

## Supplementary Material

In this supplementary material, we provide a more detailed explanation of how the travel times for the accessibility indicators were calculated, along with presenting descriptive statistics and variable definitions for the independent variables.

### Accessibility indicators

In defining the study's dependent variable, mismatches, a crucial aspect was the computation of various accessibility indicators. The primary input for these accessibility indicators was travel times computed from weighted population centroid based on the respondent's stated closest transport stop from home to grocery stores. Travel times for cycling, walking, and public transport were determined using OpenTripPlanner as the routing server and OpenStreetMaps as the road network. Public transport calculations utilized the GTFS file from the public transport operator (Västtrafik). Walking speed was set at 4.68 km/h, and cycling speed at 17.7 km/h. For public transport, the departure time was designated as 17:00 on a weekday. Access to the public transportation stops was solely considered by walking, with a maximum acceptable walking distance of 5 km. While the number of maximum transfers was unrestricted, a 10-minute minimum transfer time was implemented to prioritize direct connections. Regarding car travel times, calculations were based on the allowed speed limit on each road segment, neglecting congestion, traffic lights, or parking availability due to data constraints. Therefore, car travel times in certain parts of the study area might be shorter than actual travel times, particularly in the most dense and central parts of the study area.

In the process of selecting and defining indicators, we initially evaluated three options (with different specifications): the gravity measure, cumulative opportunity measure, and travel time to the nearest grocery store. In the article, we opted for the cumulative opportunity indicator with a 15-minute threshold, which signifies the number of grocery stores reachable

within a 15-minute travel time for each mode of transportation. This choice was mainly motivated by its robust overall correlation with perceived accessibility.

However, it was challenging to identify a universal travel time benchmark applicable to all four transport modes. This challenge arises because with shorter travel times, many respondents cannot reach any grocery store by walking and public transportation. Conversely, with much longer travel times, a significant number of grocery stores become accessible by car and, to some extent, by bicycle. While an alternative approach could have involved using varying travel times for each mode of transport, we opted for a shared benchmark for the sake of clarity and easier comparison. Also, the selection of the 15-minute threshold aligns with revealed travel behavior in the region. Data from the Swedish National Travel Survey show that the average travel time (one-way) for all grocery shopping trips in the region is 12.4 minutes. The mean travel time for cycling is slightly below this average, while car and walking are close to the mean. However, the mean travel time for public transportation exceeds the average. Setting the time threshold of the indicator close to this mean value is considered reasonable. Respondents are more likely to consider grocery stores that align with the actual time distances commonly experienced.

When defining the dependent variable to capture mismatches, we followed the approach of Ryan and Pereira (2021). However, they employed a more permissive definition of mismatches, based on the median of the accessibility indicator. We opt to use bottom/top quintiles, believing that this better captures cases where there is a more evident mismatch, indicating larger disparities between the analyst's/indicator's perspective on accessibility and the perceptions of the respondents. Table 1 displays the mean as well as the bottom and top quintile of the number of grocery stores reached within 15 minutes with each transport mode.

Table 1. Descriptive statistics: number of grocery stores within 15 minutes with each transport mode.

	Walk	Bicycle	Public transport	Car
Mean	2	15	5	87
Bottom quintile	0	2	1	16
Top quintile	3	29	9	136

## Independent variable definitions and descriptive statistics

Table 2 comprises variable definitions and descriptive statistics for the independent variables.

The respondents had an average age of 39 years (maximum = 64, minimum = 18), with 50% having children in their households. About 56% possessed two or more years of university education, while 13% could be classified as high-income earners. A majority (54%) indicated the car as the most frequently used transport mode for grocery shopping. However, only 20% believe that the municipality should prioritize the car in future transport planning.

Table 2. Variable definitions and descriptive statistics

Variable	Definition	N	Mean	SD
Age	Age of the respondent	1423	39.46	13.03
Residing with children	Children in the household (no = 0, yes = 1)	1423	0.50	0.50
Higher education	Respondent has 2 or more years of university education (no = 0, yes = 1)	1423	0.56	0.50
High income earner	Respondent in the highest income category (>800 000 SEK; no = 0, yes = 1)	1382	0.13	0.34
Transport planning preference: priority for cars	Respondent thinks that the municipality should prioritize the car in future transport planning (no = 0, yes = 1)	1423	0.20	0.40
Uses a car for grocery shopping	The most frequent transport mode that the respondent uses for grocery shopping is the car (no = 0, yes = 1)	1423	0.54	0.50