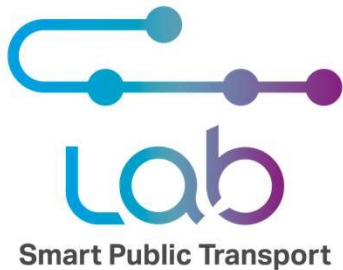# Towards an inclusive mobility system in the Amsterdam Transport Region

Matthew Bruno, Niels van Oort en Suzanne Kieft

Postdoc: Towards an Inclusive Mobility System in the Amsterdam Transport Region

Research Question:
How do you evaluate the level of social inclusivity in a mobility system and how can that evaluation method be applied to the Amsterdam Transport Region
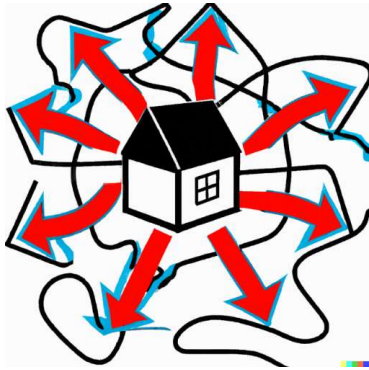
Output:

- An evaluation framework for social inclusion
- An analysis of social inclusion in the present mobility system of the Amsterdam Transport Region [case study]
- A set of proposed interventions that can improve the present situation

Bron: https://www.stm.info/en/info/universal-accessibility/inclusive-mobility

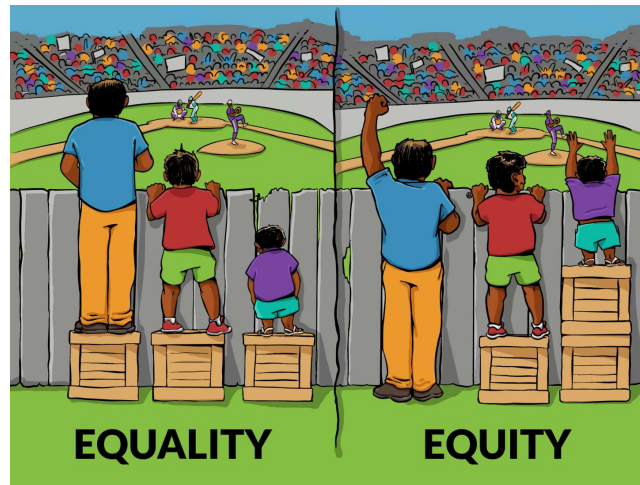# New Perspectives in Transportation Planning

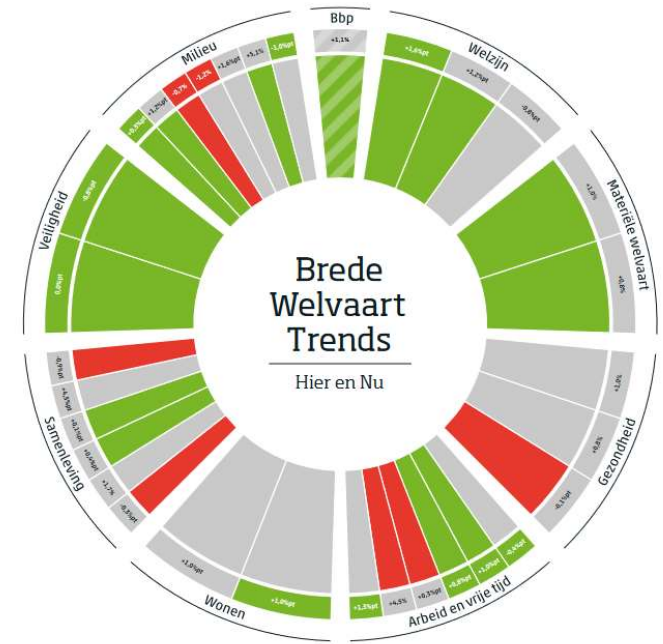The 15 Minute City

Daily Urban System

Equitable Planning

EQUALITY   EQUITY

Comprehensive Wellbeing

- Utilitarianism
- Egalitarianism
- Sufficientarianism

Utilitarianism

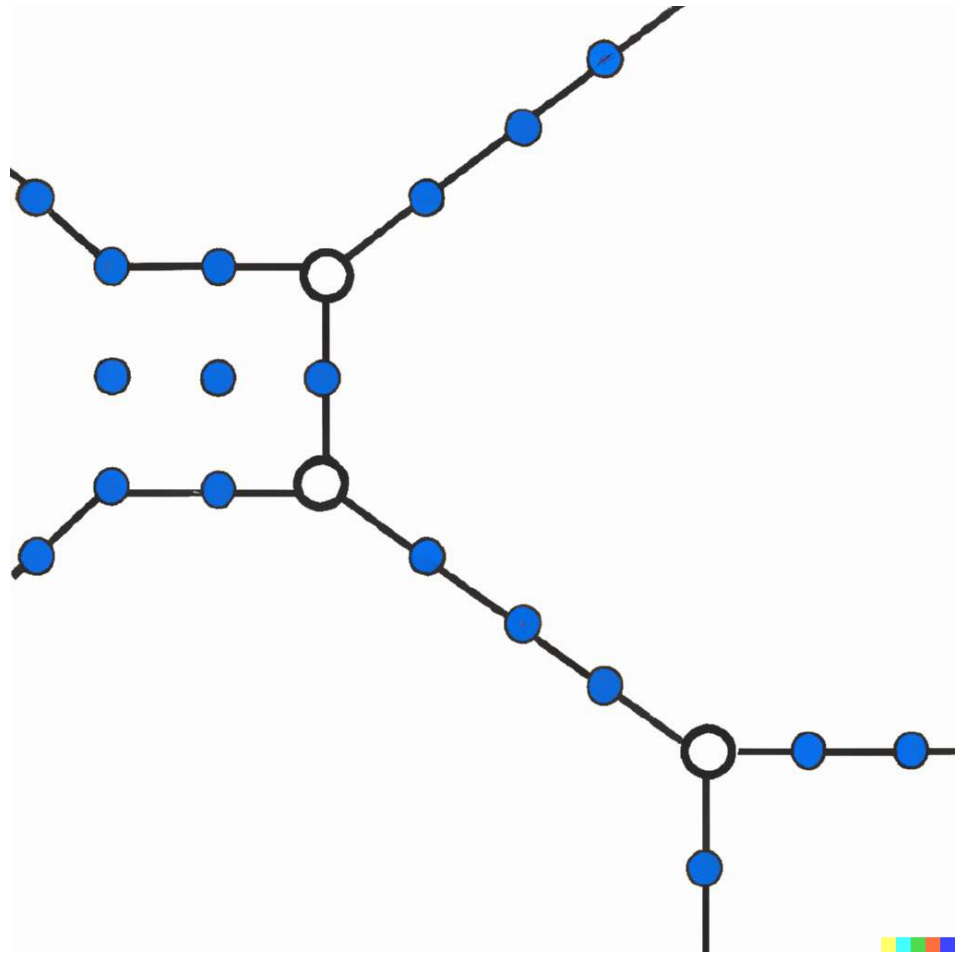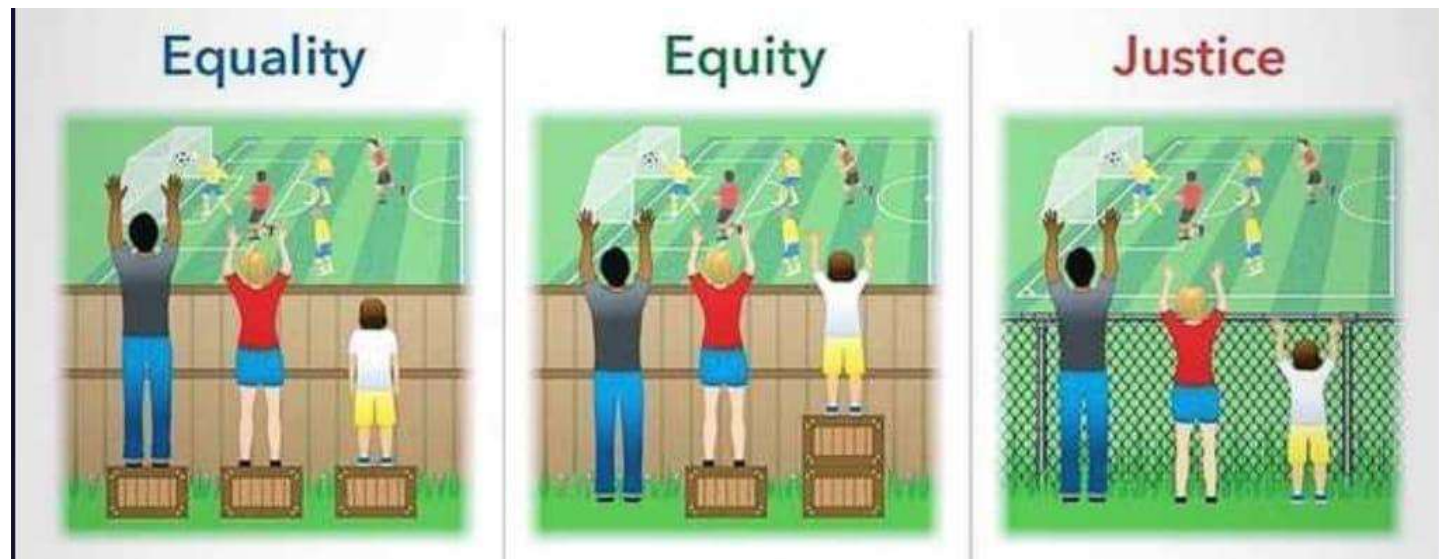Distribute limited transportation resources in the way that benefits the most people

Image from Dall-e 2

Egalitarianism

Distribute resources to minimize the difference between people.

Sufficientarianism

- "Everybody should be well-off up to a certain minimum threshold, which is 'sufficient' for fulfilling their basic needs and to guarantee their continued wellbeing" (Lucas, K., van Wee, B., & Maat, K., 2016, p.477).

- Everybody has a bus stop within at least 400 meters of their home
- Nobody has to spend more than 20% of their income on transportation
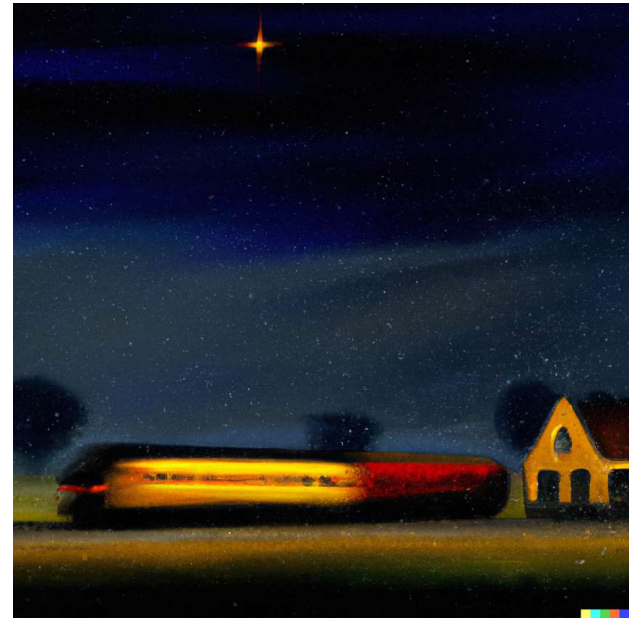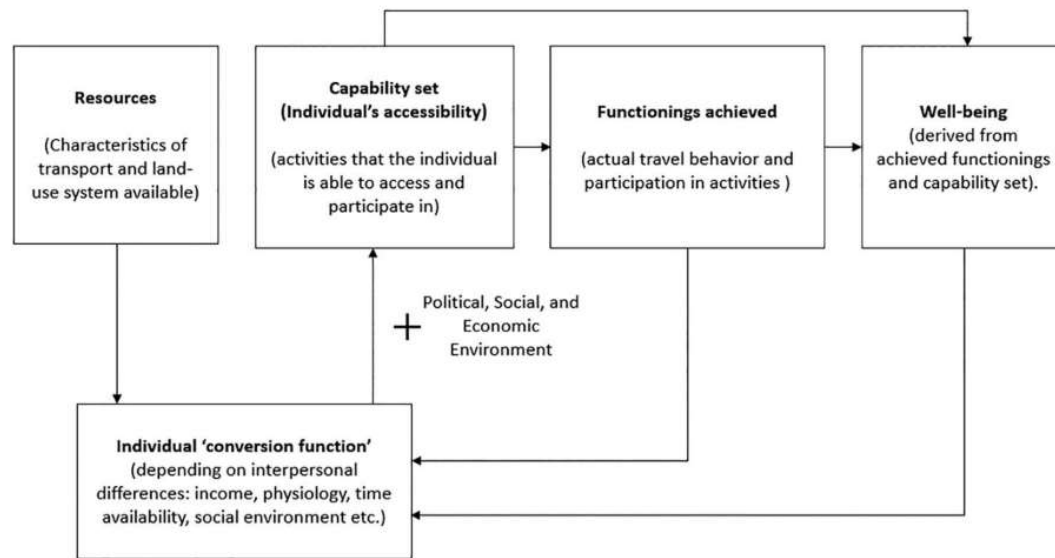- Every building has secure bicycle parking

Image from Dall-e 2

Capabilities Approach

Resources	Capability set (Individual's accessibility)	Functionings achieved	Well-being
(Characteristics of transport and land-use system available)	(activities that the individual is able to access and participate in)	(actual travel behavior and participation in activities)	(derived from achieved functionings and capability set).

+ Political, Social, and Economic Environment

Individual 'conversion function' (depending on interpersonal differences: income, physiology, time availability, social environment etc.)

Figure 1. Accessibility as a human capability. Source: authors.
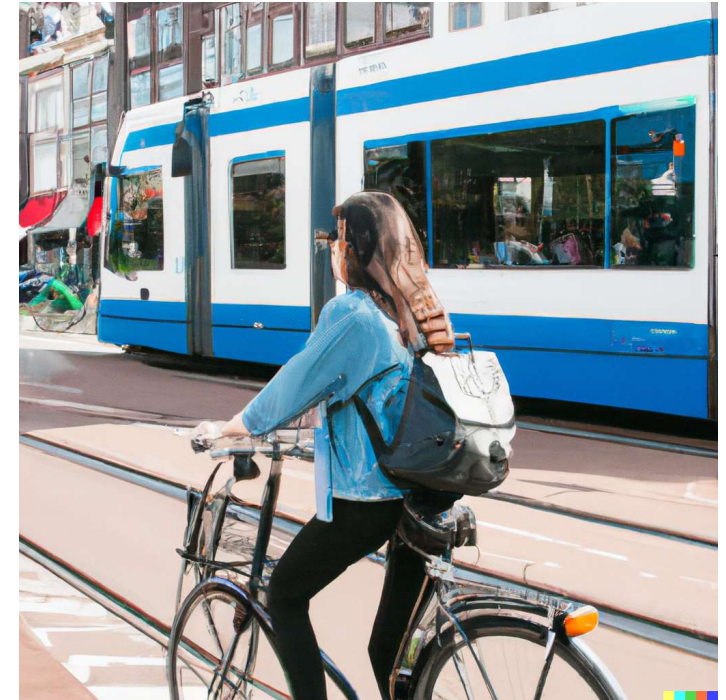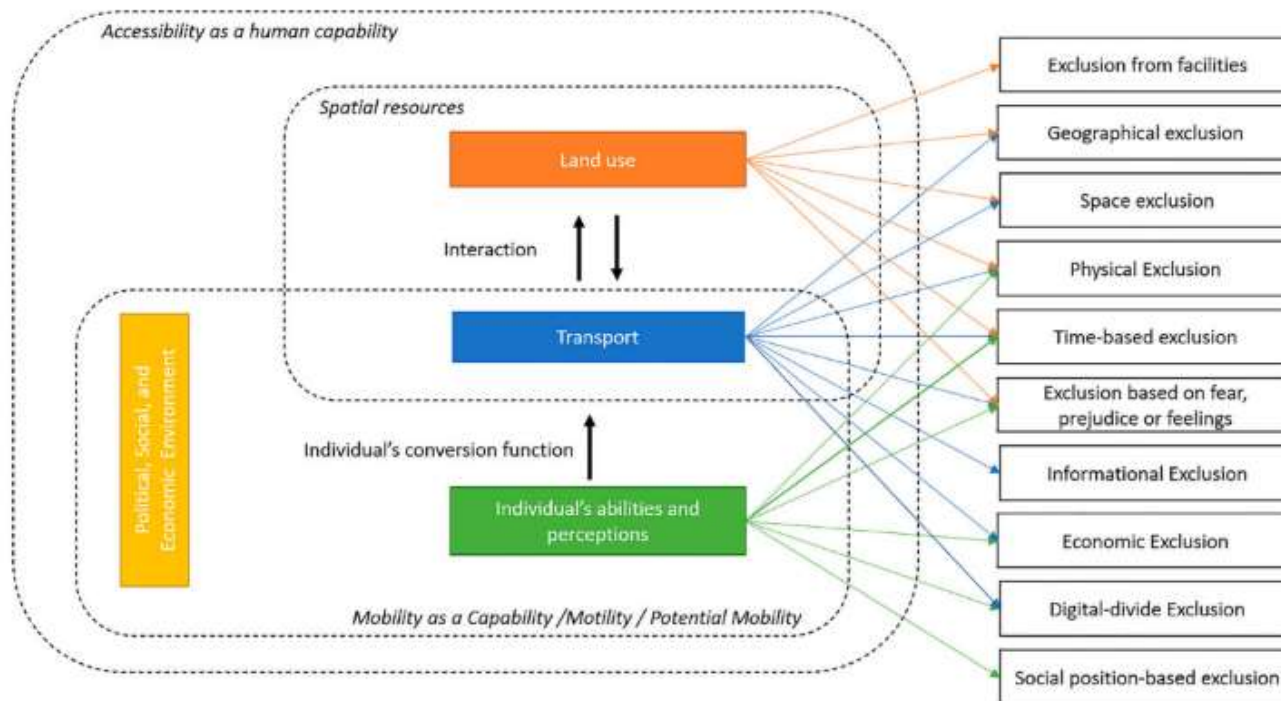
Image from Dall-e 2

Luz, G., & Portugal, L. (2021). Understanding transport-related social exclusion through the lens of capabilities approach. *Transport Reviews*. https://doi.org/10.1080/01441647.2021.2005183

Transport Related Social Exclusion [TRSE]

Figure 2. Relationship between accessibility as human capability components and TRSE dimensions.

Luz, G., & Portugal, L. (2021). Understanding transport-related social exclusion through the lens of capabilities approach. *Transport Reviews*. https://doi.org/10.1080/01441647.2021.2005183

Physical and Cognitive Exclusion

Physical and cognitive exclusion occurs when transport systems or the built environment may impose physical and cognitive barriers to individuals. Physical and cognitive difficulties in accessing transport and activities are widely cited in the literature as factors that can restrict an individual's capability set.


Image from Dall-e 2
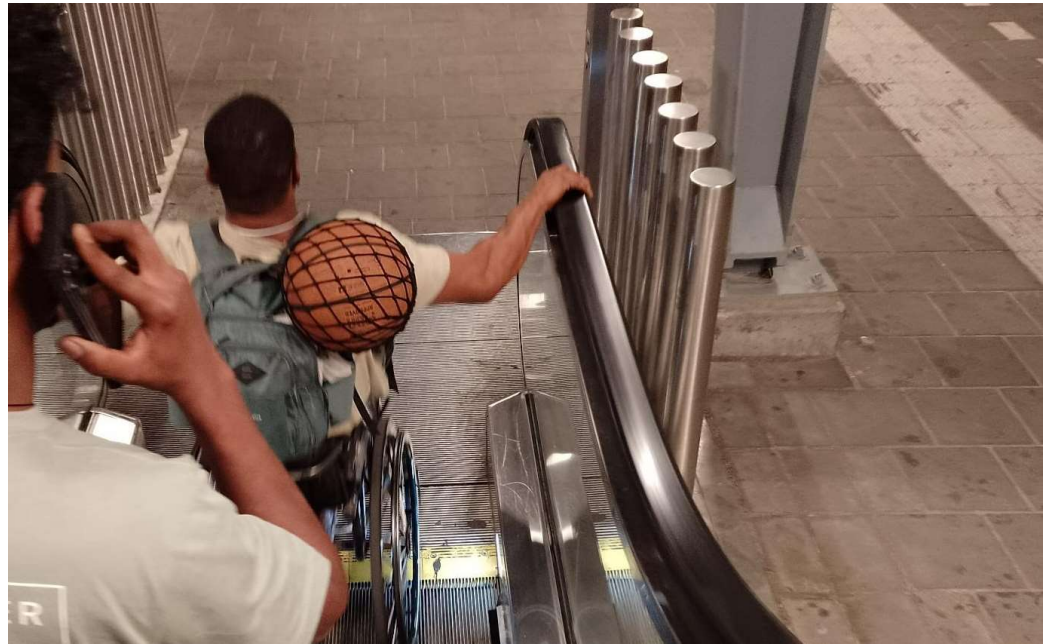
Geographical exclusion

Geographical exclusion occurs when a person's residence location prevents him/her from accessing transport services, or the transport system does not connect to the places that the person wants to access. People living in regions distant from CBD in mono-centric cities are more likely to be accessibility disadvantaged.
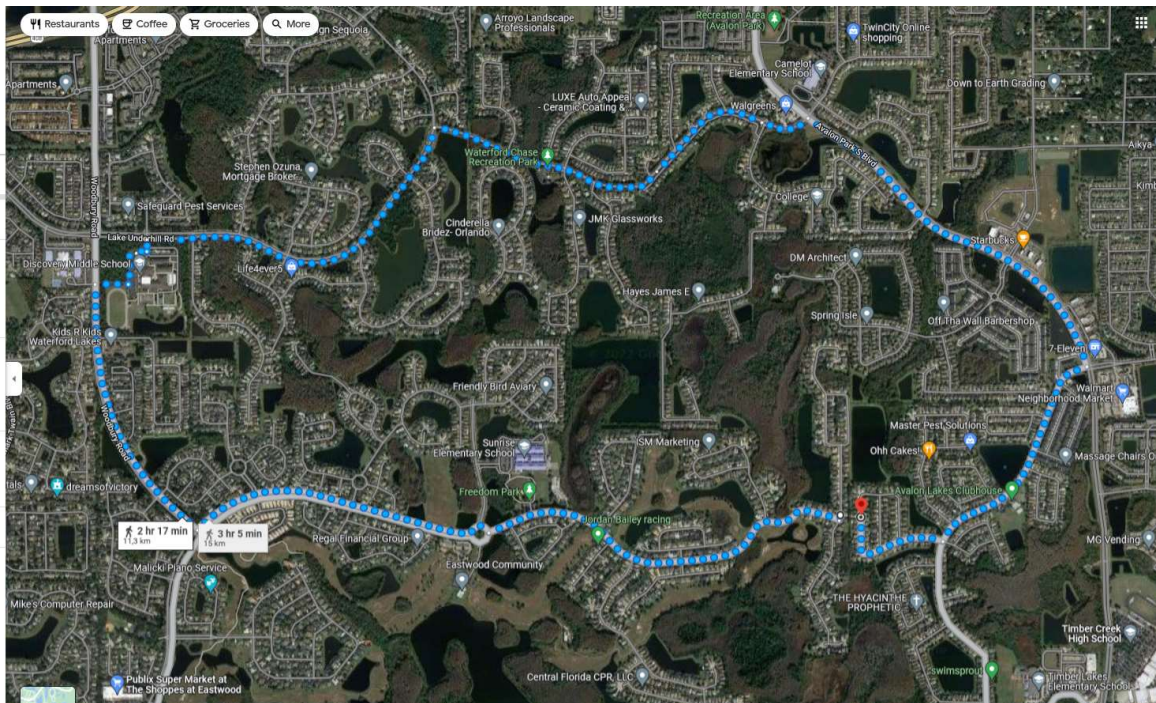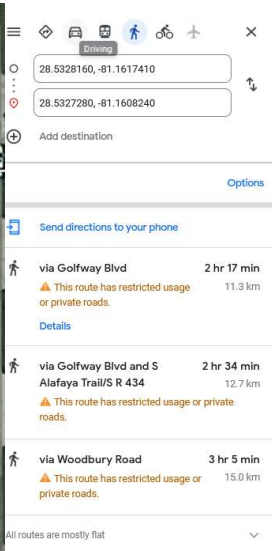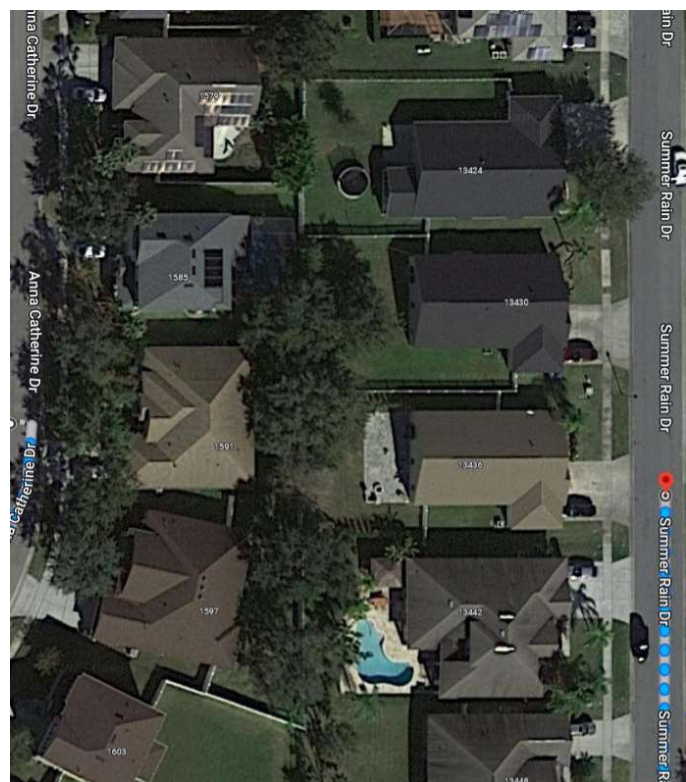
Time Based Exclusion

Time-based exclusion occurs when the low frequency of the transport system, lack of punctuality, or person's demands on time, such as work, child and elderly care duties, or other commitment may limit travel opportunities and imply the possibility to travel only at times when there is little or no transport services and activities available. The time people spend accessing, waiting for transport and travelling may limit their access to activities. It may be related to the frequency of service, network design, the number of transfers, operational speed, and distance to activities
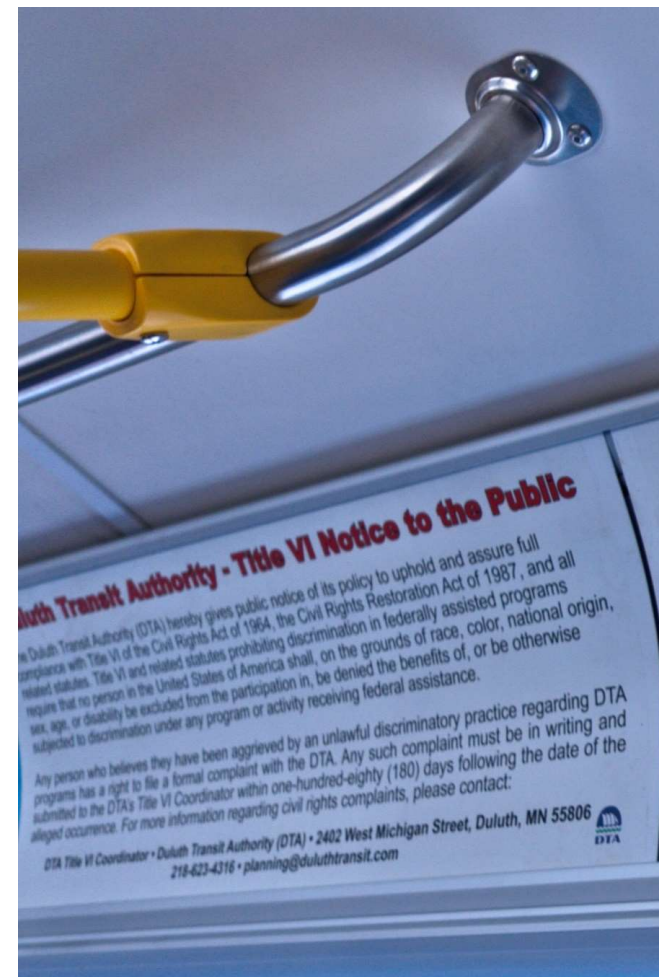

Seattle's transit map 2010 vs 2020.
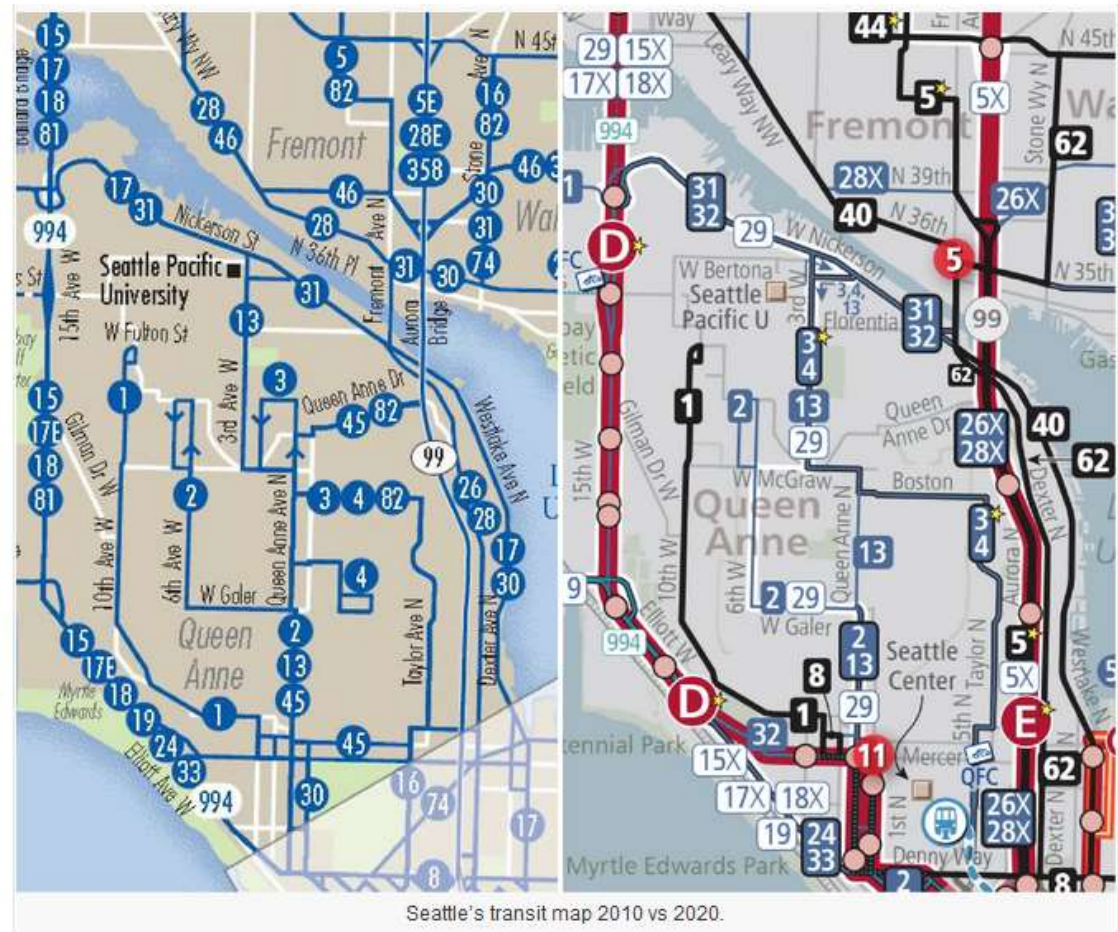
From Jarett Walker, Human Transit, https://humantransit.org/basics/the-case-for-frequency-mapping

Social position-based exclusion

Social position-based exclusion refers to the prevention from moving in public spaces due to censure, social control, or any other restriction based on one's social position (e.g. gender, race, nationality, age, ethnicity, caste, religion).

The Duluth Transit Authority (DTA) hereby gives public notice of its policy to uphold and assure full compliance with… statutes prohibiting discrimination [that] require that no person … shall, on the grounds of race, color, national origin, sex, age, or disability be excluded from… any program or activity receiving federal assistance.

https://transitcenter.org/new-video-the-legacy-of-racism-in-transit-how-we-got-here-and-what-to-do-about-it

Economic Exclusion

Economic exclusion occurs when the monetary costs of travel prevent people from travelling or restrict their access to destinations around their homes or mandatory activities. Most of the studies related to TRSE have identified poverty, low income, and unemployment as factors that prevent or limit individuals from accessing transport, thus compromising their participation in society.

Digital Divide Exclusion

Digital-divide exclusion occurs when the lack of digital connection or inability to use appropriate ICT may prevent individuals from using app-based transport systems
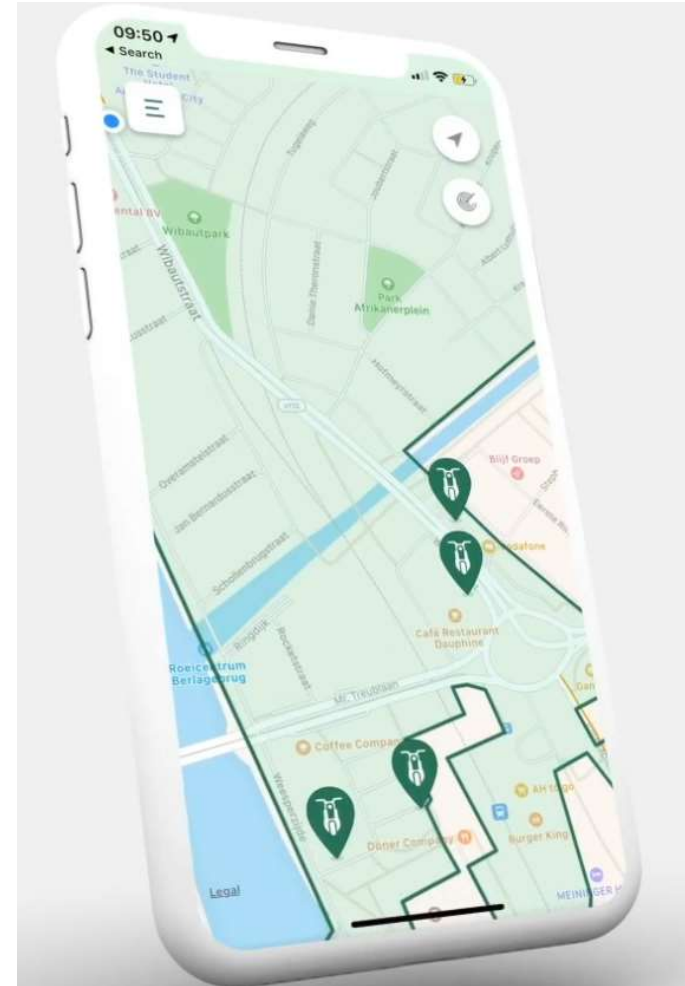
Exclusion from facilities

Aantal ziekenhuizen binnen een straal van 20 kilometer op buurtniveau, 2007

Minder dan 2
2 tot 5
5 tot 10
10 tot 20
20 of meer

Bron: CBS
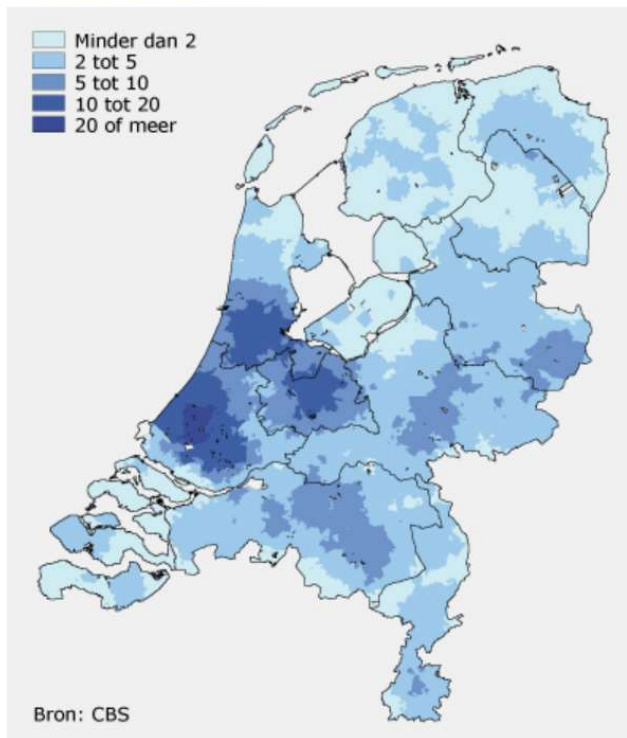
Exclusion from facilities occurs due to the absence or distance to key opportunities such as employment, healthcare, schools, shops, or leisure services from where the individual lives. It may also occur when opportunities that can be accessed by public transport are not suitable for the individual.

Exclusion based on fear, prejudice, or feelings

Exclusion based on fear, prejudice, or feelings refers to the fear of crime and the perception of insecurity or prejudice that makes people avoid certain places (e.g. a particular neighbourhood, a bus stop). Also, aspects such as quality of the transport mode, safety during the journey and security to access to transport stations, cordiality of service providers influence the feeling about public transport and the perception of it as an option for travelling... women and the elderly are more likely to face this type of exclusion. Women face concerns about personal security and harassment when accessing transit stops. The elderly frequently face the social disapproval that comes with slowing the movements of others during boarding and getting off transit vehicles.

Space Exclusion

Space exclusion occurs when security or space management of some public and private spaces discourages certain groups from using public and quasi-public transport spaces (e.g. first-class waiting rooms at stations) or certain areas (e.g. gated communities or areas of control militias). Certain types of surveillance and management of public transport spaces can weaken any sense of ownership amongst marginal groups.

Output:

- An evaluation framework for social inclusion

Roles of the Amsterdam Transport Region

- Policymaker
- Client
- Financer
- Advocate
- Director
- Facilitator

ROLLEN VAN DE VERVOERREGIO

De Vervoerregio heeft verschillende rollen. Deze zijn:

BELEIDSMAKER

De Vervoerregio maakt beleid op het gebied van verkeer en vervoer, in afstemming met andere overheden en andere beleidsterreinen.

OPDRACHTGEVER

De Vervoerregio geeft opdracht voor de uitvoering van het regionaal openbaar vervoer, de realisatie van maatregelen en infrastructuurprojecten en geeft invulling aan de zorgplicht voor het beheer, onderhoud en aanleg van de lokale railinfrastructuur vanuit de Wet lokaal spoor.

FINANCIER

De Vervoerregio levert een financiële bijdrage aan projecten die aantoonbaar op kosteneffectieve wijze bijdragen aan de doelstellingen van de Vervoerregio en de kwaliteitseisen uit het Beleidskader Mobiliteit.

BELANGENBEHARTIGER

De Vervoerregio vertegenwoordigt de belangen van het verkeer en vervoer en van de Amsterdamse regio aan de verschillende overlegtafels.

REGISSEUR

De Vervoerregio brengt partijen bij elkaar om regionale verkeer en vervoeropgaven op te pakken. Dat gebeurt onder meer door het initiëren en trekken van verkenningen en planstudies voor regionale infrastructuurprojecten en bereikbaarheidsmaatregelen, het delen van kennis en ervaring om vernieuwing en innovatie te stimuleren en het coördineren van de regionale plannen richting het Rijk.
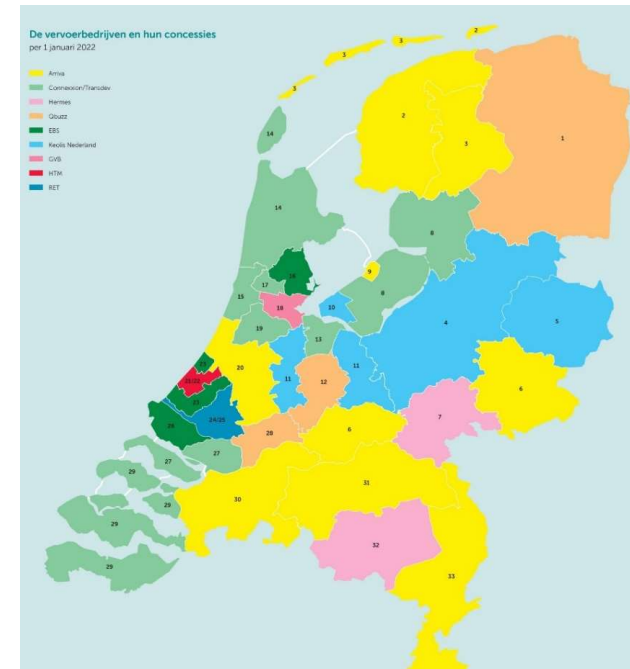
FACILITATOR

De Vervoerregio deelt kennis en informatie met betrokken partijen om ontwikkeling op het gebied van verkeer en vervoer mogelijk te maken.

Policy Document Analysis

- Concession Area Program Requirements

- Strategic Policy Documents

- Inclusive Mobility Policy

- Topic Specific Policy

Deze ontwikkelingen vragen om een andere rol van het openbaar vervoer in het concessiegebied Amstelland-Meerlanden die is afgestemd op de gewijzigde behoefte van reizigers. Recentelijk heeft de Stadsregio in dat kader voor het openbaar vervoer de volgende ambities en kaders vastgelegd[3]:

- Verleggen van het accent naar het verbinden van de belangrijkste economische bestemmingsgebieden binnen en buiten de regio. De focus is daarbij niet langer alleen gericht op woon/werkstromen, maar ook op toerisme, winkelgebieden en evenementen. Verder is er aandacht voor ontbrekende en zwakke schakels in het regionaal netwerk, met focus op plekken waar de hoofdnetwerken en de lokale (taxi)netwerken elkaar ontmoeten en extra aandacht voor informatie.

"a shift in focus to connecting the most important destinations inside and outside the region. The focus is then no longer only directed to commuter traffic, but also tourism, shopping areas and events."

3.5   Nachtvervoer

De Concessiehouder biedt in ieder geval in de nachten van donderdag op vrijdag, vrijdag op zaterdag en zaterdag op zondag nachtvervoer van (i) Amsterdam Centraal en (ii) het Rembrandtplein en/of het Leidseplein naar (a) Schiphol en (b) alle te ontsluiten Woongebieden (zie subparagraaf 3.3.1) en vice versa. De Concessiehouder zorgt er daarbij voor dat ten minste 80% van de adressen in deze Woonbuurten binnen een straal van 800 meter van een halte van een nachtlijn ligt.

"The concession holder shall ensure that at least 80% of the addresses in these neighborhoods are within 800 meters of a bus stop with night service."

Policy Document Analysis

Codes (24)
- i.cognitive { 0 - 0 }
- i.digital { 24 - 0 }
- i.discrimination { 19 - 0 }
- i.economic { 12 - 0 }
- i.facilities { 1 - 0 }
- i.fear { 2 - 0 }
- i.geographic { 4 - 0 }
- i.informational { 4 - 0 }
- i.physical { 6 - 0 }
- i.space { 0 - 0 }
- i.time { 15 - 0 }
- p.cognitive { 5 - 0 }
- p.digital { 12 - 0 }
- p.discrimation { 0 - 0 }
- p.economic { 14 - 0 }
- p.facilities { 48 - 0 }
- p.fear { 43 - 0 }
- p.geographic { 28 - 0 }
- p.informational { 50 - 0 }
- p.physical { 44 - 0 }
- p.space { 0 - 0 }
- p.time { 55 - 0 }
- Policy Mechanisms { 25 - 0 }
- sufficientarianism { 49 - 0 }

Documents (7)
- D 1: 1911-vervoerregiodeelfietsdef (63)~
- D 2: Programmaplan Schoon Duurzaam DEF (7)~
- D 3: strategische-visie-mobiliteit-gecomprimeerd (30)~
- D 4: ii-beleidskader-mobiliteit-vervoerregio-amsterdam (34)~
- D 5: vervoerregiouitvoeringsprogrammamobiliteit2021 (16)~
- D 6: Definitief Programma van Eisen Concessie Amstelland-Meerlanden 2018 (156)
- D 7: ii-beleidskader-mobiliteit-vervoerregio-amsterdam (66)
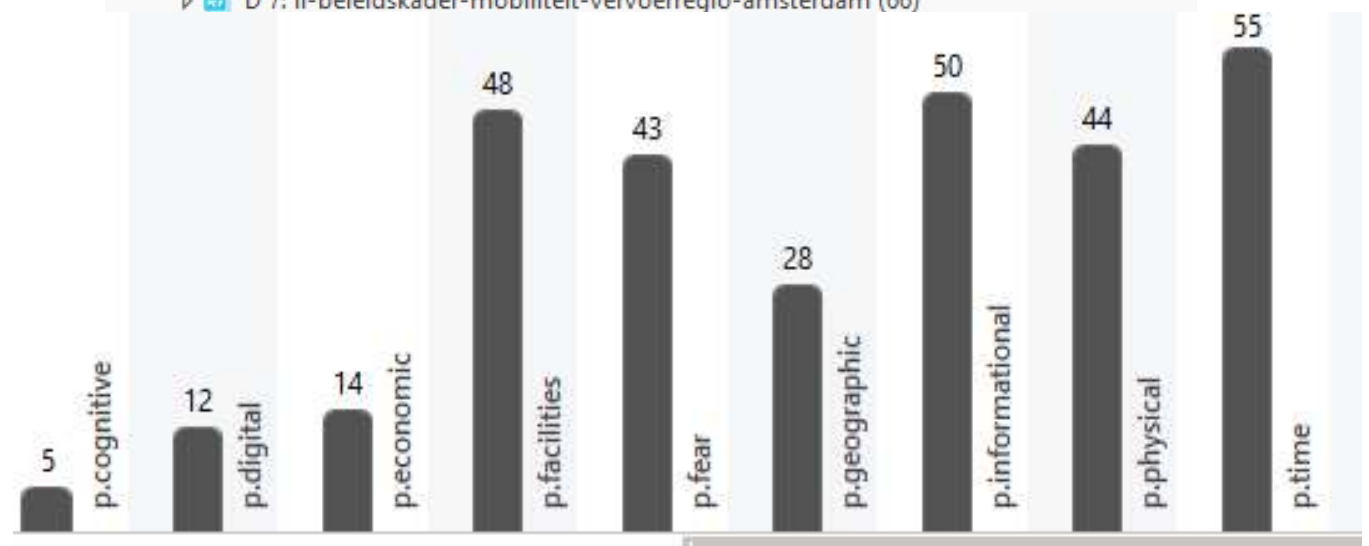
Preliminary Results

- **Considerable attention:** Exclusion based on fear, prejudice, or feelings; informational exclusion

- **Substantial attention:** Time related exclusion, physical exclusion, exclusion from facilities

- **Some attention:** Digital divide exclusion; geographic exclusion; economic exclusion

- **Little attention:** Cognitive exclusion; social position related exclusion; space exclusion

Output:

An analysis of social inclusion in the present mobility system of
the Amsterdam Transport Region [case study]

Image from Dall-e 2

MB2   Matthew Bruno; 16-9-2022

Focus

Fysiek en cognitieve uitsluiting	1
Geografische uitsluiting	2
Uitsluiting op basis van angst, vooroordeel of gevoel	3
Tijdgebonden-uitsluiting	4
Economische uitsluiting	5
Uitsluiting van faciliteiten	6
Informatie-verbonden uitsluiting	7
Sociale positie verbonden uitsluiting	1
Uitsluiting door de digitale kloof	9
Ruimtelijke uitsluiting	10
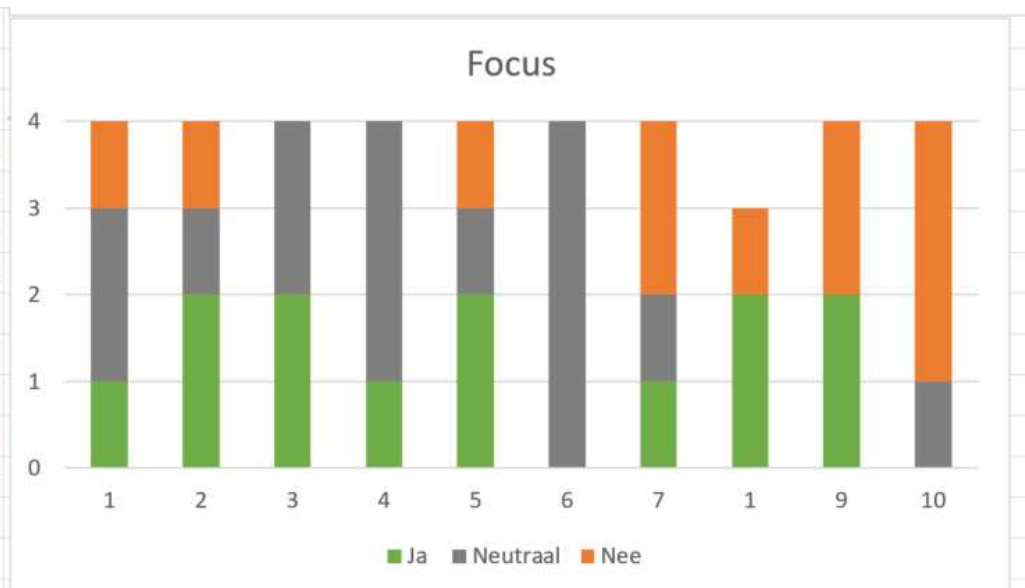
Gebieden

Metropolitcan city-centers
City centers
City suburbs
Rural
Low income neighborhoods
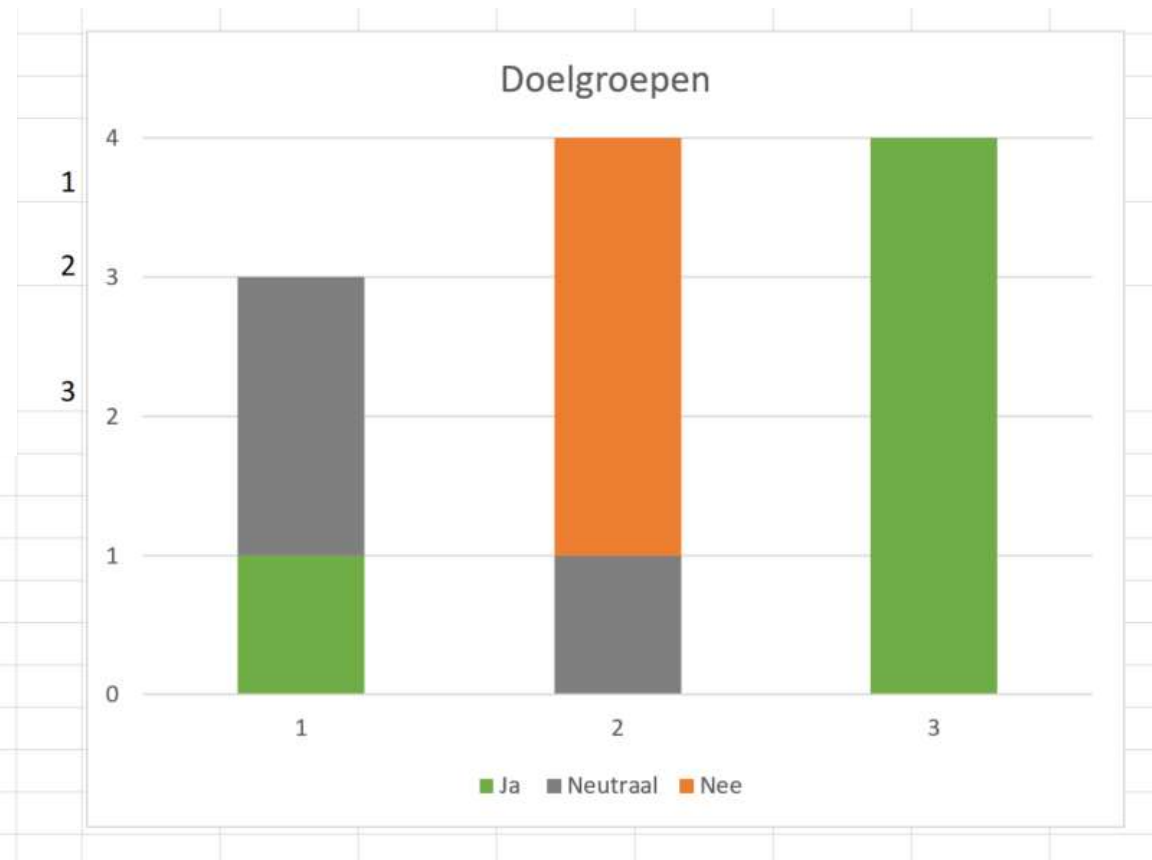Cities with the highest risk for social exclusion
High auto-ownership
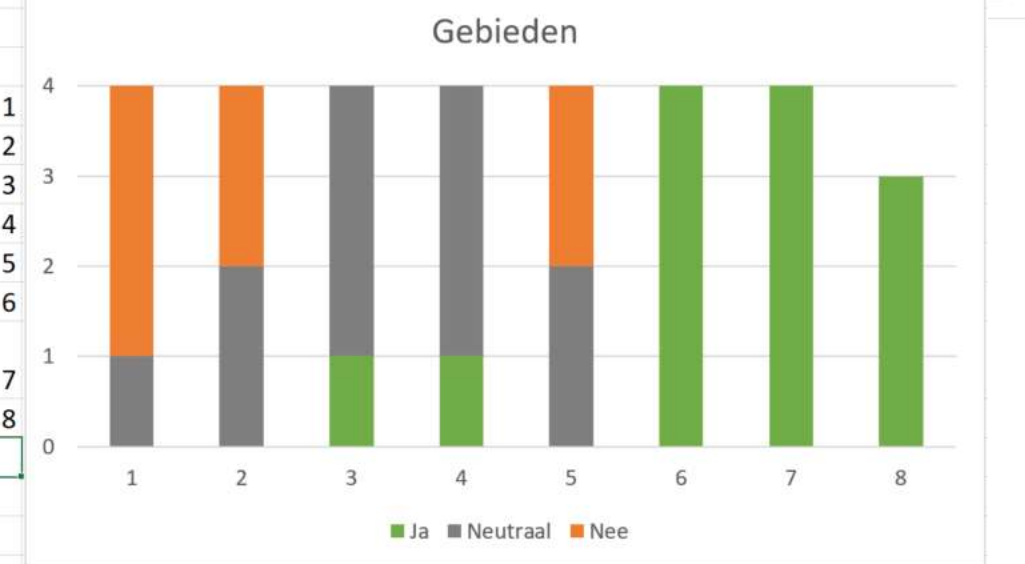
Target Groups

People that use the transportation system but might face unknown obstacles
People that use the transportation system that face known barriers
People that want to use the transportation system but do not and therefore are not present in traditional data sources

Discussion Question

- How do you find people – both in the data and in real life – that do not travel?

- How do you make a case study selection across an area that consists of 14 different cities each with different characteristics?

Average Density in the Amsterdam Transport Region
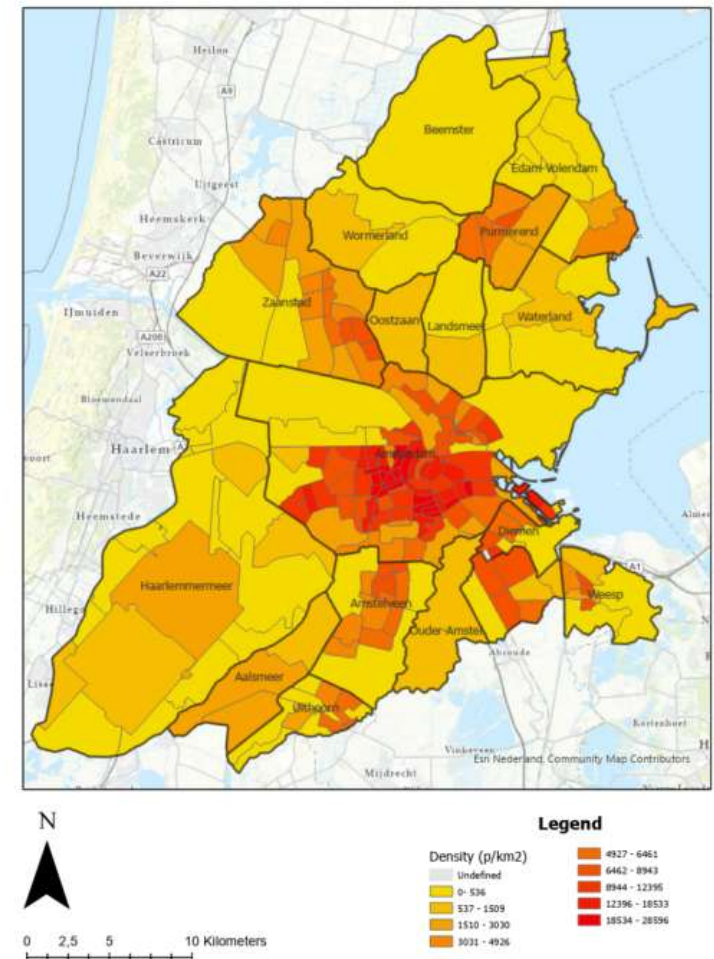
Thank you for your time and attention!