



# An interdisciplinary view on sustainable urban mobility behaviour

DyMoN Webinar Series, 16.11.2023

*Presenters:*

Dr. Claudia Luger-Bazinger, Salzburg Research (Austria)

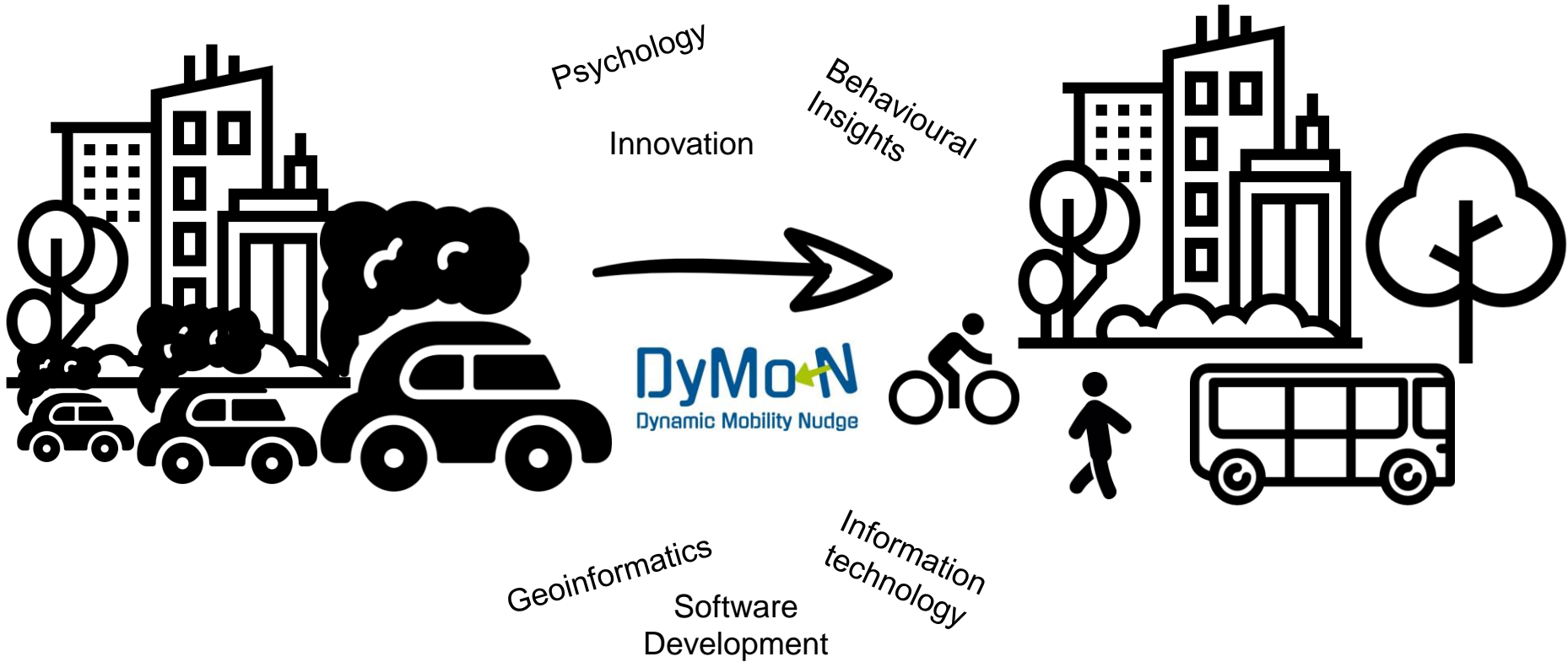
Dr. Martin Loidl, University of Salzburg (Austria)



# Content of this webinar

- **Welcome** to the participants
- **Introduction** by Claudia Luger-Bazinger - Senior Researcher at Salzburg Research & project coordinator
- **A geographer's perspective on sustainable mobility** by Martin Loidl - Head of the Mobility Lab at the University of Salzburg
- **A psychologist's perspective on sustainable mobility** Claudia Luger-Bazinger
- Q&A





# Idea of the DyMoN Project

- **‘Hard’ interventions** for sustainable mobility (e.g. laws) only go so far
- **Effective ‘soft’ interventions needed for support** (motivation, social norms, etc.)
- **European research project DyMoN offers digital, data-based behavioural interventions** (‘nudges’) to foster sustainable mobility
- Psychology + geoinformatics + software development = **interdisciplinary approach**
- **Webinar series about results, insights, highlights and challenges** of this project



# A geographer's perspective on sustainable mobility



# What is mobility?

Google

mobility



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Suchfilter



Anmelden

SafeSearch

- autonomous mobility
- integrated mobility services
- urban
- siemens mobility
- urban mobility
- continental
- public transport
- mobilität
- continental automotive
- futur



Siemens  
Mobility | Unser Angebot | Siemens Österre...



PowUnity  
Mobility as a Service: So sieht die Mobilität...



Arthur D. Little  
Integrated Mobility Platforms | Art...



Urban Transport Magazine -  
BestXperience: Was bewegt de...



Magily  
Smart Mobility - wohin geht die Reise der Mobilität? -...



Global Infrastructure Hub  
Mobility as a Service



Geospatial World  
Importance of mobility data in making cit...



Softcom  
Mobility in the digital age: "a chal...



Mobility  
Mediacer



Manager Magazin  
Newsletter manage:mobility - Der Mobility-N...



Bernard Marr  
The 3 Biggest Future Trends in Transpor...



Car E-Service  
New mobility services - CarE-Service



Continental  
Smart Mobility - Continental AG



World Business Council For Sustainable Develop...  
Transforming Mobility



Continental Automotive  
Continental Automotive - Autonomous Mobility



iStock  
718.500+ Fotos, Bilder und Lizenzfreie Bilder zu ...



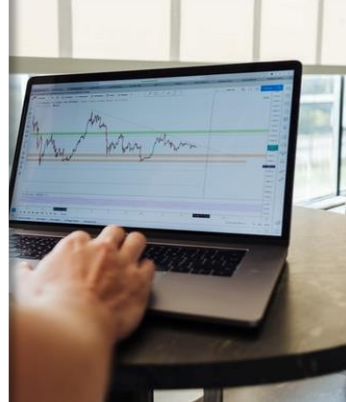
TUV SUD  
Mobility World | TÜV SÜD Österreich



Queried 2023-05-15



# What is mobility?



mobility



Datenschutz – leicht gemacht



Q Alle Bilder Videos Nachrichten Karten Einstellungen

Österreich Sichere Suche: moderat Irgendwann Alle Größen Alle Farben Alle Arten Alle Bildformate Alle Lizenzen



Electric-powered personal mobility is start...  
whicar.com.au



7 Best Mobility Scooters for Seniors  
retiredseniorlife.com



Ready to scoot this Spring? Choosing...  
tritonmedical.net



How to Choose the Best Person...  
activeoutdoors.info



Mobility Scooters for Senio...  
walmart.com



The three ages of on-demand mobility  
shotl.com



Trends in Mobility Industry for 2021[and h...  
ecommpay.com



Smart mobility: how will we move around the capit...  
nia.london



Pride Go-Go Folding Mobilit...  
shermanoakmedical.com



Pride Go-Go Folding Mobilit...  
shermanoakmedical.com



Whats't in store for shared mobility in 2020 | Micro...  
micromobilityworld.com



Mobility - Watt Consulting Group  
wattconsultinggroup.com



Accessories: Extend Your Mobi...  
pinterest.de



2020 Thrive Mobility Foldin...  
walmart.com



Mobility Devices - Senior Care Adv...  
seniorcareadvice.com



Autonomous Use of Smart Fitness Equipment for...  
emaq.medicalexpo.com



Urban Mobility  
automobilemag.com



Drive Medical Ventur...  
walmart.com



How effective is your mobility program? | ...  
hcamaq.com



CitiesSHIFT webinar #1. Stakeholder...  
sustainablemobility.iclet.org



Mobility | Routematch  
routematch.com



1181 x 1181



The Jazzy Elite HD ...  
mobilityworks.com



MS3000 Foldable Mobilit...  
hawkwheelchair.com



Top Mobility Scooters to B...  
scootercity.ca



Soft mobility is taking hold in Europe...  
easyelectriclelife.groupe.renault.com



4 Wheel Mobility Scooter...  
walmart.com



Pin on Home Mobility Aids  
pinterest.com



Drive Medical Panther He...  
rehabmart.com



Smart Mobility and Why  
medium.com

Feedback Teilen



# Mobility

<https://bestmile.com/wp-content/uploads/2017/11/MobilityNation.jpg>

Moving in space  
Transport system, environment  
Demand



<http://ilsau.com.au/wp-content/uploads/2017/02/Mobility-scooters-simplifying-the-life-of-elderly-adults-1024x684.jpg>

Ability to move  
Accessibility  
Activity

# What is mobility?

**Mobility** = Ability and opportunity to move in **space**

**Traveling** = moving from A to B

**Trip** = movement from A to B

Mode choice  
Route choice

**Traffic** = sum of all trips

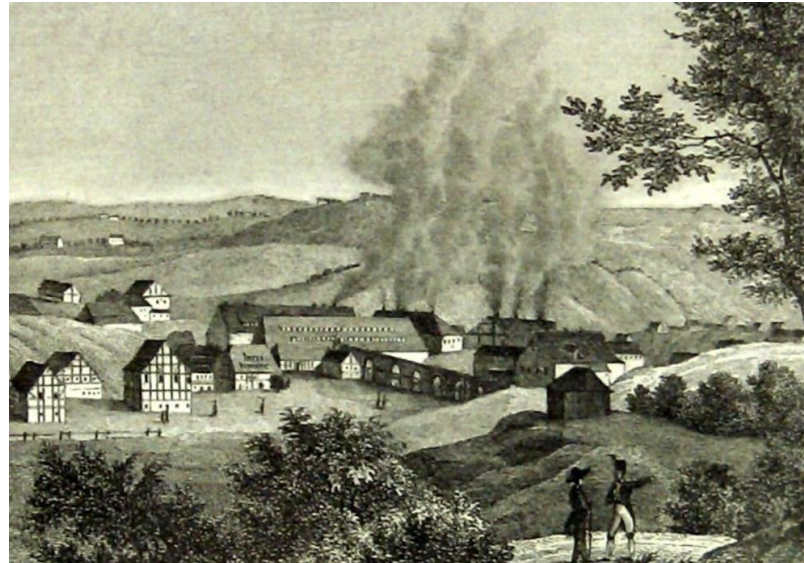


# The roots of the sustainability concept

- First academic mentioning of „Sustainability“: Hans Carl von Carlowitz (Saxony)
  - Sylvicultura Oeconomica (1713)



„Allgemeine Forstzeitschrift“, München, 7. Jahrgang, Nr. 39 vom 24.09.1952, S. 401



<https://www.mineralienatlas.de/VIEW.php?param=1218036996>



Ore-processing industry, Halsbrücke Freiberg (Saxony)



nenden in ihrer Nahrung Schaden bringen müsse; wenn daher hiesiger Lande Wälder / so bald solche abgetrieben / wieder in Anflug gebracht würden / um wie viel Tonnen Goldes / wären solche vortheil mehr werth / als sie nicht sind? Bey dieser Bewandniß will allen und jeden Hauswirthen den Gott mit Höllern und Wäldern begabet / ohn Zweifel obliegen / daß sie als Landes- und Haus-Väter / Vorsehrge und Anstalt treffen / damit solche in beständigen und continuirlichen Nutzen erhalten werden / auch von jeder Gattung und der besten Art Holzes dabey erwachse und verhanden / insonderheit kein unbesäet / oder unbesäeteter Platz und Raum darinnen zu finden sey.

§. 19. Man hat dabey nicht nöthig sich alleine weislauffung auf Befehle und Verordnungen zu beziehen. Die heilige Schrift giebt uns hier zu Befehls genug. Denn es hat ja die höchste Göttl. Maj. dem Menschen das Land bauen und also die Gewächse sollich auch das wilde Holz fortzupflanzen beissen. Gen. 2 v. 8. 15. Sondern auch ist nach dem Sünden-Fall (in ein alletheilighen Willen gethailt gewesen / daß er dem Menschen nicht unmittelbarer Weise / sondern wenn auch dieser seiner Hände Arbeit anlegen würde / Nahrung und Unterhalt gewenwolle. Abraham kam diesen selber nach / indem er Gen. 21. Bäume / oder vielmehr nach der Grund-Ordnung / einen Wald oder Gehölze pflanzte. Hiernächst so ist das Säen und Pflanzen des Holzes für eine lobens-würdige / ehlich und höchstnützliche Sorge / unternehmen / und Arbeit zu achten / ja es wird nicht gangbar zu loben / zu preisen / oder mit einem gebührenden Titel völlig zu beehren / son / weil es das sicherste Mittel an die Hand geben wird / dem Holz-Mangel künftig von hiesigen und andern Landen abzuwenden / zu mahl bey denen vielen weilt-uffrigen abgetriebenen / und ganz nach und nach Holz-Meeren / welche doch in kurzer Zeit wieder mit Anflug bebedet / und die inreden durch so viel millionen Stämme Holz / die dadurch erzeugt werden mögen / in inhinan und ungläublicher Weise / nicht allein durch die Holzung selbst / sondern auch durch die viele daher entstehende Commercias vermehrt und beständig erhalten werden können / dadurch wir auch bey Betrachtung / Verwunderung / und Anschauung derrer Göttl. uns zu gut gegebenen Geschöpfe / Gottes Wohlthaten erkennen / und ihm um solche preisen solten / auch uns derselben zu unserm Nutz gebrauchen und sie nicht verschwenden / oder deren Anwachs begierren / sondern vielmehr keinen Fleiß / Arbeit Sorge und Nachstrachtung dabey sparen / bis es zu glücklichem Stand gebracht werden.

§. 20. Es ist aber auch bey dergleichen guten Vorfas keine Zeit zu verlieren / natura progrediens semper multiplicatur per modum. Das ist / weil die Natur ihre Vermehrung nicht anders

anders als durch gewisse Mittel thut. Denn je mehr Jahr vergehen / in welchen nichts gepflanzt und gesäet wird / je langsamer hat man den Nutzen zu erwarten / und um so viel tausend leidet man von Zeit zu Zeit Schaden / ja um so viel mehr geschicht weitere Verwüstung / daß endlich die annoch verhandenen Gehölze angegriffen / vollends consumiret / und sich je mehr und mehr vermindern müssen. Cum labor in damno est crevit mortalium egestas D. I. Wo Schaden aus unterbliebener Arbeit kommt / da wächst der Menschen Armuth und Dürftigkeit. Es lässet sich auch der Anbau des Holzes nicht so schleunig wie der Acker-Bau tractiren; Denn ob gleich in zwey / drey oder mehr Jahren nach einander ein Mistwachs bey dem letztern sich ereignen solte / so kan hernach ein einig gesegnetes und fruchtbares Jahr / gleich wie bey dem Wein-Wachs / alles wieder einbringen; da hingegen wenn das Holz einmahl verwüestet / so ist der Schade in vielen Jahren / sonderlich was das grobe und starcke Bau-Holz anlangt / ja in keinem seculo zu remediren / zumahl in zwischen sich allerley vicissitudines Rerum und Veränderungen begeben können. Gestalt ein Haus-Wirth es befördert und bauet / der andere hingegen verlässet und wohl gar vernichtet / was etliche Jahr gebessert worden; und überhaupt zu reden wo aus dem Verzug einige Gefahr zu besorgen und der daraus entstehende Schaden unwiederbringlich / da muß man keine Zeit versäumen / und also man das Baum-Säen und Pflanzen eilich zur Hand nehmen / alldieweil eine lange Zeit erfordert wird / ehe die wilden Bäume zu gebührender Höbe Stärdte und Nutzen können gezogen werden / zumahl da wir dretts erwachet / ja außer allen Zweifel ist / daß die wunder-volle und schöne Gehölze bisher der größte Schatz vieler Länder gewesen sind / so man vor unerhöplich gehalten / ja man hat es unzweifelich vor eine Vorraths-Kammer angesehen / darinnen die meiste Wohlthat und Aufnehmen dieser Lande bestanden / und so zugesagt das Oraculum gewesen / daß es ihnen an Glückseligkeit nicht mangeln könnte / indem man dadurch so vieler Schätze an allerhand Metallen habhaft werden könnte; Aber da der unsterke Theil der Erden sich an Ersten durch so viel Waibe und Unkosten hat offenbahr machen lassen / da will nun Mangel vorkommen an Holz und Kohlen dieselbe gut zu machen; Wird derhalben die größte Kunst / Wissenschaft / Fleiß / und Einrichtung hiesiger Lande darinnen beruhen / wie eine sothane Conservation und Anbau des Holzes anzustellen / daß es eine continuirliche beständige und nachhaltende Nutzung gebe / weilen es eine unentberliche Sache ist / ohne welche

## Sustainability in forestry and fishery



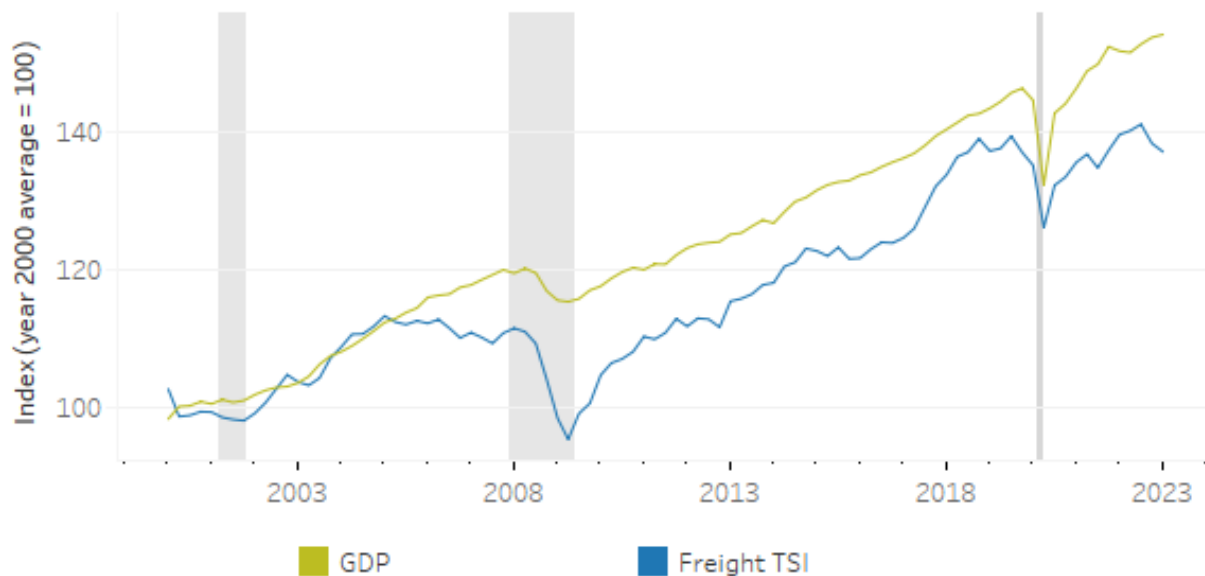
... da will nun Mangel vorkommen an Holz und Kohlen dieselbe gut zu machen; Wird derhalben die größte Kunst / Wissenschaft / Fleiß / und Einrichtung hiesiger Lande darinnnen beruhen / wie eine sothane Conservation und Anbau des Holztes anzustellen / daß es eine **continuirliche beständige und nachhaltende Nutzung gebe** / weilen es eine unentberliche Sache ist ...

# UN Sustainable Development Goals 2015

- “Transforming our world: the 2030 Agenda for Sustainable Development” (Sept. 25<sup>th</sup>, 2015)



## Real Quarterly Gross Domestic Product (GDP) and Freight Transportation Services Index (TSI) (seasonally adjusted)



Note: Shaded area indicate economic recessions.

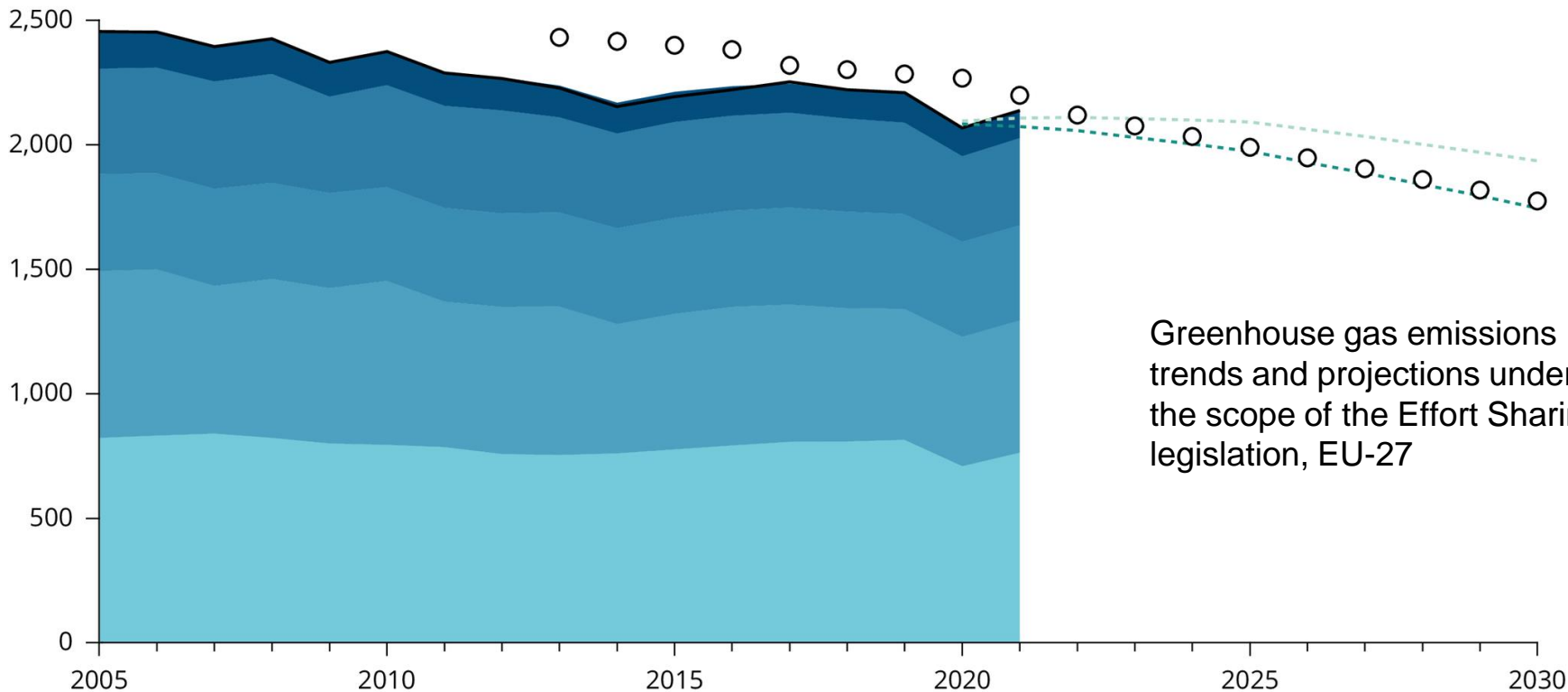
Sources: GDP: U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, table 1.1.6, available at [https://apps.bea.gov/iTable/index\\_nipa.cfm](https://apps.bea.gov/iTable/index_nipa.cfm) . Freight TSI: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Services Index, available at <https://data.bts.gov/Research-and-Statistics/Transportation-Services-Index-and-Seasonally-Adjus/bw6n-ddqk> .

# Transport and Social Exclusion (ILO 2003)

[https://www.ilo.org/emppolicy/pubs/WCMS\\_ASIST\\_8210/lang-en/index.htm](https://www.ilo.org/emppolicy/pubs/WCMS_ASIST_8210/lang-en/index.htm)

- Participation in social, cultural and leisure activities is very important to people's quality of life and can play a major part in meeting policy goals like improving health, reducing crime and building cohesive communities.
- People without cars are around twice as likely as those with cars to identify transport as a barrier to participation in a range of social and cultural activities:
  - 18 per cent of people without cars say that they have difficulty seeing their friends and family, compared with 8 per cent of those with access to a car.
  - 9 per cent of people without cars have difficulty accessing leisure facilities compared with 4 per cent for people with car access.
  - 7 per cent of people without cars say they have difficulty accessing libraries compared with 3 per cent on average.
- Transport can also be a barrier to participation in social activities for young people:
  - 33 per cent of people think that better public transport would improve their social lives. This rises to 39 per cent of young people aged 16–24 years old.
- Seeing friends and family matters in itself, but it also has other spin-off benefits:
  - The evidence suggests that low-income mothers use friends and family as a source of lifts to shops and hospitals.
  - People with poor social networks have poorer health outcomes.

Million tonnes of CO<sub>2</sub> equivalent (Mt CO<sub>2</sub>e)



Greenhouse gas emissions trends and projections under the scope of the Effort Sharing legislation, EU-27

Transport (no aviation)

Buildings

Agriculture

Industry and other

Waste

Effort sharing targets

Effort sharing

Projections with existing measures (WEM), EU-27

Projections with additional measures (WAM), EU-27

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN  
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE AND THE COMMITTEE OF THE REGIONS

Sustainable and Smart Mobility Strategy – putting European transport on track for the  
future

1 OUR VISION

1. **Mobility and transport matters to us all.** From daily commuting to work, visiting family and friends, tourism, to the proper functioning of global supply chains for the goods in our shops and for our industrial production, mobility is an enabler of our economic and social life. Free movement of people and goods across its internal borders is a fundamental freedom of the European Union (EU) and its single market. Travelling in the EU has led to greater cohesion and a strengthened European identity. As the second-largest area of expenditure for European households, the transport sector contributes 5% to European GDP and directly employs around 10 million workers.
2. Whilst **mobility brings many benefits for its users, it is not without costs for our society.** These include greenhouse gas emissions, air, noise and water pollution, but also accidents and road crashes, congestion, and biodiversity loss – all of which affect our health and wellbeing. Past efforts and policy measures have not yet sufficiently addressed these costs. The transport sector's greenhouse gas emissions have increased over time and represent now as much as a quarter of the EU's total.
3. By far, **the most serious challenge facing the transport sector is to significantly reduce its emissions and become more sustainable.** At the same time, this transformation offers great opportunities for better quality of life, and for European industry across the value chains to modernise, create high-quality jobs, develop new products and services, strengthen competitiveness and pursue global leadership as other markets are moving fast towards zero-emission mobility. Given its high proportion of total EU greenhouse gas emissions, the EU's goal of at least -55% greenhouse gas reduction target by 2030 and of climate neutrality by 2050 will be reached, only by introducing more ambitious policies to reduce transport's reliance on fossil fuels without delay and in synergy with zero pollution efforts. **The success of the European Green Deal<sup>1</sup> depends on our ability to make the transport system as a whole sustainable.**

— Mobility as enabler

— Mobility as source of costs

— Sustainable (de-carbonized)  
mobility as way out?

# Sustainable Mobility (Budnitz 2019)

BUDNITZ, H. 2019. Sustainable Mobility. In: LEAL FILHO, W. (ed.) Encyclopedia of Sustainability in Higher Education. Cham: Springer International Publishing.

- Sustainable mobility refers to the provision of infrastructure, services, technologies, and information to **enable access** to goods and services, and participation in activities in a manner that, like all other forms of “sustainability,” allows for the **continuation of such access** and participation across future generations.

## Economy

- Commuting
- Supply chains
- Efficiency and reliability
- Supporting business
- ...

## Society

- Equitable and affordable access
- Healthy living
- Cohesive communities
- Personal safety and security
- ...

## Environment

- Reduce GHG emissions
- Limit air and noise pollution
- Reduced consumption of natural resources
- ...

# Sustainable mobility paradigm



The conventional approach—transport planning and engineering	An alternative approach—sustainable mobility
Physical dimensions	Social dimensions
Mobility	Accessibility
Traffic focus, particularly on the car	People focus, either in (or on) a vehicle or on foot
Large in scale	Local in scale
Street as a road	Street as a space
Motorised transport	All modes of transport often in a hierarchy with pedestrian and cyclist at the top and car users at the bottom
Forecasting traffic	Visioning on cities
Modelling approaches	Scenario development and modelling
Economic evaluation	Multicriteria analysis to take account of environmental and social concerns
Travel as a derived demand	Travel as a valued activity as well as a derived demand
Demand based	Management based
Speeding up traffic	Slowing movement down
Travel time minimisation	Reasonable travel times and travel time reliability
Segregation of people and traffic	Integration of people and traffic

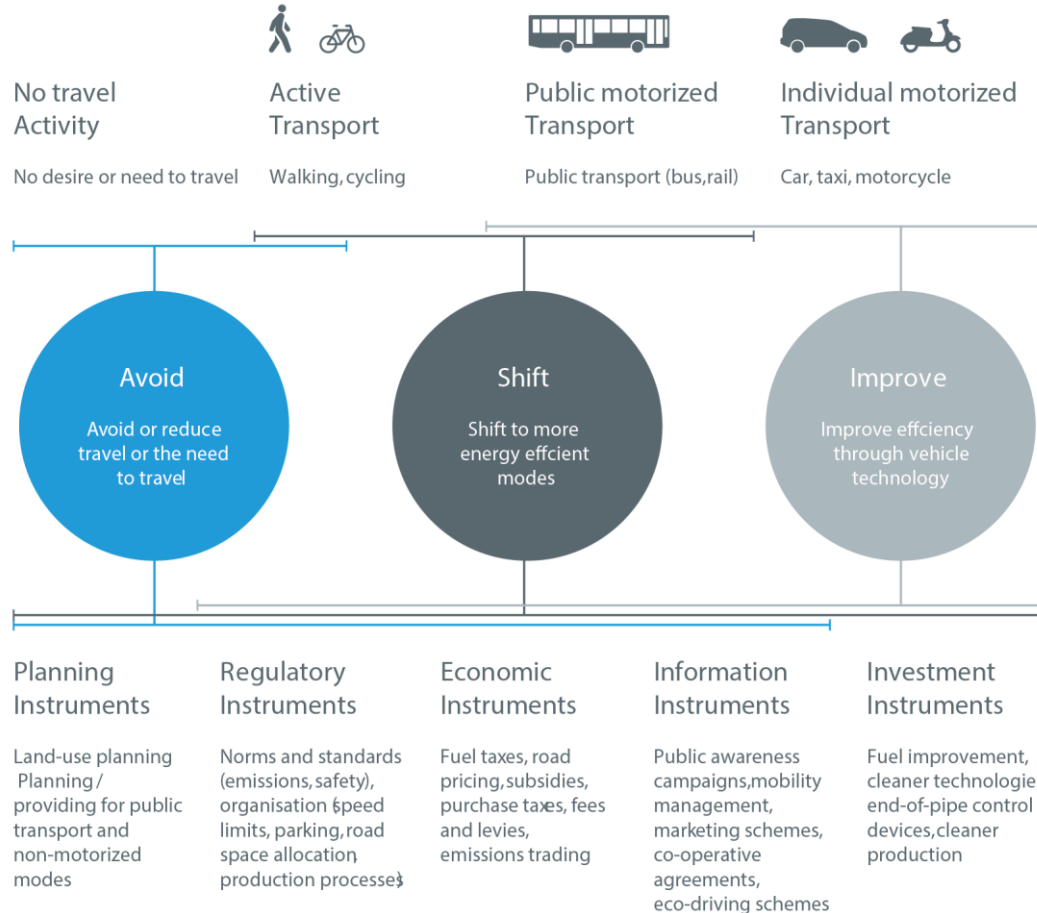


# A-S-I

- **Avoid** or reduce (need to) travel
  - Regional and urban planning linked to transport planning: development of residential / commercial / industrial areas, accessibility of facilities of daily life
  - Societal and economic trends: online shopping, regional consumption
  - System efficiency: high density, mixed land use, high quality public space
- **Shift** to more energy efficient mode
  - Push factors: parking restrictions, speed limits, no-drive zones
  - Pull factors: efficient PT, high walkability and bikeability, seamless trip chains
- **Improve** efficiency of vehicles and systems
  - Increase time of use
  - Clean fuels
  - Efficient use: sharing, car pooling

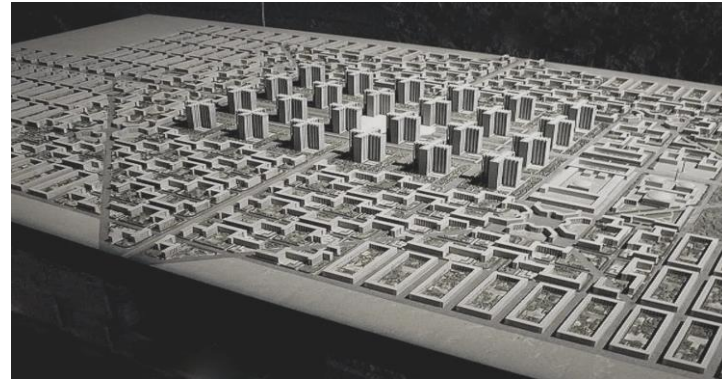


# Avoid Shift Improve – Instruments



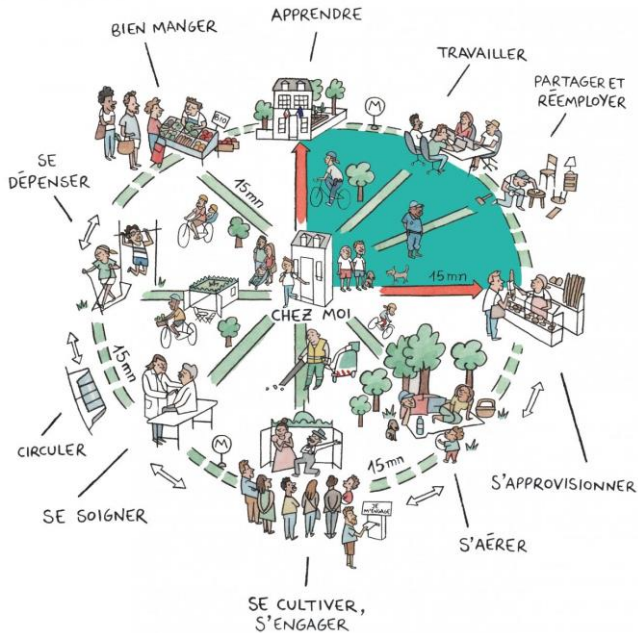
# Distance, proximity, functions

- Modern planning paradigm based on functional separation » increase of distances » car dependency
  - „The cities will be part of the country; I shall live 30 miles from my office in one direction, under a pine tree; my secretary will live 30 miles away from it too, in the other direction, under another pine tree. We shall both have our own car. We shall use up tires, wear out road surfaces and gears, consume oil and gasoline. All of which will necessitate a great deal of work ... enough for all.”  
Le Corbusier, The Radiant City, 1933



# Distance, proximity, functions

LE PARIS DU 1/4 HEURE



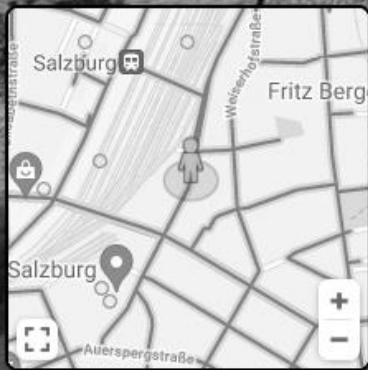
# Accessibility for sustainable modes?



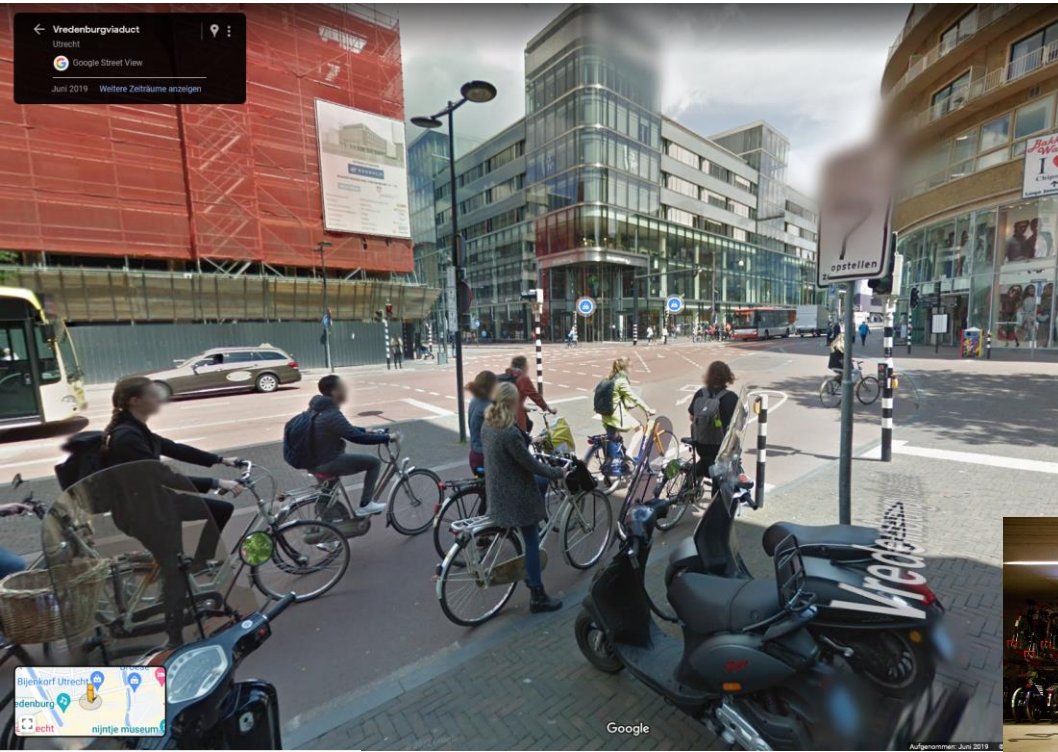


**Accessibility for sustainable modes?**

# Accessibility of facilities?



<https://www.google.at/maps/@47.8110744,13.046584,3a,75y,3.32h,90.06t/data=!3m6!1e1!3m4!1sOF652HXyMCKqgvAjavXeTg!2e0!7i16384!8i8192>



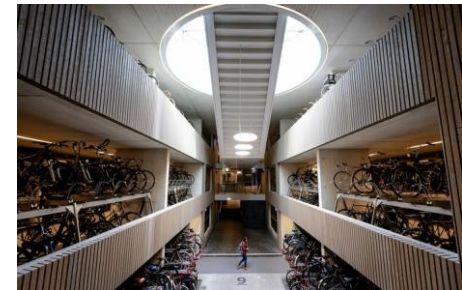
<https://goo.gl/maps/3FUrx8HYPxMjgNyaA>



<https://architectenweb.nl/nieuws/artikel.aspx?ID=46507>



<https://www.fietsen123.nl/fietsnieuws/alles-over-de-grootste-fietsenstalling-ter-wereld>



<https://www.ad.nl/utrecht/utrecht-krijgt-concurrentie-wie-houdt-de-grootste-fietsenstalling-van-europa~a8b52294/>

# Accessibility of facilities?



Raster Size: 100

Factor: 5

Parameter: 3

Mode: Bicycle

Bicycle Infrastructure: 20 %

Pedestrian Infrastructure: 0 %

Designated Route: 10 %

Road Category (Bicycle): 30 %

Road Category (Pedestrian): 0 %

Max Speed (Bicycle): 10 %

Max Speed (Pedestrian): 0 %

Parking: 10 %

Pavement: 10 %

Width: 0 %

Gradient (Bicycle): 10 %

Gradient (Pedestrian): 0 %

Number Lanes: 0 %

Facilities: 0 %

Crossings: 0 %

Buildings: 0 %

Greenness: 0 %

Water: 0 %

Noise: 0 %

Information

Index: 67.38 %

# 10 PRINCIPLES FOR SUSTAINABLE URBAN TRANSPORT

**1 Planning dense and human scale cities**

Support projects for affordable housing in city centers  
Integrate urban and transport development  
Develop mixed-use city quarters  
Create urban villages  
Create urban centers  
Car-free housing  
Develop urban courtyards  
Create high density apartments around transit stations

**2 Encouraging walking and cycling**

Realize comprehensive cycling and walking concepts  
Limit expansion of road space for cars  
Create a complete urban cycling network  
Remove barriers for cyclists  
Pedestrian zones  
Improve safety for pedestrians and cyclists at intersections

**3 Controlling vehicle-use**

Urban logistics  
Corporate mobility  
Travel restrictions

**4 Managing parking**

Reduce parking  
Balance parking supply  
Reduce car ownership

**5 Communicating solutions**

Promote regional products  
Marketing campaigns  
Provide access to public transport  
Marketing for better public transport  
Bike-friendly companies

**6 Developing transit-oriented cities**

Add shopping facilities in major transit stations  
Provide bike parking facilities at transit stations  
Create transit-oriented developments

**7 Implementing transit improvements**

Ensure high service quality in public transport based on performance indicators  
Simplify fare structures  
Facilitate integration of car sharing with transit systems

**8 Promoting clean vehicles**

Vehicle wrap-ups  
CAR REPAIR  
Low emission zones  
Infrastructure for clean fuels and electric vehicles

**9 Approaching the challenges comprehensively**

Create institutions responsible for Sustainable Urban Transport  
Integrate transport into climate change action plans  
Monitor implementation and performance of measures

**10 Optimizing the road network and its use**

Provide traffic information on city entrances, highways, parking  
Ensure land value capture around transit  
Increase urban infrastructure for pedestrians, cyclists and public transport

**11 Implementing transit improvements**

Ensure high service quality in public transport based on performance indicators  
Simplify fare structures  
Facilitate integration of car sharing with transit systems

**12 Promoting clean vehicles**

Vehicle wrap-ups  
CAR REPAIR  
Low emission zones  
Infrastructure for clean fuels and electric vehicles

**13 Approaching the challenges comprehensively**

Create institutions responsible for Sustainable Urban Transport  
Integrate transport into climate change action plans  
Monitor implementation and performance of measures



A city is more livable not when it has highways, but when a child or a trip is able to move about everywhere with ease and safety. (George Pataki)

An efficient transport system is one of the factors that make urban areas competitive. It provides access to jobs, education and health care. However, in many cities people suffer from health problems triggered by exhaust fumes and noise. Traffic jams waste

and contribute significantly to greenhouse gas (GHG) emissions. Road accidents take toll especially among vulnerable groups such as pedestrians and cyclists. Last but not least, millions of urban poor are excluded from safe and efficient transport services - they cannot afford a car and have to rely on inadequate public transport services and informal facilities for pedestrians and cyclists.

socially and economically sustainable. Public transportation, walking and cycling are therefore important partner activities and often in establishing sound policies for sustainable urban mobility, and in implementing concrete measures such as the Road Transport reforms, cycling networks or Transportation Demand Management (TDM) measures. Complementing these projects in partner countries, the Sustainable Urban Transport Project (SUTP) funded by GIZ on behalf of the Federal Ministry for Economic Cooperation and Development and lead partner for sustainable urban mobility Sustainable Urban Transport.

A background for Policy-makers in Developing Cities! The documents are available on [www.sutp.org](http://www.sutp.org)

This project was selected as sustainable urban transport project and measure which will make cities a better place to live in.

© 2014 giz

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of Federal Ministry for Economic Cooperation and Development

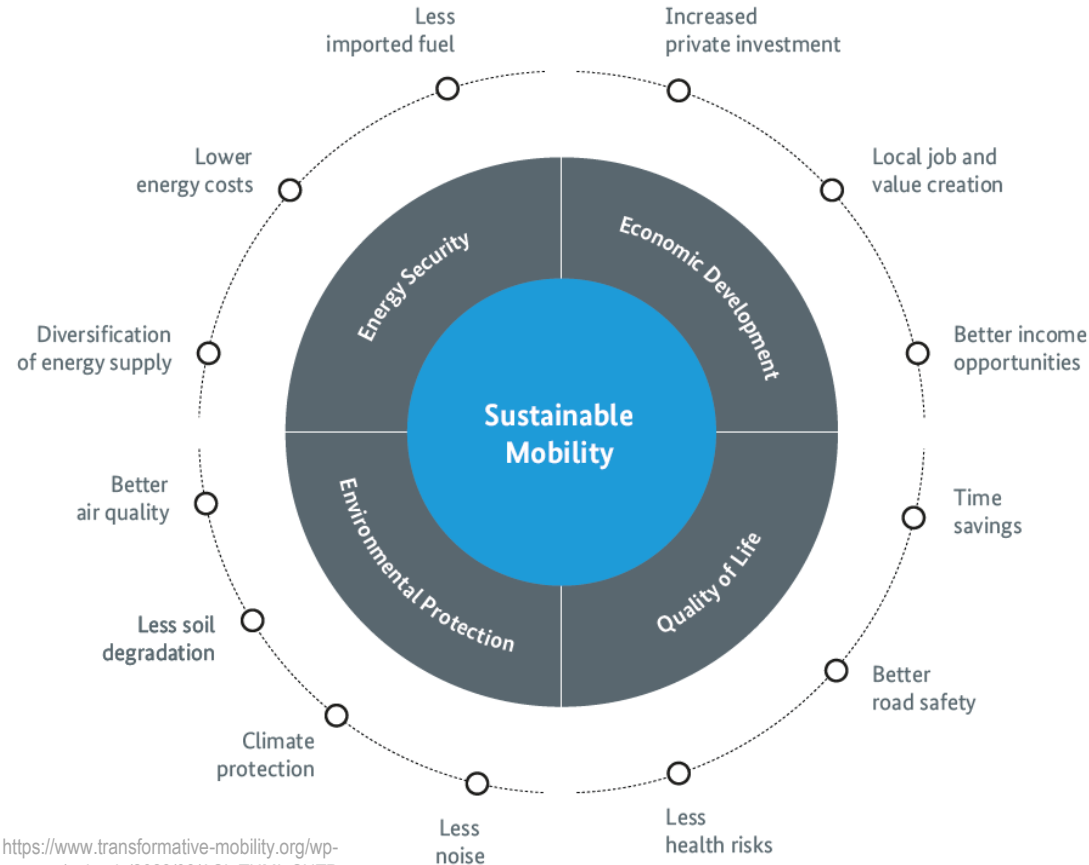
# Aspects of Sustainable Mobility

- **Land use: integrating all planning disciplines**
  - Reduce distance, mixed use, accessibility and connectivity
- **Infrastructure: providing adequate infrastructure**
  - Design shapes behaviour patterns
- **Services: high quality, seamless mobility**
  - Comfort as decisive choice variable
- **Technology: digital solutions facilitate new use cases**
  - Linking trips (car pooling), mobility-as-a-service, ticketing
- **Information-based interventions**
  - Travel plans, life disruption, nudging, competitions
- **Involvement: human-centred design**
  - Community engagement, participatory design, visioning



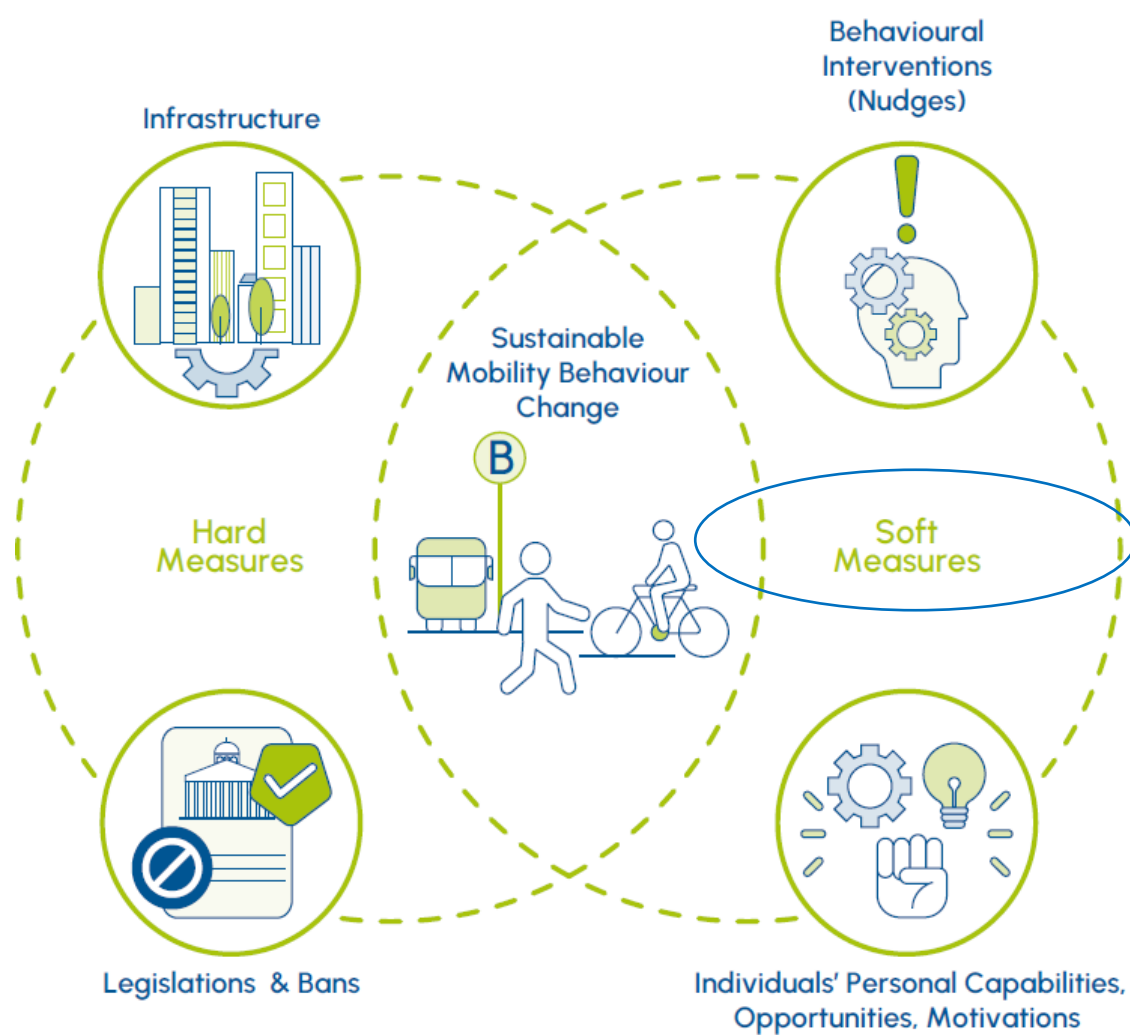
# Sustainable Mobility - Conclusion

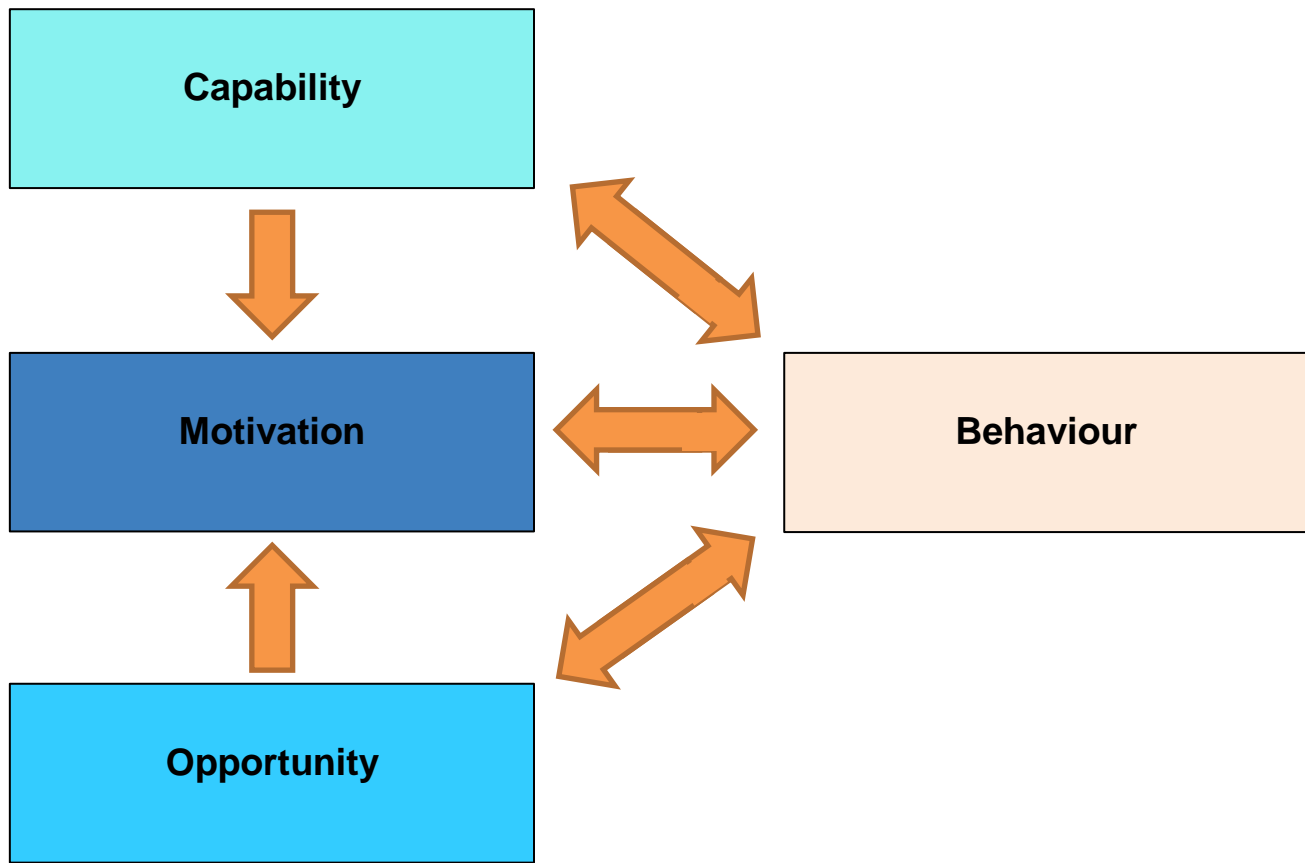
- Sustainable mobility as system
  - Sustainability discourses, mobility paradigms
- Involvement of different domain experts
  - Need to find common ground / language
- Innovation by cracking silos and integrating knowledge
- Benefits of sustainable mobility in multiple fields

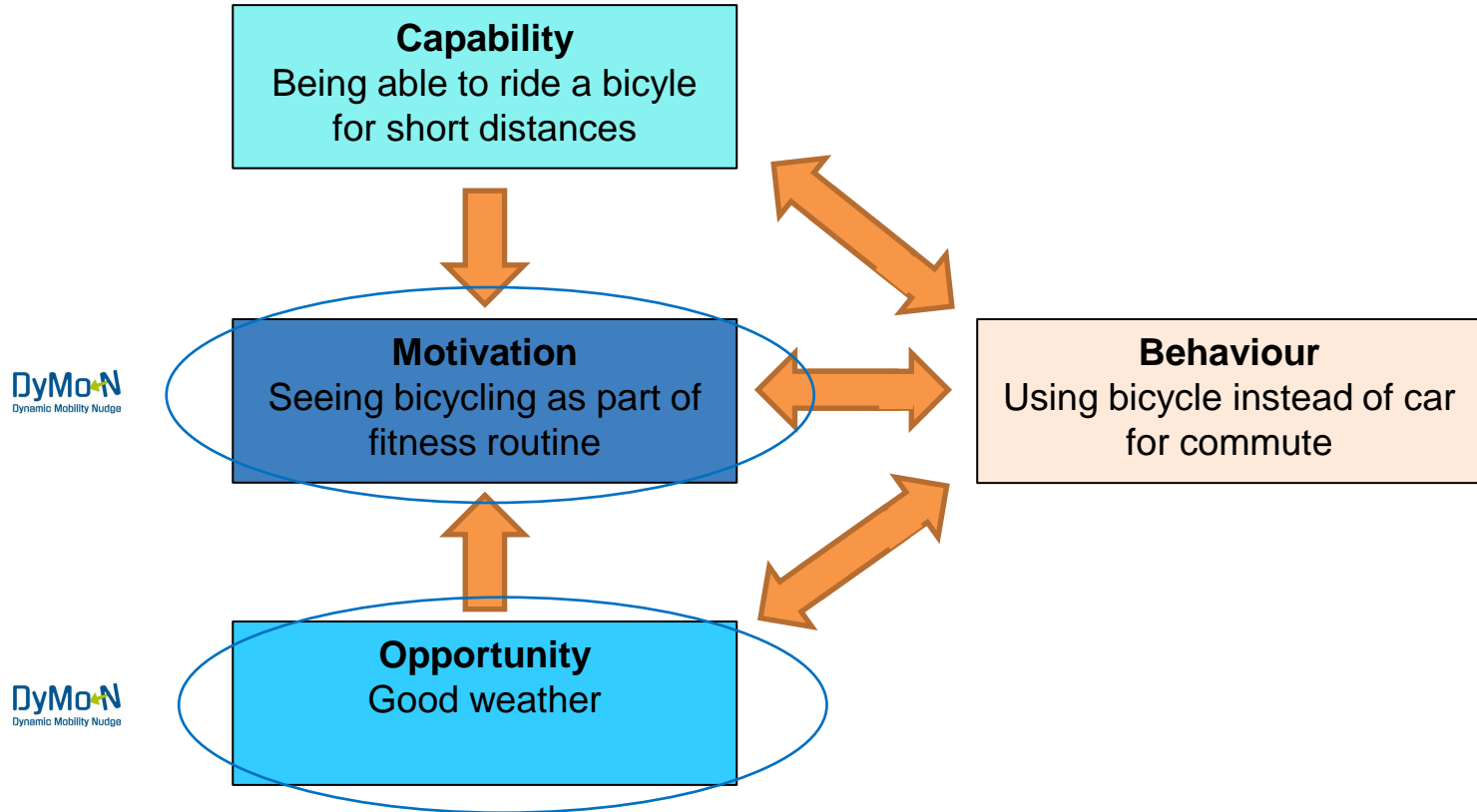


# A psychologist's perspective on sustainable mobility





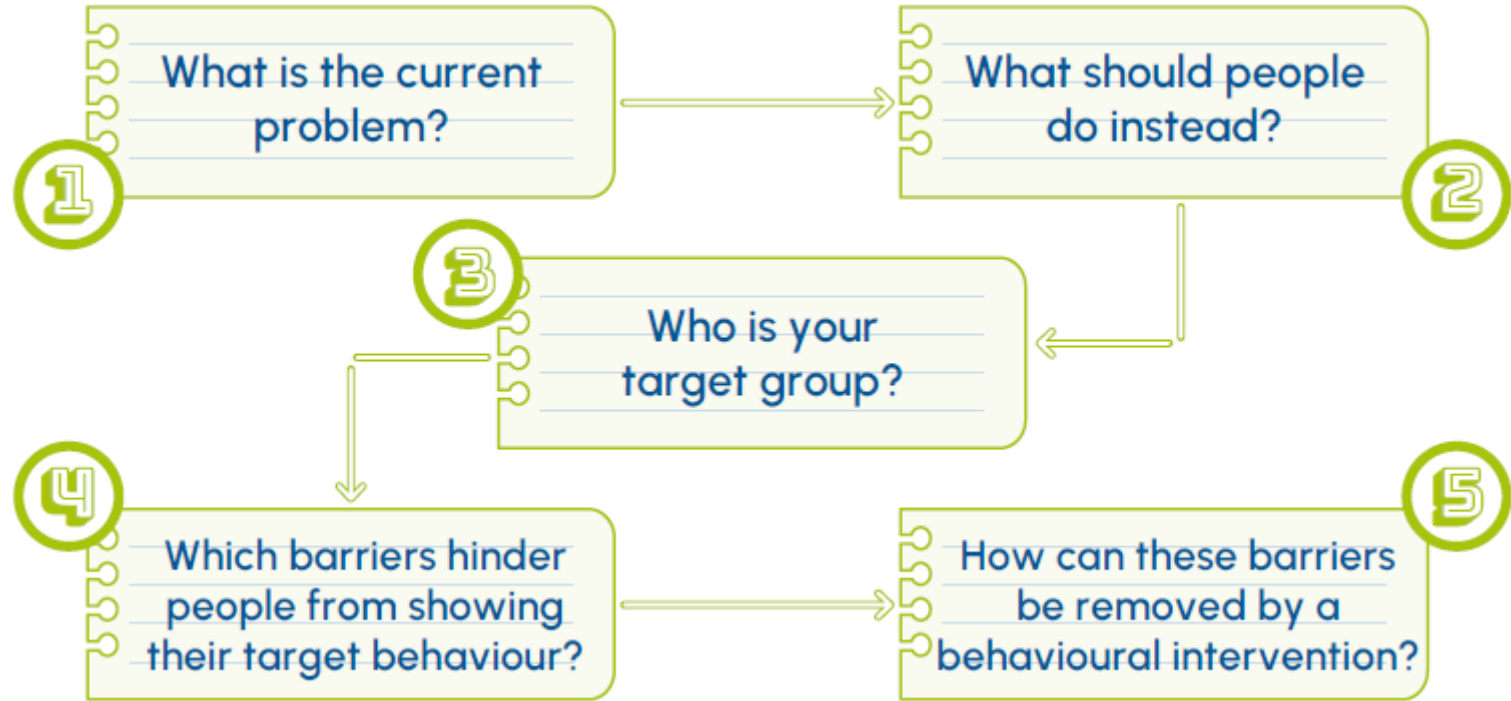


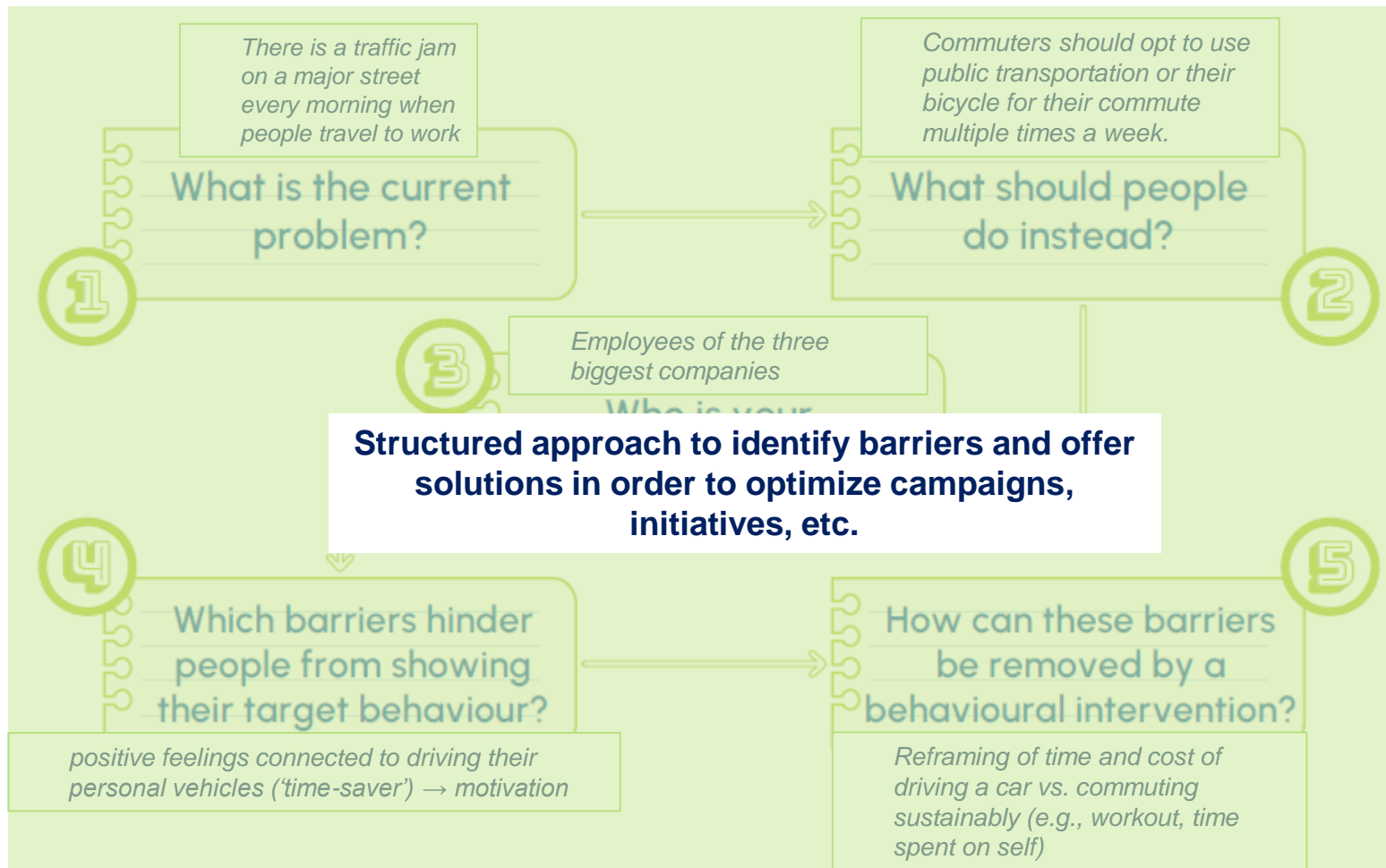


# Barriers to behaviour

- COM-B model helps to think about **barriers to behaviour**
  - Realistic, holistic view on mobility behaviour
- „**Behavioural interventions**“ can be used to remove these barriers
- **Nature of these interventions** depends on the organization, e.g.
  - transport providers: pricing of tickets (*opportunity*)
  - research projects: awareness about climate change (*motivation*)
  - advocacy / NGO: capability to ride a bicycle (*capability*)







**HANDBOOK**



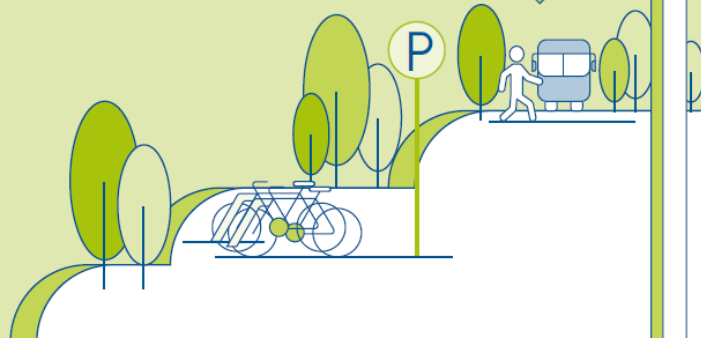
# DIGITAL NUDGING

**FOR SUSTAINABLE MOBILITY**

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## SECTIONS

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**01** WHY SUSTAINABLE MOBILITY IN CITIES MATTERS

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**02** IS THIS HANDBOOK RIGHT FOR ME?

---

**03** CRASH COURSE ON BEHAVIOUR CHANGE

---

**04** BEHAVIOURAL INTERVENTIONS AND NUDGING

---

**05** DIGITALLY ENABLED BEHAVIOUR CHANGE

---

**06** DESIGNING BEHAVIOURAL INTERVENTIONS

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**07** SITUATION-AWARE NUDGES

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**08** DIGITAL NUDGING REPOSITORY FOR SUSTAINABLE MOBILITY

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**09** PUTTING THE NUDGING REPOSITORY INTO PRACTICE

---

**10** USING DATA FOR MULTIPLE PURPOSES

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**11** DATA REGULATIONS TO KEEP IN MIND

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CANVASES AND INSPIRATION

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REFERENCES

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ABOUT THE PROJECT

# Next webinar - December 2023

# DyMoN



## Dynamic Mobility Nudge

Join our webinar series for an interdisciplinary view on sustainable urban mobility:

16/11/2023: An interdisciplinary view on sustainable urban mobility behaviour

07/12/2023: Digitally-enabled behaviour change for sustainable mobility

11/01/2024: Using data to support sustainable mobility behaviour

01/02/2024: Learnings & recommendations for sustainable mobility from the Dynamic Mobility Nudge project

More info & registration on: <https://dymon.eu/news-and-events/>

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