk factors). The chapter ends with a synthesis, providing an overview of the concepts and theories used in this study.

### 2.1 Poverty and social exclusion

This section includes an exploration of poverty and social exclusion, as concepts of deprivation. They form the basis for this research approach, in the way they portray the complexity of reality. This includes the dimension of mobility – which is explored in more depth in the next paragraph – as it relates to transport-related social exclusion, or (the risk of) transport poverty.

Banerjee and Duflo (2011) state that the story of poverty, broadly, is far more complex than any one statistic or grand theory. However, this is not always the world as experts view it, unfortunately – often, the facts 'on the ground' do not correspond with the policies targeted at it (Banerjee & Duflo, 2011). For example, measures of economic success, such as income and assets, do not fully capture people's experiences (Acs et al., 2018). People moving one dollar above the set poverty level would appear to be a success. However, it is likely that these individuals or households, despite achieving this milestone, are continuing to struggle, according to Acs et al. (2018). Behind seemingly simple statistics or observations, a more complex reality is 'hidden away' – which, for governments and policy makers, for example, is hard to grasp (Wassens, 2022).

There seems to be a trend of increasing economic inequality in many Western countries – including the Netherlands. Both on behalf of policymakers as well as researchers, this is a common view – including the implication that this increase is a bad thing; and that, in response, a redistribution is needed (Buitelaar, Weterings, & Ponds, 2018). However: how is this to be measured accurately?

*“...providing such a snapshot of the level of economic inequality and segregation in one or multiple years is not sufficient (...) It does not tell us much about the dynamics of people within the income or wealth distribution and the spatial translation thereof” – Buitelaar et al., 2018, p. 102*

Similarly, in this research, the following inquiry implies – whether indicators and (policy) actions (of governments) on the issue of transport poverty, depict 'reality' in the same way as individuals, who may be at risk of transport poverty, experience it. After all, an indicator or model will always be a simplification of reality that cannot fully represent its complexity. This is not necessarily a problem, until it can mistakenly give a wrong estimation or image of reality. With this, also comes the risk of policies aimed at reducing or alleviating poverty or exclusion, missing the mark (Lucas et al., 2016a).

#### 2.1.1 Defining poverty, deprivation and social exclusion

Definitions of poverty have fluctuated over time, influenced by the political climate (Kenyon, Lyons, & Rafferty, 2002). The initial understanding was 'absolute poverty', which is based on the assumption of a fixed, minimum income level, necessary for subsistence. This, however, fails to recognise individuals' differing circumstances and thus different needs (Kenyon et al., 2002). Later, the concept of 'relative



poverty' was used, according to which people are viewed as poor when they are deprived in relation to others. As the concept is extended to relative, socially perceived necessities, different definitions or standards of poverty can be made – thus, incorporating the *consequences* of lack of income (ibid.).

Nonetheless, unequal access to material resources is still the focal point of (relative) poverty. It is thus a one-dimensional approach still, which may fall short in defining, studying, measuring or assessing the complex nature of the problem (Gallez & Motte-Baumvol, 2017). Therefore, nowadays, social exclusion is often used as an alternative descriptor (Mohamed, 2019). In some studies -including SEU (SEU, 2003), to some extent- social exclusion is assumed to be synonymous with poverty – as in, income-based deprivation. However, according to the definitions of others –including Kenyon et al. (2002), Preston and Rajé (2007)– one can be socially excluded without being poor. They see social exclusion as a broader concept, a relational condition; referring to unequal access to *participation* in society. It will be further discussed down below. But firstly; deprivation, a more diffuse concept related to quality of life, is laid out (Kamruzzaman, Yigitcanlar, Yang, & Mohamed, 2016). It can be defined as:

*“...A state of observable and demonstrable disadvantage, relative to the local community or the wider society or nation to which an individual, family or group belongs.”* – Townsend (1987); cited in: Kamruzzaman et al., 2016, p. 4

Deprivation then refers to a lack of particular attributes –including, but not limited to, income– that contribute to a level of suffering or relative disadvantage (Kamruzzaman et al., 2016). Several studies try to identify and assess these attributes (also called dimensions or domains of deprivation); for example: economic, social, political, personal, living space, mobility impairment and geographical isolation (ibid.).

There is no overarching consensus about the definition of social exclusion either – however, most authors agree that it does not necessarily overlap with poverty; and that it provides a more multi-dimensional, layered and dynamic concept of deprivation (Kenyon et al., 2002; Lucas, 2012). Social exclusion, then, embraces a view of poverty, and is concerned with multiple aspects of deprivation. It is seen to refer to the *process* whereby an individual becomes deprived; poverty and deprivation have been conceptualised as an *outcome* (Kamruzzaman et al., 2016). Social exclusion, so to speak, emphasises complexity: for instance, individual, local, or national structural factors can impact one's situation (of disadvantage – which can lead to exclusion). Excluded people may not (only) be poor, but they might also have lost other essential qualities of life, such as the ability to get a job (ibid.). Therefore, such a view is adopted in this study as well, as the aim is to understand the complexity of people's experiences regarding (transport) poverty, deprivation or (transport-related) social exclusion.

### 2.1.2 Transport-related social exclusion

Research on accessibility, (social) exclusion, and (transport) justice has been around since as early as the late 1950s (amongst others: (Hansen, 1959; Harvey, 1973; Rawls, 1971; Wachs & Kumagai, 1973). However, the interest on the matter of transport disadvantage, accessibility and exclusion, and how they relate to each other, started to grow in the late 1990s and early 2000s, for academics and policymakers alike (amongst others: (Church, Frost, & Sullivan, 2000; Kenyon et al., 2002; Lucas, 2006; SEU, 2003). Beforehand, the themes of social exclusion and mobility were generally treated independent of each other. In this period, though, they started to be seen more as 'interlinked' (Gallez & Motte-Baumvol, 2017). Depending on the cultural and political context, this 'shift in the social

question' prompted different public problems and political solutions to be expressed (ibid.). This can also be seen later in the publication of Kenyon et al. (2002), where they introduce a mobility dimension to exclusion. The authors highlight the spatial, temporal, financial and personal constraints, upon societal expectations that enable a certain level of mobility in order to participate in society (ibid.). As one of the pioneers, they define transport-related social exclusion (TRSE) as follows:

*"The process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or in part to insufficient mobility in a society and environment built around the assumption of high mobility."* – Kenyon et al., 2002, p. 210.

This definition acknowledges TRSE as a complex, multi-layered condition. It encompasses societal as well as individual aspects of the issue, but also different dimensions of deprivation (Lucas, 2012). The Kenyon-definition is broadly used and widely cited (ibid.).

That applies to this research as well, as it focuses on individual narratives – taking a standpoint that it is difficult or even inaccurate to measure the complex reality of transport poverty and social exclusion, for example, as seen from the outside alone. After all, everyone experiences reality differently, influenced by personal characteristics and various contextual factors. Therefore, this research approaches mobility –and in particular, transport poverty– in a way that aligns with such a complex notion of TRSE, to hopefully better understand this complexity; aiming to inspire better suited policies.

## 2.2 Transport poverty

This paragraph will clarify the approach taken towards transport poverty in this research. For this, three views on the causal factors of transport poverty will be laid out –after a brief general overview.

At the beginning of the 21<sup>st</sup> century, the debate on accessibility has been linked to the role of transport in exclusion –notably by Lucas (2012)– based on the understanding that inaccessibility can both cause, and result in, social exclusion (Farrington & Farrington, 2005; Gallez & Motte-Baumvol, 2017). In the meantime, a body of research has developed on TRSE and transport poverty (TP), suggesting that a substantial share of the population experiences some problems to access essential destinations such as employment, health care and education (Martens & Bastiaanssen, 2014). As touched upon in the introduction (chapter 1), transport is a derived demand – mobility is mostly a means to other ends; facilitating opportunities, access to facilities and services, and social interactions (Bascom & Christensen, 2017; Mattioli et al., 2017). Partly due to this 'indirect effect' of mobility, TP has varied manifestations; it is hard to define, let alone measure. How to take into account each individual's complex mobility needs, in a specific local context, in which they live and carry out their daily routines? (Ferreira and Batey (2007), in: (Lucas et al., 2016a) p. 360). Although the 'correct' or precise measurement of TP will not be the main focus of this study, it will be touched upon later

In general, in this research (following the social exclusion point-of-view), TP is regarded as a broad, overarching concept which encompasses more than only accessibility and affordability of transport, for instance. This aligns with the research by Lucas et al. (2016a). In their paper, the authors provide an overview of existing conceptualisations and uses of TP – including in policy (indicators); and attempt to make a (working) definition for TP. They see it as a broad, overarching notion encompassing multiple interrelating dimensions, which are as follows (Lucas et al., 2016a):

- *Mobility poverty*: a systemic lack of transport that generates difficulties in moving, often (but not always) connected to a lack of services or infrastructures;
- *Accessibility poverty*: the difficulty of reaching key locations and activities –such as employment, education, healthcare services, shops– at a reasonable time, ease and cost;
- *Transport affordability*: the lack of individual/household resources to afford transportation options, typically with reference to the car and/or public transport (PT);
- *Exposure to transport externalities* – a notion often considered from an environmental justice perspective. This concerns the outcomes of disproportionate exposures to negative effects of the transport system, such as road casualties and traffic-related pollution causing ill-health.

Further, according to the ‘working definition’ for TP; the authors consider an individual to be transport poor if, in order to satisfy their daily basic activity needs, at least one of the following conditions apply:

- There is no transport option available suited to their physical condition and capabilities;
- The existing transport options do not reach destinations where the individual can fulfil their daily activity needs, in order to maintain a reasonable quality of life;
- The necessary (weekly) amount spent on transport leaves the household with a residual income below the official poverty line;
- The individual needs to spend an excessive amount of time travelling, leading to time poverty or social isolation;
- Travel conditions are dangerous, unsafe or unhealthy for them (Lucas et al., 2016a).

The authors note that TP and its relationships to other concepts, can be approached and conceptualised in various (other) ways (Lucas et al., 2016a). Nonetheless, this overview is a good starting point for this research. The points outlined above also overlap for the most part with three perspectives on TP distinguished by Jorritsma et al. (2018) in a literature review: social exclusion, motility, or justice. These perspectives do not differ fundamentally – they all share (transport-related) social exclusion as a common denominator; as in, that is the eventual possible outcome of TP. They are only characterised by another point of departure: TP is either the effect of inadequate transport options, (in)capabilities, or unequal chances to participate, respectively, for certain socio-demographic groups (Jorritsma et al., 2018). Each approach will be explained in a dedicated subsection below.

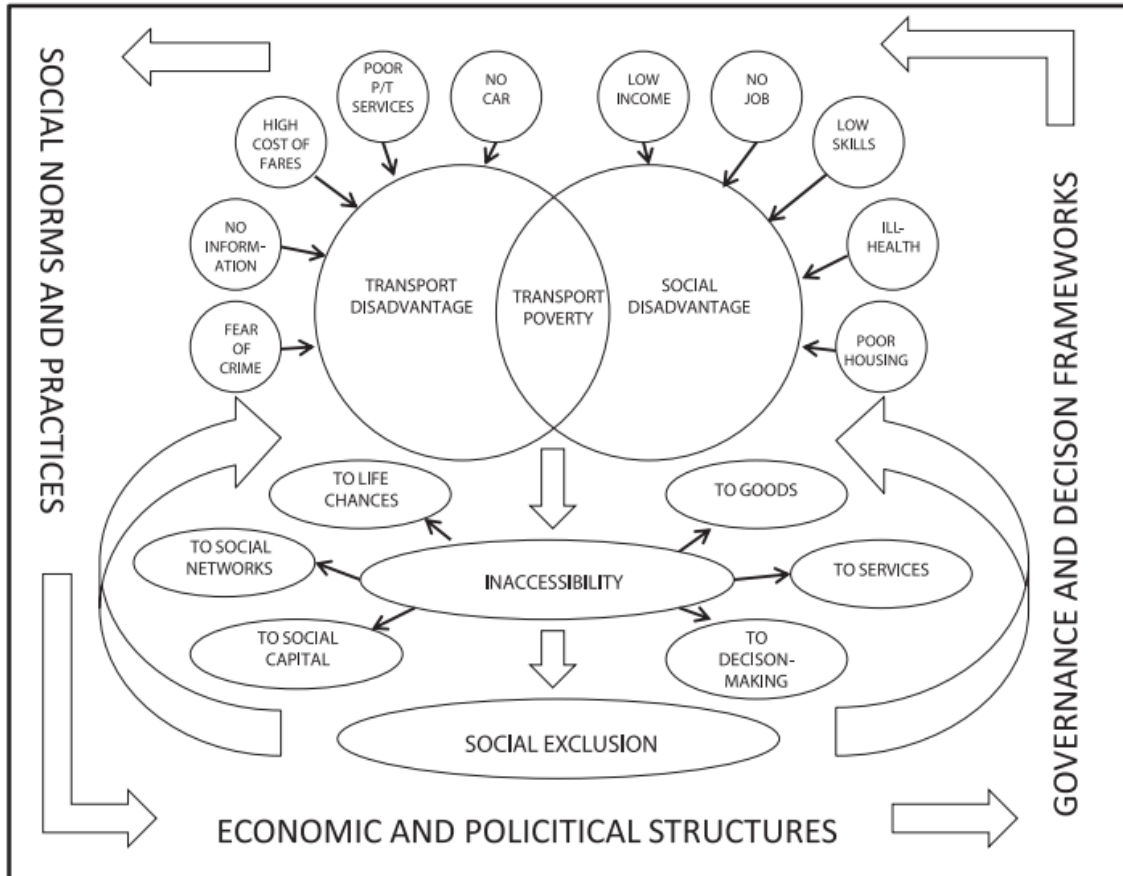
### 2.2.1 Social exclusion perspective

A first way to conceptualise or view TP, is the social exclusion perspective, in which the relationships between transport disadvantages, social disadvantages and transport poverty are central (Lucas, 2012). In this view, TP occurs when transport disadvantages (such as: having no car, poor PT provision, or unaffordability of transport) **and** social disadvantages (such as: poor health, having low income, limited skills/competences) interact, directly and indirectly.<sup>1</sup> As TP leads to reduced accessibility -in the broadest sense of the word: (in)accessibility of social capital, decision making, services, and other ‘goods’- this can result in social exclusion (ibid.). See the conceptual model from her research in figure 2.1 below. In return, social exclusion may further increase transport - and social disadvantages (see the feedback loop in the figure). This whole system is placed in an institutional context, of the political-economic decision-making processes, present in one’s society (ibid.).

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<sup>1</sup> The ‘and’ is emphasised, as transport disadvantage is not necessarily synonymous with transport-related social exclusion (Currie & Delbosc, 2010). One may lack viable transport options, but still be able to participate in activities and thus be socially engaged – for instance, because of their social network (ibid.).

Figure 2.1. Relationships between transport – , social disadvantage and social exclusion visualised



Source: Lucas, 2012

Both individual characteristics, as well as institutional factors and other structures (including the transport system), make for a situation of disadvantage (risk of TP); which, due to reduced accessibility, may render a person vulnerable to TRSE. For example, Church et al. (2000) identify seven features of the transport system that may contribute to, or are at least related to, the exclusion of certain population groups – also confirming the multidimensional nature of TRSE: physical, geographical, facility-related, economic, time-based, fear-based, and spaces (Church et al., 2000, pp. 198-200). Social groups that are more vulnerable to social disadvantages include people with no job, or in poor health, amongst many others (Bascom & Christensen, 2017; Glazener et al., 2021). Most disadvantages are included in the model above, but not all explicitly. More about TP risk factors in 2.3.

All in all, this perspective to TP that focuses on (the relation with) social exclusion, is a well-fitted building block for this research, because it acknowledges the *complexity* of various kinds of interrelating factors that are at play – particularly notable in the visualisation above by Lucas (2012). However, sidenotes can be made. For example, her model is not exhaustive, as it does not (explicitly) consider the spatial dimension as a possible disadvantage; however, for instance, rural areas are generally found to be more vulnerable to TP (Spoor, 2013; Székely & Novotný, 2022; Velaga et al., 2012). And, additionally, some authors argue that social exclusion is not the ‘capstone’. According to Stanley et al. (2011) (in: Jorritsma et al., 2018, p. 12), social exclusion is followed by (a lack of) well-being. After all, well-being partly depends on the ability to contribute or participate in society -for instance, through a job or by interacting with family and friends- and access essential services such as a supermarket or healthcare (Fransen, Boussauw, Deruyter, & De Maeyer, 2019; Jorritsma et al., 2018).

### 2.2.2 Motility perspective

A second way of approaching TP is from a perspective of motility, regarding individual capabilities and social capital. The term 'motility' was introduced by (Kaufmann, Bergman, & Joye, 2004), in a response to mobility studies focussing mainly on movement through space and over time. Instead, the authors argue, the interactions between processes and structures which impact mobility, also ought to be recognised. Additionally, they plead for the use of *potential* mobility of an individual, instead of solely describing mobility to understand the impact of social phenomena – as that is insufficient, they state (Kaufmann et al., 2004). That is what motility relates to; it encompasses one's interpretation of their possibilities with regard to mobility, and how they act upon it ('appropriate') for the activities they seek to pursue (Jorritsma et al., 2018; Kaufmann et al., 2004).

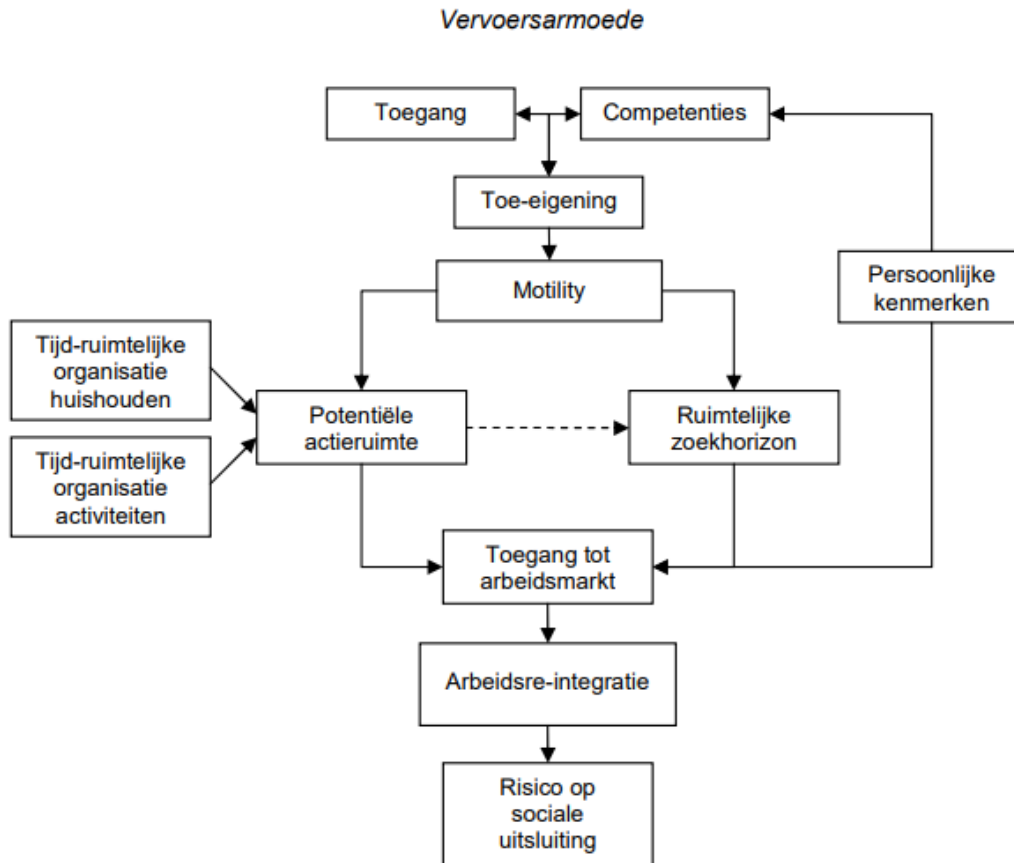
There are three interrelating dimensions that influence motility – access, competence, and appropriation (Kaufmann et al., 2004, p. 750). These will be explained in more detail below.

- *Access*: refers to the range of transport options ('possible mobilities'); it is based on place, time, and other contextual disadvantages, such as socio-economic status. For example, household composition as well as role in the household can play a part here. When one bears responsibility for childcare or the household, and/or one's partner needs and uses the car for their work commute, the other individual has less options and time to work. The spatial planning of living areas and infrastructure play a role here, too. Thus, land use and accessibility planning or –policies, can be seen as a contextual 'threshold' – for example in the case of upscaling of facilities, especially seen in rural areas (ibid.).
- *Competence*: includes one's skills and abilities that are directly or indirectly related to use the transport options available to them for movements (*appropriation*), within the given circumstances and thresholds (*access*). Within this component, three types of factors are at play: physical (dis)ability; acquired skills, such as owning a driver's licence, and knowledge of rules and regulations; as well as organisational abilities, in order to plan activities and acquire information about the trip (ibid.).
- *Appropriation*: refers to how people act –including the option of non-action– according to their interpretation of the access and capabilities available to them. Appropriation describes how someone considers, deems appropriate, and selects specific options; it is the means by which an individual evaluates their own skills and decisions. Shaped by one's needs, understandings, ambitions and plans, it thus relates to strategies, motives, values, and habits (ibid.).

The thesis by Bastiaanssen (2012) on TP and (un)employment, is based on this approach – see figure 2.2 below for the conceptual model. In his research, he focused on the mobility options of jobless people in the municipality of Rotterdam, and how that influenced their reintegration into the labour market. He used the motility concept, within which TP refers to a lack of motility for being mobile and having access to activities (Bastiaanssen, 2012). In short: not having enough motility, decreases mobility, which in turn increases the risk of social exclusion.

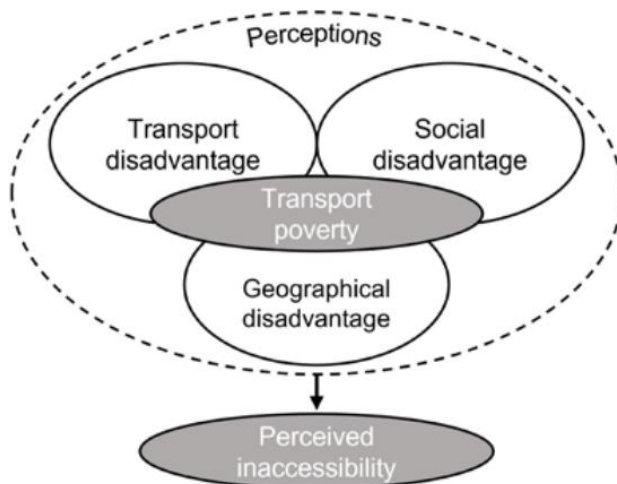
The perspective of motility, as compared to the previous perspective, also more explicitly includes the spatial dimension of mobility. As can be seen in the conceptual model of Bastiaanssen (2012) below, the aspects of geographical location, spatial planning, and (perceived) distance to services or activities, are of importance in the ability to regain access to the labour market, and thus possibly social inclusion.

Figure 2.2. Conceptual model of motility, transport poverty and social exclusion (in Dutch)



Source: Bastiaanssen, 2012

Figure 2.3. Analytical framework of transport poverty



Source: Pot et al., 2020

Comparably, Pot et al. (2020) also studied (subjective experiences of) TP, partly based on the concept of motility. They explicitly include the spatial dimension, too, as they focus on a specific geographical area: the rural Dutch province of Zeeland (based on the aforementioned knowledge that rural areas are vulnerable to TP). Their framework is pictured in figure 2.3 above. Taking the figure by Lucas (2012) as a starting point, they see TP as the overlap of social disadvantages (which they call: ‘personal



competences') and transport disadvantages, but also adding geographical disadvantage into the equation (Pot et al., 2020). Further, based on insights from the motility concept by Kaufmann et al. (2004), they also add another 'layer' to allow for subjective experience: *perceptions* of the aforementioned three disadvantages (risk factors) that determine TP.

In comparison to the aforementioned perspective, the motility perspective focuses more on the individual (subjective) experience of accessibility, by also including social capital and capabilities (the ability to use and appropriate the mobility options available) (Kaufmann et al., 2004). Both perspectives do acknowledge, and place the process into, the broader processes (social, cultural, economic, political) and societal structures that influence mobility. However, the concept of motility specifically identifies deeper-lying elements that also influence one's (im)mobility behaviour (Kuttler & Moraglio, 2021). This is important, as research on mobility requirements often relies on the observation of travel *that actually takes place* – missing 'blocked desires' (Pereira, Schwanen, & Banister, 2017) p. 177). The way mobility needs are defined, depends on who participates in the political or agenda setting process. If people are not adequately represented, their needs will remain unmet and thus, their social participation may be hindered further (Kuttler & Moraglio, 2021).

### 2.2.3 Justice perspective

Thirdly, TP and TRSE can be approached from a Transport Justice perspective. Mainly based on the underlying idea that everyone should have equal chances to access transport –the rationale of equality of chances– social justice theories view transport disadvantages and their relation to poverty from an inequality perspective (Jorritsma et al., 2018, p. 15). Following this, then, policy should aim to provide the biggest benefits to those who are least privileged (most marginalised) in society. In the UK and Flanders (Belgium), where mobility is seen as a basic right, this perspective is more widespread (ibid.). (For example, the Belgian policy of *basisbereikbaarheid* aims towards a base accessibility level for all.)

The two ethical theories of Egalitarianism and Sufficiencyarianism, appertain to transport justice and social exclusion perspectives (Lucas, Van Wee, & Maat, 2016b). The authors see them as ethically driven alternatives to utilitarianism – for example, the traditional ethic framing for transport policy evaluations is broadly based upon utilitarian principles (the maximisation of the sum of benefits for all people). However, it is important to acknowledge how its widespread adoption has served to preference particular, more quantitative aspects of the transport provision –such as travel time savings or efficiency– over other, less tangible, more qualitative aspects – such as whether it promotes equality of opportunity and social inclusion (Lucas et al., 2016b; Van Wee & Geurs, 2011).

Egalitarians believe that all people in society should be treated equally (Sen (1992),(2009); in: Lucas et al., 2016b, p. 477). Following John Rawls' Theory of Justice, the argument is that (for justice,) not welfare, but rather the provision of 'primary social goods' ought to be the focus. Additionally, people should strive for the greatest benefit of the least advantaged members of society (Rawls (1971), in: Lucas et al., 2016b, p. 477). Sufficiencyarianism refers to a level of accessibility below which people experience a lack of opportunities. The starting point is comparable to the social exclusion perspective; however, it is normative: a basis, or minimum value, of accessibility ought to be established (Jorritsma et al., 2018). A disadvantage of this may be that it is nearly impossible to put into practice (Basta, 2016). The question comes up: Does everyone want the same thing? What is sufficient accessibility? Van der Veen et al. (2020) state that the results of precisely determining this minimal value, should be dependent on the specific context. When explicitly making these choices a central part of the process,

these minimal values can be made transparent and more easily discussed, instead of being hidden in (technical) assumptions. For people below the threshold, improvements are either preferred (“weak sufficientarianism”) or necessary (“strong sufficientarianism”) (Lucas et al., 2016b; Van der Veen et al., 2020). Thus, although normative, this approach does serve as a possible starting point to operationalise TP (Jorritsma et al., 2018, p. 18).

Therefore, the addition to the theoretical framework in this research, is more abstract than the previous two perspectives: it concerns a critical view on which ethical theory should be used in (transport) policy evaluations (Jeekel & Martens, 2017). Generally, transport policies often aim to improve accessibility and reduce the negative impacts of motorised transport, but two of the most popular current methods for evaluating the impacts of transport policy decisions are benefit analysis (CBA) and multi-criteria analysis (MCA) (Van Wee & Geurs, 2011). Lucas et al. (2016a) suggest that oftentimes, blanket policies or non-helpful target group policies are implemented to alleviate TP, which cost a lot of money and do not always reach the people who perhaps need it the most. A number of academic studies also suggest that the poorest sectors of society do not equally benefit from new or improved transport infrastructure and services (including (Booth, Hanmer, & Lovell, 2000).

One of the main barriers to a better policy understanding of TP is the level and sophistication of the available data needed, to research it in a meaningful, geographically specific way (Lucas et al., 2016a; Van der Veen et al., 2020). A justice perspective on the issue, implies that TP-related policies should ‘focus on people instead of efficiency’. This prompts a reflection towards current (policy) regulations regarding TP –or inclusive mobility, accessibility... and the underlying assumptions. What do terms such as ‘inclusive’ or ‘just’, really mean? (Buitelaar, 2020; Platform31, 2021).

### 2.3 Mobility thresholds: risk factors of transport poverty

Transport-related social exclusion (TRSE) refers to a culmination of inhibitions that limit one’s opportunity to participate in community activities, and be socially engaged (Glazener et al., 2021; Lucas, 2012). By now, different research perspectives on transport poverty (TP) have been explored, broadly. Several studies are dedicated to quantifying TRSE or how to measure TP; however, that alone will not be the focal point in this research. There are several dimensions of deprivation or inhibition – which, importantly, are also influenced by (subjective) experiences – and these affect certain groups more than others. In this paragraph, TP risk factors will be explored more in-depth, by laying out and comparing various existing studies that emphasise different dimensions of deprivation or inhibition. The second subsection is specifically dedicated to (subjective) experiences.

#### 2.3.1 Transport poverty risk factors in literature

There are many possible risk factors for TP, which can take place on many different levels and in various areas. For example, individual factors such as socio-economic status; the transport system itself; and rules and regulations (such as policies). Church et al. (2000) identified seven features of the transport system that may contribute to, or are at least related to, the exclusion of certain population groups. These will be laid out in detail; other research insights provided where applicable- for example, the ‘experienced mobility thresholds’ from the research by Van der Bijl and Van der Steenhoven (2019) on transport poverty in the G4 in the Netherlands.

Firstly, Church et al. (2000) define *physical exclusion*: physical barriers (such as vehicle design, lack of disability facilities, or lack of travel information) inhibit the accessibility of transport services. This is a

broad feature, which encompasses technical-physical aspects of transportation – other authors such as Van der Bijl and Van der Steenhoven (2019), categorise it into, for example: physical accessibility, legibility (related to capabilities), affordability, reliability, and safety. Besides the technical aspect, however, this dimension also emphasises the individual’s own health status and capabilities – factors that can impact one’s mobility, and thus potentially hinder participation in society (Bascom & Christensen, 2017; Hersh, 2018). A few examples of possible risk factors in this regard include: age, migration background, and education level – or, as stated by Van der Bijl and Van der Steenhoven (2019), these characteristics can determine the extent to which one is oriented to the outside world; which indirectly, can impact one’s mobility. Older people, for instance, may become less mobile and more dependent on their social circle (Jacobs, 2020). For example: in the Netherlands, one out of four elderly people (aged 75 and up) could not reach a hospital by themselves when needed in 2019 (CBS, 2020). And for ethnicity and culture: people who do not speak Dutch, for example, have a considerable barrier in gaining information for their trip (Jorritsma et al., 2018, p. 25). Additionally, due to the cultural difference they might not know how to ride a bicycle (Van Vroonhoven, 2021) –which has an important, potentially mediating role for TP in the Netherlands, especially for short-distance trips (Bastiaanssen, 2012; Martens, 2013; Rli, 2020).

The second and third features of exclusion identified are *geographical*, and *exclusion from facilities*: someone’s geographical living environment can prevent them from accessing transport services, such as in rural areas or urban peripheries (Székely & Novotný, 2022); and the distance of key facilities -such as shops, schools, health care or leisure services- from where a person lives, is a barrier. Spatial planning policies in general, and up-scaling of facilities specifically, can be of influence in the Dutch context, following Van der Bijl and Van der Steenhoven (2019). The authors continue: distances and barriers (to transport) affect mobility directly, as more effort is required to access the destination at hand. This effect is both physical and mental: a destination can be literally far away, or be *perceived* as such– for example, when anticipating increased effort (Van der Bijl & Van der Steenhoven, 2019; Zadra & Clore, 2011) p. 681).

Further, the factor of *economic exclusion* is noted: high travel costs can prevent or limit access to facilities or employment. Besides the actual price level of transport (internal, or mobility-related threshold), one’s income or level of welfare thus also determines one’s possible -and thus, affordable- level of mobility (external, or context-related threshold) (Van der Bijl & Van der Steenhoven, 2019). There is also an albeit more indirect, but important inter-relationship here with employment: job status can be a contributing factor in TP. Additionally, a negative feedback loop may form: due to having no paid job, one may not be able to afford (or not oversee the possibility of) travelling long distances, which is often necessary to get a job in the first place (Bastiaanssen, 2012; Fransen et al., 2019). In the Netherlands, commuting distances have increased over the years as jobs are located more in the outskirts –even more often so for practically skilled jobs (Bastiaanssen, 2012).

*Time-based exclusion*, the fifth feature mentioned by Church et al. (2000), is when other demands – such as combined work, household and child-care duties– reduce the time available for travel (time-poverty). This is more often the case for women (Borgato et al., 2021); as they are more often the ones responsible for child-care and housekeeping duties, they often cut on commuting time by working relatively close to home (Turner and Niemeier (1997), in (Schwanen, Dieleman, & Dijst, 2013) p. 424).

Following, is the sixth feature, *fear-based exclusion*: fears for personal safety preclude the use of public spaces or transport services (social safety) (Church et al., 2000). One’s mobility can be hindered if a

situation is objectively unsafe, or if it is experienced as such – which again highlights the importance of subjective experience. (Traffic) safety directly determines the ‘useability’ of said transport options (Van der Bijl & Van der Steenhoven, 2019). Safety and reliability are at the base of the ‘traveller’s pyramid’ (Coppola & Silvestri, 2020). Importantly, these factors are particularly important in women’s (im)mobility behaviour according to the study by (Pirra et al., 2021).

The last feature Church et al. (2000) note, is *space exclusion*: when security or space management prevent certain groups access to public spaces – for example, gated communities or first-class waiting rooms at stations. This will not be included in this research, as it reaches mostly beyond its scope.

Some authors (Van den Broeck and Van Os (2015), in: Jorritsma et al., 2018, p. 12) speak in this context –comparably to the terminology of Van der Bijl and Van der Steenhoven (2019)– of ‘thresholds’ in the mobility system that can lead to TP and social exclusion. In addition to the seven features of Church et al. (2000), they categorise two dimensions of exclusion, which bear some resemblance to the motility concept (see 2.2.2): social capital, and personal capability (Jorritsma et al., 2018).

- People in one’s social network (such as family, friends, fellow travellers, or others) can assist with information about transport, or directly help in transport needs. Therefore, a *limited network/little social capital*, makes (the) transport (system) a threshold.
- *Personal, mobility-related abilities and skills* -knowing how to ride a bicycle, organising and planning a trip (possibly online), navigating one’s way through PT rules and regulations- are important capabilities, without which transport becomes a threshold.

These factors align with the situation in the Netherlands, where PT has been digitised. For most people, this is beneficial: online information and trip preparation makes travelling easier for them, research by the Dutch knowledge institute of mobility policy (Kennisinstituut voor Mobiliteitsbeleid, KiM) shows (Durand, Zijlstra, & Hamersma, 2021). However, approximately one in six Dutch people have poor to no digital capabilities – including marginalised persons, people with a learning disability or people with a lower educational background. Due to the threshold present for participating in the digital world, they may have a higher risk of digital exclusion – and thus to using PT, too, the authors state. Ways to mitigate this include asking help within one’s own network, such as a family member or a fellow traveller (Durand et al., 2021). This implies that ‘digitally impaired’ people may be dependent on their social circle for mobility needs (Zhang, Zhao, & Qiao, 2020).

### 2.3.2 Experienced mobility thresholds (subjective risk of transport poverty)

In this research, the focus is on the experienced risk of TP. Following the concept of motility, spatial context and transport availability only represent the *potential* to reach services and activities – an individual’s *appropriation* of these options, as well as their actual *experienced* level of accessibility, can be different (Kaufmann et al., 2004; Pot et al., 2020). There are deeper-lying elements influencing one’s (im)mobility behaviour, but these are however often not taken into account; data are not gathered or lacking on the immobile, or generally, non-travellers (see 2.2.2) (Kuttler & Moraglio, 2021; Pereira et al., 2017) p. 177). This underlines the relevance and importance of representing the needs of those who, perhaps, are not participating fully; by asking about (mobility) thresholds they perceive.

As mentioned before, mobility is very complex and multifaceted. One may objectively have transport options available to them –such as owning a car, or living nearby a PT stop– and, additionally, one may even have the skills and abilities to appropriate these –such as, having a driver’s licence, or having a

PT card which they can use. However, they might not experience the situation as such. Some studies even suggest that subjective experiences may be as important as objective indicators in the planning of socially inclusive (public) transport systems (Lättman, Friman, & Olsson, 2016). Perception and willingness play an important role in TP: factors such as culture, social norms, and other personal values and habits, influence one’s self-image as well as their perceived accessibility or mobility level (Kaufmann et al., 2004; Pot et al., 2020; Van der Aa et al., 2021). Therefore, in this study, ‘experiences are compared with numbers and statistics’.

2.4 Synthesis

There are many possible risk factors for TP. This is partly due to the complexity, and ‘indirect nature’, of mobility; it is an integral part of people’s daily lives, giving access to people, education, jobs, services, and goods. But further, mobility choices and patterns are influenced by the environment and land use, infrastructure, available modes, and individual factors. How we can (or choose to) move ourselves, in turn, impacts various exposures, lifestyles and health outcomes (Glazener et al., 2021; Kaufmann et al., 2004). (Im)mobility behaviour, and (risk of) TP, are determined by availability and accessibility of transport options, as well as one’s skills and abilities to use them, within the given constraints and local context. But, also, one’s subjective experiences, and willingness to appropriate said options are factors at play – and this varies among different socio-economic groups (ibid.; Van der Aa et al., 2021). Thus, as the main question implies, this research focuses on the complexity of real life (experiences) - specifically, deprivation and TRSE- and its juxtaposition to policies and indicators or measurements made and used currently. The two ‘views of reality’ regarding the risk of TP, concern the ‘outside’ perception of policy makers and experts on the one hand; and on the other, the ‘inside’ experiences of individuals who may be at risk, following these existing perceptions and measurements.

The concepts and theories applicable in this research have been summarised in table 2.1 below. It was made, mainly combining insights from the social exclusion and motility perspective, whilst keeping the critical view regarding principles of inequity and injustice. The overlap of these three different dimensions of deprivation/disadvantage (social; transport-related; geographical) is seen to cause TP (Pot et al., 2020) –this framework was applied here. TP can lead to decreased participation and social exclusion. As a result, one’s well-being may decline – and vice versa (Jorritsma et al., 2018).

Table 2.1. Schematic overview of concepts: general framework of transport poverty risk (factors)

<b>Dimension</b>	<b>‘Outside perspective’: transport poverty (risk factors) as perceived and used by experts and governments/authorities</b>	<b>‘Inside perspective’: individual (subjective) experience of transport poverty (risk factors)</b>
<i>Transport system</i>	Transport options and -system	(Subjective) evaluation -and appropriation- of available transport options
<i>Societal and socioeconomic</i>	Transport poverty risk factors and (policy) indicators	Personal competences; individual context – e.g., (subjective) experience of ‘mobility thresholds’/transport poverty risk factors
<i>Geographical/ governance</i>	Geographical context; governmental attitudes/ political priorities; (spatial planning/transport) policies	(Subjective) perception and appreciation of the environment; local norms; (feelings of) representation in decision-making

Source: own material.

### 3. Methods

In this chapter, the research methods and their operationalization in the fieldwork are described. Some considerations will be made about the way by which the sampled women were approached and interviewed (including a description and justification of the research materials), and the information analysed. A short reflection on the consequences and responsibilities concludes the section.

#### 3.1 Research design and methodology

The main question of this research is **“To what extent are the perceived and experienced reality of the risk of transport poverty of non-working women living in Haarlemmermeer or Zoetermeer, consistent?”**. The objective of this research is to juxtapose, but first of all understand, what the reality of the risk of transport poverty entails, from different interpretations or perspectives. Therefore, the main question requires an empirical-interpretative, or qualitative research design (Bryman, 2016; Hay, 2016; Scheepers, Tobi, & Boeije, 2016) p. 72). Further, this research is of explorative nature, as the scientific field (that is: on transport poverty) is relatively young – especially in the Netherlands, not a large body of research has been formed yet (Scheepers et al., 2016, pp. 16, 43).

The methods used in this research enabled the collection of different perceptions and experiences regarding the complex notion of risk of transport poverty– respectively, the ‘outside’ view of experts and policy makers; versus the ‘inside’ experience of specific individuals. Thus, the research relies on qualitative methods of data collection and analysis (Bryman, 2016, p. 383). The methodological approach of this research has inductive as well as deductive processes, but it is mostly aimed at induction (Scheepers et al., 2016, pp. 85, 247). The research builds upon a set of methods that enable the understanding of what (risk of) transport poverty means, and of the attitudes of (governmental) authorities on the issue (including policies); as well as the perspectives of a sample of individuals who are ‘at risk of transport poverty’, following the former perspective. The latter, however, are the main focus of the research. The main goal of this research is ‘*Verstehen*’: understanding reality from the eyes of the observed (Weber (1947), in: Bryman, 2016, pp. 30, 399-401). Here, that concerns (the experiences of) women, at a distance of the labour market, living in suburban environments in the Netherlands – who are ‘at risk of transport poverty’.

#### 3.2 Data collection methods and research materials

A variety of methods have been employed for data collection – an overview is provided in table 3.1 below. To research the ‘outside perspective’ of TP, data have been collected through exploratory conversations with experts in the field, governmental interviews, and desk research (into relevant policy documents). Methods employed for the ‘inside perspective’ include semi-structured interviews and a reflective, collaborative group discussion with the study group of this research.

Table 3.1. Overview of methods, split out by perspective

Outside perspective (perception)	<ul style="list-style-type: none"> <li>• 3 exploratory conversations with experts</li> <li>• 5 in-depth interviews with government officials</li> <li>• Desk research (policy documents)</li> </ul>
Inside perspective (experienced)	<ul style="list-style-type: none"> <li>• 6 in-depth interviews with target group</li> <li>• 1 in-depth group reflection with target group members</li> </ul>

Source: own material.



### 3.2.1 Data collection: outside perspective

The ‘outside perspective’, or the perceived reality of transport poverty, includes both (theories, ideas and criteria behind) risk (factors) of TP, as well as attitudes from the respective political or governmental authorities on the issue. The methods and techniques used for this part of the research, include exploratory expert conversations, desk research and governmental interviews.

#### *Exploratory conversations and literature study*

To navigate the research field and the issues at hand, three researchers (experts in the field of transport poverty) have been talked to: J. Bastiaanssen (PBL), M. van der Aa (MuConsult), and L. Krabbenborg (KiM). The first two persons were (separately) asked about the research field, to help in (re)formulating the research objective (for example: *who should the research group be?*), on February 24<sup>th</sup> 2022; the latter was spoken to on April 29<sup>th</sup>, 2022, about the methodological set-up of this research and asked about operationalisation (*what questions are appropriate for my investigation?*). Thus, as the experts provided so-called contextual knowledge about the field of TP and the study group, these exploratory expert interviews helped the researcher to get insight into best practices (Bogner & Menz, 2009). It also served as an addition to the base literature study, by which the researcher familiarised herself with the topic and learned from previous findings (Hay, 2016; Scheepers et al., 2016, pp. 36-9).

#### *Interviews with government officials*

Interviews are a good method for accessing information about opinions and experiences, amongst other uses – and can be helpful to investigate motivations (Hay, 2016, p. 150). Therefore, in this part of the research, (systematising) expert interviews have been conducted, with employees from the municipalities of Haarlemmermeer and Zoetermeer, and the respective metropolitan governmental body and/or transport authority (ATR/Vervoerregio, MRDH). In May-June 2022, nine local and regional government officials have been spoken to through a total of five interviews. The duration was one hour on average, but it flexibly ranged between 30-90 minutes depending on how each conversation went. The interviewees were found through the researcher’s own network (‘snowballing’) (Bryman, 2016), and were further selected and approached based on their knowledge field and team/working position (social or transport department). They are listed in table 3.2a below.

Table 3.2a. Interviewed government officials’ working areas and positions

<b>Governmental body/authority</b>	<b>Governmental interviewee: work description, position</b>
Municipality of Zoetermeer	Poverty issues; Social domain (interviewed May 12 <sup>th</sup> 2022) <ul style="list-style-type: none"> <li>• A. policy officer; work, care and income affairs</li> </ul>
	Traffic specialists; Spatial domain (interviewed June 9 <sup>th</sup> 2022) <ul style="list-style-type: none"> <li>• B. Technical specialist traffic</li> <li>• C. Strategic advisor traffic</li> </ul>
Metropolitan region Rotterdam-the Hague (MRDH)	Transport-related/regional affairs (interviewed June 21 <sup>st</sup> 2022) <ul style="list-style-type: none"> <li>• D. Advisor public transport</li> <li>• E. Concession manager</li> </ul>
Municipality of Haarlemmermeer	Mobility specialists; spatial domain (interviewed May 11 <sup>th</sup> 2022) <ul style="list-style-type: none"> <li>• F. Policy officer; mobility</li> <li>• G. Policy advisor regional cooperation mobility</li> </ul>
Amsterdam Transport Region (ATR/Vervoerregio)* <i>*and one external expert/researcher</i>	Project leader ATR / external expert (interviewed June 16 <sup>th</sup> 2022) <ul style="list-style-type: none"> <li>• H. Project leader/policy advisor Inclusive Mobility</li> <li>• M. Bruno (TUD)* postdoc researcher at the ATR/Vervoerregio</li> </ul>

Source: own material.

Although systematising expert interviews are related to the exploratory variant –they are also oriented towards gaining access to exclusive knowledge possessed by the expert– the focus here is on knowledge which has been derived from practice (Bogner & Menz, 2009, pp. 46-7). The contents of the interviews regarded their familiarity with TP, and how their organisation approaches and interprets the issue. Also, questions were asked about their organisation’s efforts and interventions, on TP, and/or inclusivity and accessibility. Is the subject included at all (for example in mobility policies, or the social domain), and if so, how? See 3.3.1 for further elaboration on the topics.

#### *Desk research (policy documents)*

To get a general overview of the extent to which transport poverty is taken into account in Dutch policies, desk research has been carried out. This secondary data analysis has been employed out as a supplement of the aforementioned interviews with government officials – where attitudes towards the issue of TP were (also) asked about (Bryman, 2016; Hay, 2016). Local and regional policies (respectively, of the municipalities of Haarlemmermeer and Zoetermeer; and of regional governmental bodies (MRDH; MRA, ATR/Vervoerregio), as well as national documents (visions and other policies by the Dutch national government, as well as important reports by national knowledge institutes) have been studied. (Importantly, this also includes the PBL/CBS transport poverty risk indicator; which is not only read, but also applied to the study group of this research to assess their hypothetical risk score. This will be explained further in 3.3.) See table 3.2b below for an overview.

Table 3.2b. List of (policy) documents read as part of the desk research. Sorted by type

<b>Document type</b>	<b>Name(s) of the document (in Dutch)</b>
Local mobility visions	<ul style="list-style-type: none"> <li>• Mobiliteitsvisie, Zoetermeer (2017)</li> <li>• Mobiliteitsvisie, Haarlemmermeer (2018) &amp; Raadsvoorstel: Onderzoeks- en Investeringsagenda Mobiliteit 2020-2023 (2019) (council proposal)</li> </ul>
Regional mobility visions or policies	<ul style="list-style-type: none"> <li>• Uitvoeringsagenda toegankelijkheid, MRDH (2016)</li> <li>• Beleidslijn Sociale veiligheid in het openbaar vervoer, MRDH (2016)</li> <li>• Beleidskader Mobiliteit, Vervoerregio (2017)</li> </ul>
Policies (regional) on TP or comparable (such as inclusive mobility)	<ul style="list-style-type: none"> <li>• Uitvoeringsprogramma Inclusieve Mobiliteit 2021-2025, Vervoerregio (2020) &amp; Stand van zaken Inclusieve mobiliteit (2021) (letter)</li> <li>• Vervoersarmoede en woon-werkbalans 2020, MRA (2021)</li> </ul>
National mobility visions, reports or other policies	<ul style="list-style-type: none"> <li>• PBL, CPB – Kansrijk mobiliteitsbeleid 2020 (2020)</li> <li>• Rli – naar een integraal bereikbaarheidsbeleid (2021) (letter)</li> <li>• Onderzoeksagenda Toekomstbeeld OV 2040, Min.IenW (2021)</li> <li>• PBL – BW en mobiliteit (2021) / KiM – uitwerking van BW voor het monitoren en evalueren van mobiliteitsbeleid (2021)</li> </ul>
Misc. national policies and reports related to TP	<ul style="list-style-type: none"> <li>• PBL – toegang voor iedereen? (2022)</li> <li>• CBS, PBL – Risico op vervoersarmoede in Utrecht en Heerlen (2019)</li> <li>• Kabinetsinzet Toeslagen / Eindrapportage Alternatieven voor het toeslagenstelsel, Min.F (2020)</li> </ul>

Source: own material.

Most emphasis is on local and regional documents; as this is the context applicable to this research, so to speak. National documents are broadly laid out to show the Dutch (policy) context in which the issue of TP ‘came up’. Further, see 3.3.1 for points of attention and inquiry in the document desk research. In addition to reading policies and reports as stated above, the websites of the applicable (governmental) authorities have also been read to gather information about the status quo of the respective (governmental) bodies, and their TP-related research and policy progress.

### 3.2.2 Data collection: inside perspective

The experienced reality of transport poverty, which is also called the ‘inside perspective’, includes the perception of people within the research group –women without a job, living in Haarlemmermeer or Zoetermeer; who may be at risk of transport poverty (following the ‘outside perspective’)— about their own situation (regarding mobility, capabilities, well-being).

#### *Interviews*

Qualitative interviews are a useful method to explore behaviours and motivations, and people’s diverging experiences and meanings (Bryman, 2016, p. 469; Hay, 2016, p. 150). Therefore, these have been employed for this investigation. In early June (between June 01<sup>st</sup> – 10<sup>th</sup>, 2022), a total of six in-depth (semi-structured), one-on-one interviews have been conducted with the research group. Each interview had a duration of one hour (60 minutes) and was conducted online. All (other) relevant information about the interview specifically, and the research in general, was sent to each participant beforehand, by the researcher – see appendix II.

In this research, a semi-structured form was used: a topic list (interview guide) has been employed in each interview, which is organised around ordered but flexible questioning. Thus, questions and concepts that are relevant to this research’s problem statement are prepared, so that important topics will be addressed in every interview. However, the order of topics can differ each time, following the flow of the conversation – as the participants’ narratives are central (Hay, 2016, p. 158). After all, in qualitative interviewing, the aim is to collect the stories and hear perspectives to be told by the interviewee; the researcher wants rich, and detailed answers regarding their behaviours, opinions or experiences (Bryman, 2016, pp. 470-3; Scheepers et al., 2016, pp. 253-5). Questions asked in the interviews concern the participants’ own subjective situation and other additional variables, which may arguably not (fully) be captured by the ‘outside perspective’ on (the risk of) TP (Hay, 2016, p. 150). See 3.3.2 for the operationalisation.

#### *Collaborative group discussion*

Following up the individual in-depth interviews, a reflective session was conducted with people in the target group, on Tuesday, June 28<sup>th</sup>, 2022, 14:00-15:30. It was held in-person, near the train station in Hoofddorp (a major urban area within Haarlemmermeer) in the office building of APPM consultants (APPM, 2022). All six interviewees were asked to participate in the collaborative group discussion after completing the interview – two of whom were willing and able to participate eventually ( $n=2$ ). Besides them, two other people were present in the group interview: the researcher herself as host, and one internal expert as minute taker. The expert is a colleague from the internship. He did not necessarily participate in the group discussion, but he supported the researcher in the moderating role –whilst taking notes and using his phone as a back-up recording device (Hay, 2016; Krueger & Casey, 2001). In general, the purpose of the group interview was to inspire policy recommendations, and formulate them in a (hopefully) more accurate way. (Thus, part of the juxtaposition was done through the collaborative group reflection.) This has to do with positioning: the main characteristic of a group discussion that made it of added value and use in this research, is that participants can correct or add to each other’s stories, to reduce the bias that may ‘colour’ one person’s story – and that includes the researcher’s own bias (Bryman, 2016, p. 540; Hay, 2016, p. 259). Thus, the contents of the group interview were similar to the one-on-one interviews, but of added value. The questions and points of discussion in this session concerned two broad topics. On the one hand, having an open conversation about the researcher’s findings from the interviews. Did she interpret their words correctly? Are the main take-aways –mostly focussing on the mobility thresholds– representative for their situations?

And on the other hand, the conversation included diving deeper into what was asked in the interviews—again, mainly on mobility thresholds. The emphasis here was on possible solutions or interventions. For this part, utensils (such as stencils, memos, writing materials) were handed out. From their positions, the participants could have a say in (and write down) what they think would be good solutions. If [this] is an issue, what could be done about this? By whom? The researcher prepared possible solutions or interventions from elsewhere in the Netherlands as examples to discuss their use- and purposefulness. Would such an intervention possibly improve your situation, if it were implemented in your neighbourhood? Why (not)?.

### 3.2.3 Research materials and sampling

For this study, people have been selected based on certain characteristics – in this case, being factors or personal characteristics related to (risk of) TP. This is a purposive sampling technique called criterion sampling (Bryman, 2016, pp. 418-9; Hay, 2016, p. 124). It narrowed down the geographical context to the municipalities of Zoetermeer and Haarlemmermeer; and the socio-demographic group to women, at a distance of the labour market. The choice for these research materials, as well as the sampling, will now be explained and justified (the geographical scoping has its own dedicated subsection: 3.2.4.)

#### *Research materials: justification*

The municipalities of Haarlemmermeer and Zoetermeer, both ‘suburban’ Dutch cities, were chosen as study areas for this research. In other countries, such as Australia, Canada and the USA, suburban areas have been found to be at risk of TP – for example: (Allen & Farber, 2019). As for the Netherlands, a recent publication by the PBL has shown ‘suburban centres’ in the Netherlands to be somewhat vulnerable (Bastiaanssen & Breedijk, 2022). However, as said before, these geographies are yet underrepresented in transport poverty-related research as of now – which prompted the choice for ‘suburban’ Dutch municipalities. Further, Haarlemmermeer and Zoetermeer were chosen as both lie close to a large G4 city (respectively: Amsterdam and The Hague); and, as former ‘growth centres’, they have a history of ‘bundled deconcentration’. A further elaboration will follow in 3.2.4.

Secondly, women were selected as their experiences are relevant to research in the context of TP (J. Bastiaanssen (expert/researcher, PBL), personal communication, February 24<sup>th</sup> 2022). Safety and reliability of transport are more important for (im)mobility behaviour of women (Pirra et al., 2021). And several studies suggest that gender and role in the household, in general, strongly affect commuting times (Schwanen & Dijst, 2002; Schwanen et al., 2013). Women are most often responsible for household and childcare duties – reducing their time available for travel. This may cause time-poverty – an important threshold for transport access (Church et al., 2000; Kaufmann et al., 2004). This, in turn, plays a role in transport disadvantage, and thus possibly TP (Lucas, 2012).

The literature review by Borgato et al. (2021) also found gender differences in travel patterns, which concern travel frequency, time (shorter trips, less during peak hours; journeys are more complex and dispersed), mode (using the car less often, and PT more), and purpose (ibid.). This is not taken into account currently though: urban planning, traditionally dominated by male decision makers, produced networks focused around men commuting to work (Look & Behrmann, 2021). Women’s journeys, on the other hand, are seen as optional leisure activities, British professor in urban planning Clara Greed states, cited in Look and Behrmann (2021): “*men and women in transport live in different worlds.*”.

Further, people with no full-time, paid job were chosen, as the variable of employment is of great importance for transport poverty as well (Bastiaanssen et al., 2013; Fransen et al., 2019). There is

overlap with gender as well: women are more often working part-time, often due to having to combine this with other responsibilities (Turner and Niemeier (1997), in: (Schwanen et al., 2013) p. 424). In addition, a factor at play –already mentioned above– is that the transport system is built around the car commute: (especially: practically skilled) jobs in the Netherlands are located more in the outskirts and remote areas (Bastiaanssen, 2012). PT coverage is more scarce there –prompting car dependency. Further, also as a consequence of lack of income, jobless people have fewer capabilities to travel long distances –rendering some job options unsuitable as they reach beyond one’s spatial ‘zoekhorizon’ (after all, the average commuting distance has increased) (Van der Bijl & Van der Steenhoven, 2019).

### *Sampling*

The participants were searched for, and selected from, the Nederlands Verplaatsingspanel (NVP). The unique factor of the NVP, is how each panel member’s socio-demographic information (provided by and through Kantar), as well as mobility data (provided by Mobidot/Mobycon), are known and can be tracked over time. This makes NVP a very context-rich, individually specified, and useful database, also for this research (Goudappel, n.d.; Kantar, n.d.). More about the NVP, the recruitment process, and participants’ terms and conditions can be found in appendices II-III.

Within the NVP, a selection has been made to include people who fall within the research group (women, at a distance of the labour market, living in Haarlemmermeer or Zoetermeer). There were fifteen people to whom all criteria applied in the NVP database. After firstly having ‘verified’ that these individuals did indeed fall into a category of ‘at risk of transport poverty’, they were approached by email to participate.<sup>2</sup> Eventually, six people responded and participated in the interviews ( $n=6$ ). More on the characteristics of the sample in 5.1. There, the general background of the research group ( $N=15$ ) is described using the socio-demographic panel member data, confidentially provided by both the database from NVP and Kantar (*Nipobase*).<sup>3</sup> This was instead of CBS census data (which makes the risk score calculation/sample validation, different from the procedure as done for the CBS/PBL indicator). If there were gaps in the panel information, or information was not properly updated, insights from the in-depth interviews with the research group were prevalent/leading.

#### 3.2.4 Geographical scoping: study area description

The two study areas are the municipalities of Haarlemmermeer and Zoetermeer. They both are (larger) suburban cities; as well as border to one of the ‘big four’ -Zoetermeer neighbours The Hague, and Haarlemmermeer neighbours Amsterdam. Although a recent publication by the PBL has shown that there is some risk for ‘suburban centres’ in the Netherlands (Bastiaanssen & Breedijk, 2022), these geographies do not get as much TP research – or policy attention to date, as compared to the G4 or rural areas – as stated before. Further, both Zoetermeer, and Hoofddorp and Nieuw-Venep (which are in Haarlemmermeer) were built to preserve open space while accommodating the desired suburban living environment – they used to be a ‘growth centre’ back in the late 20<sup>th</sup> century, under the 1960s ‘bundled deconcentration’ policy of the Dutch national government (Poorthuis & Meeteren, 2021; Spit, Zoete, & Beek, 2016). This was after an era of economic and demographic growth (1960s),

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<sup>2</sup> This verification, also called risk assessment or sample validation procedure, is introduced in 3.3.1 and elaborated upon in Appendix I. It is carried out along the lines of the TP risk indicator by the CBS/PBL. See 4.1.2 for more on (the conceptual build-up of) the indicator, as well as the results of the risk score calculation.

<sup>3</sup> Both NVP *and* Kantar databases were consulted for the research group’s general personal characteristics, as they slightly differ in their provision or quantification of data values and categories (for example, car ownership – see chapter 5 / appendix I for an elaboration). This made the information provided more ‘whole’.



which demanded new housing and, consequently, city expansion – and during an era of popularity and growing demand of the car, which was supported by the government (1970s) (Kasraian, Maat, & Van Wee, 2016). As the car (as compared to the railway system) caused a more diffuse pattern of commuting, this led to suburbanisation. In order to curb this rapid urban expansion, decentralisation policies were put in place, and ‘growth centres’ assigned (ibid.). For more about the Dutch planning and/or housing history, see the elaborate overview by (Van der Cammen & De Klerk, 2003). Even though effective in its goal, these settlements are products of their time: centred around the car. Although the bicycle and PT were paid attention to as well, in practice, the car is often the best option in the end: namely, due to a skewed ‘living-work balance’. In other words, there may be a mismatch in housing, and jobs in these settlements/proximity of work. These large commute distances create a hard situation for jobless, carless individuals (Bastiaanssen & Breedijk, 2022; Schwanen et al., 2004; Van Dülmen, Šimon, & Klärner, 2022). Note, that, interestingly, Haarlemmermeer and Zoetermeer do also differ on these two aspects: the urban design (*‘stedebouwkundige opzet’*) and the proximity of work/commuting (Schwanen, Dieleman, & Dijst, 2001). More about this in each section below. For more about the Randstad and Dutch urbanisation policies, see, for example: (Kasraian et al., 2016; Nadin & Zonneveld, 2021; Priemus, 1998; Van der Burg & Dieleman, 2004).

*Zoetermeer*

Zoetermeer is a middle-large municipality in the province of Zuid-Holland, with over 125.000 inhabitants and 56.000 houses as of January 2022 (Zoetermeer in Cijfers, n.d.). It has a surface area of over 3700 ha, with a high density of addresses (just over 2500/km on average). Zoetermeer has nine neighbourhoods and 26 districts (Allecijfers.nl, 2023b). See figure 3.1. below. Zoetermeer is part of the Metropolitan region of Rotterdam-the Hague (MRDH): a partnership between 21 municipalities which ‘cluster’ their knowledge, skills and strengths in two main ambitions: a stronger economy, and better accessibility of jobs and living areas (MRDH, 2020). The municipalities initiated the MRDH, after the agreement to terminate former ‘city-regions’ in late 2014 (MRDH, n.d.b).

Fig. 3.1. Aerial overview of Zoetermeer. Municipal boundaries in red.



Source: OpenStreetMap (n.d.). Retrieved on 12-04-2022 (screenshot by author).

Zoetermeer is interesting from a spatial planning point of view. It is a former ‘growth centre’ – it has been set-up with the transit-oriented development (TOD) mindset. The question may be posed whether this ‘works’, however – for instance, the (public) transport network: the North-South connections to the rest of the Randstad, are not as good as the South-East connections (with The Hague, for example) (Markink, 2015; Poorthuis & Meeteren, 2021). Zoetermeer celebrates its 60th year as a ‘New Town’ in 2022 (Zoetermeer is de plek, 2023). The former rural settlement of 10.000 inhabitants has increased tenfold, starting in 1966 with the first new neighbourhoods (ibid.). The newest addition will be the neighbourhood ‘Entree’, in the city centre (Entree Zoetermeer, n.d.; Gemeente Zoetermeer, 2020).

### Haarlemmermeer

Haarlemmermeer is a municipality in the province of Noord-Holland, spanning a total surface area of over 20.600 ha, with a fairly high density of just over 1500 addresses/km. The municipality has twenty-five urban areas, eighteen neighbourhoods and 96 districts (Allecijfers.nl, 2023a). See figure 3.2 below. Haarlemmermeer is one of the seven municipalities that comprises Amstelland-Meerlanden, one of the sub-regions of the MRA (Metropolitan region of Amsterdam). MRA is the informal metropolitan partnership that the Amsterdam Transport Region (ATR/Vervoerregio) is affiliated with (MRA, n.d.; Vervoerregio, n.d.). The main goal of the Vervoerregio is ensuring a good accessibility of the Amsterdam city-region (Wij nemen je mee.nl, n.d.). More about this in chapter 4.

Fig. 3.2. Aerial overview of Haarlemmermeer. Municipal boundaries in red.



Source: OpenStreetMap (n.d.). Retrieved on 12-04-2022 (screenshot by author).

From a spatial planning perspective, Haarlemmermeer is a timely and very interesting case study for some of the same reasons as mentioned at Zoetermeer: Hoofddorp and Nieuw-Vennep used to be growth centres (but the rest of the municipality was not, interestingly); and, new developments. The ambition is to build several thousand houses (and other dwellings) within the municipal boundaries; including, but is not limited to, the Lincolnpark and the terrain surrounding the Hoofddorp train station (Gemeente Haarlemmermeer, 2021a; 2021b; 2021c; n.d.a). But, further: the ‘living-work balance’. In



the MRA, it got more skewed during 2014-18 as the difference increased between each sub-region's working people, and the potential supply of work (the labour force) (TNO, Vrije Universiteit Amsterdam, SEO Economisch Onderzoek, CE Delft, & Studio Infograph, 2020). As the city region ('Stadsregio') was abolished when the metropolitan region MRA came up, regional collaboration (re)gained importance. The (growing) availability of jobs is largely due to Schiphol Airport, which falls within the boundaries of Haarlemmermeer (Stedelijk Strategieteam Amsterdam, 2021; TNO et al., 2020). The MRA, and specifically Haarlemmermeer, has large commuting streams: three quarters of workers in Haarlemmermeer, live elsewhere. And a large part of the car traffic moves through the municipality, whilst the destination is elsewhere (Gemeente Haarlemmermeer, 2018).

### 3.3 Operationalisation

In this paragraph, the concepts introduced in the previous chapter are made operational by using existing research findings and conceptualisations, which enabled the construction of questions in the topic lists for the interviews. This concerns the outside as well as the inside perspective – each has its own subparagraph dedicated to the operationalisation.

#### 3.3.1 Operationalisation: outside perspective

The outside perspective of (the risk of) TP has been measured one the one hand through exploratory conversations with experts, and the studying as well as 'application of' the indicator 'risk of transport poverty' (to assess the hypothetical risk score of the study group of this research) – this would be the perception of experts/the scientific world. On the other hand, the outside perspective was measured through speaking to the respective government officials about the issue, and desk research – which would be the perception of the governmental/political world.

The risk of TP for the research group, from the outside perspective, has been estimated by using the CBS/PBL indicator 'risk of transport poverty' (which will be elaborated upon in further detail in chapter 4) – as its concepts and criteria ('risk factors') are based on theoretical insights/ perceptions of the scientific world regarding the issue. The risk indicator is made up of four concepts and nine subsequent criteria regarding transport options and access, proximity of destinations, income and occupation, and household characteristics (regarding migration background, health, and composition of the household) (Kampert et al., 2019). To measure each criterion, the CBS and PBL used national census data (on the household level). However, to calculate the hypothetical 'risk score' of the participants in this study, data provided by the NVP or Kantar database were used instead. (For a detailed explanation of the measurement (process) of each risk factor/sample validation procedure in this research: see appendix I). The researcher only had access to slightly-anonymised information of the respondents through these sources. Therefore, the score could not be properly estimated for all variables with the data available (in contrast, the CBS data are non-individualised, general statistics). Thus, in particular those criteria were asked about in the in-depth interviews with the target group – see more in 3.3.2.

A rough operationalisation of the outside perspective as introduced in table 2.1 (in paragraph 2.4), is shown in bullet points in table 3.3a. This comprises the TP risk indicator, as well as the government interviews and the desk research. It will be elaborated upon below.

Looking at the contents (bullet points) of table 3.3a, the CBS/PBL risk indicator overlaps with the three dimensions of TP (social, transport, and geographical), its nine criteria all falling in each dimension. More about the risk indicator and its criteria in the first results chapter, at 4.1.2; and in Appendix I.

Table 3.3a. Rough operationalisation of the ‘outside perspective’ of (the risk of) transport poverty

<b>Dimension</b>	<b>‘Outside perspective’: transport poverty (risk factors) as perceived and used by experts and governments/authorities</b>
<i>Transport system</i>	<i>Transport options and -system</i> <ul style="list-style-type: none"> <li>• <i>Transport/PT availability and maintenance; quality, reliability, information, safety</i></li> </ul>
<i>Societal and socioeconomic</i>	Transport poverty risk factors and (policy) indicators <ul style="list-style-type: none"> <li>• <i>E.g. age, migration background, income, education, gender, employment, ‘objective’ health status (Wmo, Wlz, etc.)</i></li> <li>• <i>Other policy indicators</i></li> </ul>
<i>Geographical/ Governance</i>	Geographical (local/regional) context; governmental attitudes /political priorities; (spatial planning/transport) policies <ul style="list-style-type: none"> <li>• <i>Distances (to destinations/type of living environment); type, quality, supply of nearby amenities/facilities</i></li> <li>• <i>Policy ambitions (e.g. on mobility: efficiency, or inclusivity)</i></li> </ul>

Source: own material.

In the desk analysis regarding the policy documents, and the governmental interviews, an indication has been given if there is emphasis on certain variables (TP risk factors), or if other variables are added. Further, the main ‘positioning’ and proposition of the interviews with government officials, was to hear the knowledge, affinity and attitudes on the issue of TP in their organisation (local or regional government). And, besides, whether there are policies, regulations, or other interventions (being made, or implemented currently); and if so, what they are about. The latter point was also explored through desk research. See table 3.3b below for the main points of inquiry (in the government interviews) and points of attention in the (policy) desk research. An elaboration will follow below –but the questions asked in the governmental interviews mostly speak for themselves.

Table 3.3b. Questions asked in government interviews and points of attention in the desk research

<b>Method</b>	<b>knowledge of and attitude on TP</b>	<b>Actions, (policy) interventions</b>	<b>Policy aim /Attitude of government</b>	<b>Indicator / measurement</b>
<i>Desk research / secondary data analysis (policy documents)</i>	-	<i>List of policies: measures (to be) taken/interventions (to be) made regarding TP</i>	Towards what (end/goal) the (policy) document is aimed. What is the approach taken?	List indicators used in policies to measure/quantify ‘TP’ (or ‘inclusive’, ‘accessible’ ...)
<i>Government interviews</i>	Have you heard of TP; in which context, when? How would you define it? To which extent/what do you think the issue is (present) in [your government]?	What research is being done / policies are (being) made in [your government], related to TP (e.g. inclusive mobility)? And: what measures are being taken?	Attitude: how does [your government] see TP]? In your view, (how is the issue (handled) in [your government]? How is the system/organisation? Integrated, segmented?	How is TP approached in policy? How does [your government] measure or in any way incorporate TP (in policies)? What terms or indicators are used for it?

Source: own material.

As is the case for the CBS/PBL risk indicator (see above), policies in general are also ‘spread out’ across the three dimensions (in table 3.3a). Most notably at GEOGRAPHIC, which includes the policies themselves as well as their policy goals and ambitions – see second column in table 3.3b. What research- and policy progresses are made on TP and comparable issues (such as inclusive mobility or

accessibility)? And: what is the purpose of the document? Does it aim towards target group policy, inclusive mobility, or (wealth) equality, or tackling the issue of TP, for instance?. The indicators of those policy documents are included in SOCIAL. What is used (which indicator: for example, inclusivity; or: the conceptualisation of 'TP' – if it is included, at all), to measure what exactly (which value or criterion: such as, traffic flow or efficiency; or TP-related measures)? And (how) is that reflected in policy (or the interviews)? Lastly: the TRANSPORT dimension is more about the implications, or effects of (for example: transport) policies –availability, quality and maintenance of transport are (in)direct consequences of policy (priorities) in that local (as well as regional, and (supra)national) context (in other words: the ethical framing of issues, or the end goal). This was not directly asked about in the governmental interviews. However, it does influence the people using the transport system. See 3.3.2.

### 3.3.2 Operationalisation: inside perspective

For the inside perspective, in-depth interviews and a collaborative group discussion were employed to explore the experience of certain individuals –women without a full-time, paid job, living in either Haarlemmermeer or Zoetermeer– who may be at risk of TP, following the existing 'perceptions' and measurements (see 3.3.1: the interviews concern questions on how one perceives their own situation and other additional variables; which can not fully be captured by the more 'objective', statistics or criteria-based methods of the outside perspective (Hay, 2016) –most notably the risk indicator). The participants were asked about (their perceptions of) personal characteristics and competences, their physical and social living environment, experiences while travelling, mobility preferences and –options, and, most importantly: thresholds with regard to their mobility situation, capabilities and well-being. As explained in 3.2.1, L. Krabbenborg (expert/researcher, KiM) helped in the general composition of the topic list, that was used as a guide in the in-depth interviews. It was further set up in cooperation with Goudappel colleagues and supervisors, to ensure rigour. Additionally, three test interviews were conducted (with two peers/Goudappel colleagues and one external individual, all female) to attest the logic and applicability of topics and questions. The interview guide is attached in appendix IV.

See table 3.3c down below for a general operationalisation of the 'inside perspective' (encompassing the in-depth interviews with the research group). It will be elaborated upon in detail further.

Willingness, or perception of possibilities is 'weaved' through all three dimensions: soci(et)al, transport-related, and geographical. After all, (subjective) experience is focal in the inside perspective. Nonetheless, some objective factors, strictly belonging to the outside perspective, were asked about in the interviews and group discussion as well. This will be shortly touched upon where applicable.

TRANSPORT (SYSTEM): concerns an individual's perception of their living area. This is partly objective: "compact, walkable, and diverse neighbourhood are beneficial for social, interaction, health and safety among urban residents" (Talen & Koschinsky, 2014). But it concerns subjective factors also, depending on one's capabilities, attitude, personality and self-image. This, then, relates to the social dimension, PERSONAL COMPETENCES: who are you, and how do you use (appropriate) what or who you have?. In terms of objective situation ('what or who you have'), the interviews include questions about different kinds of vehicles that are present in the household: (electric) car, (electric) bicycle, motorcycle, 'scooters', or other: amongst which also special (needs) or adapted vehicles, for example which can be obtained through Wmo. Besides, questions were included about transport options in the neighbourhood: does she live nearby PT stops? How close; so, how long is the trip? What kind of PT stop is this (bus, train, tram...), and where -or how often- do they go? This, in turn, relates to the

GEOGRAPHICAL dimension: where are you, what or who do you have, what is your spatial context? And, in addition, ‘GOVERNANCE’ refers to ‘local implementation’ of policies. Especially former growth centres, such as Zoetermeer, and Nieuw-Vennep/Hoofddorp (Haarlemmermeer), are ‘planned cities’: houses, roads, PT lines, institutions, and public space where these functions are present, together form an infrastructure (see the transport system/dimension) that has been thought of and created by, policy- and decision makers (Rli, 2020). However, when trying to establish the accessibility of a city for example, ‘the perceived city’ must also be taken into account. (Policy) interventions by governments and other involved parties influence the everyday options of individual people, who live and pursue their daily activities in that city. How do they experience and use it? (ibid.).

Table 3.3c. Rough operationalisation of the ‘inside perspective’ of (the risk of) transport poverty.

<b>Dimension</b>	<b>‘Inside perspective’: individual (subjective) experience of transport poverty (risk factors)</b>
<i>Transport system</i>	(Subjective) evaluation -and appropriation- of available transport options <ul style="list-style-type: none"> <li>• Vehicle possession (in household) and (individual) usage</li> <li>• Travel behaviour: patterns, such as (preferred) modality</li> </ul>
<i>Societal and socioeconomic</i>	Personal competences; individual context – for example, (subjective) experience of mobility thresholds/transport poverty risk factors <ul style="list-style-type: none"> <li>• Capabilities (also regarding mobility): education, skills, gender/culture?</li> <li>• Self-assessed physical and mental well-being; experience hurdles/feel vulnerable?</li> <li>• Attitude, self-image/feeling of independence (influenced by for example upbringing or personality); (gender) role in household</li> </ul>
<i>Geographical/ Governance</i>	(Subjective) perception and appreciation of the environment; local social norms; (feelings of) representation in decision-making / local implementation of policies <ul style="list-style-type: none"> <li>• Perception (distances/accessibility) and appreciation of one’s living environment</li> <li>• Network; (feeling of) belonging in local community</li> <li>• Does she feel heard/‘in the picture’? Needs met/represented in decision-making?</li> </ul>

Source: own material.

Having transport options (in the household, or neighbourhood) does not automatically translate to someone also (having the desire or possibility) using them: one needs the right capabilities (see SOCIAL), and willingness plays a role also (Van der Aa et al., 2021). Therefore, individual travelling patterns, and (non-)use of available vehicles is also asked in the interviews. For example, when a partner uses the car for work it is not available to her. But also, if she prefers to cycle (over using the car or PT), this will impact her decisions as well. Therefore, questions were asked such as: ‘tell about the trips you made in the past week’, and comparable inquiries; asking about modal choice, and other mobility patterns (L. Krabbenborg (expert/researcher, KiM), personal communication, April 29<sup>th</sup> 2022). Travel behaviour depends also on one’s patterns and customs, or preferred modality. After all, behaviour is action taken upon one’s perceived options. Therefore, questions were asked such as: do transport options in your area, suffice? Can you reach facilities/destinations within acceptable time, effort and costs with it? And: based on the influence of time/costs/effort; how does she choose which option, and why? And: is she content with her travel behaviour?

As mentioned in the ‘transport’ dimension, one’s personal competences/capabilities greatly influence the options that are actually available to use for said individual. Therefore, questions are asked about whether the interviewee has a driver’s licence, a PT card (with a subscription). But also, whether she can use the options available. This concerns matters such as: the ability to cycle (e.g. impacted by culture...), knowledge about how to not only prepare a trip (looking for and interpreting travelling information as well as digital devices), but also using the (public) transport network. This is ‘interlinked’

with well-being: if a person uses a wheelchair for example (physical), her mobility is impaired. But it is also, when one is low-educated or does not speak or read Dutch well (mental) or has a fear of driving, or is uneasy in PT (mental, short term: stress, fear) (Van der Bijl & Van der Steenhoven, 2019). Further, the social dimension concerns *self-assessed* personal competences (and well-being); the way one evaluates and puts to use her skills and capabilities (Diener, Pressman, Hunter, & Delgado-Chase, 2017). This is partly impacted by personality, upbringing and culture: what is a problem for one, is something another person is used to. Further, this also includes whether she feels vulnerable, for example due to a state of ill-health (does she 'feel sick', and act like it; or not?) or because of (for instance, due to being a woman,) fears for social safety; as well as the feeling of (in)dependence: does she feel able to go freely, and do as she pleases? Does she need, and use the help of others for daily (mobility) needs; does this make her feel bothered or dependent, or is she used to it and is it no issue?

Geographical: for example, distances are one of the constraints or context (as Kaufmann et al. (2004) put it), within which transport options may be used by someone. This goes not only for objective distances, but also how long they are perceived (Van der Bijl & Van der Steenhoven, 2019; Zadra & Clore, 2011) – which is influenced by one's own personality, attitude and self-image, also. If one is not used to being active, then she may perceive a distance as longer; and if one is physically unwell, an 'acceptable' distance – such as 400m, to a PT stop (CROW, 2021) – may be very long for them. And, local social norms (Lucas, 2012): for example, in rural areas, it may be more common to use a car, which can decrease one's likelihood to use other modes, as these are seen as less of an option (Pot et al., 2020). Besides, appreciation of one's living area is also asked about; how does she like her living environment; what qualities does she see and appreciate? (For example: green area, close to certain shopping, health care, or other facilities...?) But also, how is the social living environment, and how does she appreciate this? Does she feel like she belongs; does she have a good social relation with her neighbours; do friends (and/or family) live close? And also, not unimportantly: can she rely on her social network – for example, for eventual mobility or other needs? (Zhang et al., 2020).

### 3.4 Data processing and – analysis

All interviews (expert– and in-depth interviews, and the collaborative group discussion)<sup>4</sup> were recorded, in order to process all input, and later process and analyse all information gathered (Bryman, 2016, p. 482). The data was processed by transcribing all interview recordings – the conversations were typed out verbatim, including non-verbal communication. For the interviews conducted online, through Microsoft Teams, the in-program recording was used for audio – and video recording. The choice to use Microsoft Teams for video calling has several reasons: it is a relatively reliable and safe program; people can join a video call without requirements for an account; and the interviews (meetings) can be recorded easily (Microsoft, 2022a; 2022b). For the interviews conducted by video calling in another way – and the group discussion, which was conducted in-person – a mobile phone was used to record the audio, if possible. Note: the conversations and interviews were recorded with explicit permission of everyone involved; and recordings and transcripts were stored only on the researcher's private computer, locked with a password (Bryman, 2016). See 3.5.

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<sup>4</sup> The explorative expert conversation with J. Bastiaanssen (expert/researcher, PBL) was also recorded. This was partly because of the fact that two other thesis students (besides the undersigned) also participated in this conversation, aiming to learn more about the field of TP, and (re)formulate their research objective.

After having gathered a large amount of (textual) data, it needs to be analysed: seeking meaning from the data by 'unravelling' it, interpreting, and putting it back into different words (Hay, 2016, p. 173; Scheepers et al., 2016, p. 264). This type of qualitative research is characterised by an iterative process of constant adaptation and comparison of results. The researcher went through the transcripts repeatedly during the analysis process – which started right after the first interview, and ended at the very last period of the research. The last interviews, and the group discussion were thus also enriched with findings from the first interviews, for example (Pope, Ziebland, & Mays, 2000).

A common way to analyse qualitative data is through coding: reviewing and reflecting on the transcripts, seeking themes in line with the central question, and breaking up the textual data into component parts (fragments), which are to be labelled (named) (Bryman, 2016, pp. 567-8). There are a number of types -or steps- of coding, that can be distinguished (in various ways). Some divide between open, axial, and selective coding (Scheepers et al., 2016, pp. 265-6). Others define two main forms/phases: initial or descriptive, and selective or focused/analytic coding (Bryman, 2016; Hay, 2016, p. 381). The latter was most applicable for this study. After all, the aim was not to generate new theories, only to seek and analyse patterns that emerged from the data. These two phases were run through multiple times and throughout most of the research process (Hay, 2016; Pope et al., 2000). All research interviews have been coded – manually, and with the aid of digital qualitative analysis tool *Nvivo* (Bryman, 2016, pp. 591-609). The analysis 'output' (code tree) is attached in appendix V.

### 3.5 Ethical and methodological considerations

Within the academic community, there are various behavioural norms and principles which aim to guarantee honest, ethically responsible research. The Association of Universities in the Netherlands (VSNU) formulated the Netherlands Code of Conduct for Scientific Practice. It contains five basic principles which should govern the practice of research; especially if people are involved (Utrecht University, 2022). Certainly, that is the case for the field of Spatial Planning, inherently concerned with issues that can impact society (Silva, Healey, Harris, & Van den Broeck, 2015) pp. xxvi-xxvii). Thus, it applies to this thesis as well. The principles are as follows: *Honesty and scrupulousness, Reliability and Verifiability, Impartiality, Independence, and Responsibility* (Scheepers et al., 2016, pp. 26-7).

As for ethical issues: as often the case in qualitative studies, the topic of TP is very sensitive and personal (Hay, 2016). One may be ashamed of being in a situation of deprivation or poverty (or: joblessness), as this is heavily stigmatised (Farrington & Farrington, 2005; Tanjitpiyanond, Jetten, & Peters, 2022). Sensitivity was thus required throughout the whole research process, including alertness and *consciousness* about one's own positioning (Bryman, 2016). One way of doing this was carefully choosing, or omitting, certain language -for example: not using the term TP in the interviews (Páez, Scott, & Morency, 2012; Silva et al., 2015)- while still being *honest* about the research aim and contents (L. Krabbenborg (expert/researcher, KiM), personal communication, April 29<sup>th</sup> 2022).

Especially for the in-depth interviews with the study group, explicit written and oral permission of each individual participant was needed beforehand. Each participant was sent the 'terms and conditions' through a written email, which had to be read and agreed upon prior to planning the interview and conducting it. These agreements were made, based on the Kantar Privacy Policy, as well as general rules from the NVP. See appendix III. Topics covered include the use of personal information, the recording of interviews, and broadly, privacy and anonymity (Scheepers et al., 2016). Right before the start of each interview, the researcher asked for the participant's spoken agreement one more time to

record the conversation (after giving a short summary of the research itself, as well as the rights and ‘terms and conditions’ of participation) – thus, ensuring ‘informed consent’ to start recording.

For the expert and explorative interviews, a short explanation of the research aim (also regarding the interview) was given prior to conduction; as well as consent asked to record the conversation. Additionally, for *transparency*, the researcher consulted each expert when including a quote. Besides, the governmental interviewees were anonymised, only including their work position (Bryman, 2016).

As for methodological considerations: one point of attention relates to the sampling. It was hard to get a good sample for this research: other (perhaps for this research group more representative) sources either were not available or did not wish to cooperate in the research; or had a political– or other bias of involvement. Thus, the NVP was eventually chosen, also for several other reasons: it was quickly available via DAT.Mobility (as time was limited in the thesis project). Plus, NVP is generally representative for the Dutch population; and it is a rich source, including information on mobility behaviour, motives, as well as personal characteristics (Goudappel, n.d.; Kantar, n.d.). However, young people (16-24 years) are generally underrepresented in the panel (E. Jägers (DAT.mobility), personal communication, June 13<sup>th</sup> 2022). And, possibly, the older generations may be overrepresented in this sample, due to the criterion ‘retired’ (65+) being included in the risk of TP/‘distance to the labour market’ research group – which perhaps made the age in the sample, higher than the NVP average (or for the Dutch population in general). As a result, skewing may occur in relation to (potential TP risk) factors; for example, physical health (issues), which are more prevalent amongst individuals of this age group (Van Beuningen & Molnár-in 't Veld, 2020). Additionally: the sample may not be a proper reflection of ‘the real study group’. Since those at risk of TP (such as: isolated people, non-participating in society; people with poor information processing skills) are not visible or represented in statistics as such (Rli, 2020), they probably are not in the NVP either. This ought to be considered.

Further: biases may be held towards either of the sampling criteria, as they might seemingly interfere with one another, or a wrong causal factor may be assumed. For instance, when a woman takes on a ‘traditional’ role in the household; the husband works (and uses the car for his commute), and she does not – this might be attributed to gender (roles). However, not having a full time paid job and not using the car could also be caused by illness/incapacitation alone for example. This will only be addressed superficially, as this is not a quantitative study and the focus is not on comparing variables and testing their interdependence. It is important to keep it in mind when interpreting results, though.

Additionally, because of agreements made with Kantar, the number of participants could not exceed approximately six people (M. de Gier (and P. van der Mede), personal communication, March 31<sup>st</sup>, 2022). The collaborative group discussion was intended to be a focus group, but due to the limited number of participants ( $n=2$ ), that was not possible. Therefore, the full potential of a focus group –the ‘synergistic effect’, that occurs due to interaction between participants and generates more and new information– could not be realised (Fern, 1982; Hay, 2016) pp. 204-6). Comparably: agreements with Kantar were such that the interviews could not be held in-person. Online interviews have positive aspects: less time and resources (money, effort travelling) are needed from participants, as well as from the interviewer (which is very considerate – especially in the context of the research subject, concerning ‘mobility thresholds’). That being said, there are also disadvantages to online, as opposed to face-to-face interviewing (Lobe, Morgan, & Hoffman, 2020): it may feel less ‘personal’, and there may be less involvement in the conversation (partly due to lack of body language) (Bryman, 2016).



## 4. Results: outside perspective

This chapter is the first out of two regarding the results of the empirical research – of the ‘outside’ and ‘inside perspective’ respectively, on the risk of transport poverty. Here, the focus is on the former: reality as perceived ‘from outside’. This concerns both the policy context and (governmental) authorities’ attitudes on transport poverty. The findings of this investigation will now be outlined.

### 4.1 Research and policy context: (risk of) transport poverty

Relevant (policy) documents related to transport poverty have been read in addition to the governmental interviews. The findings will be elaborated upon below, per governmental unit’s scale: national, regional/metropolitan, and local. Then, the CBS/PBL indicator will be treated more in-depth to calculate the risk score of the research group.

#### 4.1.1 Transport poverty and the Dutch policy context

##### *National*

On the national level, for research and politics alike, TP and related subjects have garnered a fair amount of attention by now. This is also the case in terms of policies, such as the development agenda for public transport (vision for 2040) by the Dutch ministry of infrastructure and water management (Ministerie van Infrastructuur en Waterstaat (IenW), 2021). In this document, three main points are mentioned, amongst which ‘from door-to-door without thresholds’, aiming at a reliable, safe, fast, easy and comfortable journey with an eye for accessibility and inclusivity. Additionally, transport poverty is briefly mentioned in the document (IenW, 2021). And, for example, the Dutch national government, the provinces, the decentralised public transport authorities (*DOVA*), and the transport suppliers/companies signed a government agreement about accessible PT last year (Rijksoverheid, 2022). This, and other national policies, trickle down into lower governmental layers’ transport systems, and their guidelines on accessibility and inclusivity of PT. For example: in areas where PT demand is low, flexible types of transport should be offered instead. Hereby it is necessary to combine the financial means for regular and ‘target group’ PT (IenW, 2021). (See the ‘regional’ and ‘local’ policy overview further in this subsection, and 4.2, for more about this). On the topic of financing and governance: the national government is the only legislator, upon which the decentral governments depend for their financing (PBL, 2021, p. 54).

In the previous 10-20 years, and before, the facilitating of mobility (with the underlying thought of mobility being a human right and need) has been a dominant point of departure in national accessibility policies; which strongly emphasise the solving of traffic congestion, states the Rli (2021). However, this starts to hinder other issues that make a claim on the living environment – and space, especially in the Netherlands, is scarce (PBL, 2021; Rli, 2021). This is being recognised increasingly.<sup>5</sup> One manifestation of this, can be seen in the ‘broad definition of well-being’ (*Brede Welvaart*, BW) developed by the PBL (Snellen, Bastiaanssen, & 't Hoen, 2021). Following the BW perspective, civilians’ well-being is seen in an integral way; issues and aspects ‘weighed’ on importance and priority. BW has been applied to mobility as well: (accessibility) policies on infrastructure (flow) and efficiency do not suffice. Instead, accessibility of jobs, social contacts and facilities ought to be added into the equation.

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<sup>5</sup> The ((inter)national) trends and judicial background of which, requires an elaboration too broad for the scope of this study. However, in general, the increasing attention to issues of (wealth) inequality in the Netherlands – also mentioned in chapter 1 – represents a shift in thinking towards more ‘integrated’ systems or policies.

TP is introduced here amongst other themes (Snellen et al., 2021). However, seeing mobility (policy) from a BW perspective has implications that must not be forgotten, such as a need for new knowledge (ibid.). KiM found in a study that new mobility indicators –for example: liveability, safety, long-term effects- are needed to properly monitor BW (Visser & Wortelboer-van Donselaar, 2021). Generally, the current study by the KiM – as compared to the PBL, who mainly approach TP from an accessibility perspective– focuses mainly on: what is the problem, who is affected? And –acknowledging that the issue plays out in several dimensions– trying to get a grip on which causes and consequences lie in the mobility domain (L. Krabbenborg (expert/researcher, KiM), personal communication, April 29<sup>th</sup> 2022). The CPB and PBL’s 2020 report on promising mobility policy, also mentions TP, in a way that aligns with the scope of this research: the individual perspective is important, as accessibility –the lack of which they define as ‘transport poverty’- indicates access to jobs, facilities and social interaction (Verrips & Hilbers, 2020) pp. 35-6). However, CPB and PBL mention further in the document that some of the most important policy interventions to be taken for mobility include –besides the availability of facilities and workplaces- a reduction of travel time, and better PT services (ibid., p. 50). This suggests that ‘old’ indicators are sometimes still prevalent for the measurement/evaluation of mobility or accessibility, for example.<sup>6</sup> This is also reflected in a quote by J. Bastiaanssen (expert/researcher, PBL):

*‘Step by step, [transport poverty] comes up more in the political discussions ... and visions. (...) However, current national policies remain focused on the car. ... And the indicators used are still the same!: it still comes down to ‘accessibility’ in terms of traffic flow or travel time.’* – J. Bastiaanssen

However, he added, the fact that TP is mentioned in the first place is a step in the right direction.

All in all, it seems that the complexity and multi-dimensionality of mobility, as well as issues regarding well-being and social inequality, are being acknowledged more and more in the Netherlands/by the Dutch national government. On the issue of TP, several studies have been done by now. And the national (political and policy) attention is growing also. Nonetheless, it is still in a beginning phase, as the ‘right’ values and underlying principles are not yet integrated fully into the system.

#### *Regional/metropolitan*

The Metropolitan Region of Rotterdam-The Hague (MRDH) and Amsterdam Transport Region (ATR/Vervoerregio) are not only administrative partnerships, but also transport authorities in their respective regions (MRDH, n.d.b; Vervoerregio.nl, n.d.) One of their core tasks is making and managing the concessions for regional public transport (MRDH, n.d.a). Within these PT concessions, requirements on quality, inclusivity or other demands ought to be stated, in order to grant the concession to a certain transport company. Besides, the regional bodies also make policies. As the main device of the MRDH transport authority is ‘we connect people’, their implementation agenda for accessibility has the main goal of realising a sustainable, complete and robust metropolitan network. One of the indicators of accessibility within this network is the 45-minute travelling time to destinations (MRDH, 2016). Such an indicator is also used in the Metropolitan region of Amsterdam (MRA), The 30-minute-metropolitan region is a shared ambition; all inhabitants of the region should be able to find a fitting job within a 30-minute travel from home. Therefore, MRA has also conducted a study on people’s experiences of TP (focussing on ‘living-work balance’), with the aim to enrich decision-making regarding ‘living-work balance’ and TP with a social perspective (MRA, 2021).

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<sup>6</sup> It is important to keep in mind that CPB, CBS and PBL are research agencies, and give *advice* for policy – they are not *policymaking* agencies in the same way that governmental bodies are.

In addition, both ATR and MRDH are experimenting with flexible and/or citizen initiative forms of transport. To fulfil the first- and last mile needs, as well as compensate for infrastructure lines being less refined as a result of the efficiency mindset – explained in the ‘national’ policy overview above (and also mentioned by government official E, concession manager, MRDH; see 4.2).

In the policy by the MRDH on social safety in public transport, the two goals/ambitions are: creating attractive PT and a pleasant environment; and securing social safety in PT. These are translated into the following two indicators: measuring the traveller’s appreciation of the total journey; and of social safety in PT in general (on a scale of 1-10) (Weijdt & Brussen, 2016). Incorporating social safety and travelling experiences into policies is a good thing; however, a small side note can be made: this does not include the experiences or input of non-travellers – and thus ‘blocked desires’ miss in these indicators (Pereira et al., 2017). As of now, TP is not mentioned in any MRDH policy document. However, research has been done on accessibility and inclusivity of campuses in the region for example (Den Hartog, Prince, & Gelderblom, 2021; Straatemeier, Galama, Van der Drift, & Wray, 2021).

The Amsterdam Transport Region (ATR/Vervoerregio) made a framework for mobility policy in 2017, which gives direction to the regional body’s activities by five strategic tasks: integrating transport modes better; sustainability and liveability (carbon-neutrality); more attention to travelling comfort, experience, safety and information; spatial quality and ‘fit’ (‘mobility and environment go side by side’); and proximity of daily activities (compact urban development) (Vervoerregio, 2017). The indicators used for safety and travel experience are comparable to the ones used in the MRDH Social Safety policy. Further, transport poverty is mentioned once, in the following context: the region has many workplaces with early and late services, and jobs for primary – and secondary trained staff (mainports/greenports, such as Schiphol). These locations need extra attention and must be accessible by collective transportation to reduce TP, the ATR states in the document (ibid.). Further, they also have a separate program on Inclusive Mobility (Vervoerregio, 2020). As one of the pioneers on IM, the ATR and its municipalities have implemented several measures by now such as more inclusive (online) information provision, staff training, campaigns, the OV-coach, and other accessibility pilots (Vervoerregio, 2020; 2021). Further, a researcher is investigating social exclusion; also in relation to TP and how it manifests in the region (M. Bruno, TUd, postdoc at the Vervoerregio; see 4.2). His research will inform the ATR and municipalities on the effectiveness of current policies (Vervoerregio, 2021).

In conclusion, the respective regional bodies of (transport) authority have made some research and policy progress on TP (although the ATR/Vervoerregio Amsterdam seems the most prominent in that regard, at least from reading policies alone). Social safety, inclusion and accessibility are somewhat ingrained into the policies and practices of both regions.

#### *Local*

Due to the ‘decentralisation’ in 2015 (see the ‘national’ policy overview), Dutch municipalities have the task of providing healthcare. Local governments were thought to be more effective –as they are figuratively and literally, closer to the people– which should make the care provision more cohesive (Gemeente Zoetermeer, 2014). This also includes ‘Wmo-transport’ – which is the most important transport-related regulation (mandated by the national government), that has the goal of helping vulnerable groups (M. van der Aa (expert/researcher, MuConsult), personal communication, February 24<sup>th</sup> 2022). For instance, this includes the *Regiotaxi* (in the Zoetermeer region) or *RegioRijder* (Haarlemmermeer region) (Gemeente Haarlemmermeer, n.d.c). However, Wmo and more generally ‘supplementary PT’ (AOV) are relatively expensive for municipalities; it is financially more beneficial to

get as many people as possible in regular PT. In addition, the travellers themselves have more freedom when using regular PT. Therefore, this ‘bundling’ is incorporated in local and regional policies (OVMagazine, 2021) ( this was also mentioned by governmental officials D, E (public transport, MRDH); F, G (mobility specialists, Haarlemmermeer)– see 4.2).

In the mobility visions of Zoetermeer and Haarlemmermeer, TP is not mentioned at all. Rather, their (mobility) policies facilitate or even prioritise the (increased) mobility and other growth in their area. The mobility vision of the municipality of Haarlemmermeer has ten strategic ambitions, the most important ones (given the most ‘weight’) are freedom of movement (the main policy goal, and subtitle, of the mobility vision) and freedom to choose a modality; safety; and fixing existing bottlenecks in the network (Gemeente Haarlemmermeer, 2018; Haarlemmermeer municipal council, 2019). Indicators that they use to monitor the developments of the mobility system, do include user satisfaction of the living environment/mobility system as well. However, they are mostly geared towards quantitative or more technical measurements of efficiency – such as traffic flow, vehicle occupation, traffic safety (not social safety), and so forth (ibid.). However, in terms of social issues, Haarlemmermeer was one of the pioneer municipalities in the UN-agreement Handicap (Gemeente Haarlemmermeer & Steffens-Van de Water, 2018; VNG, 2018). This is also reflected slightly in their mobility vision: “freedom to choose a modality, besides capacity, also means attention to accessibility for the disabled (...) and plenty of parking space for both car and bicycle”. So although measurements are mostly infrastructural, there is attention to disabilities (Gemeente Haarlemmermeer, 2018; n.d.b).

For the mobility vision of Zoetermeer, the main aim (and subtitle) is to be ‘the best accessible city’ and its two goals are ‘liveability and vitality’, and ‘central in the MRDH and Randstad’ (Gemeente Zoetermeer, 2017). However, the focus is on creating a (rapid) transit network, which makes Zoetermeer an attractive city for work and leisure (ibid.). Although ‘living-work balance’ is a good point of attention for an ‘ageing New Town’ (see 3.2.4), the choice of words implies that facilitating mobility growth is a primary goal – which is a slightly ‘narrow’ approach to accessibility (see also the ‘national’ policy overview). Comparably, there is attention to proximity (spatial planning) of facilities and their ‘accessibility’ for all ages (ibid). However, the elderly are almost the only group that is given any special attention in this regard. (The only addition being: under ambition 5/10, promoting the bicycle, this includes not only accommodating the elderly, but also disabled people) (Gemeente Zoetermeer, 2017). Meanwhile, many other groups may experience transport disadvantages (MuConsult, 2022). As stated in chapter 1, there is not ‘one type of transport poor person’ (Fransen et al., 2020; Jacobs, 2021).

In short, Haarlemmermeer and Zoetermeer are not that far yet in terms of TP. It is not mentioned in their mobility policies, nor other publications. However, more broad terms and integrated views (such as attention to individual experiences, and liveability) are used increasingly. And there is progress in integrating regular PT and AOV (also with other governments). However, this is still in its infancy.

#### 4.1.2 CBS/PBL transport poverty risk indicator

The indicator ‘risk of transport poverty’ as developed by the CBS and PBL in 2019, was intended as a means to give insight into people (households) who are, or may be vulnerable to TP (Kampert et al., 2019). People are grouped together into categories by certain demographic characteristics – in other words, possible risk factors for TP. The nine criteria (risk factors) that the indicator is made out of, are scored on a scale of 0–2 - see table 4.1 below. The end score –a household’s hypothetical risk of TP– is calculated by taking all nine risk scores’ average values (ibid, p. 4).

Table 4.1 Risk of transport poverty per household (low to high). (In Dutch)

Risico	Gemiddelde score per huishouden
Zeer laag	0 t/m 0,5
Laag	0,5 t/m 1
Hoog	1 t/m 1,5
Zeer hoog	1,5 t/m 2

Source: Kampert et al., 2019

The CBS and PBL conceptualised ‘risk of transport poverty’ built on insights from (inter)national research on the topic. Notably, their first three concepts are based on the framework by Lucas et al. (2016a): Accessibility poverty, Mobility poverty, and Transport affordability. Onto this, a fourth aspect is added: household context/personal competences (Kampert et al., 2019, p. 4). Later in their report, the CBS and PBL ‘translate’ the conclusions of the average risk per household, to the neighbourhood level. Meaning, the results show: in which Utrecht or Heerlen neighbourhoods, do more households live (relatively speaking) who are at risk of TP? (CBS, 2019). This has not been done for this research, though; the indicator has solely been applied to the target group of this research (N=15) to assess their risk score (the procedure is described in detail in Appendix I). See table 4.2 for the results (risk scores).

Table 4.2. Application of the CBS/PBL transport poverty risk indicator’s criteria to the study group

<i>Transport poverty risk factor (criterion)</i>	1 (HLMM)	2 (ZTM)	3 (HLMM)	4 (HLMM)	5 (HLMM)	6 (HLMM)	7 (ZTM)	8 (HLMM)	9 (ZTM)	10 (ZTM)	11 (HLMM)	12 (ZTM)	13 (ZTM)	14 (HLMM)	15 (ZTM)	Average risk score	
<b>1. vehicle ownership</b>	1-2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	Ca. 0,3	
<b>2. distance to PT stop</b>	0-1	0-2	0-2	1-2	1	0-2	1	0	1-2	1	1	0-1	0-2	0	0	0,4-1,2	
<b>3. distance to facilities</b>	0-1	0-1	0-2	1-2	2	1-2	1	1	1-2	1	1	1	0-1	1	2	0,8 - 1,3	
<b>4. distance to family</b>	-	-	-	-	1	-	1	2	-	0	-	-	-	0	0	0,67	
<b>5. income (household)</b>	-	1	1	0	0	-	1	-	0	1	0	0	-	0	0	/Ca. 0,3	
<b>6. socio-economic</b>	2	0	2	0	0	0	1	0	0	0	0	0	0	0	2	0,47	
<b>7. migration background</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>8. health (objective)</b>	-	-	-	-	1	-	0	1	-	0	-	-	-	0	1	0,5	
<b>9. household composition</b>	1	0	1	0	0	1	1	0	0	1	1	0	1	1	1	0,6	
<b>INDIVIDUAL RISK SCORE</b>	<b>0,9</b> /0,5 -1,2	<b>0,4</b> /0,1 -0,7	<b>1,0</b> /0,6 -1,4	<b>0,5</b> /0,2 -0,8	<b>0,56</b> (P6)	<b>0,5</b> /0,2 -1	<b>0,67</b> (P4)	<b>0,44</b> (P1)	<b>0,4</b> /0,2 -0,7	<b>0,44</b> (P2)	<b>0,5</b> /0,3 -0,8	<b>0,3</b> /0,1 -0,6	<b>0,5</b> /0,2 -1	<b>0,22</b> (P5)	<b>0,89</b> (P3)		

Source: own material.

The individuals in the sample appear to be not really ‘at risk of transport poverty’ hovering around an average score of 0,6; the lowest is around 0,2 (indicating very low risk) and the most at-risk individual in the sample could be around 1,0-1,4 (which signifies a moderate to high score). There do not seem to be any significant differences between Haarlemmermeer and Zoetermeer. As for the factors- no

one is at risk in terms of migration background; and vehicle ownership is a (very) low risk for most, but not all participants. The criteria distance to PT stops and to facilities have the highest average risk score amongst the group members: ca. 1,0. Followed by household composition and distance to family members, which appear to post a moderate or low risk to the participants.

In theory, this indicator represents a view of transport poverty that aligns well with the approach taken in this study. TP is a broad, overarching notion, encompassing several dimensions: spatial planning, transport options, affordability; as well as household/personal circumstances, which can inhibit one to get to places they would want to arrive at – based on the fact that TP affects socio-demographic groups differently (Kampert et al., 2019, p. 4). However, the framework and indicator are quite generic: only a selected number of criteria were included, as not all factors that are of importance to TP can be measured and generalised and/or have available data sets – and this includes people’s perceptions of TP (amongst others, such as: bicycle (ownership), distinguishment in type of PT stop, distance to employment, and the local context) (Kampert et al., 2019).<sup>7</sup> Individuals, households who are ‘at risk’ of TP, may not actually experience it as such – they might not ‘feel vulnerable’ or disadvantaged (M. van der Aa (expert/researcher, MuConsult), personal communication, February 24<sup>th</sup> 2022). Although these aspects matter, they cannot be judged from the indicator: practical, content-related knowledge about the local context is key to interpreting the findings (CBS, 2019).

Therefore, the point that can be taken away from this: it is necessary to finetune TP policies to the applicable geographical context, in order to interpret individuals’ specific situation and needs (Kampert et al., 2019; Pot et al., 2020). This point is signified by the following quote from the explorative expert conversation with J. Bastiaanssen (expert/researcher, PBL):

*“Transport access, and a better accessibility of jobs by public transport for example, [has been shown to] increase the chances to get a job – but mostly so for the lower end of the labour market, practically schooled persons. (...) That’s important for policies, as you need to know: where do these people live? And we often know that pretty well. Rotterdam-Zuid, Amsterdam-West, Amstelveen, Kanaleneiland... There’s a fairly high density of public transit stops there. So, you’d have access to transport. That doesn’t say that you can also appropriate those stops to reach fitting employment opportunities, though. However, that’s often where policymakers’ thinking process stops (...) [Meanwhile] fitting jobs –certainly for the ‘lower end’ of the labour market- and also facilities, are located increasingly on business parks and locations in the urban fringes, or next to highways.” – J. Bastiaanssen*

## 4.2 Governance and (governmental) authorities’ attitudes on transport poverty

### 4.2.1 Awareness and view of transport poverty

There is awareness (and knowledge) about the topic of TP amongst the governmental interviewees. Although the government officials spoken to had varying levels of experience regarding TP, all were at least familiar with it. This is illustrative of the ‘coming-up’ of the issue, a trend mentioned by government official C (strategic traffic advisor; Zoetermeer), for example.

As for their own view, attitudes, experiences and definitions, the governmental interviewees often mentioned certain groups in relation to the issue: the elderly; people living in more rural areas (and/or

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<sup>7</sup> This is because, in order to measure each criterion, the CBS/PBL used national census data (on the household level) in order to ensure that the indicator is generalisable and applicable to any geographical location in the Netherlands. However, this also means that some important criteria with no census data, may be excluded.



far removed from PT stops); and people with a physical or mental disability. Further, the interviewees had a fairly solid image of TP – that is, for the most part in line with the definition and approach taken in this research. However, government official A (specialised in poverty issues/social domain, Zoetermeer) does see TP slightly more narrow – primarily as an issue in ‘social security’:

*‘Transport, energy, menstruation... and other types of poverty, are rooted in the same issue: a household or individual having an income that is too low to cover the costs of necessary matters.’* – Government official A

Nonetheless, she further aligns fully with the definition of this research, noting the ‘indirect effect’ or social function of mobility – which was also mentioned by several others. For example, government official D (public transport advisor, MRDH) (who later added that TP often is not (primarily) monetary):

*“[Transport poverty comes down to] a lack of mobility options, to such a degree, that it starts to hinder you in your social, working, or other [aspects of] life.”* – government official D

This research approaches TP as a complex and multi-faceted issue – for instance, importantly, it stretches beyond the mobility domain, as it possibly affects one’s job status or social participation (Bastiaanssen, 2012; Lucas, 2012). This relates to mobility being a ‘means’: the aforementioned ‘indirect effect’. In the explorative conversation, M. Van der Aa (expert/researcher, MuConsult) stated:

*“Transport’ implies that the issue of transport poverty has to do with supply alone, but it’s much more than that: is [a mobility ‘option’] accessible to someone; do they feel safe using it...?”* – M. van der Aa

Several interviewees were aware of the fact that the issue ‘happens behind the front door’, where the government does not come. Therefore, they also expressed experiencing troubles in reaching out to these people, as they are not in the picture. As the governmental interviewees are aware that the truly disadvantaged group is hard to find, this implies a knowledge of the ‘depth’ of the issue of TP.

#### 4.2.2 Policies, regulations and interventions: progresses on transport poverty

Action is started to be taken on the issue of TP, amongst the respective governmental and authoritarian bodies: interventions are being done, and policies and regulations made - although not all directly or explicitly aimed at TP. Several policies on TP and comparable issues -such as IM and accessibility- have been mentioned in 4.1.1. Regional policies are (being) made, such as on social safety in PT (MRDH) and inclusive mobility (ATR/Vervoerregio); and they are doing research on the topic, too. Most progress has been made on the national level: several TP studies have been conducted, and regulations on inclusivity and accessibility also influence decentral governments’ policy interventions. However, in general, for the smaller governmental levels (local), the ‘trickle down’ into policies is less strong. However, the G4 are making most progress; the ATR met up with them to see what research is there and what can be improved, government official H (project leader Inclusive Mobility, Vervoerregio) and M. Bruno (postdoc researcher for the Vervoerregio; TUd) stated.

*“From the big cities, [transport poverty] is something that’s starting to ‘live’ more and more. However, we have fourteen municipalities, big urban centres but also smaller (...) and you see quite big differences between those areas (...) [but] we don’t have a view on that [yet] at all.”* – Government official H

Further, as for other actions being taken: as touched upon above, governments meet and consult with each other regularly – that may be with the senate/council or other layers of government; specifically



about (input in) policies, but also about generally sharing knowledge. Besides, there are other bodies (including the *toegankelijkheidsraad* (accessibility council; Zoetermeer) or the *Fietsersbond*). In some cases, the governmental authorities are legally required to speak with representative panels before making policies (government official E, concession manager, MRDH). Another example of ‘indirect action’ is the *Stadspeiling* that is being taken in Zoetermeer: a survey that the municipality hands out randomly amongst 2000 inhabitants, with questions on a wide variety of topics that people can give their input on. For example, whether the PT supply is sufficient (government official B, technical specialist traffic; Zoetermeer). These kinds of actions are helpful to keep in touch with either other governments, or inhabitants themselves, about important issues.

However -as also came forward in 4.1.1- it seems that, at this stage, (progress on) the issue of TP is still in a beginning phase. Especially for the municipalities, TP is not ‘fully in the picture’ yet but more an afterthought, so to speak. Government official C (strategic traffic advisor; Zoetermeer) said that it is difficult to have a clear view about it, let alone the extent to which it would be present in Zoetermeer.

*“...I think that, now, it’s mostly talking about [transport poverty], and that there is... not yet something being done about it.”* – Government official C

Government officials F and G (mobility specialists, Haarlemmermeer) mentioned that it is important to research the topic, as they acknowledged there is no clear view yet of TP in their municipality either:

*“Right now, we/the municipality of Haarlemmermeer just takes actions [for example, regarding transport inclusivity and accessibility], based on what we think is the logical thing to do; with the fairly limited knowledge that we have right now. We don’t have much more to work with than that.”* – Government official G (policy advisor, Haarlemmermeer)

According to the study by (Jeekel & Martens, 2017), the transport domain can learn from others –such as health care; or, education, housing– where equity principles *are* fairly well established. This also aligns with a quote from the expert conversation with J. Bastiaanssen (expert/researcher, PBL):

*‘Transport departments in municipalities, or consultants, either do not think properly about, or use the wrong indicators (in the context of transport poverty measurement, red.). (...) Mobility is a derived demand (...) [In spatial/transport policies], mainly, the end goal must be thought about: ‘what should the transport system do?’ And then think of fitting indicators (...). It’s odd, because in other policy fields or domains –education, healthcare...– the end goal is clearly defined.’* – J. Bastiaanssen

Nonetheless, later in the municipal interview, government official F (mobility policy coordinator, Haarlemmermeer) added the following, emphasising a genuine involvement:

*‘It’s important to place yourself in someone else’s shoes (...) by continuing to tell that story, we can (continue) to create awareness about the issue. We need to keep on doing so.’* – Government official F

From the regional governmental interviewees, this involvement with, and drive to do something about, TP was also prevalent. Government official H (project leader Inclusive Mobility, Vervoerregio) said:

*“By means of our policies, we try, through concessions –but also campaigns, and (staff) training– to work with municipalities, to make sure that the implementation of our policies are as inclusive as possible (...) and by talking with clients, transport advice councils.”* – Government official H

And here, the research (by M. Bruno, TUd, postdoc researcher at the Vervoerregio) comes into play – to find out whether these regulations indeed alleviate TP, or lower thresholds for travelling with PT.

In addition, for the MRDH, government official E (concession manager, MRDH) said the following:

*“[Currently, MRDH has] no policy ‘counteracting transport poverty’. (...) However, aspects of the issue are weaved throughout all policy fields, and also practical matters.”* – Government official E

In addition, she mentioned that a new policy on accessibility is in the making currently: (from the decentral government agreement on inclusive mobility, mentioned in 4.1.1), the MRDH is working on a policy framework Inclusive Mobility 2022-2026 (to be presented in spring 2023) in which the main points and ambitions for accessible PT in the region will be described (MRDH.nl, 2022).

#### 4.2.3 Governance and the Dutch governmental structure

Although the attitude towards TP is changing and progress is being made, and the (transport) system in the Netherlands is detailed and comprehensive, it is still a point of attention in terms of governance. In some ways, the Dutch government apparatus may be a cumbersome and overly complicated system. An example is the development to ‘thicker lines’ – mentioned in 4.1.1. Prompted by a ‘reduced role of the national government’ and budget cuts, the up-scaling of facilities makes for the highest rate of costs covered. High frequent lines –whither PT stops are, in general, fewer and on a greater distance from people’s living area– eventually offer the most benefits for most travellers. However, the biggest benefit to the largest group may not be the best measure of a good, or fair transport system – it can be argued to be counterproductive, or even unjust, as more vulnerable people do not benefit accordingly (Lucas et al., 2016b; Van Wee & Geurs, 2011). In the exploratory conversation, J. Bastiaanssen (expert/researcher, PBL) said the following about this:

*“Simply, everything has been geared towards the centres in the past few decades. (...) the system [is] very efficient for the large crowd, and in the rush hours the supply is very high. So, there you can – **we** (theoretically educated/‘low-risk’ people, red.) can make good use of that. However, it’s more difficult when you’re practically educated, for example (...). The availability of public transport services doesn’t align with people who need to travel outside of regular working hours (...). And, that’s more or less what [transport poverty] is about: does the transport system actually align with people’s needs– especially those who depend on public transit because they’ve no alternative option?”* – J. Bastiaanssen

Government official H (project leader inclusive mobility; Vervoerregio) stated that the ATR *wants* to revert this trend of ‘thicker lines’, which was the applicable policy in the last concessions. After all, amongst other things, this increased the average walking or cycling distance to the nearest PT stops – and people complained as this was uncomfortable for them. However, due to a shortage of money (decrease or termination of subsidies) as well as bus driver staff, re-routing the buses back to the ‘small roads’ would be expensive and difficult, stated government official H (project leader Inclusive Mobility, Vervoerregio). So, instead, they seek the first- and last mile solutions in more flexible ways of transport. The same or comparable can be said for the MRDH, and both respective local governments (see 4.1.1). For example: as for the municipality of Zoetermeer, they try to compensate for the loss of transport options through ‘creative’ solutions– such as the ‘*ouderenbus*’, which is a volunteer-run initiative, and it also serves a social function (government official B, technical traffic specialist, Zoetermeer). However, it can be argued that this is trying to fix a problem on either the wrong scale, or combatting symptoms instead of the bigger issue. Due to national priorities (of PT budget cuts), bus lines were

removed. Trying to retrofit a solution, such as providing flexible or additional transport (such as the *ouderenbus*), is not bad in itself. However, with different national subsidy priorities, the bus lines could be put back instead. Added to that: due to shortage of staff, government official B (technical traffic specialist, Zoetermeer) said, the PT schedules (now in the hands of the regional authorities) will probably not be put back at the duty of the municipality. Nonetheless, he thinks it would be better:<sup>8</sup>

*“the municipalities themselves have a better view of [the differences in needs], as compared to a big regional or transport authority.”* – Government official B

So, although the mindset is changing now towards people-centred planning, inclusive mobility, and a more ‘broad view’ of accessibility, the choices and priorities of the past, and of the national government, still impact the current state of affairs. For example, as said, the car-centred mindset of the 1970s may have caused growth centres to be more car-dependent than they were intended to be. And this also includes ‘segmented’ thinking or decision-making. A possible example could be that regional (governmental) bodies of authority are responsible for all PT – except the train railroad, which is under control of the national government (Van Woerkens, 2014); this lack of integration might lead to ‘hurdles’ in infrastructure developments (Heeres, Tillema, & Arts, 2016).

Another, comparable example: as a result of the ‘shift to decentralisation’ (mentioned in 4.1.1), health care has been put at the responsibility of local governments – amongst other things. Government official A (poverty issues/social domain, Zoetermeer) said the following about this:

*‘A lot of eyes are on the municipalities, for solving problems such as poverty (transport poverty in this case specifically, red.) (...) However, the housing issue, the surtax system... These are the national government’s responsibility. (...) There should be a big shift in these big national systems instead of ‘putting bandages on open wounds’.’* – Government official A

Thus, she advocates for a systemic change on the national level, as the big systems –tax, allowances, housing, healthcare, education– may be more integrated with each other than seems at first glance – see also (Rijksoverheid.nl, 2020).

### 4.3 Concluding: overview for the outside perspective

All interviewed government officials were familiar with the issue and had a good overall view of what it entails. There is growing attention for the issue of TP; especially on the national level, where the progressions are the furthest. Another example is the Vervoerregio Amsterdam/ATR, where a study is currently being conducted on TRSE, and the occurrence and manifestation of TP in the region.

At the moment, however, governments and authorities do not yet have a clear picture at all of whom it concerns, and what or how big the problem is for their area. And there isn’t yet that much policy directly on TP – especially not for the respective municipalities, where the term is not yet mentioned at all. In that regard, the national but also regional levels are a bit further.

So: there is a lot to improve in this stage of TP interventions. And the same goes for TP measurement: for example, on the national level, TP is being mentioned more often in research and (policy) documents (and inclusivity, BW, and accessibility even more so). However (as of now), often, the same

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<sup>8</sup> Sidenote: some matters exceed municipal boundaries –such as regional bus lines– in which case it may be better if a higher level of authority is responsible (government official C, strategic traffic advisor, Zoetermeer).

old indicators are used in the end. For instance, 'accessibility' is mainly monitored by travel time savings and traffic flow. This means that segmentation and sectoral thinking remain in the governmental structure, or organisation. An example on the local (and regional) scale may be the supplementary transport initiatives, or Wmo. However, the issue of TP by definition is outside the boundaries of one sector or dimension; thus, it cannot be grasped or tackled within solely the spatial/transport, or social department. Therefore, a culture change may be needed – and it is important to consider the spatial scale that should be addressed, especially in terms of governance.

Nonetheless, the governmental interviewees are aware of their 'lacunae' in knowledge, and/or that TP is still in an early stage of process. The people involved, conveyed a genuine interest and desire to seriously do something about it, even though they do not know how to tackle the issue exactly. One interviewee emphasised the need to keep on listening to, and place oneself in the shoes of people who are different from oneself.

The most important insight here is that a serious intervention asks for '*maatwerk*' (finetuning): local contextualisation of measures (and policies) are important (Pot et al., 2020). This goes for the CBS/PBL risk indicator on risk of transport poverty, as well. According to its criteria, most individuals in the sample ( $N=15$ ) would appear to be at a fairly low risk of TP. However, the indicator is not exhaustive; the situation as experienced by an individual (in their own household), in a certain geographical context, might look very different. This can only be found out by taking into account (knowledge of) the local context, and talking to people themselves (Kampert et al., 2019).

## 5. Results: inside perspective

In the previous chapter, the results were presented on the empirical investigation regarding the ‘outside perspective’ of transport poverty. Now, the ‘inside perspective’ will be the point of attention. This second results chapter concerns the most important findings of the in-depth interviews and reflective group discussion with the research group: non-working women living in Haarlemmermeer or Zoetermeer. What is their experienced reality of TP (risk factors)?

### 5.1 Research group: general personal characteristics

Before diving into the experiences of the participants, a general background of the sampled group will be provided, by describing their personal characteristics. An overview is provided in table 5.1 below. (N.B.: where information was unknown, this was interpreted as a negative (‘NO’) or missing value.)

Women without a full-time job, living in either Haarlemmermeer or Zoetermeer, were selected from the NVP, as explained prior. These sampling criteria applied to fifteen people in the panel ( $N=15$ ). Out of this selection (research group), six women responded and eventually participated in an interview ( $n=6$ ), of which two in the reflective group discussion.

Table 5.1. General personal characteristics of the research group ( $N=15$ )

Attribute/characteristic	Type (occurrence in sample)	Averages/count (?)
Age (in years)	-	Mean: 58 Mo: 57. Min:38;Max:69
Household composition	Single (one-person); adult household (two-person); with young (<12) or adolescent (13-17) children (three persons and up)	Mean: 2, Mo: 2,067 (adult household); Min: 1 (single); Max.: 5 (three kids)
(Household) income (gross; classified)	Lower than modal; modal; 1-2 times – ; 2 times modal; unknown	Mo: lower than & 1-2 times modal ( $n=4$ )
Occupancy	Working (employed); non-working (unemployed, retired, at home, incapacitated)	Working ( $n=1$ ): employed. Non-working ( $n=14$ ): unemployed $n=1$ , retired $n=1$ , at home and incapacitated $n=6$ (Mo)
Education level	Lower – (2) and medium secondary (3); medium tertiary (4); higher secondary (5); bachelor (6)	2: $n=3$ ; 3: $n=4$ ; 4: $n=2$ ; 5: $n=4$ ; 6: $n=2$
Car – and driver’s licence possession	No car; Owns 1 car; owns 2 or more cars; unknown / Does or does not have driver’s licence; unknown.	66,7% owns* $\geq 1$ car*; 60%; has driver’s licence
Area of residence (municipality, (urban centre), neighbourhood)	Haarlemmermeer (Hoofddorp, Zwanenburg, Nieuw Vennep) <i>high density</i> (2000-2500 inh./sq)	<b>Hlmm (<math>n=8</math>):</b> Hoofddorp $n=6$ ( <i>Overbos</i> $n=1$ , <i>Toolenburg</i> $n=2$ , <i>Floriande</i> , <i>Bornholm</i> , <i>Hd-Oost</i> ) Zwanenburg $n=1$ , Nieuw-Vennep $n=1$
	Zoetermeer <i>highest density</i> ( $\geq 2500$ inh/sq)	<b>Ztm (<math>n=7</math>):</b> Rokkeveen $n=3$ , Meerzicht $n=2$ , Oosterheem $n=1$ , Seghwaert $n=1$
Migration background	One or both parents born in the Netherlands; unknown.	$N=14$ : of Dutch native descent (unknown: $n=1$ )

Source: own material./Based on data by Kantar Public/Mobidot/NVP.

The group’s gross yearly household income is around the modal class and a practical (‘low’) to secondary educated class, as most sampled individuals have a medium or higher secondary education level. Only two –both of whom interviewees– are theoretically (‘high’) educated.

With an age range of 38-69 years old, the younger generation is underrepresented in the sample (N=15; Age(Mean)=57,73 years). Half (three) of the interviewees (n=6) are aged 65 and up. Further, the group is fairly homogeneous in terms of migration background: all individuals in the sample – except for one, whose information is unknown– is of ‘native Dutch descent’.

As for occupancy: most people in the sample are at-home or incapacitated. Further, all individuals do not have a full time, paid job; except for one participant, who has a job at the moment (which means that she strictly does not belong to the research group). As this was not visible from the panel data – this knowledge only came with the interview– that must mean these were not updated in the system. Nonetheless, her input was kept as she was specifically asked about her experiences regarding the period that she was unemployed, and looking for a job. (More about this in paragraph 5.4.)

Some things ‘cannot (fully) be measured from outside’ (with the risk indicator), though, and individual situations and contexts need to be provided through personal contact and consultation. Examples of this are language capabilities (non-education level related: reading comprehension skills for example); non-Wmo sickness; non-family helpful people in the neighbourhood, (or other) friends you can rely on; gender (roles); age (‘culture’, customs and upbringing); social norms and stigma (such as: not being able to read, being jobless); and also personality/attitude, for example. This ‘enriches’ the risk scores. This is what the following paragraphs are about. Building upon the most important findings of the in-depth interviews (and group discussion), a ‘personally experienced’ reality of TP risk factors is provided. This might give a more individually accurate and locally contextualised view of the matters than an indicator, or a view from decision-making institutions, could. Both in terms of geographical and governmental local context (5.2), context in terms of personal competences and (local) transport options (5.3), as well as willingness and perceptions – even more personalised factors, which greatly influence mobility behaviour (5.4).

## 5.2 Perceptions of the living environment and local context

The geographical aspect, incorporating local (spatial) context, is an important aspect of TP according to Pot et al. (2020). How one perceives and appreciates their living environment – both social (one’s network) and physical (the spatial layout) – matter. Further, ‘local context’ also concerns their attitudes on their government or policies where applicable.

All interviewees (n=6) expressed moderate to positive appreciation of their living environment, and like living in the neighbourhood. Both in Zoetermeer and Haarlemmermeer, the interviewees appreciate shopping facilities and green areas being somewhat nearby (and use them). That ranges from a ten-minute walk (or: a few minutes by bike), which is about  $\geq 800\text{m}$ , to a little longer. For Zoetermeer, in general, the walkability and especially bikeability is a positive value. Although this was mostly the case for the Haarlemmermeer as well, two interviewees -P5 (38) and P6 (41) mentioned traffic unsafety or slightly unpleasant cycling routes because of the surface of the width and surface area of the roads, where cars also drive. Haarlemmermeer interviewees further stated an appreciation of the municipality’s character, as being urban whilst also having rural characteristics. For example, the social control in their streets or immediate living environments.

Further, most people have family and/or friends living (somewhat) close by – within a few kilometres. More or less regardless of distance, all reported having good contacts with their family member(s); however, mostly, it is easier to ask or quickly visit a child (for example), living closer rather than farther.

Half of the group (three people) live within 400m of a PT stop- a five-minute walk, for the average person (CROW, 2021). Of the other three interviewees, who live a bit further (400-800m) from the nearest PT stop, two –P2 (69, ZTM) and P6 (41, HLMM)– made complaints about up-scaling of facilities; such as the removal of bus lines or stops. Other issues that were mentioned by interviewees include the fusion or abolishment of hospitals or schools, which makes for a longer average travelling distance to the nearest facility (Van Deutekom, 2022; Wassens, 2022). Not only is this experienced as unpleasant, but this also decreases one’s freedom of choice in type of facility. These are examples of, or at least related to, up-scaling of facilities, and policies in general.



Figure 5.1. Picture of an out-of-use (withdrawn) bus stop in Zoetermeer; detail of an empty, former information sign. Own material.

Another example of policies/governance: P6 (41, HLMM) feels as though, in terms of decision-making, the more rural areas within Haarlemmermeer (within which she also lives) fall in-between; that in Hoofddorp –where the municipal government’s office is at– matters are being decided upon, no matter what, without anyone’s concern from the smaller urban centres. She also mentioned how the government implements car-free measures for the inner city – of which she said that making one place car-free is not a solution, but displacing a problem if anything. She experienced these expensive, green measures as expensive ‘travelling inconveniences’. Further, in general P6 said:

*“You know what they say here [in my town]? You’ve got... Hoofddorp up here, Nieuw-Vennep down there... and then you have, all around, far away, all the small urban centres (...) and it does seem... the inhabitants of the smaller centres feel as if, in Hoofddorp and Nieuw-Vennep, everything is well-organised and arranged -so to speak, the bicycle lanes are well-kept and lit- while the rest just dangles off of it. (...) And that’s... yeah, one of the things, that occurs -here, the tiles on the street are loose-. I*



*mean, like, [the attitude seems to be]: what does it matter [to them, in the grand scheme of things], a small rural centre? Nothing.” – P6 (41, HLMM)*

Importantly: what is framed as a problem, is up to interpretation; it depends on the ethical perspective that one has on reality. Although somewhat understandable from an efficiency point-of-view, giving the largest group(s) the biggest benefits is not a ‘given thing’ but a choice that was made. It is utilitarianism; the status quo, currently used in the system. However, an argument can be made, to give the most vulnerable (for example: old folks in more rural areas) the most advantages instead (Lucas et al., 2016b; Van der Veen et al., 2020).

As touched upon in chapter 4, there are interventions in place for vulnerable or disadvantaged groups. Regulations such as the Wmo, supplementary transport options such as the *Regiotaxi* or *RegioRijder*), as well as other initiatives, including those catered to demographic groups – such as the *ouderenbus* in Zoetermeer). Although these are favourable in itself, what came forward from a couple of interviews is that these are far from perfect. P2 (69, ZTM) has second-hand, word-of-mouth experience with the *ouderenbus*, as she hears the stories that the elderly people tell about its service, from her husband (who drives a comparable, door-to-door initiative, via the UWV). These were characterised by long waiting times (the bus being late), no attention for personal needs. P3 (67, ZTM), who has first-hand experience with the *Regiotaxi*, had comparable stories, using words such as ‘illogical’ and ‘unpractical’. Further, she also uses Wmo – she told a telling story about her experiences (troubles) with the system:

*“A housekeeper? That wasn’t necessary, according to the Wmo consultant, so she said at first. [And the argument was]: Don’t I have neighbours? Don’t I have children [who can help me]? (...) Eventually, I did get three hours [a week of housekeeping assistance], because I went in objection. Alright, and then I wanted a bicycle [adapted to my disability needs]. And the occupational therapist and revalidation nurses also wanted me to get it, as I simply wasn’t physically able to walk well enough by myself (...). Well, she turned that down also; she said I ‘didn’t need it’ (...): ‘If you want to be physically active, you could use your home trainer’. I responded: ‘yeah, but then [again] I’m [still] inside of my house. I want to go outside!’ (...). She replied: ‘if you open the window, you get fresh air also.’.” – P3 (67, ZTM)*

She further described how dealing with the government regulations for incapacitation gave her mental unrest and distress– which is illustrative of the downside of the Wmo/UWV regulations: the system can be inert. A similar experience was mentioned by P6 (41, HLMM) who reported having stress from not knowing whether or not you are ‘sick enough’ to receive a label that you actually do not want. (More on stress, and well-being in general, in 5.3). However, P6 was also a bit relieved when she eventually was fully declared incapacitated, as this meant the end of the recurring paperwork and waiting for institutions to report back.

P3 also thinks that all paperwork and institutional hassle is a waste of time and energy. Especially in her case, being sick for life, she would rather Wmo gives out a longer indication -such as five years, instead of one. Or, to make the system more personal, it would be pleasant to have a check-up call or visit from the Wmo-consulent, to see if the indication is still relevant and actual to one’s situation.

### 5.3 Personal capabilities versus available means

Besides the availability of transport and the contextual thresholds present, personal capabilities -such as socio-economic status, physical health, organisational abilities, or language comprehension and

understanding- can influence someone's mobility (Kaufmann et al., 2004; Van der Bijl, 2020). Further, how they perceive their own abilities and situation, and thus, whether they feel impaired, vulnerable or independent, or not, matters in TP risk factors and appropriation of one's abilities.

Education level, age and migration background have been shortly mentioned in 5.1. Either of these factors can impact one's ability to process information, and thus participate in the transport system, for example (Van der Bijl & Van der Steenhoven, 2019). The interviewees' language related abilities are very good, no one has trouble with reading comprehension. Further, their digital skills are on par as well. However, not everyone states it as such. Occasionally, most interviewees reported needing support from their social circle. And when something major occurs such as a big update, some need help, and ask their partner or kids to take a look. Nonetheless, all six agreed that they can work fine with all the basic functions a phone, laptop or computer by themselves without any major issues – which is what, for this study, 'counts' as digital skills being all right.

Multiple interviewees did mention being aware of digitalisation, for example in PT, and how this affects 'vulnerable' people (Durand et al., 2021): their parents, for example. P1 (49, HLMM) said:

*"I'm surprised by that, yes; everyone always says 'look on this-and-that website'. (...) And I think: 'well, my mother-in-law cannot do that at all. And my mother would also need assistance'."* – P1 (49, HLMM)

P6 (41, HLMM) has experience with adults who cannot read. She mentioned how this disadvantage may result in troublesome situations:

*"You should try planning a trip when you are illiterate [for example] (...) you just can't."* – P6 (41, HLMM)

As for mobility skills and -options: car- and driver's licence possession has been touched upon in 5.1. Of the six interviewees, five have a car (including lease cars from one's (partner's) job), or other motor vehicle present in the household; and four have a driver's licence. Transport options in the neighbourhood were shortly introduced in 5.2: most people live somewhat nearby a PT stop of sorts. Although this gives an idea of one's possibilities, this is not the full picture, still: the relational context (such as: one's role in the household) plays a part in whether she *appropriates* the options available (Kaufmann et al., 2004). But also, possession of (e)bikes is an important factor here. When one's partner uses the car for their (full-time) job, it is not a viable option for her, in most cases. And (perhaps due to not having a car available for her daily activities or needs), women may use PT or the bike more often (Borgato et al., 2021; CBS, 2022; Diehl & Cerny, 2021). This was the case for several interviewees. Besides: one's actual use of a transport option is influenced by how she evaluates it. This has to do with personal attitudes and willingness. More about this, as well as actual mobility behaviour, in 5.4.

Another point that has to do with one's evaluation of her own situation, is self-assessed well-being (Churchill & Smyth, 2019; Diener et al., 2017). Out of six interviewees, three have serious or chronic physical and/or mental illnesses that impact their abilities (which, here, refers to: leading to incapacitation). One of them (P1, 49, HLMM) never got a driver's licence as a result of her ailments, for example. And another (P3, 67, ZTM) has a serious physical (and also, partly, mental) disability because of which she applies for Wmo-transport. This means she has medically proven, *objectively* poor health condition. Further, the other three participants are not incapacitated, nor using government regulations such as Wmo. As for their 'objective' well-being, two out of three are at a fair state of health, but one has some physical ailments.

As for *subjectivity*, so, whether the individuals *feel* impaired, this generally gave a different impression amongst the interviewees. One's mindset, but also factors such as material means, and social network, play a role here (see 5.4 for more about willingness and behaviours). For example, one may objectively not be in a state of good health, but feel like she can still make a trip. This is the case for P2 (69, ZTM):

*"[My physical health is] worthless – however, I don't let that influence me (...) I'll get there [wherever I want to go]. I'm someone, like... when I have a plan, I'll do it."* – P2 (69, ZTM)

As for mental well-being, such as stress, P2 simply says she 'doesn't do that', as it 'is a waste of time'. The same applies to P4 (65, ZTM). She is objectively in good health and spirits now – if her physical state would change for the worse, however, she stated she would not *feel* stressed about it.

As for P3 (67, ZTM), her health is objectively in a bad state; she stated early in the interview that, as a result of her health issues, her mobility is 'very impaired'. And, she also reported experiencing stress as she can not fully be independent, in the way she used to be before she fell ill. Further, mentally, P3 can not concentrate for long periods of time, for example. Nonetheless, although she feels impeded, she keeps a positive mindset above it all, stating she 'just works with what she can'.

On the other hand, someone in an objectively 'fine' health state, may be critical of it – such as P5 (38, HLMM), for example. She stated that she would like to be more fit, and use the bike more.

Generally, the group would rate their own (skills and) well-being as okay. This has to do with both objective and subjective factors. An example of the latter, is that people appreciate their own skills within the given context that they live in (Kaufmann et al., 2004). In other words: people get used to their own situation. In terms of transport options and –abilities, for example. P1 (49, HLMM) has physical and mental ailments, and she (therefore) does not have a driver's licence. Although she often uses the bicycle, or sometimes PT, she also occasionally drives along with her husband, if she needs to go by car. She does not experience this as an issue, though; partly due to the fact she has never known any difference other than being unable to drive and having to use other means of transport (or, possibly, relying on others). So, 'objectively', she is situationally vulnerable. Nonetheless, even though P1 said that travelling takes a lot of effort for her, she said she did not feel worried about her mobility situation at the moment. And in case her (external/relational) situation would change –such as: her husband not being able to help her out– she simply said:

*"I'll see [what I'll do] when that is the case. Yeah, that's a concern for later."* – P1 (49, HLMM)

Somewhat comparably, P2 (69, ZTM) has had a driver's licence up until recently, but has not driven in a while because of reduced eyesight. She 'became lazy' as she called it: she did not bother driving the car anymore, as she just rides along with her partner. She is now dependent on her partner, which in essence makes her situationally vulnerable in essence – that is, for car transport. However, when asked about whether she feels dependent, or reliant, she said she did not mind. P2 said she and her partner 'pretty much always go out together', but, it just 'grew that way', after dozens of years. Thus, she perceives what could be seen as problems by an outsider, as 'just how it is' by oneself. And this is what the next paragraph is mostly about: willingness and (subjective) perceptions.

#### 5.4 Mobility preferences and behaviours: willingness and perceptions

Willingness and (subjective) perceptions can determine whether and to which extent someone has (or: experiences having) the ability to move about freely, without encountering thresholds, according to

(Van der Aa et al., 2021). One's personality, attitude, culture or upbringing can make her perceive her own situation as different -for example, either more or less 'inhibited'- than it appears to be from the outside. And how one acts upon this (appropriation), differs per person, even if they have the same motility (Kaufmann et al., 2004). This nuance came forward in the interviews and group discussion also.

Mobility behaviour is more or less a choice, which results from acting upon preferences and appropriation of possible transport options. If nothing else, it can be said that it is indeed a free choice for this group: in general, they have the means (costs, time, effort) to make a choice, or at the very least most do not feel like they are being forced by the situation. (For example: no one had insufficient monetary means as to which covering the costs of transport (in general) was a big hurdle or source of worry.) Following the 'working definition' of Lucas et al. (2016a), that would mean that the interviewees are likely not very impaired, or at high risk of TP, in that sense.

In general, all interviewees said to be content with their mobility and travel behaviour. Even P3 (67, ZTM), for example; who, before she fell ill, used to live a very active lifestyle. Nonetheless, taking this into account (within these circumstances), she stated to be fairly content with her travel behaviour.

In 5.3, personality was introduced as a factor in both perceived accessibility and mobility options, as well as subsequent (in)action taken upon this evaluation of one's own situation. People get used to their situation, for example in terms of travel situation or experience, as well. For example; P6 (41, HLMM) stated how choices have consequences, so you can be prepared for that:

*"I think... traffic jams and crowdedness in traffic, is something you get used to (...) yeah, you can go on and be stressed out in a traffic jam, but... you know beforehand that it's going to be the case. (...) crowdedness is not something that holds me back [in terms of mobility options/choices]. You have more stress from... whether public transport drives adequately, because... you can't rely on that as much as you can predict that you'll be in a traffic jam [when going by car]." – P6 (41, HLMM)*

Comparably, P6 expressed that she would have experienced thresholds, if she had no car, or her husband (to help her out). However, she stated, 'where's a will, there's a way'.

Choices are also driven by culture, local social norms, patterns and upbringing (Kaufmann et al., 2004; Pot et al., 2020). Whether you are used to cycling, or making use of PT, for example. That is one of a few reasons that P4 (65, ZTM) does not use PT, and P6 (41, HLMM) cycles most often.

Personal preference and/or subjective experience for modal choice -willingness- are important as well. For example: P3 (67, ZTM) and P6 mention a 'strong dislike' for using the car. That is one of the reasons why P6 does not use it much; and for P3, who -due to health issues- has not been able to drive for a long time, she 'never missed it'. However, in contrast, the car -as does the bicycle- has freedom as an important pre: you are not bound to a set, scheduled time as you would using PT. For P4 (65, ZTM), mostly, this freedom is one main reason to use the car; and, explicitly, not use PT:

*"I don't use public transport (...). As long as you can drive your car, you can still do many things (...) I'd rather drive in the daylight, as at night lots of people drive like madmen (...) especially near smaller rural areas... Yeah, then it's unpleasant to drive the car at night. However, for me, that's no reason to use public transport. I think... having the control in my own hands, that's [why]." –P4 (65, ZTM)*

This lack of freedom was also mentioned as a con for PT by most other interviewees. And: long travelling times -often due to poor connections-, and high costs. Almost all mentioned costs as one of

the reasons why they would rather not use PT (specifically, amongst other transport options). However, for several interviewees, PT was a second option (after the bicycle) in case of bad weather.

For cycling, another pre mentioned by several interviewees is physical activity. In this context, e-bikes (owned by several interviewees) are interesting to mention. It can be a good alternative for either PT or the car, to cover long distances –especially in Haarlemmermeer, P6 (41, HLMM) said.

Five out of six interviewees experience, or can relate to social (un)safety– which aligns with findings from other literature, such as (Pirra et al., 2021). They have either been in an unsafe situation while travelling, or have (the awareness of, or thoughts about) safety influence their mobility decisions in one way or another. For example, P2 (69, ZTM), who does not go out alone. Together, she feels more safe – especially when hearing about assaults, and comparable situations, in the buses and trains, she said. In the focus group, P6 (41, HLMM) said the same – upon which either (P2 and P6) agreed, that there should be more or stricter law enforcement in public spaces in general, but in PT, specifically. Comparably, P1 (49, HLMM) stated:

*“When there are not too many people at a train station, or when a train is not crowded, [I do] feel less comfortable there.” – P1 (49, HLMM)*

P5 (38, HLMM) expressed the same sentiment, mentioning an example of cycling home at night. She would rather not, but if so, she takes the safer, better-lit road –no matter if it is longer. Not going out in the dark/travelling at night was mentioned by several other interviewees, as well.

According to literature, women are still more often the ones responsible for household and childcare duties than men, and more often have no or part-time jobs combined with that (Borgato et al., 2021). These gender roles seem present in this group as well. It impacts one’s situation, and options, in terms of mobility, and career path. Especially individuals of the older generation, such as P2 (69, ZTM) and P3 (67, ZTM). They mentioned how mothers used to not be allowed to have a job. P3 stated:

*“Back in the day, when you’d get married, and you’d have kids, as a woman you were more or less expected to stop working.” – P3 (67, ZTM)*

However, whether this was seen as an inhibition, differs per person – based on ambitions, personality and culture. P3 had to take care of the kids in that time, who were often sick anyways, she mentioned. But further, in general, she was fine with not working, also. However, P2 felt as if she ‘missed out’ on doing a specific job she would have liked to pursue.

P5 (38, HLMM) mentioned having kids as a reason to work less, and closer to home. However, on the other hand, she consciously made this choice together with her partner (as they did having kids in the first place, she said) and she wants to (and does) work a part time, paid job. Although ‘officially’ P5 does not belong to the research group, technically; her experiences of the time when she was jobless are important. For example, she mentioned perceiving the job application procedure as negative, stressful. Additionally, she felt some taboo or stigma when jobless. Further, she did realise in this period that she is more happy as a (parttime) working mother.

P6 (41, HLMM) talked (in the focus group) about combining kids (bringing them to day-care), and working– that she turned down a job offer at the opposite end of the municipality:

*“By public transport it was simply not possible [to reach, time-wise], if I dropped off the kids at half past seven, to be [there on time]. By car it was already nearly impossible, [let alone public transport...].” – P6 (41, HLMM)*

She also mentioned that there was little empathy or understanding for this situation. Comparably, she talked about when she was pregnant with one of her children, and the poor work considerations:

*“Only since a few years, you get paid back for your pregnancy leave in the holiday period. (...) In my case, I just had to make a schedule for the next year, 38 weeks pregnant.” – P6 (41, HLMM)*

Thus, although the situation is better than long ago (for example: women are more allowed to choose their career path and life in general), there are still inequalities, or at least obstacles, in the system.

### 5.5 Concluding: overview for the inside perspective

Besides local (geographical) context, individual context is also important for TP risk factors, and in understanding how mobility thresholds manifest, so to speak. For example, owning a car (in the household) doesn't automatically translate to the ability -nor the desire- to use it: that is only the case for one participant. Another participant hates using the car and thus avoids it; three -of whom, two own a car in the household- are currently unable to drive; and the last participant's partner uses the car for their work. After all, *appropriation* means evaluating available mobility options as such (with one's personal competences), and choosing to use them accordingly (Kaufmann et al., 2004).

Moreover, within the individual context, not only material possession matters (such as a car), but also the relational context. For example, several participants rely (to varying extent) on others in their social network –partner, family, friends, neighbours– for some, many, or even nearly all mobility needs (and thus, indirectly, social inclusion). This is a transport disadvantage, which may even possibly lead to 'situational vulnerability' to TP. Although they are currently able to reach the places they want to go, and thus participate in social life, this situation could turn around if certain factors were lost (here: connections helping out with mobility needs, for example) (Van der Aa et al., 2021).

Judging risk of TP is not solely objectively measurable. Risk factors and indicators broadly can give a fair hypothesis about an individual (household's) 'objective' situation. However, from one's own point-of-view, it might look different. Each unique case's nuances can not really be observed from statistics or numbers alone; it can only properly be understood through consultation. One example: there are policy interventions and government regulations in place to protect and help the vulnerable –such as Wmo services– or the 'Regiotaxi'. These are favourable in itself, and do no harm initially. However, interviewees' experiences show that (the paperwork attached to) it can give uncertainty and stress, and it is also quite 'impersonal'. The system is okay but far from perfect; what seems like a good solution to a government, can be impractical, inert, cumbersome from an user's perspective.

And: someone who is 'situationally vulnerable' may not *feel* impaired or *deem herself* socially excluded/deprived. Thus, subjective (individual) factors –including willingness (such as modal preference) and perception (such as social safety)– need to be taken into the equation as well. This is important, as two people with the same motility (comparable contextual disadvantages, socio-economic characteristics, capabilities) may experience being at-risk differently (due to personal values, habits and ambitions: a problem for one person, is just life for another); and act upon it in different ways, too (Pot et al., 2020). This may not always be visible from the outside world, though.



## 6. Conclusion and discussion

In this study, the research question was as follows: ***“To what extent are the perceived and experienced reality of the risk of transport poverty of non-working women, living in Haarlemmermeer or Zoetermeer, consistent?”***. The results of the investigations regarding either perspective have been described in the previous chapters. Now, after a short summary of the results, in- and outside will be juxtaposed. Do they correspond, mostly? If there is dissonance, where so? In doing this, the main question is answered. Afterwards, the research findings are discussed and reflected upon. From there, recommended future research directions and societal (policy) recommendations close off the chapter.

### 6.1 Conclusions

#### 6.1.1 Conclusions outside perspective

The outside perspective on risk of TP refers to experts’ and policy- or decision makers’ views. It is covered by sub-questions one: 1. *What criteria have concurred to the formulation of the indicator of ‘risk of transport poverty’ in the Netherlands, and how does the indicator inform relevant policies?* – and two: 2. *What is the perception of experts and government officials of the risk of transport poverty?*.

From both the governmental/expert interviews as well as policy documents, the (governmental) authorities’ awareness about and involvement with the issue of TP seems to be growing, and the desire to do something about it comes across as genuine. Especially on the national level, progression of studies on TP is and the political awareness is growing.

Nonetheless, this is still in a beginning phase: for example, local policies do not mention or cover TP yet. And there is a lot to improve in practice: some issues lie in the structure of the institutions themselves; segmentation and sectoral thinking sometimes prevail. For example, in the evaluation of accessibility, ‘old’ policy indicators are often still used (Bastiaanssen & Breedijk, 2022).

Thus, awareness of these factors and continuing to involve, and ‘walk in the shoes’ of, the people whom it concerns, are key for serious interventions: policies and measures ought to be locally contextualised (Pot et al., 2020). The same can be said, roughly, for the CBS/PBL risk indicator. Although detailed, the framework is not exhaustive – several factors or aspects that are of importance for TP, miss in the indicator (such as: distinguishing different types of PT stops, bicycle ownership, and most importantly: people’s own perception of TP, and local (social) context). This is partly due to limitations in measurement or unavailability of data, as the results need to be generalisable for broad use. However, this puts even more emphasis on the local context; knowledge of which is key for interpretation of ‘risk scores’ (Kampert et al., 2019).

#### 6.1.2 Conclusions inside perspective

The inside perspective regards the study group’s experiences. This is represented by sub-question 3: *What is the experienced reality of non-working women living in Haarlemmermeer or Zoetermeer, who are at risk of transport poverty, of their own (mobility) situation, well-being and capabilities?*.

The ‘very disadvantaged’ people, at high risk of TP, are likely socially isolated and not participating – and thus, very hard to reach (Kenyon et al., 2002; Pereira et al., 2017). (At the same time, some - because they apply for Wmo regulations, for example- are in the picture of (governmental) institutions.) Most sampled individuals do not belong to this group, though; they are generally at a low risk of TP following the CBS/PBL indicator –and this was not refuted in the interviews, broadly.

However, a more nuanced view of the matters did emerge from the in-depth conversations. It became apparent that, besides local context, individual context is important for TP risk factors, and how they manifest. For example: (motor) vehicle ownership does not necessarily signify its use (a driver's licence is needed also, and, fear (safety) can be an inhibiting factor); or: living nearby a PT stop does not automatically mean that is a useful option for one's individual context (such as: is the vehicle adapted to one's capabilities; does the transport line reach one's daily activity locations?). Further, besides material context, relational context also matters for mobility thresholds that engage with an individual situation. For example: a car in the household may be used by a partner for their job. (This renders the vehicle practically unavailable for her; to be mobile, she would have to use other means -such as the (e)bike, or PT.) Or, for instance: someone reliant on her social network for mobility needs is situationally vulnerable to transport disadvantages or even TP (Lucas et al., 2016a; Van der Aa et al., 2021). Even though most individuals in the research group fall into a low-risk category, some of them may be situationally vulnerable to TP. They ought to be in the picture, too; after all, there is more to one's behaviour and choices than may meet the eye.

Namely, importantly: the severity of one's situation, and potential (mobility) thresholds, depend on subjective (individual) factors –including willingness and perception– as well. Two people with the same objective risk score or motility, can still perceive -and act upon- their situation differently (Kaufmann et al., 2004). By talking to these people themselves broadly, this provided more context, depth and understanding of the interviewees' actual situation, than statistics ever could.

## 6.2 Discussion

### 6.2.1 Juxtaposing inside and outside: final conclusion

This study aimed to explore (the risk) of transport poverty, both 'from in- and outside'; and finally to juxtapose (and thus, compare) these perspectives. However there is some variation in the perception of TP, the general understanding of the issue was found to be somewhat similar.

In practice, the navigation of either perspective showed a need for action. For example, policy- or decision makers (outside) show a willingness to take action, but do not always know how. And governmental instances acknowledge 'sectoral thinking', for example, in relation to Wmo regulations –mentioned by three research group participants as well. Besides, what came forward from the study group (inside), is either an uncertainty; not knowing what to expect of the government –for example, some interviewees are unhappy with services such as Wmo, or Regiotaxi and other flexible measures, some of which are implemented instead of bringing PT stops back. Or, the interviewees may have a view of inadequacy amongst policy-/decision makers (they may feel like the government is not capable of providing 'maatwerk' in relation to TP), or being not being involved enough with these issues. Possibly, a culture change is needed, in order to finetune policies to the people's needs. Nuances will most certainly be found in manifestations or risk factors of TP when talking to people themselves – therefore, it is important for governments to stay in contact, or start doing so. Most importantly through research- and policy actions on TP; and listening to the people's voices (such as by consulting representative groups), enabling policy- and decision makers to place oneself in others' shoes.

TP is (approached as) a multifactorial phenomenon as described in the second chapter of this thesis (Lucas et al., 2016a). The TP risk indicator by the CBS/PBL was used as a 'lens' through which either perspective was viewed/to find people who are vulnerable. In theory, it aligns well with the approach taken in this research – but it does not tell the full story. Some things, that may be measurable without

talking to people themselves, are missing in the indicator. *Subjective* health, for example, is important to how one evaluates and thus appropriates possible options (Churchill & Smyth, 2019); and there is some register data on this. Further, (e-)bike ownership (and usage) appeared to be important, especially for women's mobility patterns (CBS, 2022). Following: differentiation in *type* of PT stop – several interviewees don't use the train or would rather use the bus, due to price level differences; or other preferences for example. This (amongst many other reasons), matters in whether a PT 'option' is useful or not. Lastly, distance to employment opportunities is an important mobility threshold that can be included in the indicator; see (Bastiaanssen & Breedijk, 2022).

Nonetheless, the indicator (and its criteria) give an indication that is not fully wrong: generally, the more at-risk interviewees thought of themselves as most impaired, and vice versa. And further, the group was thought of (from their risk scores) to be not so much at-risk, which is also what came forward from the interviews. Nonetheless, it is important to interpret risk scores in the applicable local context, and to investigate people's experiences (Kampert et al., 2019; Pot et al., 2020). That being said, the case can be made for this study, that such an indicator is probably good enough of a lens as a means to, somewhat superficially, 'gather' people at a certain risk of TP.

### 6.2.2 Reflection

Now that the research question has been answered, the mirror is held again to the research findings. In this research, the perspective on TP (risk factors) by the two involved parties was explored. The 'inside' perspective referred to experiences of non-working women, living in Dutch suburban areas (specifically, Haarlemmermeer or Zoetermeer); and the 'outside perspective' referred to the views, attitudes and (policy) actions of the respective local and regional governmental authorities.

This research could be used as a base for studies representing a broader sample of participants. Gender effects have to be included to test the perception of TP on men. A comparable case can be made for job status (using additional data analysis to include job effects) and living area (*idem ditto*). For example, only people from the bigger urban centres in Haarlemmermeer were sampled, not the more rural areas. So the research findings may not be representative of the less densely populated parts within the municipality. (Perhaps, these areas may be at greater risk of TP –as suggested by other literature, such as (Pot et al., 2020; Székely & Novotný, 2022; Van Dülmen et al., 2022; Velaga et al., 2012). But with this study, no statements can be made about that; see 6.3.1).

This qualitative study aimed to give insight into the stories and experiences of a group of people, that has not yet been researched in specific in the context of TP. Their ('inside') experiences were juxtaposed with the governmental attitudes ('outside'). These two views were juxtaposed and compared; aiming to bring them closer together, as well as to give possibly marginalised people a platform to make their voice heard (amongst prevailing or assumed perspectives) on the issue of TP. Several side notes can be made about the research findings in light of the relevance. Firstly: the sampled individuals ('inside perspective') did not truly reflect the study group ('at-risk'; that is, possibly marginalised): they were generally found to be at a low to moderate risk of TP. This may have happened as the NVP, although generally representative of the Dutch population, most likely does not accurately represent the 'transport poor'. After all: for example, digital skills, and Dutch language understanding and reading comprehension –all of which also possible TP risk factors; regarding personal competences and social capital– are necessary for participation in such a panel (Rli, 2020). And, indeed – amongst all interviewees, these skills were fine. Thus: in reality, in- and outside might be further apart than the results suggested them to be, as the former ('inside perspective' study group)

may have been framed (sampled) incorrectly.

Additionally –and contrastingly– as the local (policy) context on TP(-related issues) has generally been found to be the least developed (amongst the other governmental layers) in this study, it is hard to define or describe it. In other words: as the outside perspective is not yet ‘complete’, perhaps there is more to it than can now be seen, in a positive sense. Thus, as a result, the conclusions regarding in- and outside may have also been unjustly viewed as *further* apart in this study, than they truly are.

Sub-question 4 will be elaborated upon further in 6.3.2 – as it represents the recommendations that result from comparing either perspective: *What insights for future policies can the reflection on these ‘real life experiences’ of transport poverty generate?*. However, a short reflection is needed as it could not be answered ‘directly’. The collaborative group discussion was intended to be a focus group, also as a means to gather input for societal (policy) recommendations. However, due to limited response, it could not be done as such. However, as this was part of the original research design, sub-question 4 remained unchanged and an *outline* for policy recommendations is given in 6.3.2 nonetheless.

Besides, a short word of advice will be given, right now, for a future indicator– taking from the interview findings as well as literature. It ought to take into account: distance to work (Bastiaanssen & Breedijk, 2022), bike ownership (Bastiaanssen, 2012; Rli, 2020), and gender/role in the household (relational context). However, the latter is harder to get data on (that is not privacy-invasive). Besides, of course, looking at risk scores through a ‘local perspective’, taking into account political, social, and spatial context as well as actualities; and also, later assessing people’s experienced risk of TP (Kampert et al., 2019; Pot et al., 2020).

## 6.3 Recommendations

### 6.3.1 Recommendations for future research (scientific)

From this explorative study, it did become apparent how personal and complex a situation can be, and this more or less only comes forward clearly when talking to those people. Therefore, generally, keep on doing research on the topic of TP – it is a somewhat young field of research, especially in the Netherlands, so new insights and a more vast body of research are very welcome. A number of specific points will now be laid out for future reference: regarding sampling and research materials on one hand, and research design and methodology on the other.

- This study used the NVP as a sampling pool and data source for participants’ socio-economic characteristics. In future studies, **when also utilising the NVP** for the same goal, **the panel’s richness and data analysis possibilities should be explored more in-depth**. For example, ‘objective’ mobility behaviours (travelling patterns) were not incorporated in this study. In future research, this could be used to compare the study group(‘s behaviours) with others’ (for instance, comparing women and men, or working and non-working folks in suburban areas) – and using interviews, for example, to ask about their motives. This can be very relevant, as mobility is very complex, individually, and spatially context-specific (Lucas et al., 2016a).
- Another possibility, is to utilise **another approach to sampling, and/or another source** than the NVP, in an attempt to find people more at risk of transport poverty. For example, participants could be approached and recruited via job centres, or community centres, instead. And additionally, instead of purely criterion sampling, the snowballing method can be used (L. Krabbenborg (expert/researcher, KiM), personal communication , April 29<sup>th</sup> 2022).

- In general, a **broader or different sample** is recommended; as this specific research group is not the only relevant one. For example, other Dutch suburban areas could be studied. Or, specific groups of women: such as young women, or single mothers on government pay check (J. Bastiaanssen (expert/researcher, PBL), personal communication, February 24<sup>th</sup> 2022).
- As for methodology: In this research, the average risk scores for TP were calculated for the research group only, and not ‘translated to’ the neighbourhood level later (as did CBS and PBL in their report on the risk indicator). However, **calculating the average risk scores in a neighbourhood or municipality** may be valuable for future research – even if only to ‘verify’ the representativity of the research group, or for other purposes such as policy formulation.
- In this research, mainly due to agreements made with Kantar (a limited number of participants, and interviews to be held online), certain **other research methods** were not possible. This includes **focus groups** ( $N \geq 4$ ) and **ethnographic research methods** (must be on-site/face-to-face) such as ‘walking interviews’ or video essays. For future (qualitative) studies, aiming to dive deep into a certain group’s daily travelling patterns, narratives, or lived experiences of certain locations; these methods are highly recommended (Bryman, 2016, pp. 431-52).
- This study used a qualitative (in-depth) and explorative approach, as there is not yet much insight into the extent of TP in various different groups in the Netherlands, as well as a means to investigate people’s experiences. However, a **bigger sample** (whilst further using a similar set-up or approach as in this research) would be strongly encouraged for future endeavours. Especially when the aim is to give targeted recommendations (by conducting a focus group) – see 6.2.2. After all, with a bigger sample, the outcomes (input for policy interventions) are likely more generally applicable in that specific local context.

### 6.3.2 Policy recommendations (societal)

Both ‘realities’ of TP risk (factors) for the research group have been explored, and juxtaposed; answering the research question. This garnered some first insights on the possible gap. Now, sub-question 4 can be dealt with; as stated before: although this explorative study was not fit to gather specific government measures, or targeted policy recommendations, there are a number of points – gathered from the inside- *and* outside interviews, as well as desk research– that are worth mentioning.

TP is an issue that crosses the boundaries of sectors and domains, and spatial levels as well. Partly, this has to do with mobility being a ‘merit good’ (a means to other ends), usually; it provides access to services and social activities (Bascom & Christensen, 2017; Mattioli et al., 2017). It does not lend itself to one-size-fits-all solutions: it requires patience, time and effort. To really make a change, a shift in culture (or at least: in the ‘standard’ way of thinking) amongst institutions may be needed.

Measures or interventions that are to be taken in regards to TP (or related issues), therefore ought to be equally complex as itself. What is to be done depends on the framing of the issue, and thus the ethic perspective (the deeper-lying goals); which need to be made clear from the start, every time. After all: it is good to be political –or at least, think about how political you want to be– in relation to the subject of TP (‘positioning’). What is our goal, what do we want to achieve (which issue are we tackling)? And (how) do we want to do this effectively?. Thinking deeply and consciously about the less visible values and matters, might seem like a waste of time, but prevents superficial, inefficient (policy) actions (Lucas et al., 2016b; Platform31, 2021). A good idea in this regard, is to do research.

Vervoerregio Amsterdam is making good progress, by doing research on TP, specifically. The researcher would advise the MRDH (and any other regional and/or transport body) to do the same. After all, this provides insight into the extent or nature of the issue in the applicable regional context.

In general, the researcher would also recommend that TP studies, comparable to those (being) conducted on the national (and increasingly: regional) scale, then also be taken for the local level, also for the smaller and suburban municipalities (the G4 are already making good progress in terms of research). After all, mobility is highly geographically, individually, and context-specific – which makes local contextualisation of TP-related measures (to be ‘enriched’ with practical, experience-based knowledge of the local culture, and the people’s needs), important (Pot et al., 2020). Municipalities are literally and figuratively closest to their inhabitants – this also came forward in the interviews, underlining the need for action. The researcher thus encourages municipalities to invest in TP-related research sooner rather than later. After all, this provides insight into the nature of the issue in the local context, which can function as a guide as to where to start or how to tackle the issue. Nonetheless: it is important that local governments stay in contact with their municipal neighbours, as well as their regional partners. Remember to work together, and ‘look beyond your own’. After all, some matters transcend local boundaries – such as urban transport systems.

Meanwhile, as also suggested in the interview by government officials F & G (mobility specialists, Haarlemmermeer): municipalities and other governments should spread awareness of TP by continuing to tell the story - this helps policy- and decision makers to place themselves in others’ shoes. Further, in projects or new urban development, involved parties should for example ‘steer’ on accessibility (options), through proximity of facilities – as this can reduce average distances, and thus mobility thresholds for several groups of people. And, in line with the same argument: consciousness about which houses to place, where, is important too; for example, not only *expensive* houses should be built close to the new station (government officials F & G, Haarlemmermeer): affordable housing ought to be located on strategic and convenient locations, too, in order to ensure more equal chances.

And another way this can be done, is by making a list of people who are vulnerable to TP and laying this next to each (for instance: infrastructural, mobility, spatial planning) project or intervention: are we taking their needs and interests into consideration? (Bascom & Christensen, 2017). And, besides this, in general, it is important to also keep listening to citizen initiatives, lobby or interest groups. However, it is always hard to reach the truly ‘transport poor’ because they are not visible in statistics (Rli, 2020). Besides, as also mentioned in the governmental interviews, you do not come behind the front door. When asking – how to represent those who cannot represent themselves? Maybe the answer is: an indicator is not a bad idea (see 6.2.1). The researcher would suggest that municipalities (and other governments) do use the CBS/PBL indicator, and apply it to their own area of influence. And, when doing research (see above): start in those neighbourhoods where ‘risk scores’ are highest. Nevertheless, it is important to keep in mind the shortcomings of the model, though: bike ownership and job accessibility are also important, for example (Bastiaanssen & Breedijk, 2022). That being said, this goes for any means or intervention. The researcher would encourage any policy- or decision maker to stay critical and reflective of the norms and patterns in one’s governmental organisation regardless.



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## Appendices

### Appendix 1. Sample validation procedure

In this section, the sample validation procedure, or risk score assessment for this research, is explained. Each out of nine TP risk criteria as formulated by the CBS and PBL, is elaborated upon and its build-up explained in a table, split out per concept (4) – see the visualisation in figure A.1 below. Then, the calculations done and measurement- or estimation process for this study (group) is explained. (The results – risk scores for the research group ( $N=15$ ) – are presented in the first results chapter, at 4.1.2.) Further, a statement is made for each criterion whether, and to which extent, the researcher was able to calculate it prior to conducting the interviews; and then a short indication of what was asked there. This has been elaborated upon in detail in 3.3.2 (operationalisation: inside perspective).

Figure A.1. Theoretical framework for the CBS/PBL indicator ‘risk of transport poverty’ (in Dutch)



Source: Kampert et al., 2019

Firstly, the concept regarding transport options, representing ‘Mobility poverty’. This consists of two criteria: car (and other motor vehicle) ownership in the household; and the distance (in metres) to the nearest public transport stop, from one’s place of residence (Kampert et al., 2019). See table A.1 below. Prior to the interviews, the former criterion could be measured only partly with the data available (but could be easily verified in interviews); the latter could only be partly estimated before the interviews (and due to privacy concerns, still not be calculated perfectly for each individual/household one-by-one afterwards). A short elaboration of this procedure in this research will now follow, after the table.

Table A.1. Risk division for transport options (in Dutch)

Variabele	Motorvoertuigenbezit	Afstand tot OV-halte
Risico 0	huishouden met een auto	0 tot 400m tot OV-halte
Risico 1	huishouden zonder auto, maar met andere motorvoertuigen	400 tot 800m tot OV-halte
Risico 2	huishouden zonder motorvoertuig	800m of meer tot OV-halte

Source: (Uitbeijerse, Kampert, & Nijenhuis, 2019)

The first criterion is motor vehicle possession, for which the data available before conducting the interviews, were limited. Namely, from neither the Kantar (*Nipobase*) nor the NVP database, variables were included about other motor vehicles besides a car (but these *are* included in the indicator – it may mean a difference between either risk score 1 or 2 – see the table A.1 above). Nonetheless, this did give part of the picture; the risk scores could be approached beforehand.

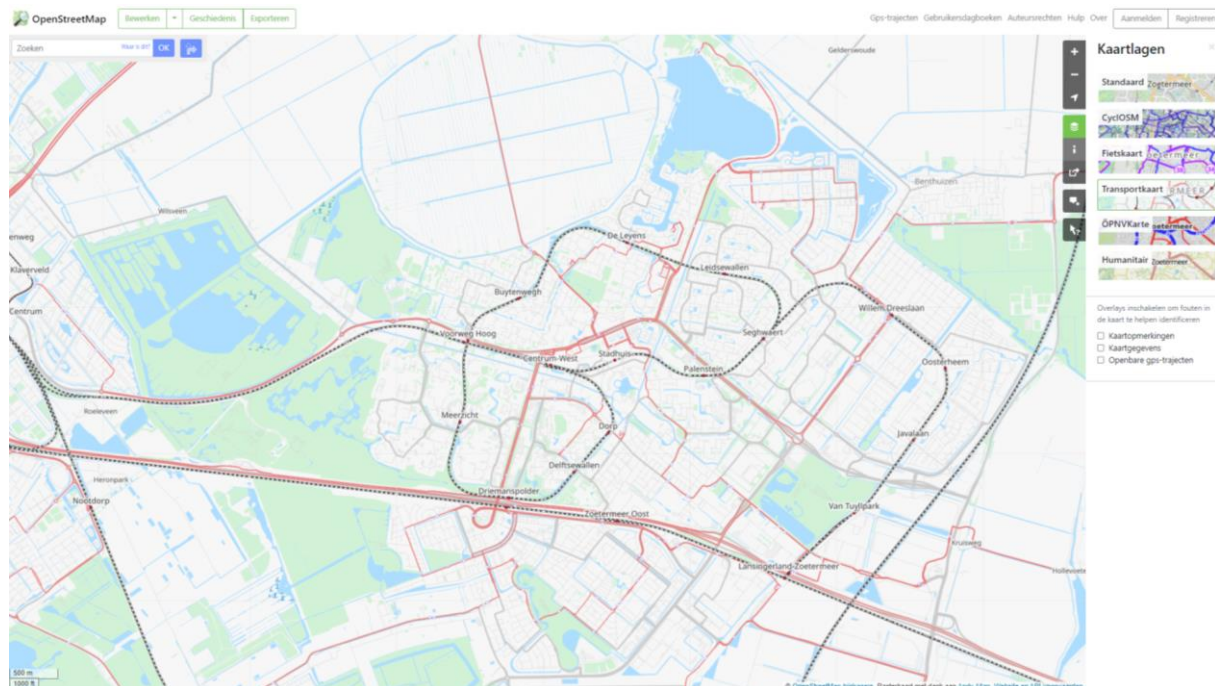
Besides, in the Kantar *Nipobase*, information was available also on the number of cars available in the household; and in the NVP database/attribute list, driver’s license possession is included also. Either give a more nuanced view of the situation in the household, including the respective individual’s own capability (i.e. driver’s license) to use the car/motor vehicle.

Additionally, through the interviews the participants were asked whether they have other vehicles (including, but not limited to: (electric) bicycles – of which there are no national census data available), and additionally, whether (and: why) they do also actually use these transport options in their travelling. This gave insight into not only the options she has; and also not only her abilities to use them; but also about her willingness to use them, and how she acts upon this. Thus, in doing so, the criterion could be easily verified and given more nuance and ‘depth’ of one’s (household) situation. Besides, questions were included about the infrastructure and transport system: how good is the road infrastructure (for the car? But also, (is it friendly) for cyclists, for pedestrians) in your neighbourhood?

The second criterion is ‘distance to the nearest public transport stop’, which is measured by the CBS/PBL as the distance in metres, calculated over the road, from one’s place of residence to the nearest public transit stop (this concerns *any* kind of stop: bus, tram/metro, train....). To properly calculate the risk factor for a specific individual/household, one’s address would be required. However, this information was not available to the researcher (due to privacy concerns); she only received participants’ 4-lettre postal codes (approx. neighbourhood level). This asked for another, slightly less geographically exact approach for sample validation – causing a ditto (less exact) calculation.

The approach taken was as follows: all applicable transit stops were located and mapped out manually, and the ‘density’ of stops per postal code was measured, calculating the ‘median’ distance to the nearest stop. Each step will be explained in more detail. Firstly, the locating of transit stops, for which OpenStreetMap (OSM) was used primarily, but backed up with various data sources: Geodata/open data from both municipalities (Geoweb Haarlemmermeer, n.d.; Zoetermeer in Cijfers, n.d.), and data from the respective public transit service providers (Arriva, 2022; Connexxion, 2022; Connexxion, n.d.; CROW, 2018; HTM, 2022; HTM, n.d.)., The locating and subsequent mapping out of the transit stops, was done with the help of aerial overview from OSM: ‘transport layer’ was used, for both the municipality of Haarlemmermeer and Zoetermeer (OpenStreetMap contributors & Allan, 2022a; 2022b). See figure A.2 below for an example/view (Note: the image of Zoetermeer is used here to show as an example; but as said, this was done for both municipalities).

Figure A.2. Aerial overview of PT in Zoetermeer. Bus stops are light blue dots, tram/train stops in red



Source: Transport layer OSM –OpenStreetMap contributors & Allan, 2022b. Retrieved on 16-04-2023 (screenshot by author).

The mapping out and estimating the ‘density’ of stops per postal code was done manually: the screenshotted OSM map with the transport layer (such as figure A.2 above), was printed out and each (bus) stop was illustrated more clearly (drawn over, by hand) as a clear dot. To calculate the ‘median’ distance to the nearest PT stop in each postal code, the researcher used the ‘Measure distance’ function in Google Maps, for each ‘dot’ (PT stop) within every participants’ living area.

As for the interviews: the researcher did not ask for the addresses of each participant, for privacy considerations (The additional level of precision in measuring this criterion is of limited added value to the research (goal), which does not weigh up to the effort that would go into the higher degree of confidentiality – as that would require additional steps to secure each individual’s privacy). Therefore, instead, questions about the participants’ living environments were included, such as: in what district do you live? (This ‘sub-neighbourhood’ scale is a higher level of geographical precision). Besides, questions were also asked about the interviewees’ opinion, and appropriation, of (public) transport options in the neighbourhood. Not only could she specify how far she lived from certain PT stops, the *type* of PT stops could be asked about also – and whether these are appropriate for her activities and destinations. Additionally, health-related questions whether this ‘acceptable walking distance’ is realistic for her (*see also concept four*). This ‘enriched’ the CBS/PBL criterion, in which (for the sake of generalisation and measurability) all transit stops are ‘seen as equal’: everything from a small local bus stop to a large train station serving beyond the city-region, is counted as the same. With the additional/more geographically precise information, the ‘median’ distance was re-calculated for the interviewees ( $n=6$ ), enabling a more accurate estimation of this risk score – albeit not perfectly.

The next concept is about Accessibility poverty. It regards proximity of activity locations or destinations, from one’s place of residence. In the CBS/PBL indicator, this concerns the two criteria:

distance (in kilometres) to the closest family member (parent and/or child, depending on the individual's age); and distance (in metres) to the nearest facility (reduced to: large supermarket/shopping facility) (Kampert et al., 2019). See table A.2 below.

Table A.2. Risk division for proximity of destinations (in Dutch)

Variabele	Afstand tot familie	Afstand tot voorzieningen
<b>Risico 0</b>	0 tot 5 km - 30-minners: afstand tot dichtstbijzijnde ouder - 30-70 jaar: afstand tot dichtstbijzijnde ouder of kind - 70-plussers: afstand tot dichtstbijzijnde kind	0 tot 400m tot supermarkt
<b>Risico 1</b>	5 tot 20 km - 30-minners: afstand tot dichtstbijzijnde ouder - 30-70 jaar: afstand tot dichtstbijzijnde ouder of kind - 70-plussers: afstand tot dichtstbijzijnde kind	400 tot 800m tot supermarkt
<b>Risico 2</b>	20 km of meer - 30-minners: afstand tot dichtstbijzijnde ouder - 30-70 jaar: afstand tot dichtstbijzijnde ouder of kind - 70-plussers: afstand tot dichtstbijzijnde kind	800m of meer tot supermarkt

Source: (Uitbeijerse et al., 2019)

It was impossible to measure 'distance to family' for this research (group) with the data available, prior to the interviews – as, this variable/factor was not present in the Kantar *Nipobase*, nor NVP dataset. Therefore, the only way to 'measure' this third criterion was through the interviews, where it could be easily verified by a question about family members and where they live – after having established the participant's age (see table A.2). In addition, more 'in-depth' questions were asked about the level (and appreciation) of contact she has with her family members, as well as other people, and whether she relies on them for support (for example, in transport needs). This allowed for a more in-depth inquiry about each individual's social capital and -network than only a certain family member living close.

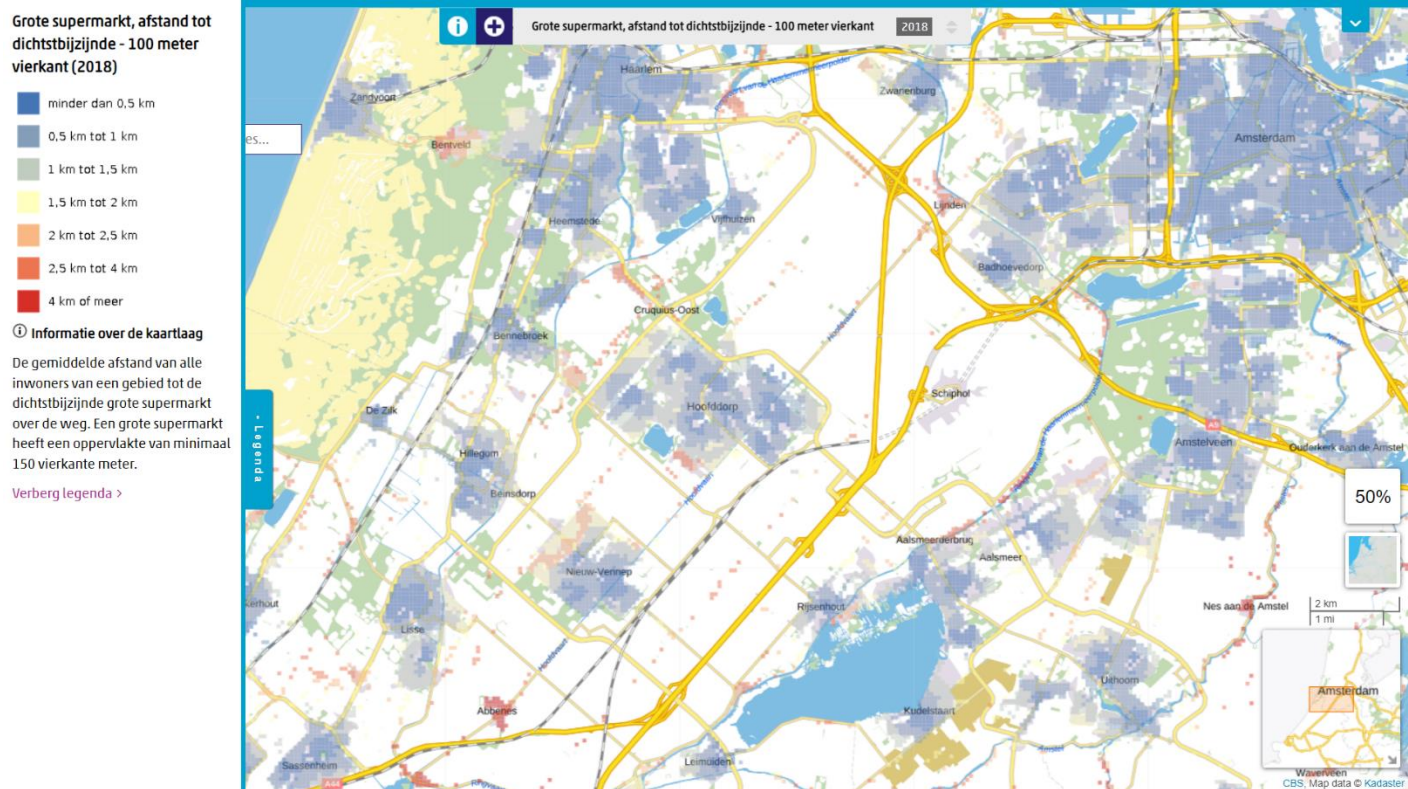
The fourth criterion, 'distance to facilities' is measured by the CBS/PBL in the distance (in metres) to the closest shopping facility – more specifically; large supermarkets, which means a surface of  $\geq 150m^2$ ), calculated over the road (Uitbeijerse et al., 2019). This is comparable to the measurement of the second criterion -distance to the nearest public transit stop. Therefore, a similar hurdle applies here also: due to privacy concerns, the precise address of each participant remained unknown to the researcher throughout; meaning that the criterion still could not be validated fully/calculated precisely for each participant (household) one-by-one afterwards. Nonetheless, with the information available the calculation of this risk factor could be fairly well approached before the interviews.

In contrast to criterion 2, no locating and mapping had to be done prior in this case as the data were readily available on the 100x100m level from 'CBS in uw buurt' (CBS & Kadaster, 2022). See figure A.3 below for an example/view of Haarlemmermeer.

Nonetheless, as only participants' postal codes were known at this point, the closest estimation of the 'median' distance calculation to the closest large supermarkets, was still an estimate only (as for criterion 2), only now for each 100x100 square metre area within each postal code. Nonetheless, within postal codes, the distances vary with margins as much as 1,5 km, spanning all risk factors – see table A.2. This made the determination of the risk nearly impossible for a few research group members; especially for those living in less populated areas, and postal code areas that span a large surface.



Figure A.3. Distance to the closest large supermarket, Haarlemmermeer



Source: CBS & Kadaster (2022). Retrieved on 06-02-2023 (screenshot by author).

In the interviews, questions about their district (a smaller scale than postal code), made the estimation of the (median) distance to the large supermarket more precise, albeit not perfect – see criterion 2. However, one may live next to a large supermarket, but prefer to shop at the small market, further away – for example. Therefore: in addition, questions were also included about more diverse facilities in the neighbourhood – any type of shopping facility, and other facilities in general: health care (PA, hospital...); green space, social spaces (sport-, cultural or spiritual amenities, leisure/event halls/concert venues...), etc. Besides, the use of facilities was also asked about. This ‘enriched’ this criterion, giving a more nuanced view of actual proximity, adapted to her (daily) activities, patterns, and needs.

Another thing that was missing in proximity of destinations, was proximity to employment. Where applicable (after all, most have no job), this was asked more or less directly in the interviews. See 3.3.2.

Concept three is income, representing Transport Affordability. It is made up of two criteria: (gross, yearly) household income; and socio-economic class/category (one’s main source of income – taking into account fellow members of the household) (Kampert et al., 2019). See table A.3 below.

For the validation of the fifth criterion, ‘household income’, there was data available to the researcher prior to the interviews, but incomplete/not of the right kind. The Kantar (*Nipobase*) and NVP database only included classified data, on gross household income – different from standardised household income, as measured by CBS/PBL. Only a rough estimation of ‘where on the spectrum of income level’ one falls, could be made. (That is: households with 1-2x modal income, and higher, are surely above the 40% class – and thus could assigned a risk-score 0; and households in the ‘lower than modal’ class

may possibly be at risk 1. Any other category was in ‘grey area’, which made risk score estimation impossible – no more than a well-calculated guess. Needless to say, this did not qualify as verification.

In the interviews, income was not asked about directly as this is a sensitive topic and would be too personal a question. Instead, a question about household expenses was included: whether they can make ends meet – and, more specifically, whether she feels like she has to lay aside money in order to pay transport costs. By having a picture of how much (relatively) an individual/ household spends on transport, an estimate could be made whether the individual should be on the lower end of the income spectrum. (Namely, according to literature, low-income households tend to spend a relatively large share of their money on it). Nevertheless, this criterion could not be substantially measured in the end.

Table A.3. Risk division for income (in Dutch)

<b>Variabele</b>	<b>Huishoudinkomen</b>	<b>Sociaaleconomische categorie</b>
<b>Risico 0</b>	- Studenten - Particuliere hh boven 40% inkomensklasse (gestandaardiseerd huishoudinkomen) - Inkomen onbekend en deel van het jaar inkomen	-Werkenden (werknemer, directeur groot aandeelhouder, zelfstandig ondernemer, overig zelfstandige, meewerkend gezinslid) - Studenten (Nog niet schoolgaand/scholier/student met inkomen en nog niet schoolgaand/scholier/student zonder inkomen) - Huishouden zonder waargenomen inkomen
<b>Risico 1</b>	- Particuliere hh boven armoedegrens tot 40% inkomensklasse (gestandaardiseerd huishoudinkomen)	- Gepensioneerden (ontvanger pensioenuitkering)
<b>Risico 2</b>	- Particuliere hh onder armoedegrens	- Werklozen (ontvanger werkloosheidsuitkering, Ontvanger bijstandsuitkering, Ontvanger uitkering sociale voorziening overig, Ontvanger uitkering ziekte/arbeidsongeschiktheid, overig zonder inkomen)

Source: (Uitbeijerse et al., 2019)

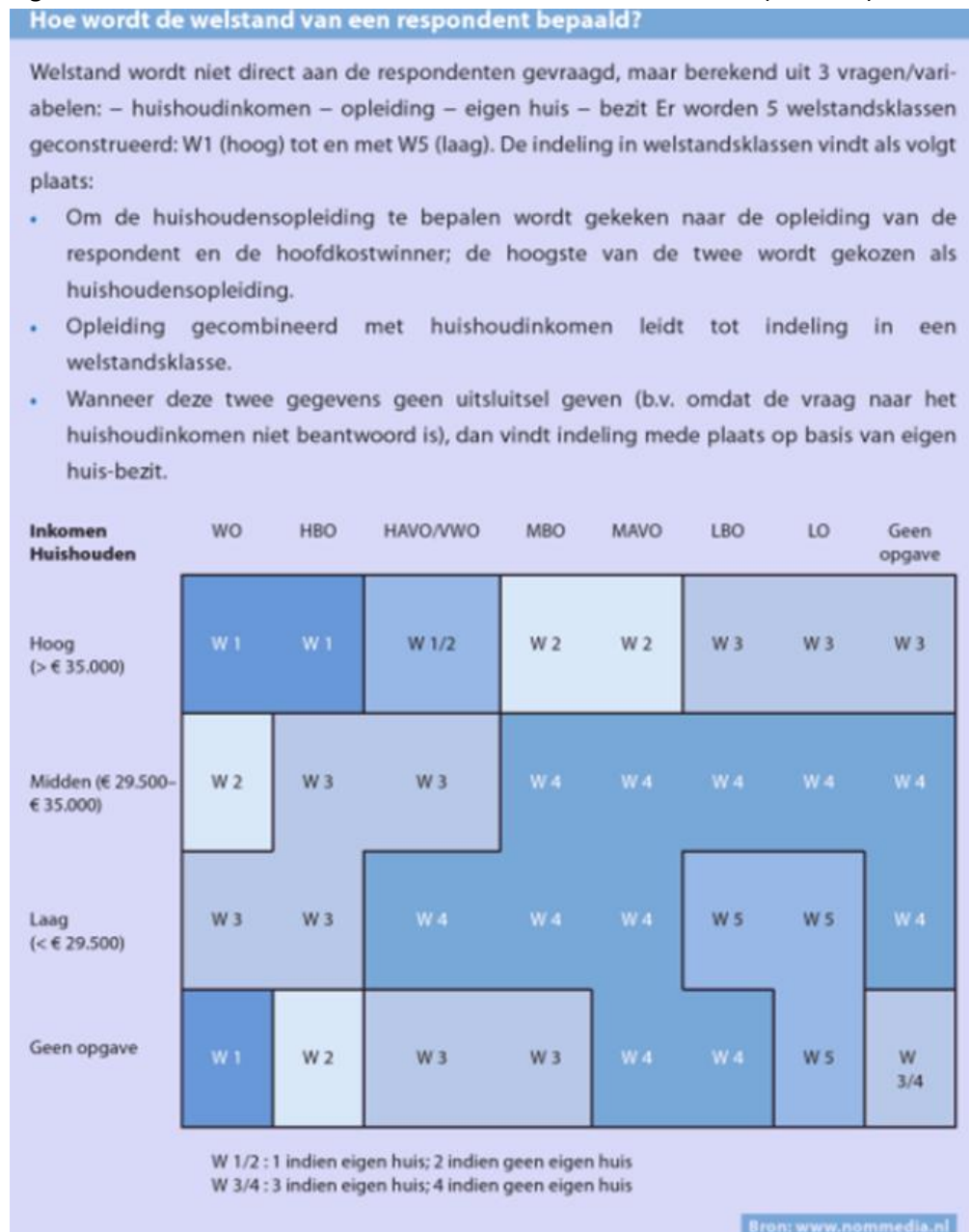
The sixth criterion, socio-economic category, concerns one’s main source of income, based on job status, age and health status. The risk score depends also on the SES (socio-economic state) of fellow household members – see table A.3. The demarcation of SES in the NVP/*Nipobase* is broadly in line with (Dijkstra, De Jager, Koops, & Philippens, 2011)p. 69; see figure below. Either working, student, or working partner.

For most individuals, this could be verified fairly precisely from the available data alone, as there was enough information on it. However, in certain households (such as: in two-parent households, with 3 or more people (that is: where kids are involved), this may be described in the Kantar *Nipobase* as follows: ‘household with children, youngest child aged  $\leq 12$ ’. There is no direct mentioning of a partner, so no establishing of an income (‘who is the breadwinner’) so to say.) However, by looking at income, as mentioned above, a partial estimation of the risk score could be made well before the interviews.

In the interviews, several questions were asked that could easily help establish one’s SEC: What are your day-to-day activities; does your partner (if applicable) have a job/who is the main breadwinner; do you have kids, how old are they? ... et cetera. See 3.2.2 and Appendix IV.



Figure A.4. Method to calculate an individual's 'welstandsniveau' (in Dutch)



Source: (Dijkstra et al., 2011) p. 69

The fourth and last concept, is household characteristics. It is made up of three criteria: migration background (of an individual and their parents); health status (going off of 'objective', or measurable/registered health – that is, (household members) being in need of, and using, government healthcare services or regulations); and household composition (role in the household, number of household members, and their ages) (Kampert et al., 2019). See table A.4 below.

With the information available, the first criterion could only partly be verified prior to the interviews (but could be easily done so through one simple question in the interviews); the second one could not be measured or estimated at all, prior (and, due to the personal nature of the subject, had to be approached differently in the interviews and thus could be no more than estimated in the end); and the last criterion could be estimated quite precisely (but was also easily verifiable in the interviews).

Table A.4. Risk division for household characteristics (in Dutch)

Variabele	Migratieachtergrond	Gezondheid	Huishoudenssamenstelling en leeftijd
<b>Risico 0</b>	<ul style="list-style-type: none"> <li>- Autochtone Nederlanders</li> <li>- Nederlanders met een westerse migratieachtergrond tweede generatie</li> </ul>	<ul style="list-style-type: none"> <li>- Alle overige huishoudens</li> </ul>	<ul style="list-style-type: none"> <li>- Paren zonder kinderen, hoofdkostwinnaar jonger dan 70</li> <li>- Paren met uitsluitend thuiswonende kinderen ouder dan 12</li> <li>- Overige meerpersoonshuishoudens</li> <li>- Huishoudenssamenstelling onbekend</li> </ul>
<b>Risico 1</b>	<ul style="list-style-type: none"> <li>- Nederlanders met een westerse migratieachtergrond eerste generatie</li> <li>- Nederlanders met een niet-westerse migratieachtergrond tweede generatie</li> </ul>	<ul style="list-style-type: none"> <li>- Huishoudens met één of meer leden die geen wlz-grondslag hebben, maar wel gebruik hebben gemaakt van WMO.</li> <li>- Huishoudens die geen WMO of WLZ hebben, maar waarbij het bedrag aan "vervoersarmoede-relevante" zorgkosten bij één of meerdere hh-leden hoger is dan 85% percentiel van alle huishoudens maar lager dan het 95% percentiel.</li> <li>- Huishoudens die op basis van de andere regels nog geen risico 1 of 2 hebben toegekend maar waarbij welk een aangepaste bestelauto in het huishouden aanwezig is</li> </ul>	<ul style="list-style-type: none"> <li>- Eenpersoonshuishouden, leeftijd tot 70 jaar</li> <li>- Paren zonder kinderen, hoofdkostwinnaar 70 of ouder</li> <li>- Paren met minimaal één kind jonger dan 12</li> <li>- Eenoudergezinnen met uitsluitend thuiswonende kinderen ouder dan 12</li> <li>- Bevolking in instellingen, inrichtingen en tehuizen</li> </ul>
<b>Risico 2</b>	<ul style="list-style-type: none"> <li>- Nederlanders met een niet-westerse migratieachtergrond eerste generatie</li> </ul>	<ul style="list-style-type: none"> <li>- Huishoudens met één of meer hh-leden die een wlz-grondslag hebben</li> <li>- Huishoudens die geen WMO of WLZ hebben, maar waarbij het bedrag aan "vervoersarmoede relevante" zorgkosten bij één of meerdere hh-leden hoger is dan 95% percentiel van alle huishoudens</li> </ul>	<ul style="list-style-type: none"> <li>- Eenpersoonshuishouden, leeftijd 70 of ouder</li> <li>- Eenoudergezinnen met minimaal één kind jonger dan 12</li> </ul>

Source: (Uitbeijerse et al., 2019)

Migration background could be verified mostly beforehand. The data available in the Kantar/NVP data sets, regards the birth nation of (either) of the parents. This gives part of the picture. However, as almost all participants fell into the same category – ‘of native Dutch descent’, this meant that they fell into risk score 0, for sure (see table A.4).

In the interviews, this question was asked directly: were you born in the Netherlands? And were your parents also?. Besides, as the intention behind the criterion also relates to information understanding and comprehension, questions were also included about digital- and language capabilities. See 3.3.2.

The eighth criterion, ‘objective’ health condition, could not be verified prior to interviews. At ‘job status’, the variable ‘incapacitated’ might give an indication, but it is not enough context, as the CBS/PBL criterion assumes health care expenses such as WAO, WW or Wlz-regulations – see table A.4.

In the interviews: use of governmental health care regulations was not asked directly in all cases; only superficially/indirectly, for example if the participant herself brought it up, usually.

Instead, besides, use of healthcare facilities was asked about, as well as well-being (in a broad sense: both objective, as well as subjective, mental and physical health). How one perceives her own health, gives another, broad and rich picture of one's well-being (as it influences how one evaluates her own capabilities, and thus, whether she feels impaired in her mobility or not – for example). See 3.3.2.

The ninth and last criterion, 'household composition, including age', could be estimated fairly precisely beforehand. Household composition was known prior; the only thing missing, as mentioned before, is a clarification how many adults are in the household, and who is the breadwinner, when kids are present. As for age: the exact age in years was not known; instead, the databases included classes of five years, such as 35-39 years, 40-44 years, and so on. This was accurate enough for a risk score estimation beforehand.

Both household composition, as well as age, were easily verifiable in the interviews by a couple of simple questions. Nonetheless, the criterion was 'enriched' further, by also asking about, for example, mobility behaviour. As of now, the assumption is that household members equally share the mobility options, so to speak. However, if one's partner is the main breadwinner, and they use the car, then the individual in question's risk score would be low, even though she has (in theory) not many transport options. .

## Appendix 2. Invitation email for research participants

The invitation email (below) was written by the researcher (in close contact and with feedback from the contact person at Kantar), but eventually sent (on May 5<sup>th</sup>, 2022) by Kantar on the researcher's behalf (this was because of privacy concerns (M. de Gier and P. van der Mede, personal communication, March 31<sup>st</sup> 2022.)). Upon interest, individuals could contact the researcher by email, who would further take care of contacts, planning and providing information regarding interviews.

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Beste mevrouw [     ],

Wij benaderen u omdat u deelneemt aan het Kantar Verplaatsingsonderzoek. Een masterstudente aan de Universiteit van Utrecht, Janneke Goossens, is voor haar afstudeeronderzoek geïnteresseerd in de mobiliteit van vrouwen uit Zoetermeer en Haarlemmermeer. Daarom nodigen wij u namens haar, van harte uit om aan dit onderzoek deel te nemen. Kantar vindt het belangrijk dat hier onderzoek naar wordt gedaan en wil daarom graag haar medewerking verlenen.

Janneke (23) studeert planologie aan de Universiteit van Utrecht. Zij studeert nu af bij bureau Goudappel. Het doel van haar onderzoek is de stem van vrouwen te laten horen. Ze hoopt een duidelijker beeld te krijgen over de mobiliteit van vrouwen in (middel)grote steden, door vragen te stellen als: reist u vaak met de auto, het OV of de fiets, en waarom? Hoe bepaalt u uw vervoerwijze, en wat zijn uw ervaringen ermee? Ervaart u belemmeringen in uw reisgedrag, en hoe kan dit worden verbeterd? We zijn benieuwd naar uw verhaal, en uw ervaringen!

Als u meedoet aan het onderzoek, zult u geheel anoniem blijven. Zo zal uw naam in het eindrapport nergens worden genoemd, en zullen uw gegevens niet naar u terug te herleiden zijn.

Het onderzoek is in de vorm van een **online interview**. U kunt dus vanuit huis deelnemen. Als u geïnteresseerd bent om mee te doen, ontvangt u een duidelijke instructie hoe u kunt deelnemen.

Het interview duurt ca. 1 uur (60 minuten), en zal plaatsvinden op een **doordeweekse dag in mei of juni 2022**; op een dag en tijdstip dat het u uitkomt.

Voor de deelname aan het interview ontvangt u Nipoints ter waarde van 30 euro.

Als u interesse heeft in deelname aan dit onderzoek kunt u zich bij Janneke aanmelden op het volgende adres: [jgoossens@goudappel.nl](mailto:jgoossens@goudappel.nl). Zij neemt dan contact met u op om een afspraak te maken.

We hopen dat u wilt deelnemen aan het interview en danken u alvast hartelijk voor de moeite.

Met vriendelijke groet,

**Kantar Public**

i.s.m. Janneke Goossens

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As can be read in the email, for their efforts and contributions in the in-depth interviews, all participants ( $n=6$ ) were rewarded 'points' of 30 euro's worth. In addition, for the collaborative group discussion, they ( $n=2$ ) were rewarded 'points' of 45 euros worth, plus a compensation of their travel expenses: 19 cents per kilometre (M. de Gier, personal communication, July 1<sup>st</sup>, 2022).

### Appendix 3. Participation terms and conditions

The NVP is a panel, set up by DAT.mobility (part of Goudappel), with approximately 20.000 panel members throughout the Netherlands (which is almost representative for the Dutch population). It is a subsection of/falls under the Kantar Public panel/database (approximately 100.000 members). Kantar also does panel management for the NVP (Goudappel, n.d.; Kantar, n.d.); P. van der Mede (DAT.mobility), personal communication, March 17<sup>th</sup>, 2022). Panel members of the NVP have given permission for all their travelling behaviours and trips to be tracked by their mobile GPS, over time – to/by NIPObase (Kantar, 2022). The unique factor of the NVP, is this combination of socio-demographic information (provided by/through Kantar) and mobility data (provided by Mobidot), that are known and tracked over time, for each member. This makes NVP a very context-rich, individually specified, and useful database for research; (and) these data can be very valuable to consultants, municipalities, and so on (Goudappel, n.d.; Kantar, n.d.). That goes for this research as well.

The NVP and data analysts at DAT.mobility have been asked to select individuals within the NVP who fall within the research group (women, at a distance of the labour market, living in either Haarlemmermeer or Zoetermeer). This group has been defined/demarcated as follows: women = identified as female; distance to labour market = unemployed, incapacitated, retired and at-home; lives in either Haarlemmermeer or Zoetermeer = based on the Mobidot algorithm, the area of residence lies within the boundaries of either of the two municipalities (P. Kant and P. van der Mede (DAT.mobility/Goudappel), personal communication, March 23<sup>rd</sup>, 2022).

#### *Privacy policy & rights and obligations for participation in the research (in Dutch)*

The following rights and obligations were set up, combining Goudappel privacy guidelines with the Kantar NIPObase participation terms and conditions. See below (in Dutch):

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### **Privacywetgeving & rechten en plichten deelname onderzoek**

- Uw rechten en plichten als deelnemer aan mijn onderzoek zijn als volgt:
- U mag mij altijd benaderen als u vragen heeft– ik ben verplicht om u voldoende in te lichten over het onderzoek;
- U heeft altijd het recht om uw deelname in te trekken, om wat voor reden dan ook;
- U heeft het recht om het onderzoeksverslag (eindrapport; scriptie) in te zien;
- Op alle vragen die ik u stel in het interview, wordt verwacht dat u eerlijk antwoord geeft.

Als onderzoeker moet ik mij houden aan privacywetgeving: wat u mij in het interview vertelt, wordt vertrouwelijk en zorgvuldig behandeld. In het interview vraag ik namelijk naar uw ervaringen en verhalen, en ook naar enkele persoonlijke gegevens die relevant zijn voor het onderzoek.

Daarom hoor ik graag van u of u het eens bent met de onderstaande zaken. Geeft u mij toestemming...

- Om het interview op te nemen? Dit doe ik alléén om het gesprek te verwerken. De opname wordt veilig opgeslagen en met niemand gedeeld, en na afronding van mijn onderzoek verwijder ik de opname;
- Om uw antwoorden te gebruiken voor mijn afstudeeronderzoek (het beantwoorden van een onderzoeksvraag)? Hierbij blijft uw informatie altijd anoniem en beschermd;
- Om uw informatie en antwoorden in mijn eindrapport (scriptie) te verwerken? Hierin is uw informatie niet herleidbaar naar u als persoon en uw informatie zal níet gedeeld worden met derden. Ook zal ik uw persoonsgegevens verwijderen na afronding van mijn onderzoek.

## Appendix 4. Interview guideline (inside perspective)

The topic list that has been used for the six in-depth interviews with the study group, is attached below (in Dutch). It consists of four content-related parts, and an introduction and ending section. Every content-related section (1 – 4) is made up of three columns: ‘topic’, ‘research question’ and ‘points of attention’ (which further speaks for itself); and it includes room for notes.

Besides this interview guide, a ‘checklist’ has also been used. Every time, in the right column, ‘Check’ is mentioned, this refers to a box with information that ought to be checked. For example, in part three, mobility behaviours and – options, ‘check: ownership of vehicle(s)’ refers to a summary of all possible (motor) vehicles in a household: (electric) car, bike, scooter, motorcycle... et cetera; including Wmo-transport in the household, such as an adapted bicycle.

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## Interview guide (v.3)

### **0. Introductie**

*5 minuten*

- **Kennismaking**
  
- **Toelichting context onderzoek & opbouw interview**
  - Aanleiding, doel onderzoek
  
  - Vragen/opbouw interview
  
- **Toelichting proces / instemmen voorwaarden, rechten en plichten & opname**
  - Heeft u de voorwaarden en rechten en plichten gelezen?
  - 
  - Voorwaarden – opnemen, privacy en anonimiteit
  
  - Akkoord → start opname.



## 1. Persoonlijke context (incl. buurt)

7,5 - 10 minuten

Onderwerp	Onderzoeksvragen	Aandachtspunten
<ul style="list-style-type: none"> <li>Persoonskenmerken</li> </ul>	Vertel eens wat over uzelf.	<ul style="list-style-type: none"> <li>Check: leeftijd, werk en opleiding, huishouden, woonplaats, etniciteit...</li> </ul> Check: persoonlijkheid; waarden
	Hoe ziet een gemiddelde dag (week, maand...) er voor u uit?	Dagbesteding, en week-...patroon (verplichtingen, hobby's, etc.)
<ul style="list-style-type: none"> <li>Kenmerken woonlocatie/leefomgeving</li> </ul>	Waar komt u vandaan? Vertel eens over uw woonlocatie!	<ul style="list-style-type: none"> <li>Check: wijk/buurt;</li> </ul> Check: Periode woonachtig? Positieve/negatieve kenmerken
	Vertel eens over uw fysieke leefomgeving ( <i>woonplaats; locatie/wijk en faciliteiten</i> )	Wat is er te doen of te zien?  <ul style="list-style-type: none"> <li>Check: nabij faciliteiten? (welke?)</li> </ul>
	Vertel eens over uw sociale leefomgeving ( <i>persoonlijke contacten en netwerk/relaties</i> )	Leefklimaat, contact met burens e.a., gevoel van verbondenheid  <ul style="list-style-type: none"> <li>Check: familie in de buurt? (Wie? Hoe ver?)</li> </ul>
<Ruimte voor notities>		

## 2. Vaardigheden (versus middelen)

7,5 - 10 minuten

Onderwerp	Onderzoeksvragen	Aandachtspunten
<ul style="list-style-type: none"> <li>Digitale - en taalvaardigheden</li> </ul>	Kunt u goed overweg met digitale apparaten?	internet; (bezit) mobiele telefoon Zo nee: vertel, zijn er mensen die u hierin (kunnen) ondersteunen?
	Heeft u in het dagelijks leven, moeite met begrijpend lezen? <i>=snel informatie begrijpen, verwerken</i>	Zijn er mensen/zaken die u hierin (kunnen) ondersteunen?  Heeft u hier last van; bv. hinder in contacten/ bewegingsvrijheid?
<ul style="list-style-type: none"> <li>Ervaring gezondheid</li> </ul>	Hoe beoordeelt u uw fysieke gezondheid? ( <i>lichamelijk</i> )	<i>N.B. let op lange/korte termijn</i> Waarom vindt u dat/waardoor ervaart u dat zo?
	Hoe beoordeelt u uw mentale gezondheid? ( <i>geestelijk</i> )	<i>Bv. stress (kort); ... diagnose (lang)</i> Waarom vindt u dat/waardoor ervaart u dat zo?
	Zijn gezondheidsfaciliteiten voor u dichtbij? En (hoe vaak) gebruikt u deze?	<ul style="list-style-type: none"> <li>Check: type faciliteiten</li> </ul> → brug naar 3: (gezondheid kan invloed hebben op) mobiliteit
<Ruimte voor notities>		

### 3. Mobiliteitsgedrag en -voorkeuren

10 - 15 minuten

Onderwerp	Onderzoeksvragen	Aandachtspunten
<ul style="list-style-type: none"> <li>Inzicht in.... bezit en vervoersmogelijkheden</li> </ul>	Welk(e) voertuig(en) en/of reismogelijkheden heeft u in uw bezit?	<ul style="list-style-type: none"> <li>➤ Check: bezit voertuig(en)</li> <li>➤ Rijbewijs? OV-pas (abo)?</li> </ul> <i>N.B. huishouden vs. zelf</i>
	Welke reisopties zijn er (verder) in uw buurt?	Weginfrastructuur en -netwerk: OV, auto, fiets, te voet, ...anders?
	Kunt u met deze opties voor vervoer, goed overweg?	<i>Teruggreep welzijn en vaardigheden (kennis en begrip)</i>
<ul style="list-style-type: none"> <li>...huidige mobiliteitsgedrag (gebruik)</li> </ul>	Vertel eens over hoe u zich regelmatig verplaatst.	Gemiddeld reis(gedrag) op een doorsnee (werk)dag/weekend . <i>Bv.: Hoe vaak, hoe lang, hoe laat?</i> <i>Type vervoersmiddel: zie onder</i>
	Wat zijn plekken waar u regelmatig naartoe gaat?	<ul style="list-style-type: none"> <li>➤ Check: type faciliteiten/plekken/activiteiten</li> </ul> Vertel (over de reis daarheen)... ! <i>(Zie vragen hierboven en -onder)</i>
	Welk vervoermiddel gebruikt u het <b>meest</b> , en waarom?	Hoe bepaalt ze de vervoerswijze? <ul style="list-style-type: none"> <li>➤ 'Vrije' keuze of niet?</li> </ul>
<ul style="list-style-type: none"> <li>... voorkeuren (reis en vervoersmiddelen)</li> </ul>	Welk vervoermiddel gebruikt u het <b>liefst</b> ? Waarom?	<ul style="list-style-type: none"> <li>➤ Check <i>satisfiers</i> (bv. tijd, kosten, gemak... )</li> </ul>
	Welk vervoermiddel gebruikt u <b>liever niet</b> ? Waarom?	<ul style="list-style-type: none"> <li>➤ Check <i>dissatisfiers</i> (bv. onbetrouwbaarheid, onveiligheid... )</li> </ul>
	Bent u tevreden over hoe u zich kunt verplaatsen/uw regelmatig reisgedrag?	Waarom (niet)? Vertel... → brug naar 4: drempels
<Ruimte voor notities>		

## 4. Mobiliteitsdrempels

15 - 20 minuten

Onderwerp	Onderzoeksvragen	Aandachtspunten
<ul style="list-style-type: none"> <li>Ervaringen</li> </ul>	Heeft u wel eens meegemaakt dat... u een reis niet heeft gemaakt <i>vanwege de moeite/reistijd/kosten</i> ?	Welke van deze 3 (M/T/K) is de grootste bepalende factor? Vertel: (hoe) beïnvloedt M/T/K uw reisgedrag/dagelijks leven?
	... u een afspraak/activiteit moest afzeggen vanwege (drempels tijdens) de reis?	Zo ja: Wat voor afspraak was dit? Hoe belangrijk/grote impact was dit voor u?
	Voelt u zich onafhankelijk in uw mobiliteit?	Waarom wel/niet? Vertel... Bv.: maakt u wel eens gebruik van andermans diensten?
	Maakt u zich over reizen of vervoer wel eens zorgen?	Waarover heeft u zoal zorgen?
		Of beïnvloedt uw mobiliteit/mate van bewegingsvrijheid uw welzijn op een andere manier? <i>Of: niet?</i>
<ul style="list-style-type: none"> <li>Nuanceringen op/ percepties van interne (mobiliteit) en externe (context-gerelateerde) drempels</li> </ul>	Heeft uw welzijn een (beperkende) invloed op uw bewegingsruimte /-vrijheid?	Teruggreep op <i>capabilities</i> : <ul style="list-style-type: none"> <li>➤ Fysiek (goed ter been?)</li> <li>➤ Mentaal (bv. stress, of: kennis/vaardigheden)</li> </ul>
	Heeft u het gevoel dat u in het dagelijks leven, overal heen kan reizen waar u wilt?	N.B.: focus op ervaren hindernis (bv. kosten/moeite/tijd → welke factor heeft de grootste impact?) N.B.: kwetsbaarheid – ‘en hoe zou het zijn als x weg zou vallen?’
	Voldoen de vervoersopties en het (OV-)aanbod in uw buurt? Zijn ze ( <u>voor u</u> ) toereikend?	<ul style="list-style-type: none"> <li>➤ Hoe vaak, hoe snel, en waarheen gaan de opties? Overstap goed?</li> <li>➤ Check: Toegankelijk? Afstand? Beloopbaar/ fietsvriendelijk?</li> </ul>
		Zo ja: maakt u hier ook gebruik van? <i>waarvoor</i> ; faciliteiten (bv werk); of familie kunnen bereiken binnen acceptabele M/T/K?
Zo nee: wat zou reizen voor u makkelijker maken? Ligt het vooral aan het (aanbod van) vervoer, of aan de buurt?		
<Ruimte voor notities>		

## 5. Afsluiting

*5 minuten*

- **Doorlopen checklist; vragen en aanvullingen**
  
- **Vervolgstappen (vragen, eindrapport, focusgroep)**
  - Mag ik u eventueel benaderen voor vragen over uw interview?
  
  - Interesse in ontvangen eindrapport?
  
  - Laatste vraag: meedoen aan focusgroep?
    - **noem toegevoegde waarde: extra input in resultaten/eindrapport/aanbevelingen!**
    - KORT over wat het is):bij voldoende animo vervolgsessie met u en andere geïnterviewden, waarin we de resultaten en verdere stappen doorspreken.
    - Opzet: zelfde idee ongeveer als met interview, maar dan met meerdere mensen.
    - zal naar verwachting in week (25 of) 26 zijn; eind juni dus; → NOEM CONCRETE DATA
    - duurt. ook één uur;
    - Bij voorkeur: fysiek (45 Nipoints + reiskosten) (Leiden/Hoofddorp) of digitaal (30 Nipoints)
  
- **Afronding**
  - Bedanken voor bijdrage; nogmaals benoemen toegevoegde waarde
  - Stop opname.

## Appendix 5. Analysis output (code tree)

File Home Import Create Explore Share Modules			
Codes			
Name	Files	References	
(Mobiliteits)drempels	12	33	
Externe drempel (context)	8	22	
Interne drempel (mob-gerelateerd)	7	24	
Affect, emotie	7	17	
Negatieve affect en emotie	8	35	
Positieve affect en emotie	7	27	
Context (structuren, markt, overheid...)	13	39	
Beleid,regulations	11	28	
LifechangingeventsOTHER	4	7	
Stigma,moeite,structuren	5	7	
Ervaring, perceptie	12	35	
Bewegingsruimte en -vrijheid	5	14	
Zelfstandig, onafhankelijk	6	11	
Faciliteiten	3	8	
Obj gezondheid(fac)	6	14	
Gezondheid subj+welzijn	6	19	
Fysieke welzijn subj	6	19	
Mentale welzijn subj	6	13	
Karakter, houding	8	59	
Actief (betrokken), bezig	5	15	
Leefomgeving	7	25	
Fysieke leefomgeving	9	54	
Verkeersveiligheid	5	7	
Sociale leefomgeving	7	43	
Sociale veiligheid	8	11	
Outside perspec (experts,ovh)	7	17	
Governance, ovh actie	9	16	
Indicatoren en visie	7	18	
Persoonskenmerken	9	44	
Cultuur,opvoeding,gewenning	6	12	
Gender,gezinsstructuur	10	18	
Opleiding, vaardigheden (digi)taal	7	29	
Werk EO andere bezigh	7	33	
Vervoer en mobiliteit	8	38	
Reisgedrag, verplaatsingen	8	66	
Motivatie reiskeuze	6	10	
Reisdoel, (motief ver)plaats(ing)	8	33	
Vervoerbezit- en mogelijkheden	8	44	
Vervoerssysteem,dienstverlening, etc	2	5	
Voorkeur vervoermiddel	8	43	

J.W. 40 Items

## Appendix 6. Interview transcripts

Please note: the transcripts are not included in this manuscript. They can be looked into (by the interviewees) upon request. Please contact the researcher at: [j.w.goossens@students.uu.nl](mailto:j.w.goossens@students.uu.nl) or through LinkedIn.