



Ministry of Infrastructure
and Water Management

Acceptable accessibility:

Acceptable accessibility: a traveller's perspective

Netherlands Institute for Transport Policy Analysis | KiM

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Summary

Being able to reach a relevant destination is an important and vital need. But which destinations do Dutch people consider the most relevant? And what kind of travel time associated with them is acceptable? To what extent are they already able to arrive at the destinations relevant to them within an acceptable travel time? We will provide the answers to these questions in this study.

Over 70% of Dutch people consider it relevant to be able to reach a supermarket, a general practitioner (GP) or a hospital. For educational locations, under 20% of Dutch people consider this relevant to themselves, but among people with children and younger respondents, this proportion is significantly higher.

The acceptable travel time depends on the type of destination and the means of transport. Dutch people accept an average travel time of 9 to 18 minutes to reach destinations such as a supermarket, GP, nursery and bus, tram or metro stop. For destinations such as a hospital, work location or vocational or higher education location, travel times of 30 to 50 minutes are often still acceptable. When it comes to travelling by public transport, Dutch people generally accept a longer travel time compared with travelling by other means.

Most survey participants could reach the destinations relevant to them within an acceptable travel time. Exceptions do apply, however. These are primarily people who want to be able to get to a destination by public transport or by walking. In addition particularly people with a low-income, with more health barriers, without access to a car and with (by their own testimony) digital alternatives are less able to physically reach destinations within travel times acceptable to them.





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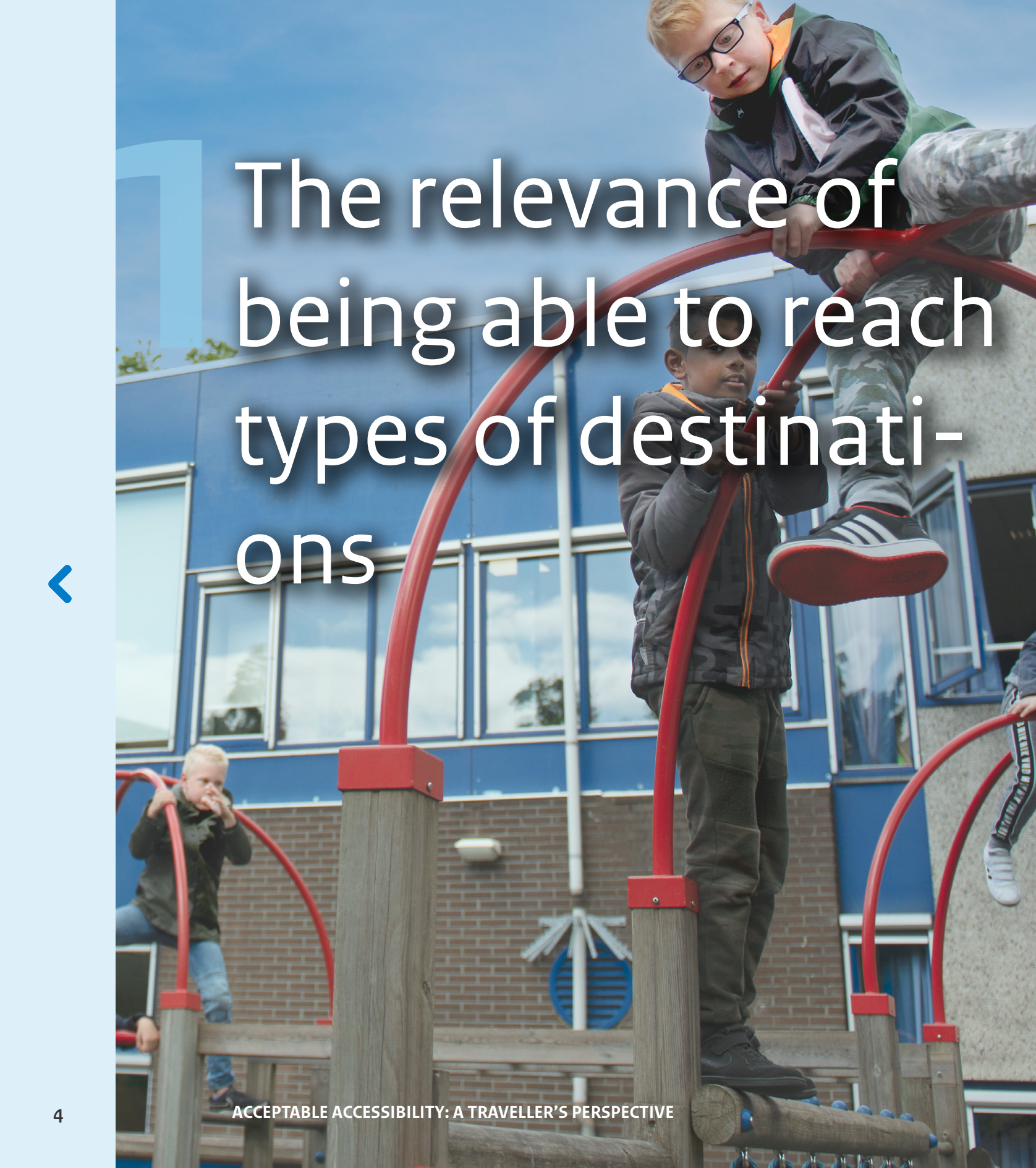


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The relevance of being able to reach types of destinations

Being able to reach a supermarket and healthcare facilities the most relevant

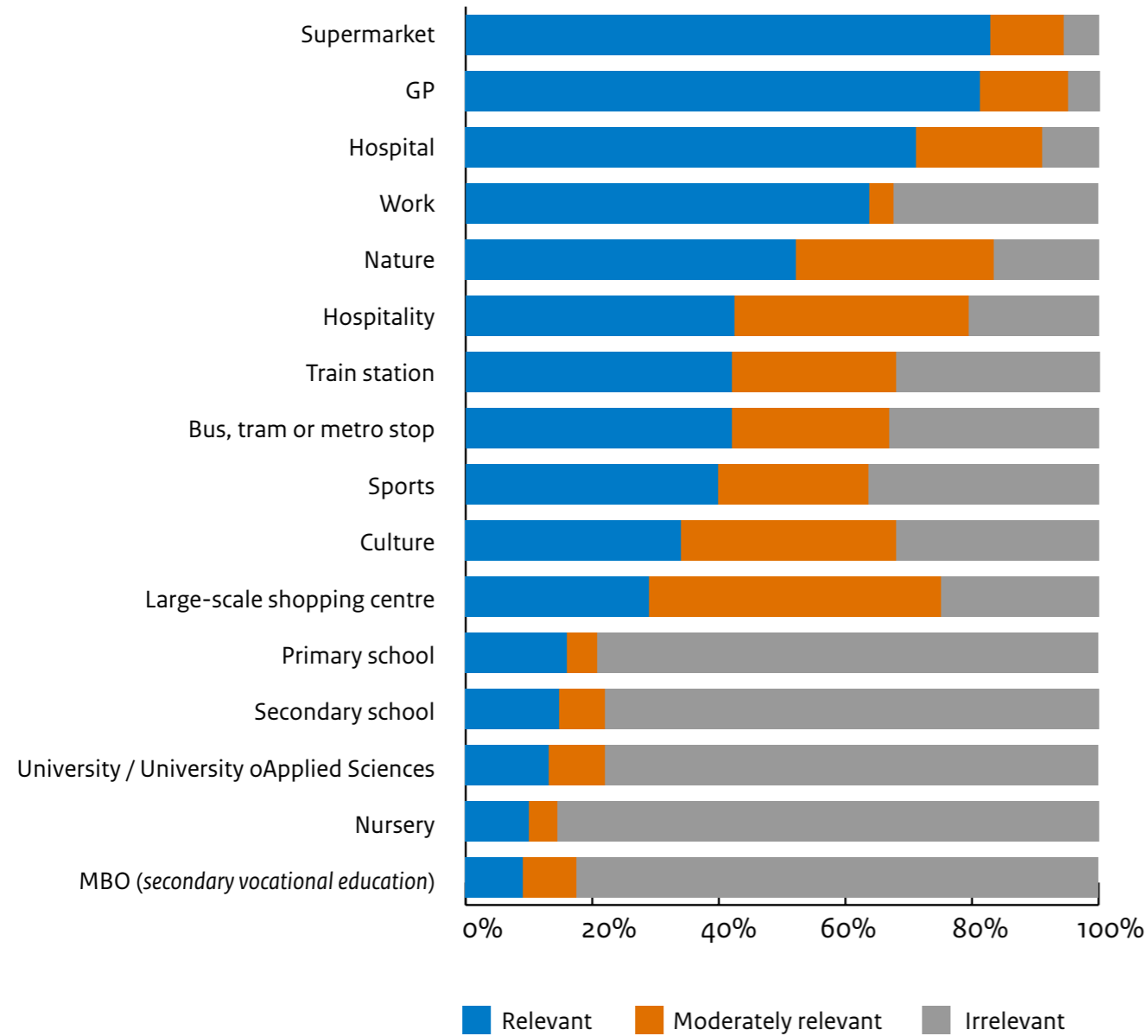
Over 80% of a representative group of Dutch people (see figure on the next page, left) consider it relevant to be able to reach a supermarket and a GP. In this regard, a number of people in the survey indicated that they see these destinations as a basic necessity. Over 70% find being able to reach a hospital relevant and over 60% consider it important to be able to physically get to work. The people who consider it relevant to be able to reach a supermarket and their work site also visit these destinations relatively often. This does not apply, however, to the GP and the hospital. For these destinations, people appear to find it primarily important to have the option of going there if it ever becomes necessary.

“I feel that a GP is a basic necessity, just like a supermarket”

The proportion of respondents who considered it relevant to be able to reach different types of educational facilities was considerably lower (around 10-15% depending on the type of education). This is probably because the target group for these destinations (primarily families with children, young couples wanting to have children or younger singles of student age) represents only a limited proportion of the total number of households in the Netherlands. If we zoom in on families with at least one child under the age of 12, it transpires that over 70% of them consider it relevant to be able to reach a primary school.

Not everybody considers being able to reach different types of destinations relevant. To an extent, this can be explained by various personality characteristics. The characteristics in the table on the next page, corrected for other characteristics, appear to be significantly associated with the importance an individual attaches to being able to reach certain types of destinations. In particular, people with good access to a car find it more relevant to be able to reach different types of destinations than those with limited or no access to a car.

Proportion who find being able to reach the type of destination relevant



Destination	Consider physically reaching a destination more relevant
Shopping destinations:	<ul style="list-style-type: none"> - Women - Lower incomes - Less positive digital attitude - (More) access to a car
Care destinations:	<ul style="list-style-type: none"> - Women - Elderly people - (More) access to a car - (More) health barriers
Work:	<ul style="list-style-type: none"> - (More) theoretical educational background - Younger (people) - Higher incomes - Less positive digital attitude - (More) access to a car - Less health barriers - Households without children (below 18) living at home
Educational destinations:	<ul style="list-style-type: none"> - (More) rural homes - Younger (people) - (More) access to a car - Households with children (below 18) living at home
Leisure destinations:	<ul style="list-style-type: none"> - (More) theoretical educational background - Women - Higher incomes - Households without children (below 18) living at home - Employed
Public transport destinations:	<ul style="list-style-type: none"> - (More) urban homes - (More) theoretical educational background - Less access to a car - Less health barriers - Households without children (below 18) living at home

Car and bike are most often mentioned as modes of transport by which destinations should be reachable

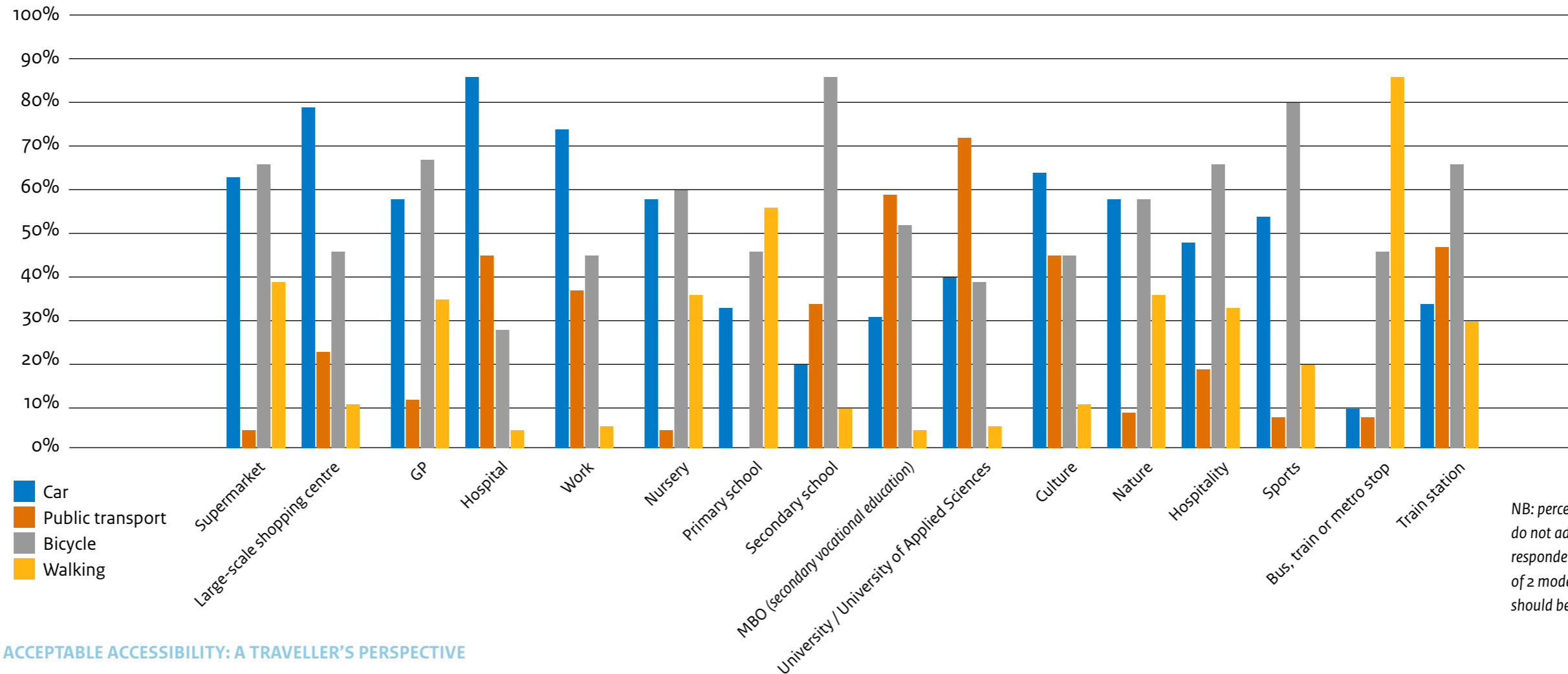
We asked respondents with which (maximum 2) modes of transport they would like to be able to reach the destinations relevant to them.

Destinations such as a large-scale shopping centre, work, hospital, culture and nature sites (which are also often somewhat further away) should be able to be reached (at least) by car, according to most respondents.

In the case of vocational or higher educational institutions, most respondents wanted to be able to reach these destinations by public transport or bike. For destinations such as a supermarket, a GP, a nursery, a train station, restaurants and sports facilities (which are often a bit closer), most respondents want to be able to get to them by bike. Most also believed that reaching a primary school and bus, tram or metro stop should be possible by foot.

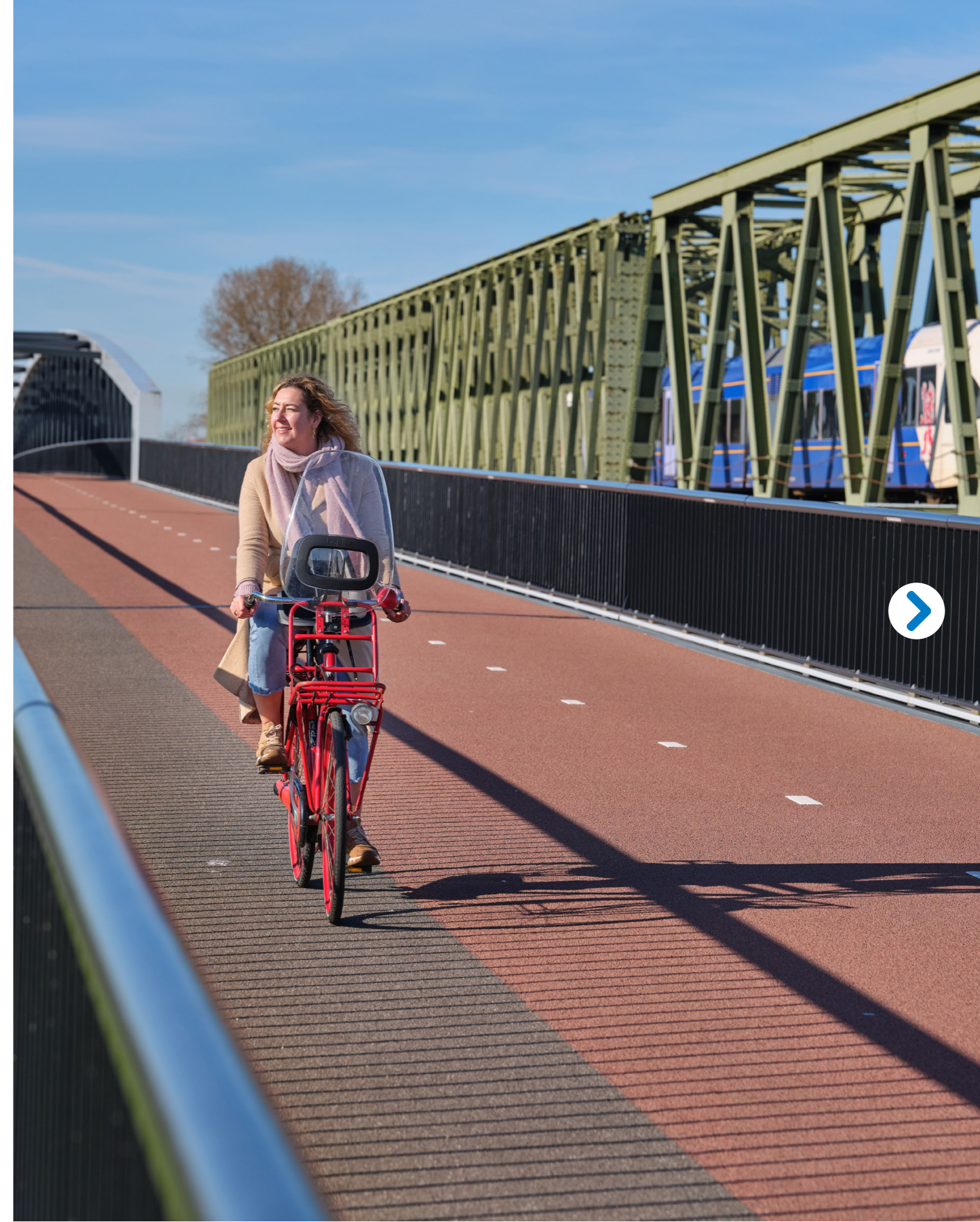
“People should not require a car in order to get to a supermarket”

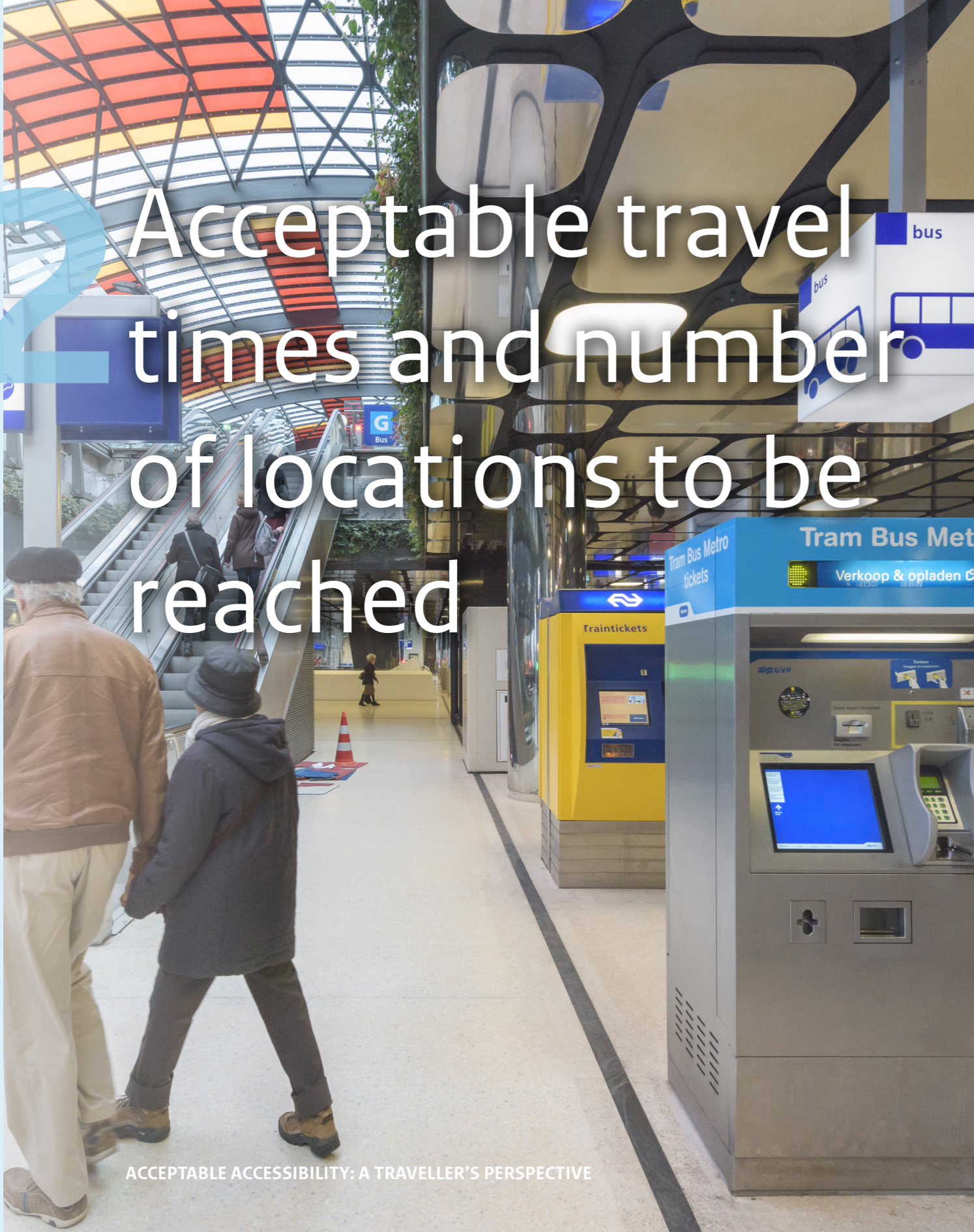
Modes of transport by which a destination should be reached



Several personality characteristics are significantly related to wanting to be able to reach destinations and to the preference for a particular mode of transport in doing so. The table below specifies which characteristics, corrected for other characteristics, show a significant link with wanting to be able to reach a destination by car. We find that, in many cases, somebody who attaches importance to accessibility by car attaches less importances to accessibility by public transport. For example, we can see a clear relationship between the access a respondent has to a car and the importance they attach to various destinations being easily accessible by car. Conversely, people who have less access to a car find it important that a destination is accessible by public transport (or bike).

<p>Want to be able to reach destinations by car more often</p>	(More) access to a car
	(More) rural homes
	(More) practical educational background
	Higher incomes
	Household with young children (below 13) living at home
	(More) health barriers





Acceptable travel times and number of locations to be reached

What is deemed an acceptable travel time differs between types of destination, modes of transport and groups of people

We also asked people what they consider to be an acceptable travel time to types of destinations that they wanted to be able to reach with a specific form of transport.

To get to destinations such as a supermarket, GP, nursery and a bus, tram or metro stop, respondents accept an average travel time of 9 to 18 minutes. The acceptable travel time depends in part on the type of destination and the means of transport. For destinations such as culture, work and vocational and higher education, acceptable travel times are higher on average, at around 30 minutes by car or bike and around 50 minutes by public transport.

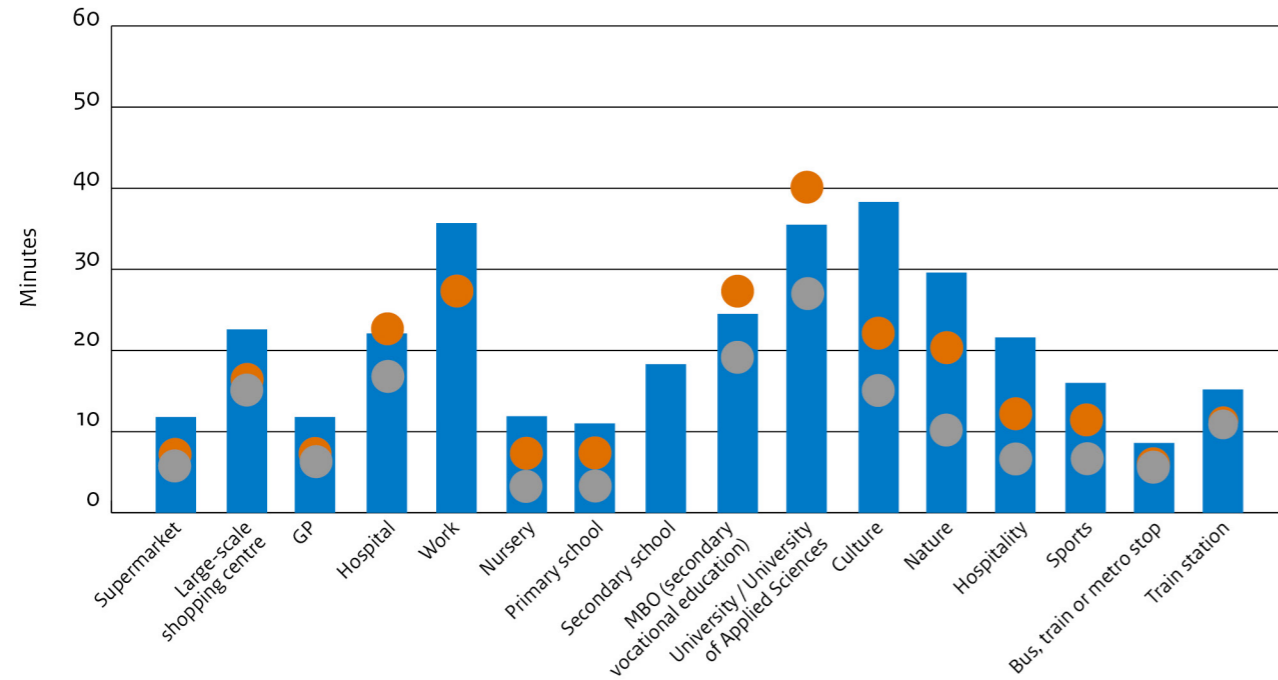
People who want to be able to travel by public transport generally accept longer travel times than those who prefer travelling by car, bike or on foot. For work, a number of people say they find longer journey times acceptable with public transport since they can do something else while travelling.

“You can do something else while using public transport, so my limit is higher”

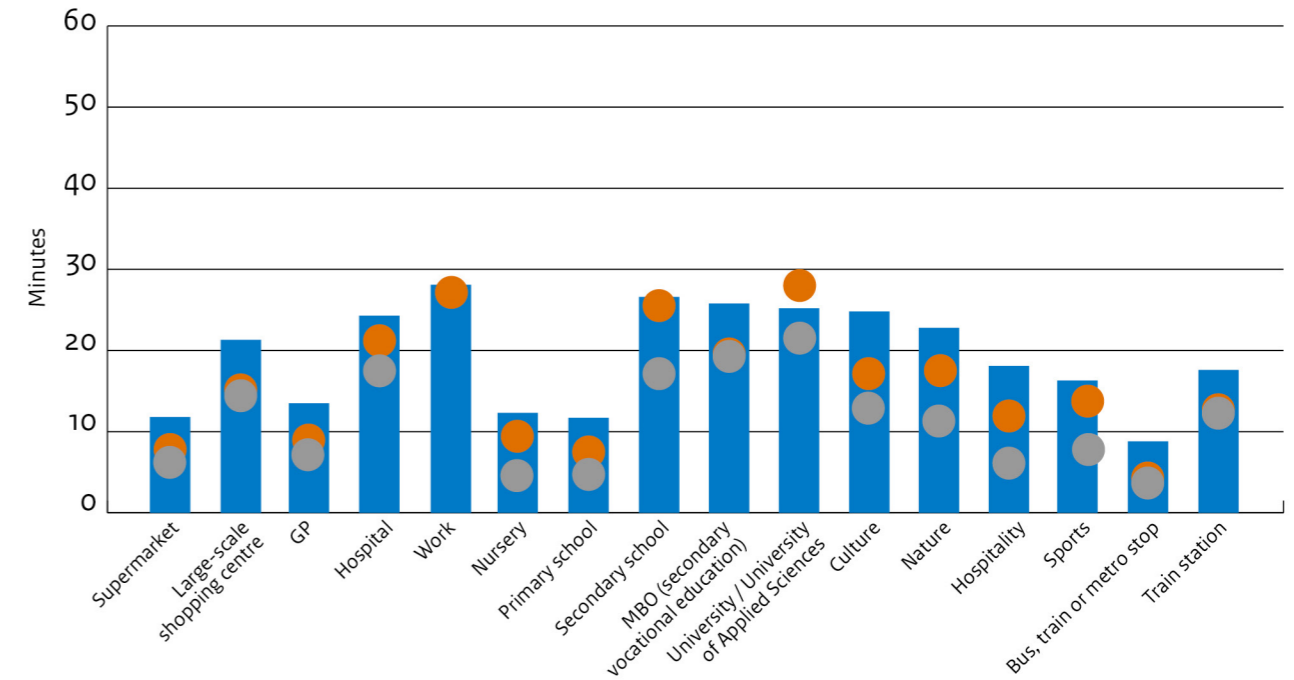
We find, corrected for other characteristics, a number of personal characteristics that show a significant relationship with the acceptable travel times for different types of destinations (see also the table below). Acceptable travel times are thereby mainly influenced by urbanity and education level, and to a lesser extent by age, health barriers and gender.

More often lower acceptable travel time	(More) urban homes
	(More) practical educational background
	Younger (people)
	Women
	(More) health barriers

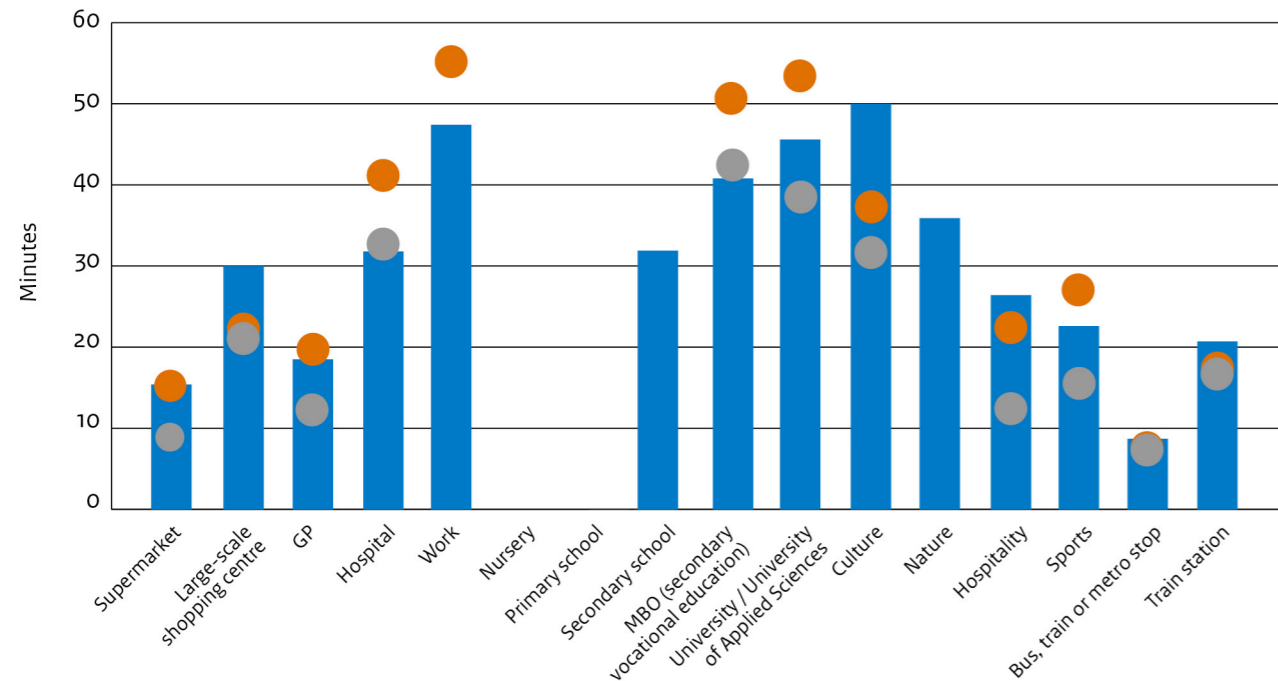
Car: acceptable and current travel times



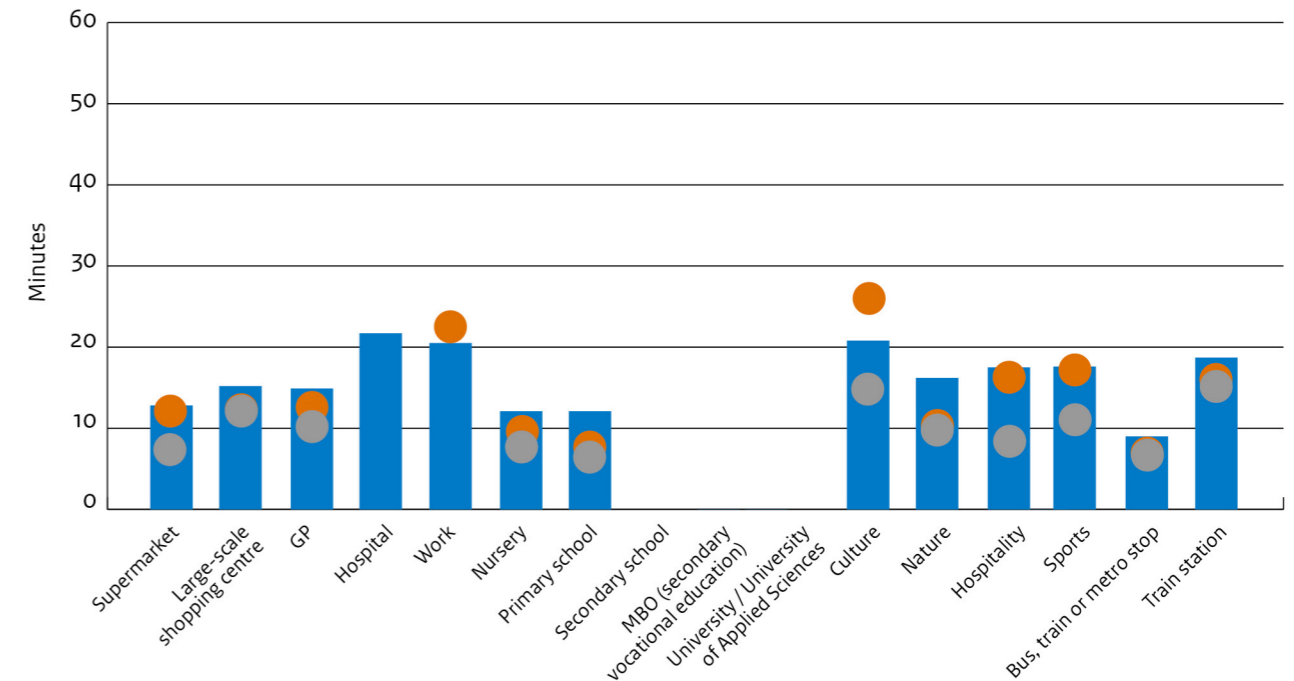
Bike: acceptable and current travel times



Public transport: acceptable and current travel times



Walking: acceptable and current travel times



■ Acceptable travel time
 ● Most visited location, current travel time
 ● Closest location, current travel time

NB: If no bar or dot is visible, there are too few observations for a plausible statement.

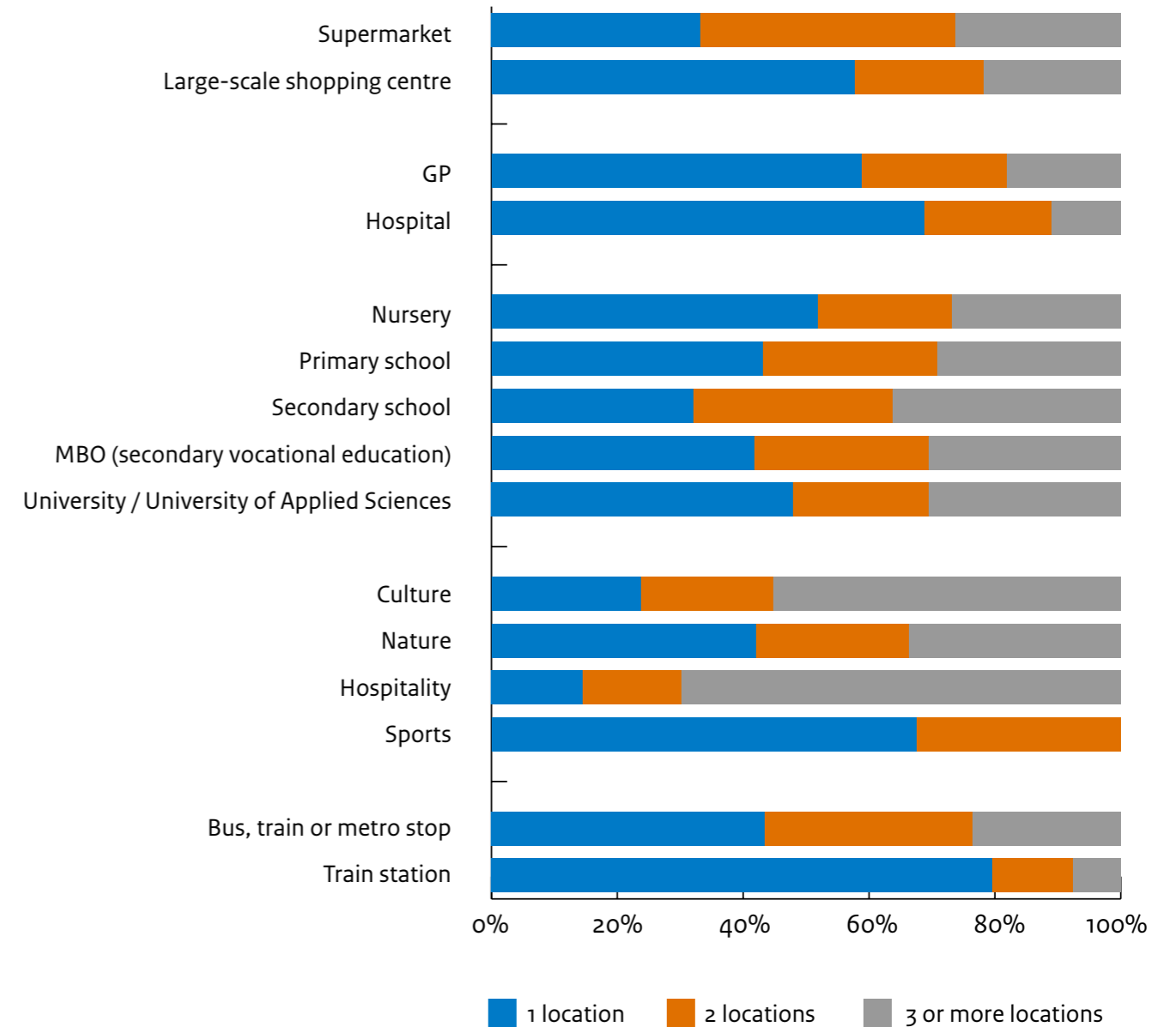
Most people want to be able to reach one location of a destination within a travel time acceptable to them

For healthcare destinations, the largest group of people in the study want to be able to reach one location within the travel time acceptable to them (see figure on the right). For instance, regarding the GP, respondents often indicate that a person can only be registered with one GP at a time in any case. In the case of education and depending on the specific type, 30-50% of people involved in the study wanted to be able to reach one location within an acceptable travel time; the others wanted to be able to reach two or more locations. The largest group of people in the survey want to be able to reach two supermarkets within an acceptable travel time for them. Having a choice between different types of supermarkets and a greater certainty of getting specific products appear to be important here.

“With two supermarkets, an alternative is always available if a product is not present”

For culture and hospitality, the majority of people in the survey want to be able to reach three or more locations of this type of destination. Having a choice therefore appears to be especially important for these types of destinations.

Number of locations of a destination type to be reached within an acceptable travel time





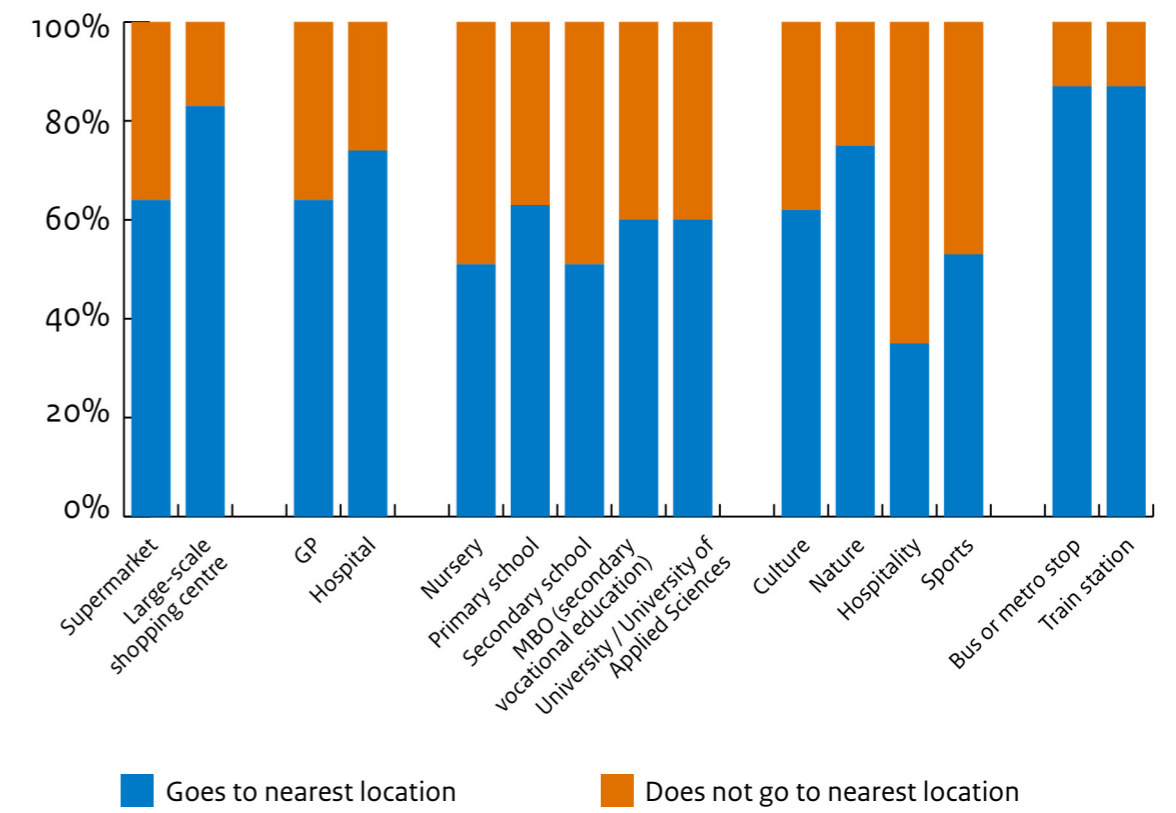
Acceptable travel times compared with current travel times

Current travel times: in the majority of situations, the closest locations are the most frequently visited

Most respondents indicate that they most frequently visited the closest location of a type of destination. This does vary, however: for a major shopping centre, hospital, nature site, bus, tram or metro stop and train station, people are relatively more likely to choose the closest location (>70%). For hospitality in particular (<35%), but also for sports (53%), a nursery (51%) and a secondary school (51%) this percentage is significantly lower (see figure below).

Important reasons for respondents not choosing the closest location include the range available at the specific location and the quality of the location. In addition, a relatively high number of people report having a GP who is further away because the nearest GP has closed their list.

Percentage of people who visit the nearest location of a destination type most often



“I'd prefer driving a little further to a good GP than to a worse or less appealing GP closer to me”

The table below shows a number of personal characteristics that, corrected for other characteristics, were found to be significantly associated with visiting or not visiting the nearest location of a destination type across several destination types.

More frequent visits to closest destination	Older (people)
	(More) practical educational background
	Less access to a car
	Households with children (below 18) living at home

In most cases, people can reach destinations within a travel time acceptable to them

In the vast majority of cases, the average acceptable travel time to a destination is above the average current travel time to the closest location of a destination. The average acceptable travel time is generally also longer than the average current travel time to the most visited location of a type of destination. There are exceptions, however, such as for travelling by public transport and, to a lesser degree, for travelling on foot. For destinations such as hospitals, work and education, the current travel times are often longer than the acceptable travel times.

If we compare acceptable travel times with current travel times at the respondent level, the latter appear to be within the acceptable travel time for most respondents at present. It is also notable here that it is generally people who want to be able to travel by public transport or on foot who are currently not able to get to a destination within the travel time acceptable to them. There is a clear contrast for work especially. Around 14% of those who want to be able to travel by car cannot reach their workplace within a travel time acceptable to them, compared with 44% of the people who want to be able to go to work by public transport.

“The travel time I'm currently facing is too much, but I really love my job”



Acceptable travel time vs current travel time	Supermarkets	Large-scale shopping centre	GP	Hospital	Work	Nursery	Primary school	Secondary school	MBO (secondary vocational education)	University / University of Applied Sciences	Culture	Nature	Hospitality	Sports	Train station	Bus, train or metro stop
Car	3%	5%	5%	13%	14%	3%	0%		0%	10%	3%	3%	2%	1%	10%	4%
Public transport	12%	12%	11%	27%	44%			23%	15%	24%	7%		7%	15%	15%	15%
Bike	0%	0%	0%	0%	16%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%
Walking	8%	16%	11%	38%	32%	7%	4%				2%	5%	3%	11%	15%	10%

- Green: both average current travel times are within the average acceptable travel time;
- Yellow: the average current travel time to the most visited location of a destination is higher than the average acceptable travel time;
- Red: both average travel times (those to the nearest as well as to the most visited location of a destination type) are higher than the average acceptable travel time;
- Grey: percentage of people who cannot reach a location of that destination within a travel time acceptable to them using the mode of transport in question;
- White: too few observations for plausible ruling.

In the table below, we present some group characteristics that (after controlling for other characteristics) are regularly significantly associated with the probability of having a current travel time that is within the personal acceptable travel time (an ‘acceptable situation’).

An ‘acceptable situation’ more often	Less health barriers
	Higher incomes
	(More) access to a car
	A more negative digital attitude
	(More) urban homes

Further components of accessibility: cost and effort

Alongside travel times, cost and effort also form important aspects of accessibility. An initial exploration of these aspects demonstrates the following:

- Acceptable costs show a similar pattern to acceptable travel times: people find higher costs to be more acceptable for reaching destinations such as work, cultural locations or a hospital than for destinations such as the supermarket or a bus stop.
- On average, the indicated current costs are lower than the average acceptable costs for all destination types enquired after. However, 5-15% of people (depending on the destination type) reported that they were currently faced with higher costs than they considered acceptable.
- The interpretation and possible application of these insights do require some caution, due to their exploratory nature. There is a chance that people found it difficult to make an estimation and have interpreted this in different ways.

Besides travel time and travel costs, a relatively high number of people indicate that weather conditions, reliability of travel time and the presence of facilities (e.g. parking spaces) during the journey affect their travel convenience.



4 Reflections and implications

Reflection on the perspective of the traveller

In this study, we have provided an insight into what Dutch people consider to be acceptable travel times. We have chosen the perspective of the current and potential traveller, rather than that of society, because people's perceptions form the basis for their experiences and behaviour. At the same time, it is important to understand that what is beneficial from the perspective of the traveller does not always need to be the same as what is deemed desirable from the perspective of society (by the same travellers or by governments). For example, people may have adjusted their acceptance level to the current situation, as might be indicated by the fact that they accept longer travel times when using public transport. Furthermore, the fact that people want to be able to reach a relatively high number of destinations by car (and mention public transport much less frequently here) may be a consequence of the current social context, in which the car has a dominant role in the mobility system. The phenomenon of self-selection also plays a role, with people tending to live in environments that match their preferences. This means that they sometimes make the conscious decision not to have certain destinations nearby. The question, therefore, is whether it is always inherently necessary to set basic levels for accessibility (see below). However, a point to note here is that the choice of residential location is not always a voluntary one. In understanding and applying the insights from this study, it is important to weigh up the above factors.

Relevance to the development of accessibility goals and indicators

The insights from this study, from the perspective of the traveller, are also relevant in order to further conceptualise potential accessibility goals within the framework of the nationwide Mobility Vision for 2050. This could include the possible establishment of a basic level for accessibility.

We indicate acceptable travel times for different types of destinations, which differ markedly between types of destinations, and between modes of transport and groups of people. The study also shows that while the majority of respondents do visit their closest location of a type of destination, aspects such as offering and quality also played an important role in the selection. This can provide guidance for further considering the usefulness and necessity of setting basic levels for accessibility. The insights also show that most people are currently able

to reach the destinations relevant to them within the travel times that they consider acceptable. There are exceptions, however; these are primarily people on a low income, people with health limitations, and people without cars.

The insights from this study can also be used to further develop the accessibility indicator within the framework of the Integral Mobility Analysis (IMA). For example, it transpires that 'acceptable' travel times from the perspective of the traveller are often longer than current travel times. The current accessibility indicator in the IMA is based on the currently achieved travel times as a proxy for 'acceptable' travel times. The proxy is therefore, in many cases,

an underestimate. The information on what groups consider to be acceptable can also be used to determine which target groups are important for the operationalisation of accessibility. This study also provides initial insights into current and acceptable travel costs. These can be used in a exploratory exercise to extend the existing accessibility indicator with a cost component.



About this study

Working method

International literature has been used to achieve an operationalisation of the as-yet relatively unknown concept of an ‘acceptable travel time’. For the quantitative analysis, a questionnaire was administered to participants of KiM’s Mobility Panel Netherlands (MPN) aged 16 years and older (a total of about 3,400 respondents). Various other data sources have also been used. See the accompanying background report for more information and an explanation of the methodology.

Background report

For more information on the method used and the results, consult the background report that can be downloaded via the website www.kimnet.nl:

Hamersma, M. & Roeleven, I. (2024), *Acceptable accessibility: a traveller’s perspective*.
Background report. The Hague: Netherlands Institute for Transport Policy Analysis.

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