

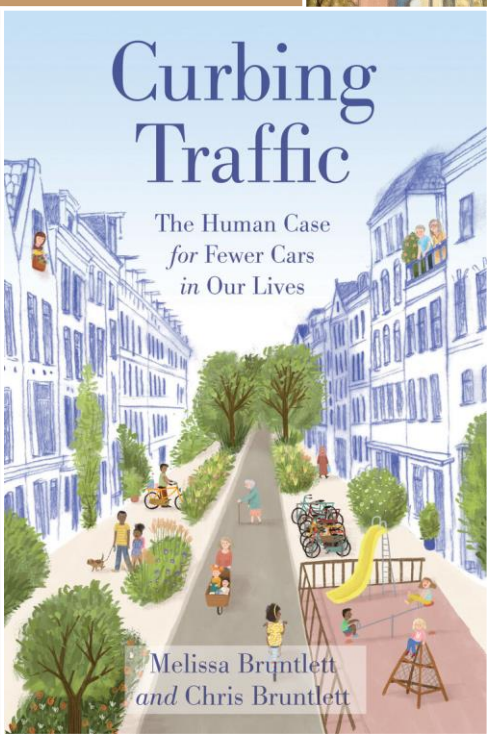
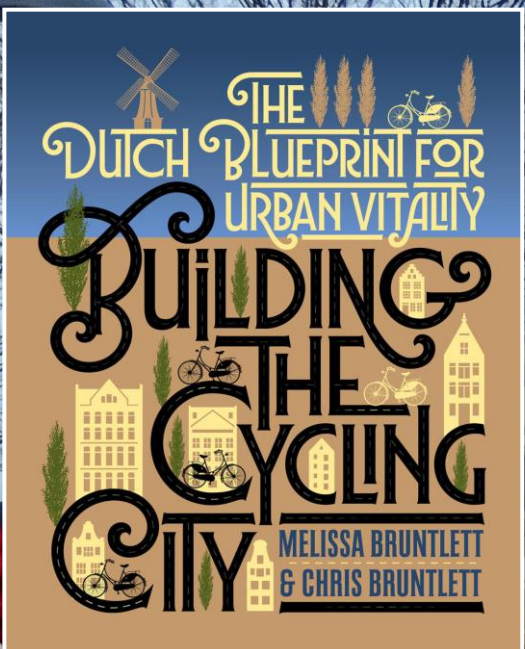


**DUTCH  
CYCLING  
EMBASSY**

# The Low-Car City: The Human Case for Fewer Cars in Our Lives

Chris Bruntlett • Cycling Europe  
Saturday, March 11th, 2023







# Dutch Cycling: For a Bicycle-Friendly World



The Dutch Cycling Embassy is a vast network of public and private organizations from the Netherlands who wish to share their knowledge and expertise to help cities experience the many advantages of cycling.



**Experience** the Dutch cycling culture first-hand



**Think** about best possible solutions and achievable results



**Act** by applying these solutions to your local context



**Learn** more about effective policies and best practices



8Morgen

3pm

4wieler

ABELLEISURE  
Meer dan routes!

ABEL  
sensors

AMS  
TERDAM  
CYCLE  
CHIC

Apm  
management consultants

ARGALEO  
FROM DATA TO VALUE

ARTGINEERING

ARUP

DUTCH  
CYCLING  
EMBASSY

BD+P  
Beccan Davila  
Puentes  
Architects and Planners



EXPERIENCE  
BICYCLE  
USER

B!KEFLIP

bike.box

Bike  
minded

BOUGH & BIKES  
be moved by nature

Breda  
University  
OF APPLIED SCIENCES

BYCS

cargoroo

ColorFalt®  
Solutions  
Premium coloured road surfaces

ColVitro

fietsberaad  
CROW

cycledata

Cyclemotions

cyclomedia

DECISIO  
ECONOMISCH ONDERZOEK EN ADVIES

dickvanveen  
STREET DESIGN PUBLIC SPACE

DOLLY-BAKFIETS  
DUTCH CARGO SOLUTIONS

DONKEY  
REPUBLIC

DTV  
CAPACITY BUILDING

Een nieuwe kijk

FALCO

Fietsdiensten.nl

fietsDock  
smart • safe • simpel

F  
Fietzersbond

FIETSHANGAR  
4 tot 7 fietsen veilig en droog voor de deur

FOLKERSMA  
ROUTING EN SIGN

Geert  
Kloppenburg

Gemeente Amsterdam

Den Haag

Gemeente Rotterdam

Gemeente Utrecht

Zwolle

Goudappel

HOD  
WORKS

horizons  
sustainable future

humankind.

i&o  
research

COLOURED  
ASPHALT

Ministerie van Infrastructuur  
en Waterstaat

Loendersloot  
groep  
verkeer & meer

LUMIGUIDE  
SMART MOBILITY SOLUTIONS FOR SMART CITIES

GROENE  
METROPOL  
REGIO  
ARNHEM  
NIJMEGEN

Ministerie van Infrastructuur  
en Waterstaat

MOBYCON

Movares  
consultants & engineers

move  
mobility  
smart moving cities

new  
urban  
mobility

nieuw  
verbeterd



Panteia  
Research to Progress

WILLEKX

POSSEHL

ProRail

provincie  
Gelderland



provincie  
 groningen



PROVINCIE :: UTRECHT

Provincie Noord-Brabant



Rijkswaterstaat  
Ministry of Infrastructure  
and Water Management

Ring  
ring

Roelofs

GAZELLE



Royal  
HaskoningDHV  
Enhancing Society Together

GoDutchCycling  
RVDB Urban Planning / Lightrail.nl

SIEMENS

STREET  
STUFF!

STUDIO  
BEREIKBAAR

Swapfiets

theurbanfuture  
Usual Insights Boosting Cities

TILER

Tour de  
Force

TRACIFY  
KEEP YOUR BIKE CLOSE

triple  
Joy

TU Delft

vconsyst

VelopA  
LET'S GO OUTSIDE

WHEELY  
LIFT

hogeschool  
Windesheim  
Dichter bij jou

wobs  
WARM ON BIKES

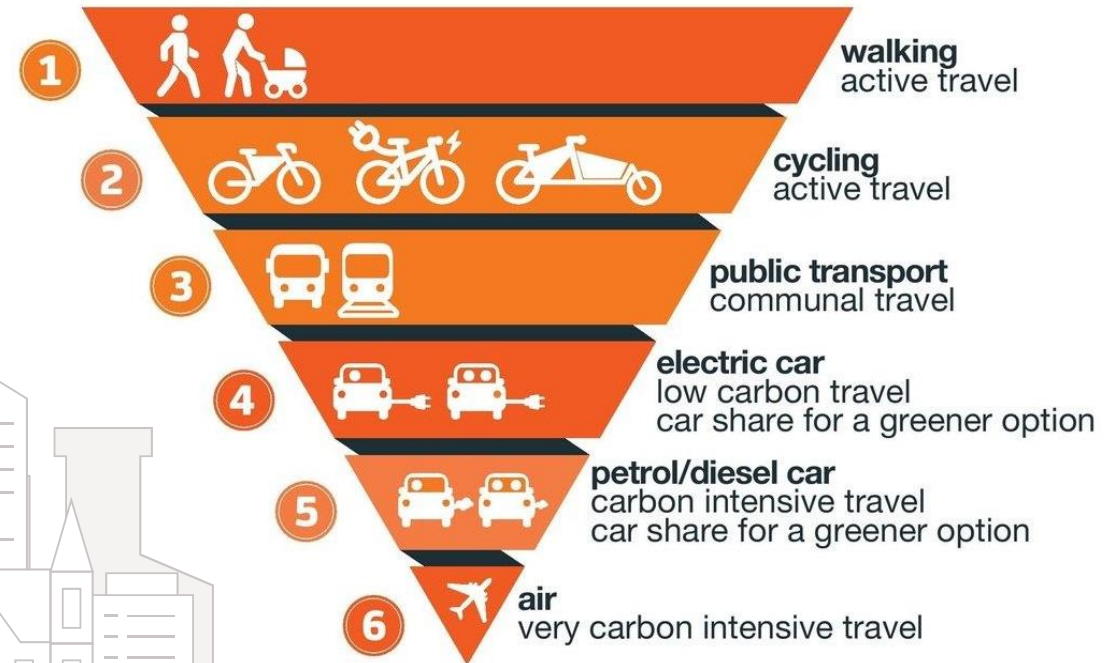






# Why Create 'Low-Car' Cities?

- o>o Livability
- o>o Public Health
- o>o Sustainability
- o>o Equity
- o>o Resiliency
- o>o Affordability
- o>o Social Cohesion
- o>o Age-Friendliness
- o>o Noise/Air Pollution
- o>o Congestion
- o>o Public Space
- o>o Local Economy
- o>o Road Safety

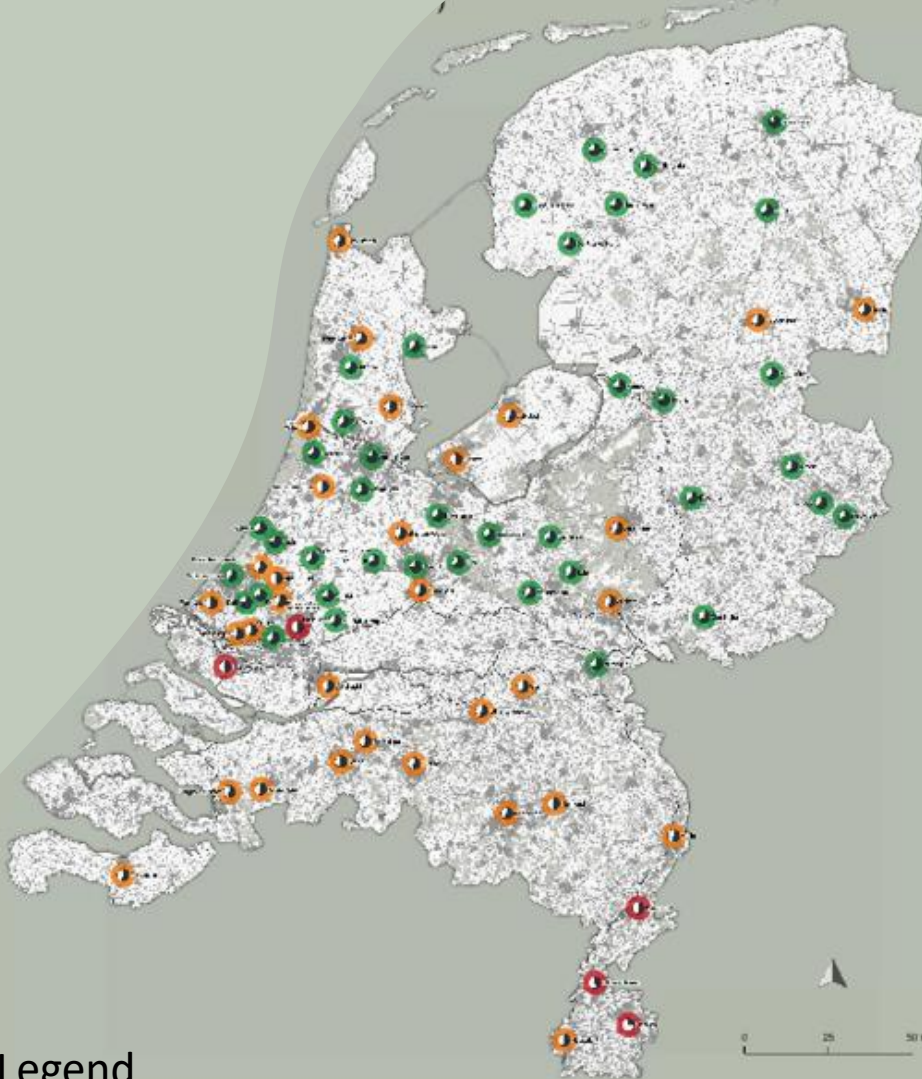




# Bikes vs Cars



Cities between 50,000-1,000,000 inhabitants



Legend

% of trips under 7.5 km made by bicycle:

● < 50%

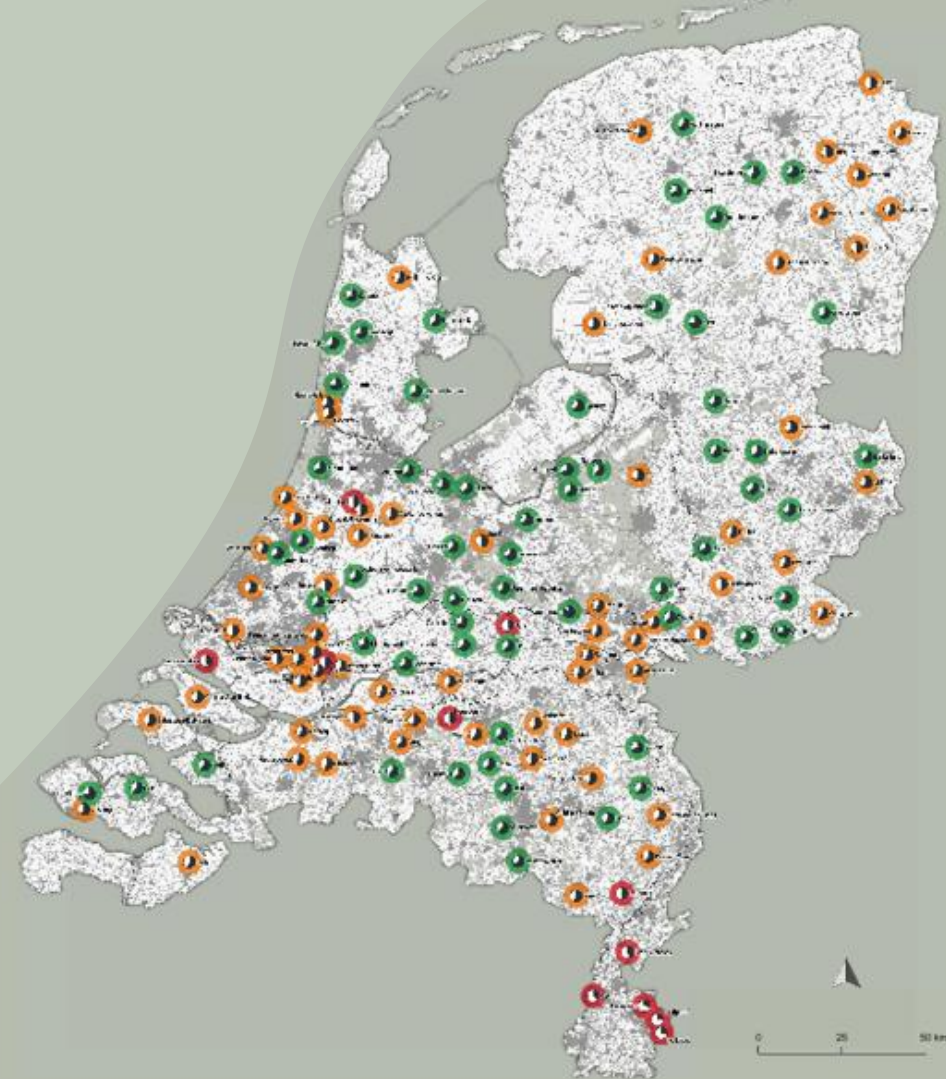
● 50-60%

● > 60%

# Bikes vs Cars



Cities between 25,000-50,000 inhabitants





THE VIEW FROM 'FIETSPARADIJS' o>o





IT WASN'T ALWAYS THIS WAY 



# THE IMPACT OF TRANSPORT NETWORKS ON OUR WELL-BEING

Physical, social and mental health





# 4

## THEMES OF WELL-BEING THROUGH SUSTAINABLE TRANSPORT DESIGN

AGE EQUITY



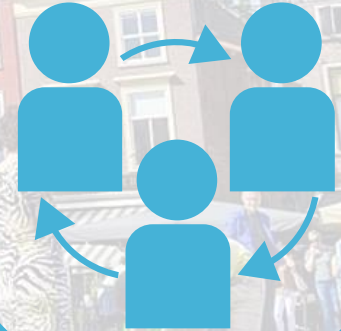
ACCESS EQUITY



GENDER EQUITY



SOCIAL CONNECTION







## The Kid-Friendly City

- o>o Two-thirds of all Dutch children walk or cycle to school; for secondary school students, that number is closer to 75%
- o>o The 12-17 age group cycles more than any other age group (60% of ALL trips)
- o>o UNICEF regularly ranks Dutch children among the happiest in the world; specifically citing their unrivalled levels of physical activity, freedom, autonomy
- o>o Also boast lowest levels of childhood obesity and depression in the EU

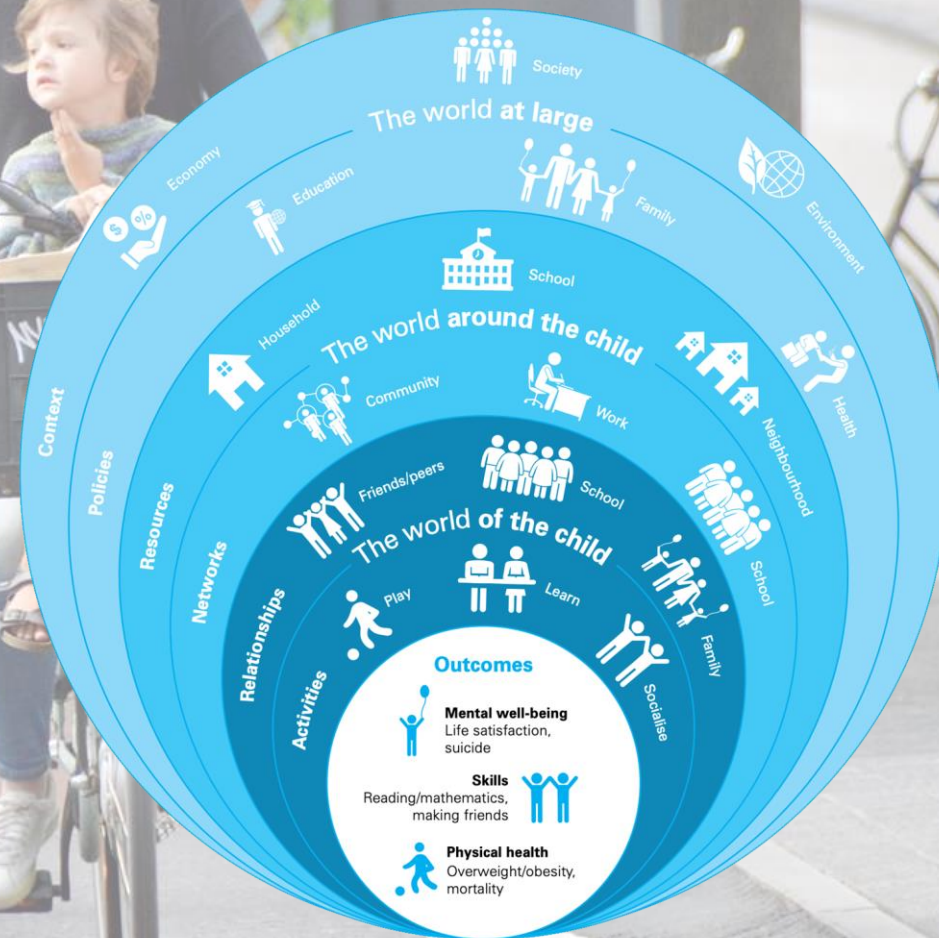


# INDEPENDENT CHILDHOOD MOBILITY

## THE HAPPIEST KIDS IN THE WORLD

Overall Rating	Country	Mental well-being	Physical Health	Skills
1	Netherlands	1	9	3
2	Denmark	5	4	7
3	Norway	11	8	1
4	Switzerland	13	3	12
5	Finland	12	6	9

Source: UNICEF Innocenti Report Card 16 (2020)









# The Aging City



- o>o Reverse age gap: 65-75 age group has a higher share than all adult categories
- o>o From 2010 to 2017, Dutch seniors (75 and over) cycled 33% more kilometers
- o>o Roughly 80% of e-bikes sold in the Netherlands are to people aged 50+
- o>o “An elderly person who cycles covers an area of 14 km in their daily life. The non-cyclist doesn't travel further than 10 km.” – Utrecht University study



FACE-TO-FACE CONTACT AND THE  
FEEL-GOOD HORMONE

THE HEALING POWER OF OXYTOCIN









# The Feminist City

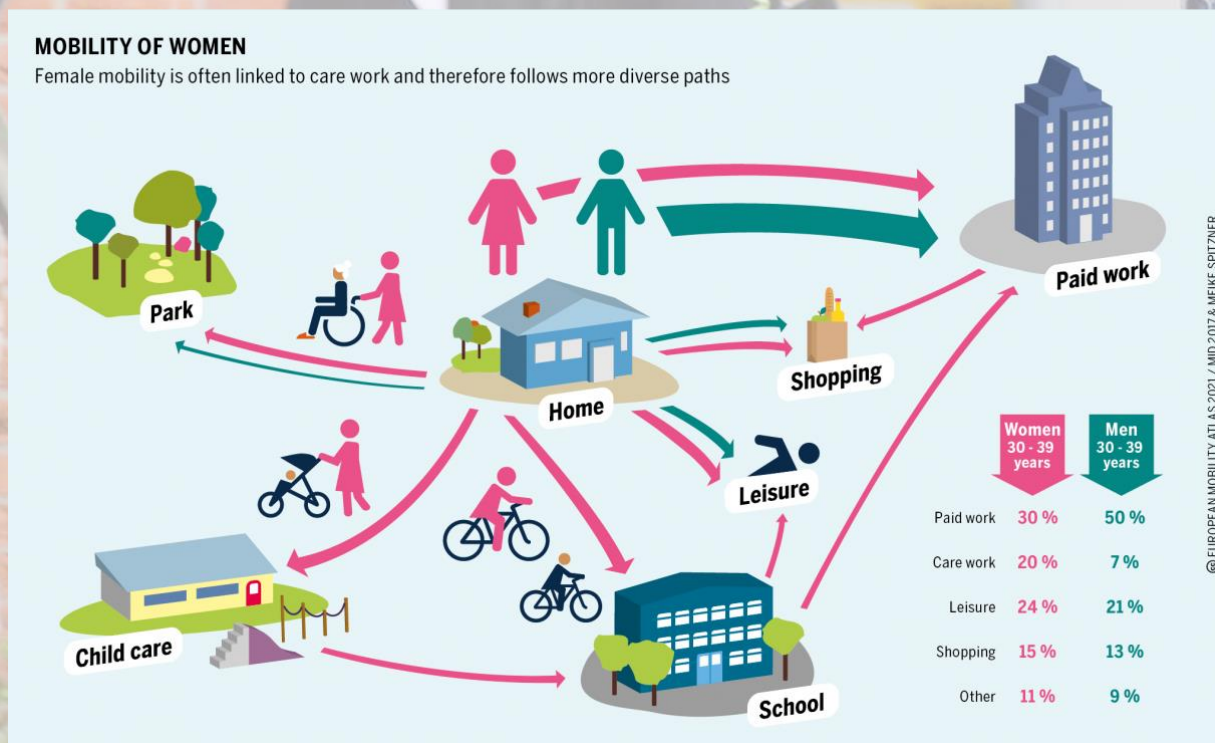


- o>o Reverse gender gap: mode share for women is 28% (versus 26% for men)
- o>o Women are more likely to make shorter, multi-purpose, non-car trips
- o>o Planners often fail to consider care trips (ie. dropping kids at school) and trip-chaining (ie. proceeding to the office); because they don't have the data
- o>o Childhood independence also relieves burden of supervised transport, which mostly falls on female shoulders



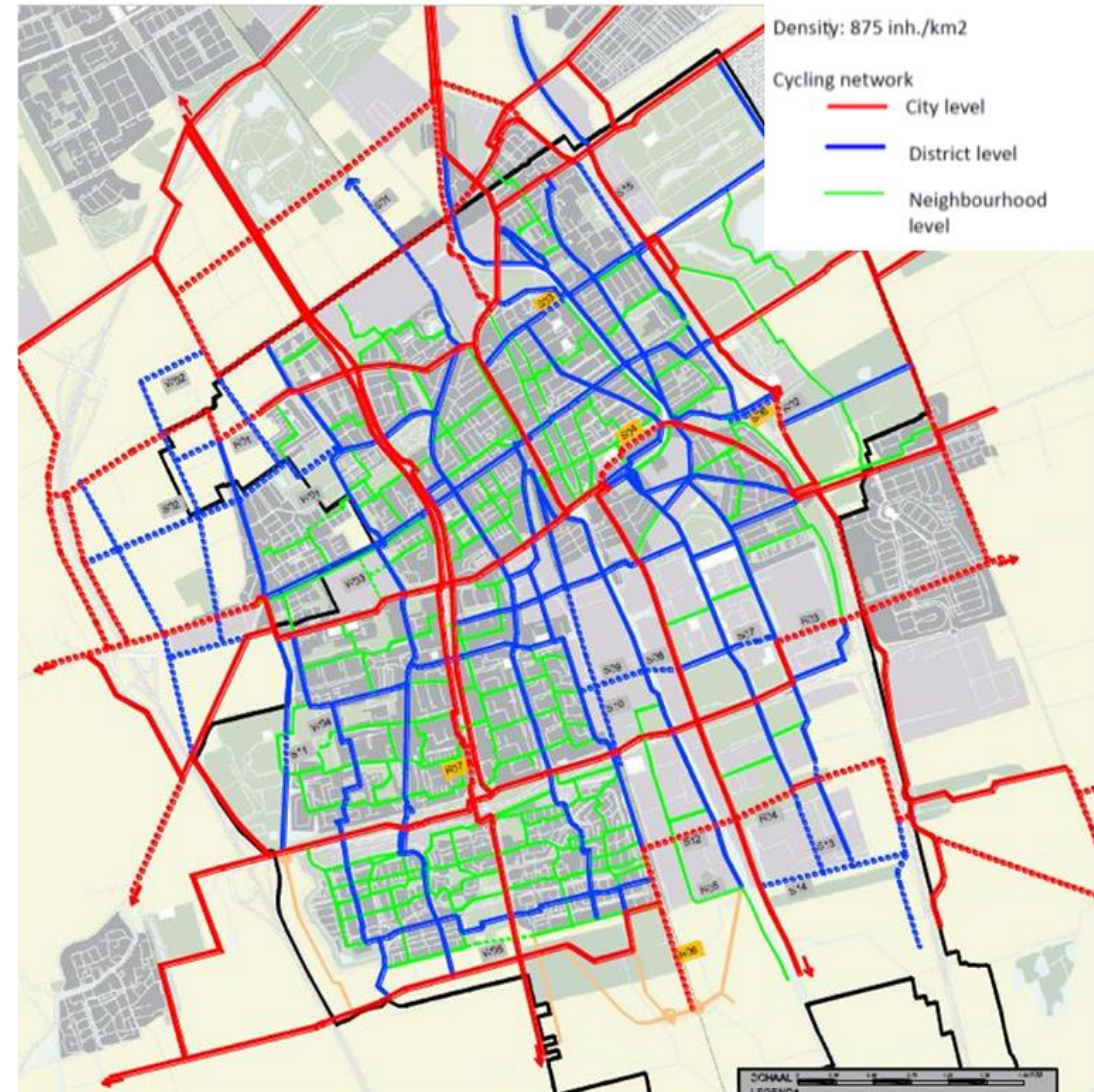
# MEETING WOMEN'S TRANSPORT NEEDS

## CARE TRIPS AND TRIP CHAINING



Source: EUMA2021 Mobility of Women; picture: Heinrich-Böll-Stiftung



[illegible]

Source: presentation by Zbynek Sperat



# The Accessible City



- o>o Inclusive infrastructure means 16% of all trips made by physically impaired people in the Netherlands are pedal powered; often on adapted vehicles (electric tricycles or hand cycles)
- o>o For those who can't cycle, wide (at least 225 cm) space welcomes other modes; ie. (motorized or manual) wheelchairs
- o>o Details matter: angled (forgiving) curbs, plentiful curb cuts, smooth asphalt, visual cues/edges, gentle gradients



# THE MYTH OF CAR ACCESS

Percentage of people living with a disability with no access to a car (UK)



Source: Transport: Challenging Disabling Environments by Rachel Aldred (2008)



New Zealand survey of COVID-19 travel behaviour:

**20%**

Of respondents living with disability did leave house in last week of lockdown.

Source: Dr. Bridget Burdett; Curbing Traffic (2021)





VERNOVEN

vloeren

vloeren

015-200 11 40





# The Prosperous City

- o>o Half of all train journeys in the country begin with a bicycle ride to the station
- o>o 81% of the population lives within 7.5 km—comfortable cycling distance—of a train station; providing more equitable access to housing, employment, education, healthcare opportunities
- o>o Liberates many households from the economic burden of car ownership and maintenance, which disproportionately affects those in lower income bracket



## THE REAL COSTS OF CAR OWNERSHIP

Median annual Dutch income

**€38,500**

Average cost to own and operate a motor vehicle in the Netherlands (2022)

**€13,992**

**=**

**36%**

Of annual income









THE SOCIAL CITY











THE THERAPEUTIC CITY





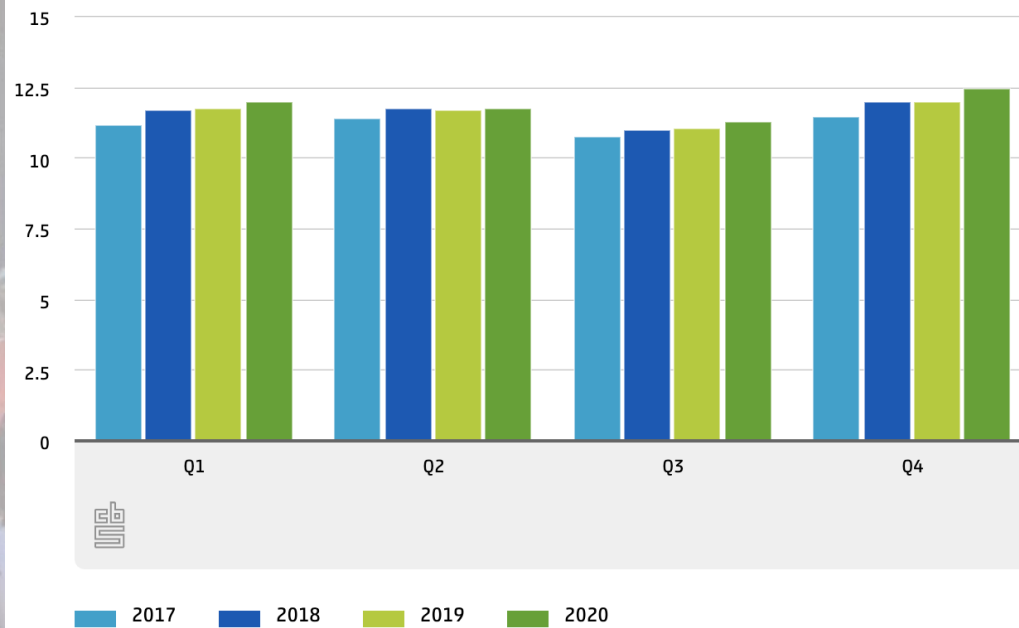




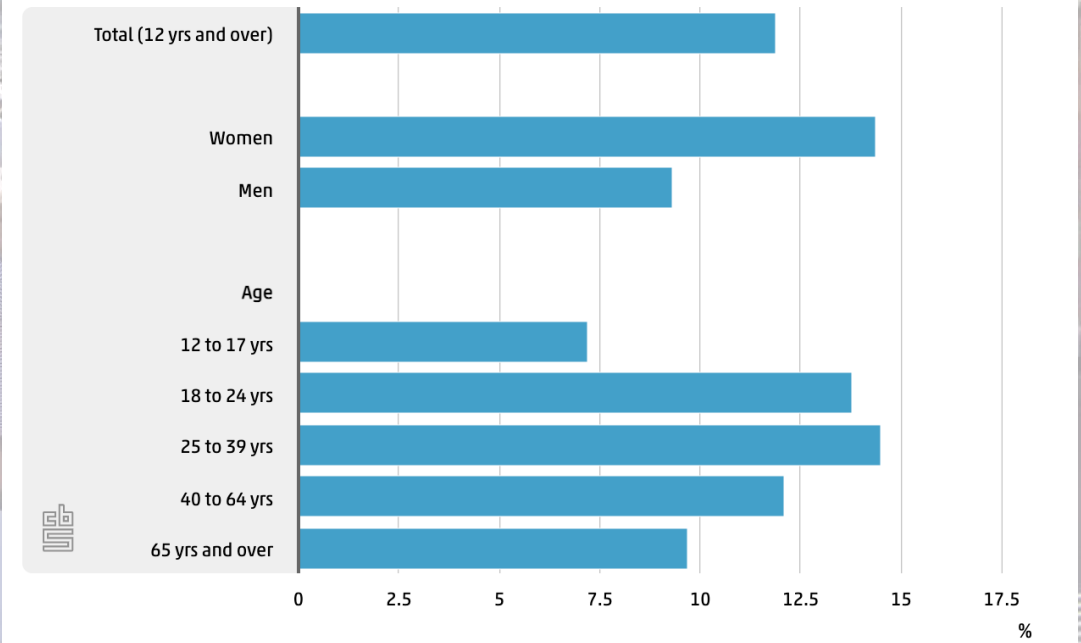
# THE SOCIAL CITY AND OUR MENTAL HEALTH

## Mental health problems

% share of persons aged 12 yrs and over



## Prevalence of mental health problems, 2020



Source: CBS (2021)



OUR BUILT ENVIRONMENT CAN MAKE US HAPPY





# Obese? Not us! Why the Netherlands is becoming the skinniest EU country

Every EU country will be more obese by 2030 - except one. DW's Conor Dillon went to the Netherlands to find out how the Dutch keep eating french fries, mayo and frikandels without getting fat.



**“A 2022 IPSOS STUDY FOUND PEOPLE FROM THE NETHERLANDS ARE THE MOST PHYSICALLY ACTIVE ON EARTH; GETTING AN AVERAGE OF 12.8 HOURS OF EXERCISE PER WEEK.”**

**“CYCLING LEVELS IN THE NETHERLANDS ARE ESTIMATED BY TO PREVENT 6,500 PREMATURE DEATHS PER YEAR, SAVING THEIR ECONOMY €19 BILLION; EQUAL TO 3% OF THEIR GDP.”**







## Surprise: Bike-friendly Netherlands named best place in the world to be a driver



**“IF YOU DESIGN A CITY FOR CARS, IT FAILS FOR EVERYONE, INCLUDING DRIVERS. IF YOU DESIGN A MULTI-MODAL CITY THAT PRIORITIZES WALKING, BIKING, AND PUBLIC TRANSPORT, IT WORKS FOR EVERYONE, INCLUDING DRIVERS.” - BRENT TODERIAN**







WHAT KIND OF FUTURE DO WE WANT? 





**DUTCH  
CYCLING  
EMBASSY**

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