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Federal Ministry
Republic of Austria
Transport, Innovation
and Technology

CIVITAS FORUM 2019

CIVITAS ANNUAL CONFERENCE | 2-4 OCTOBER 2019 | GRAZ | AUSTRIA

Session 17

Cycling and walking: what does the future look like?

#CIVITAS2019



Juan Caballero

EUROCITIES

Project coordinator - mobility

EUROPEAN MOBILITY WEEK

16-22 SEPTEMBER 2019



Walk with us!

#mobilityweek





Elke Sumper

EUROPEANMOBILITYWEEK Coordinator in Austria

Klimabündnis-Forschungsinstitut

EUROPEAN MOBILITY WEEK 2019 in Austria



EUROPEAN MOBILITY WEEK 2019 in Austria



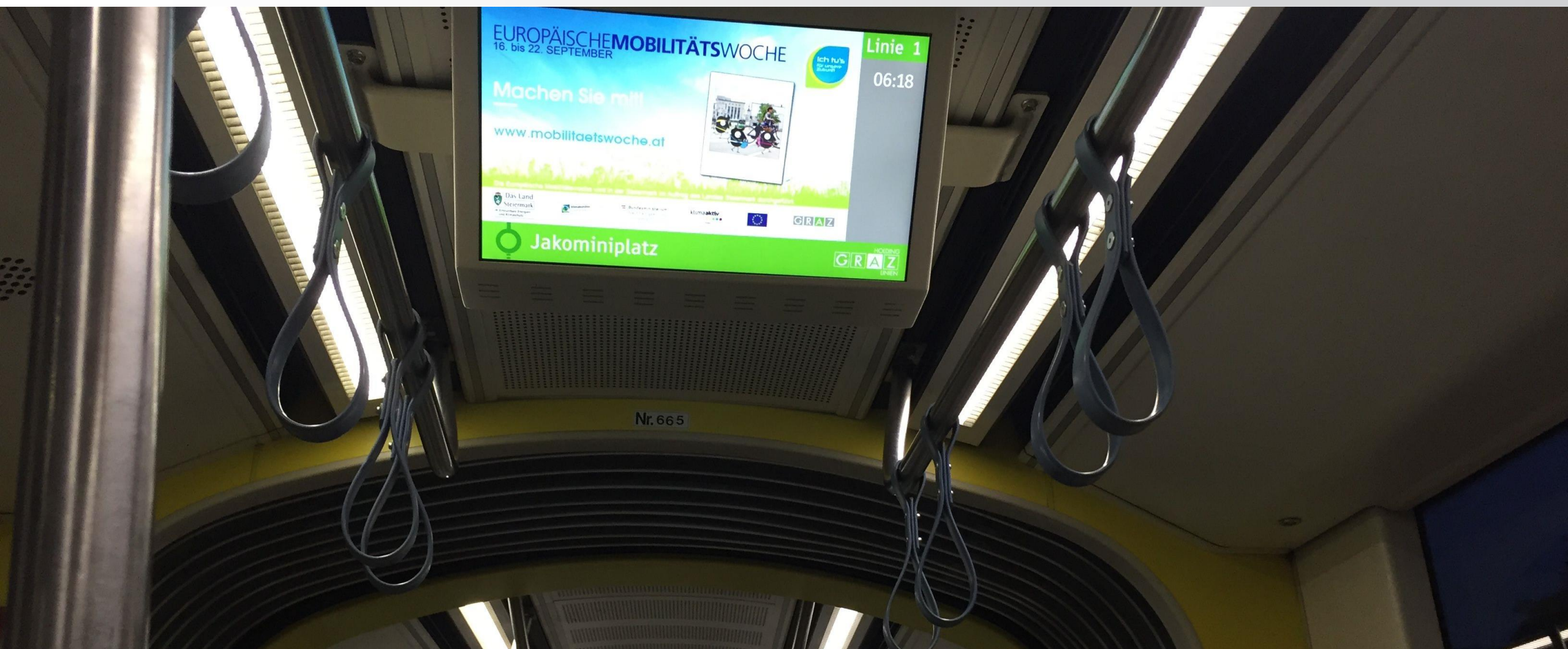
EUROPEAN MOBILITY WEEK 2019 in Austria



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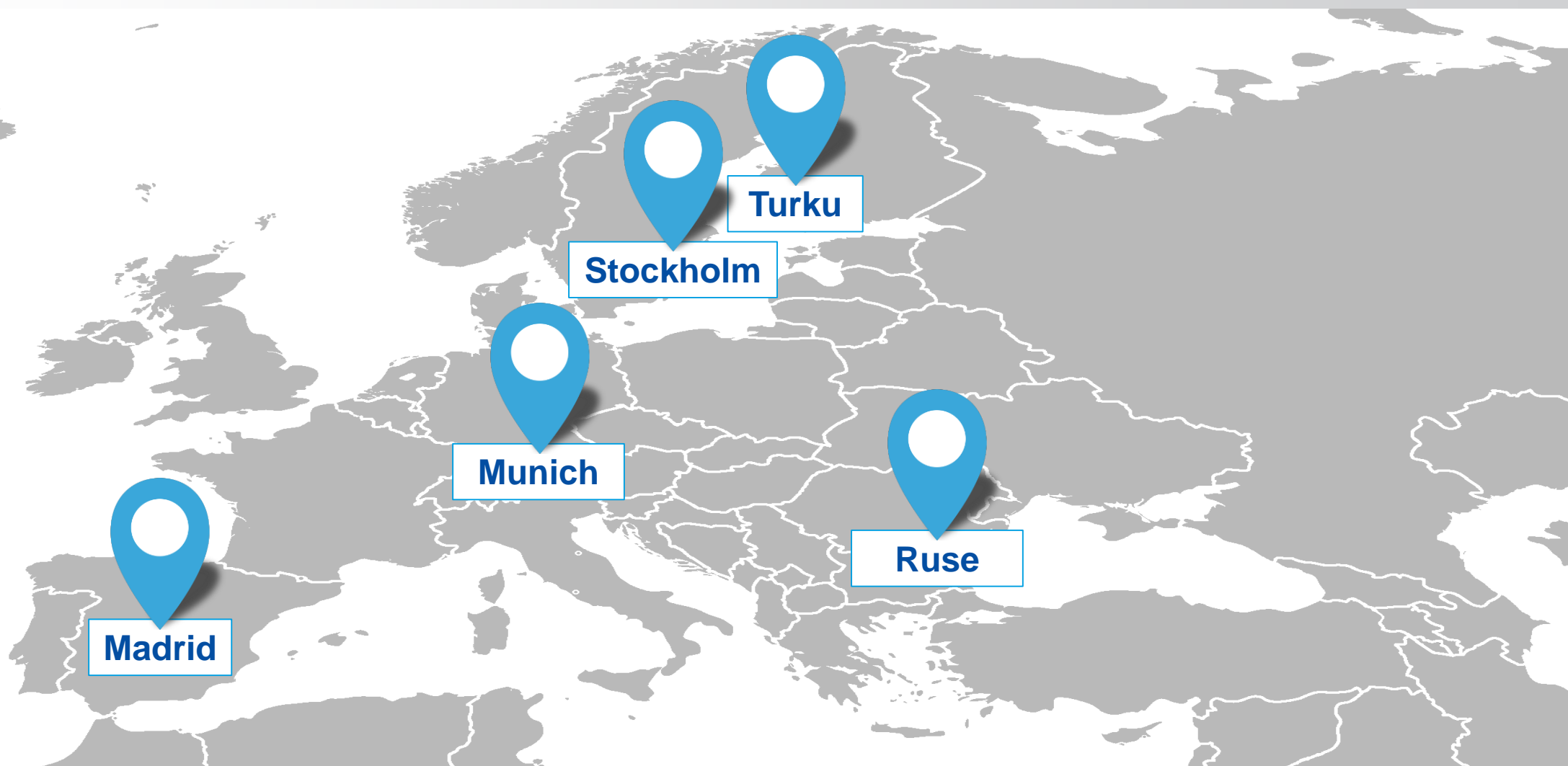
Cycling and walking: what does the future look like?

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Cycling and walking: what does the future look like?





Stockholms
stad

Paul Fenton
City of Stockholm

Site Manager & WP4 Leader (Safe Walking & Cycling), CIVITAS Eccentric



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CIVITAS ECCENTRIC

List of measures

Innovative and participative approach to traffic safety

Software-controlled safety management in the road network

Providing secure pedestrian crosswalks

Safe sidewalks with cycling capability towards the city centre

Policy for re-routing cyclists during construction works

Pedestrian friendly public space outside the city centre

Enabling cycling outside the city centre

Easy, safe and comfortable cycling and walking round the year

Offering test fleets of e-bikes and e-freight bikes



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“What can cities do to make cycling and walking safer?”





“What can cities do to make people choose to walk or cycle instead of using private car?”





“Which strategies can cities apply to tackle new scenarios?”



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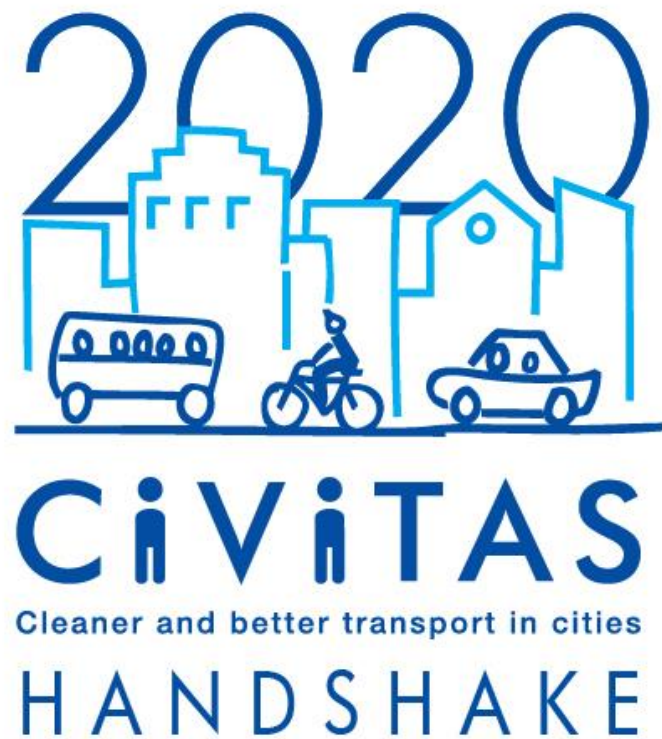
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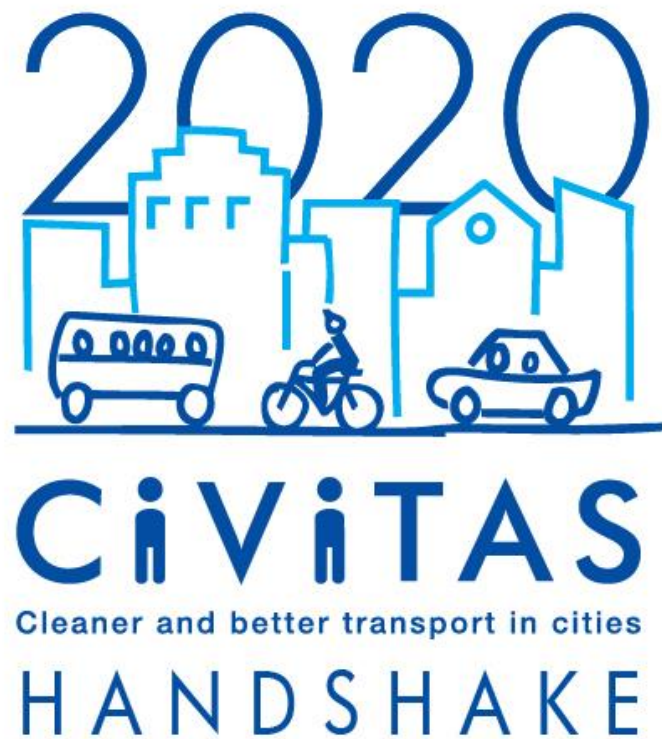


DECISIO

Lilian Tilburgs

Decisio
Consultant





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CIVITAS HANDSHAKE

13 Cities delivering change

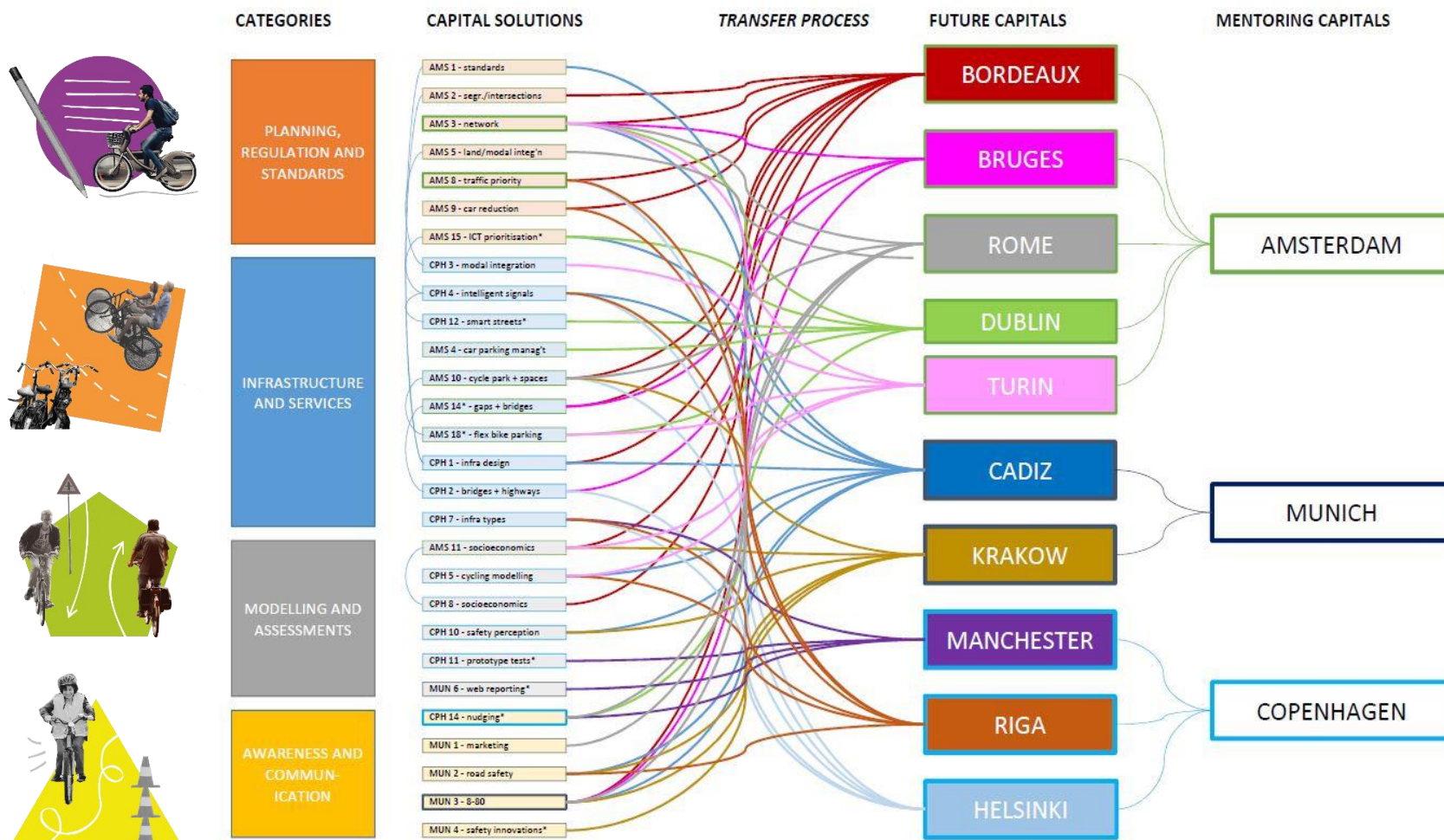
3 Cycling Capitals ○ supporting 10 Future Cycling Capitals ✕

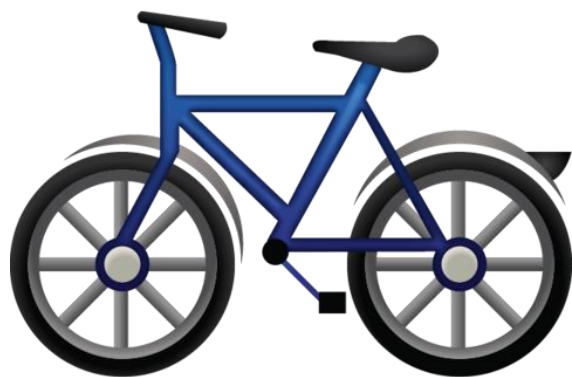
- Amsterdam: Bordeaux, Bruges, Dublin, Rome, Turin
- Copenhagen: Greater Manchester, Helsinki, Riga
- Munich: Cadiz, Krakow



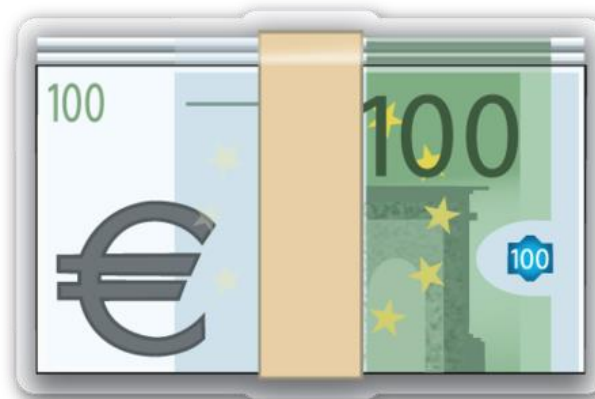
CIVITAS HANDSHAKE

Over 60 solutions





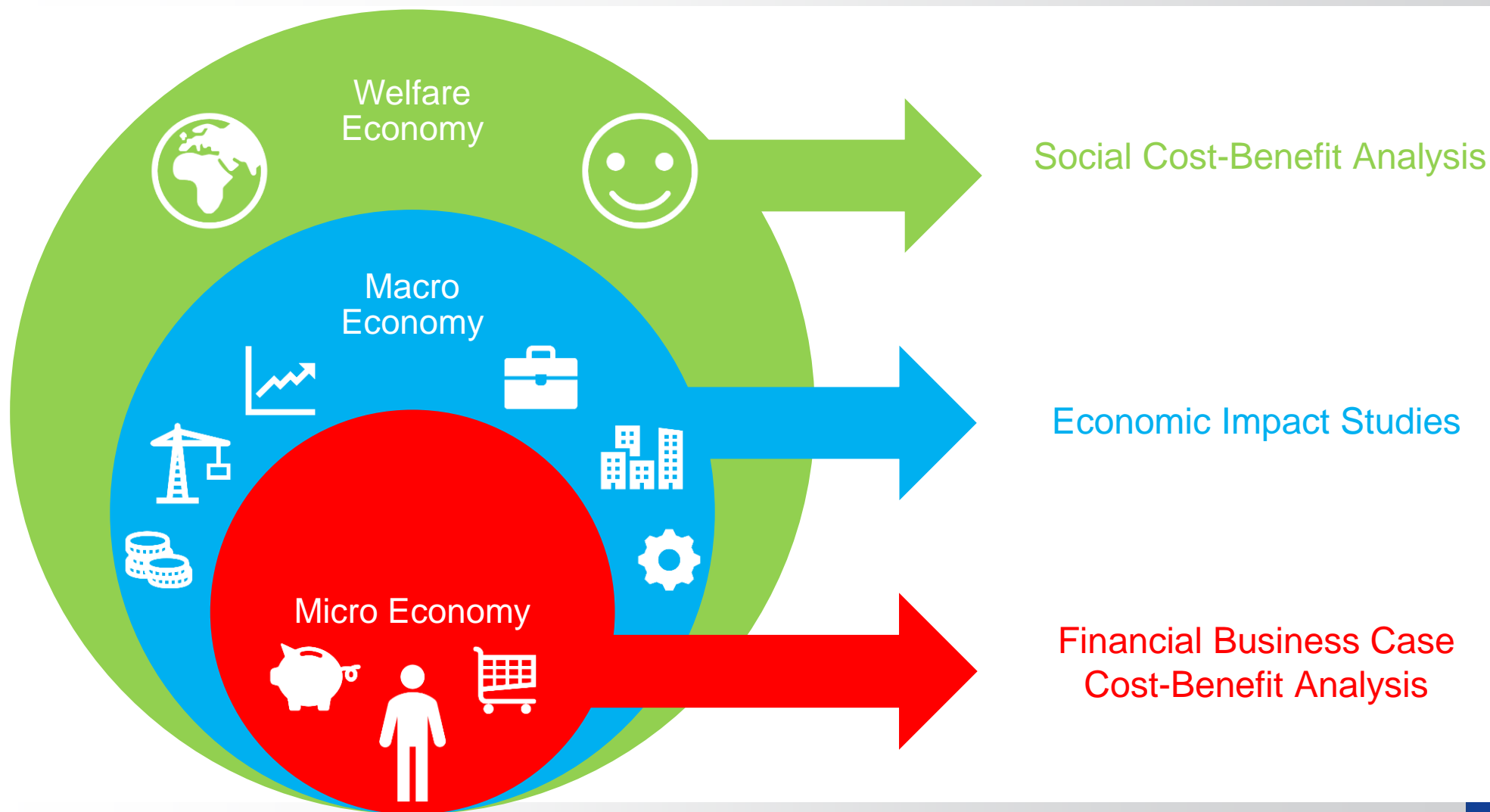
+



Bike

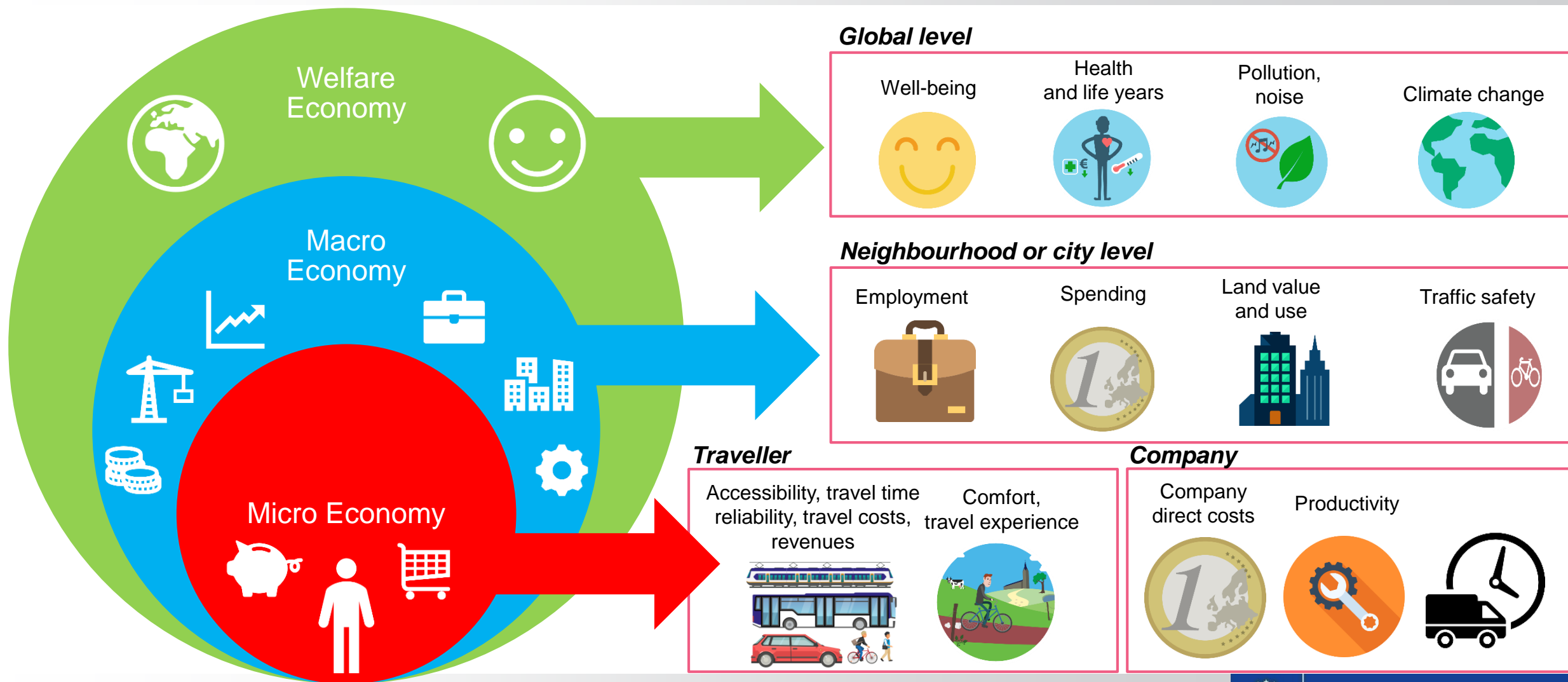
Economics

CIVITAS HANDSHAKE Bikenomics

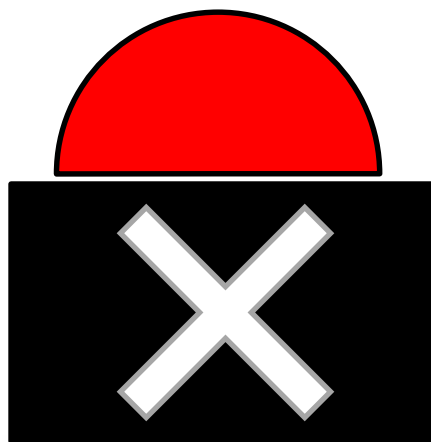


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Bikenomics effects

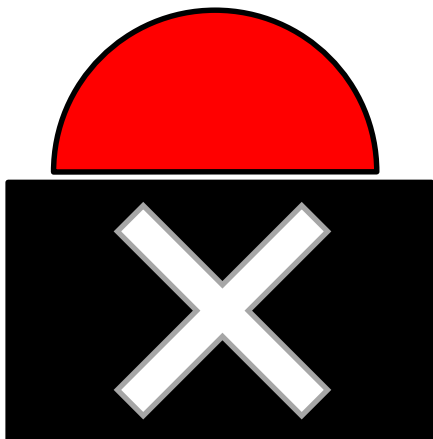


Quiz time!





What effects do you think are important to include in the cost-benefit analysis?



a) Financial effects (construction, maintenance costs...)

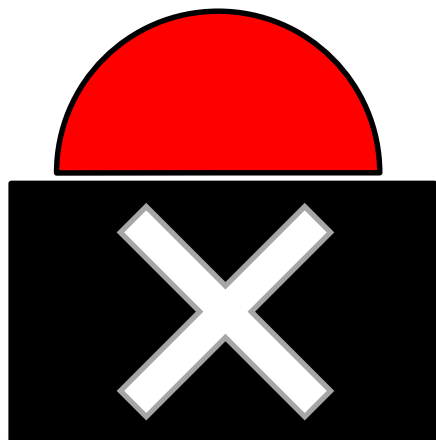
b) Travel time (reliability, nuisance during construction...)

c) External effects (health, climate, noise, safety...)

d) Other (comfort, quality of public space, image...)



Which of the following is a disadvantage of cost-benefit analysis?



- a) It does not consider the time value of money
- b) It is too complex to implement
- c) Different projects cannot be easily compared
- d) Not all effects can be valued in monetary terms



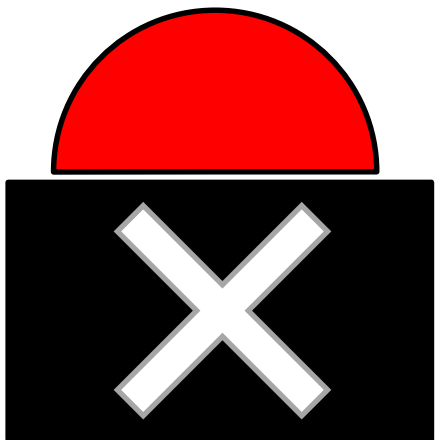
How should we value these effects over time?

a) Cash in and cash out

b) Money tomorrow is worth more than money today

c) Money today is worth more than money tomorrow

d) Projects with more risk have a lower discount rate



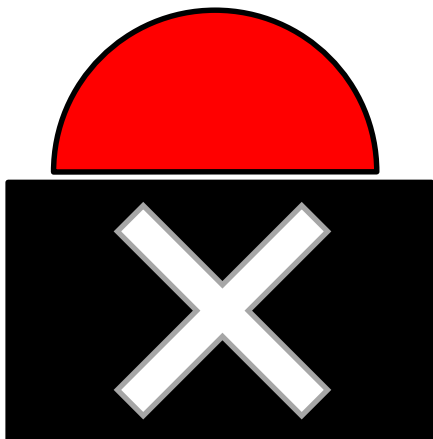
What was the benefit/cost ratio for a recent project implemented in Bruges?

a) 0

b) 0,5

c) 1,5

d) 5



Results

NPV in 2018, in mln 2019 EUR

Financial effects

Construction costs - € 24,3

Maintenance costs - € 5,5

Travel time

Nuisance during construction (car) - € 8,7

Cyclists € 5,1

Car € 41,6

Bus € 4,4

Walk € 0,0

Travel time reliability

Cyclists € 1,3

Bus € 1,1

Traffic safety € 0 - € 0,2 +

Health (air pollution cyclists) € 0,6 +

Qualitative

Comfort +

Public Space +

Image +

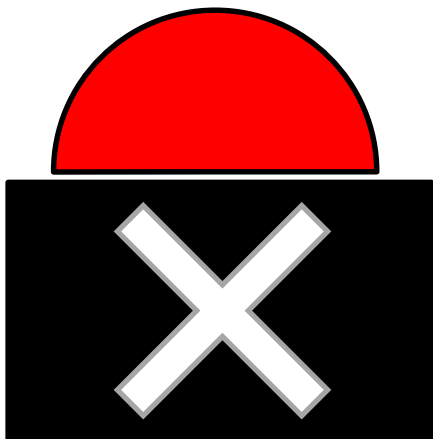
Total costs - € 29,8

Total benefits € 45,4 - € 45,6 +

Balance € 15,6 - € 15,7 +

B/C ratio 1,5

How can we use these results?



- Ex Post
 - Evaluating decisions and/or helping future decisions about improving society
 - Making sure tax money is spent well
- Ex Ante
 - Choosing the best alternative (even if alternative is investment in different mode)
 - Getting support for a project
 - Optimising the investment for the project
 - Making it clear who benefits from the project
 - Getting a sense of the uncertainties of the project

contact@handshakecycling.eu



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#KeepCycling





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Linda Dörrzapf

Vienna University of Technology - Institute of Spatial Planning

Research Unit of Mobility and Transportation Planning



In cooperation with:

aspermobil LAB

Mobility Lab

GrazUrbanen Mobilitätslabor (UML) Salzburg

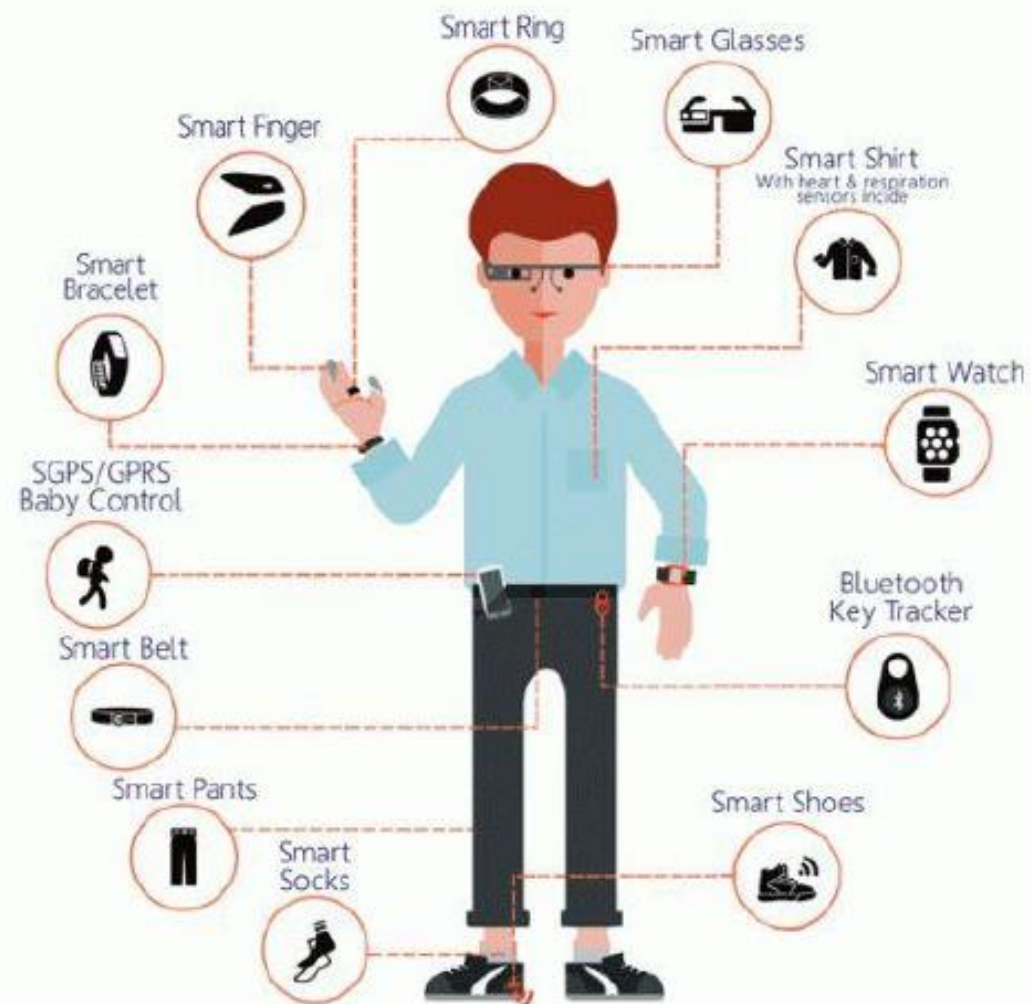
New methods for recording and evaluating Walkability

WALK & Feel



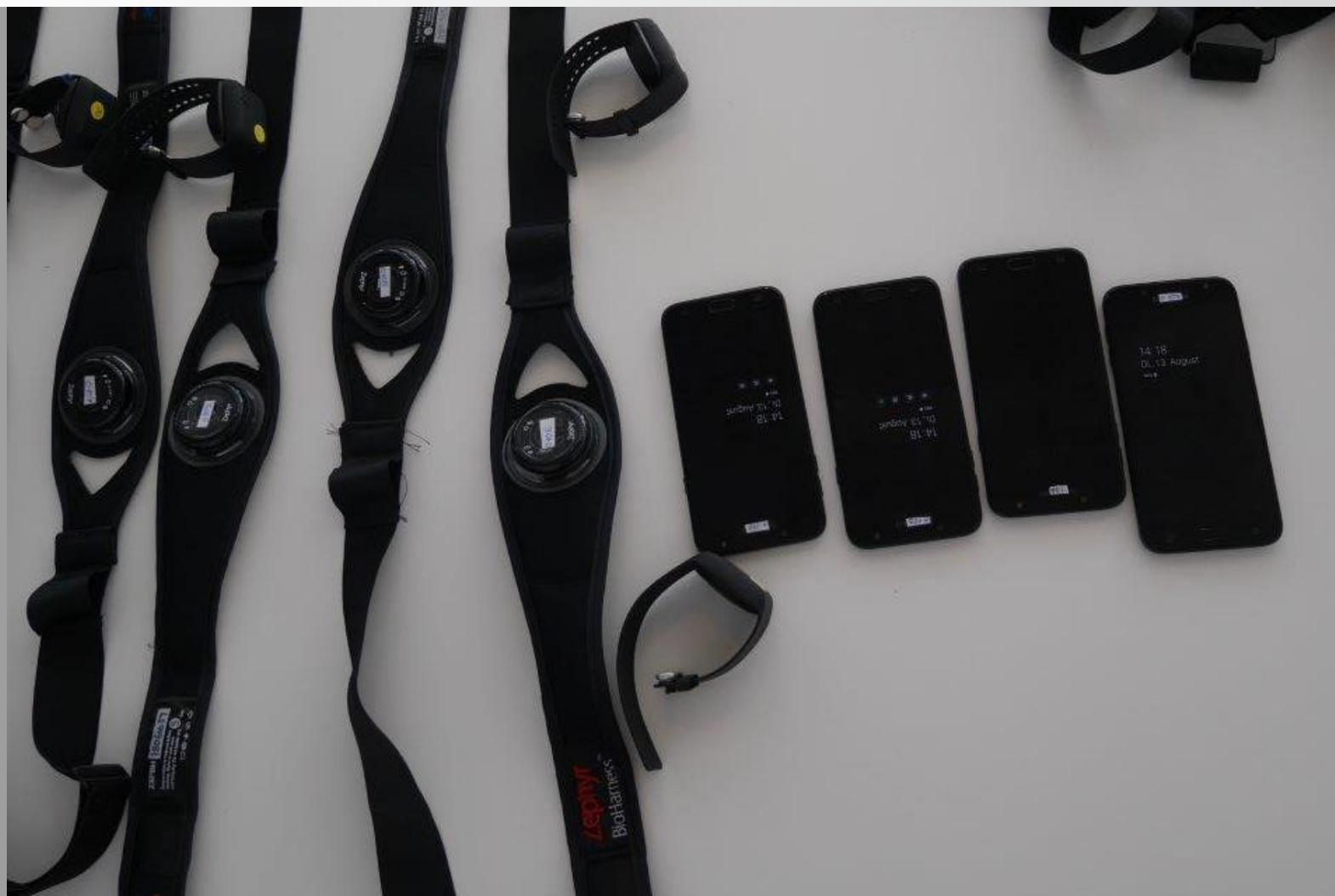
New methods for recording and evaluating Walkability

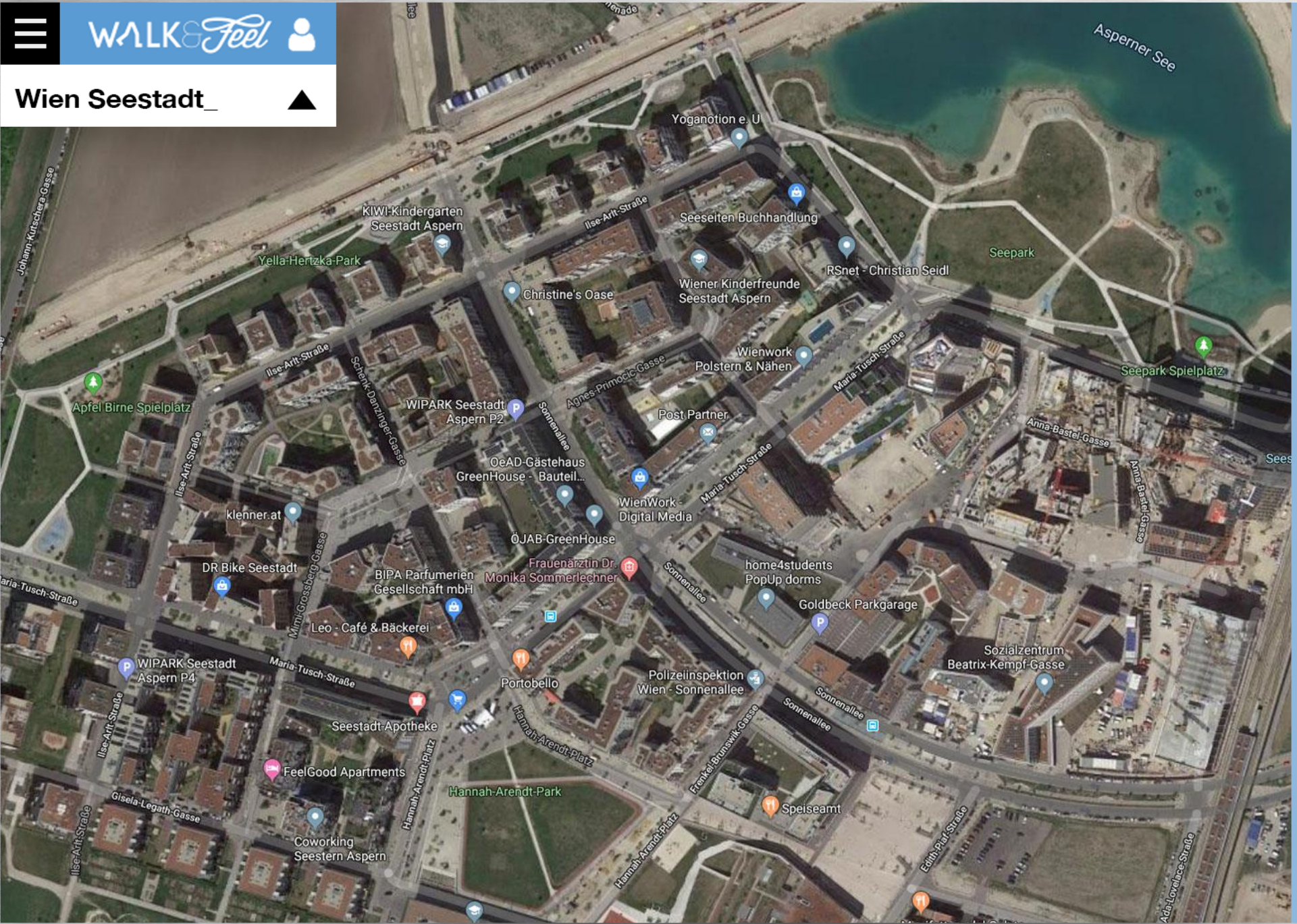
WALK & Feel



New methods for recording and evaluating Walkability

WALK & Feel





Wien Seestadt

MAP LAYER

☐ Walkability Index

☐ IWI

☐ PFI

☐ UQI

☐ Stress Indicator ri

☐ Progress

☐ Culmulation Points

TRACKS

☒ 04_Track_20190525

☐ 056_Track_20190527

☒ Readings

☒ HRV

☒ HLF

☐ Temp.

LEGEND


☒ Satellite

☐ Map


☐ POIs

☐ POIs





Wien Seestadt




MAP LAYER

☐ Walkability Index

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TRACKS


☒ 04_Track_20190525

☐ 056_Track_20190527



☒ Readings

- ☒ HRV
- ☒ HLF
- ☐ Temp.



LEGEND

☐ Satellite

☒ Map

☐ POIs

WALK&Feel

Salzburg Lehen_▲

Hot Spot of Moments of Stress

- Hot Spot - 99% conf.
- Hot Spot - 95% conf.
- Hot Spot - 90% conf.
- Not Significant
- Cold Spot - 90% conf.
- Cold Spot - 95% conf.
- Cold Spot - 99% conf.

eDiary entries

- Stress
- No stress

Questionnaires

- Negative
- Positive
- Neutral

Salzburg Lehen

MAP LAYER

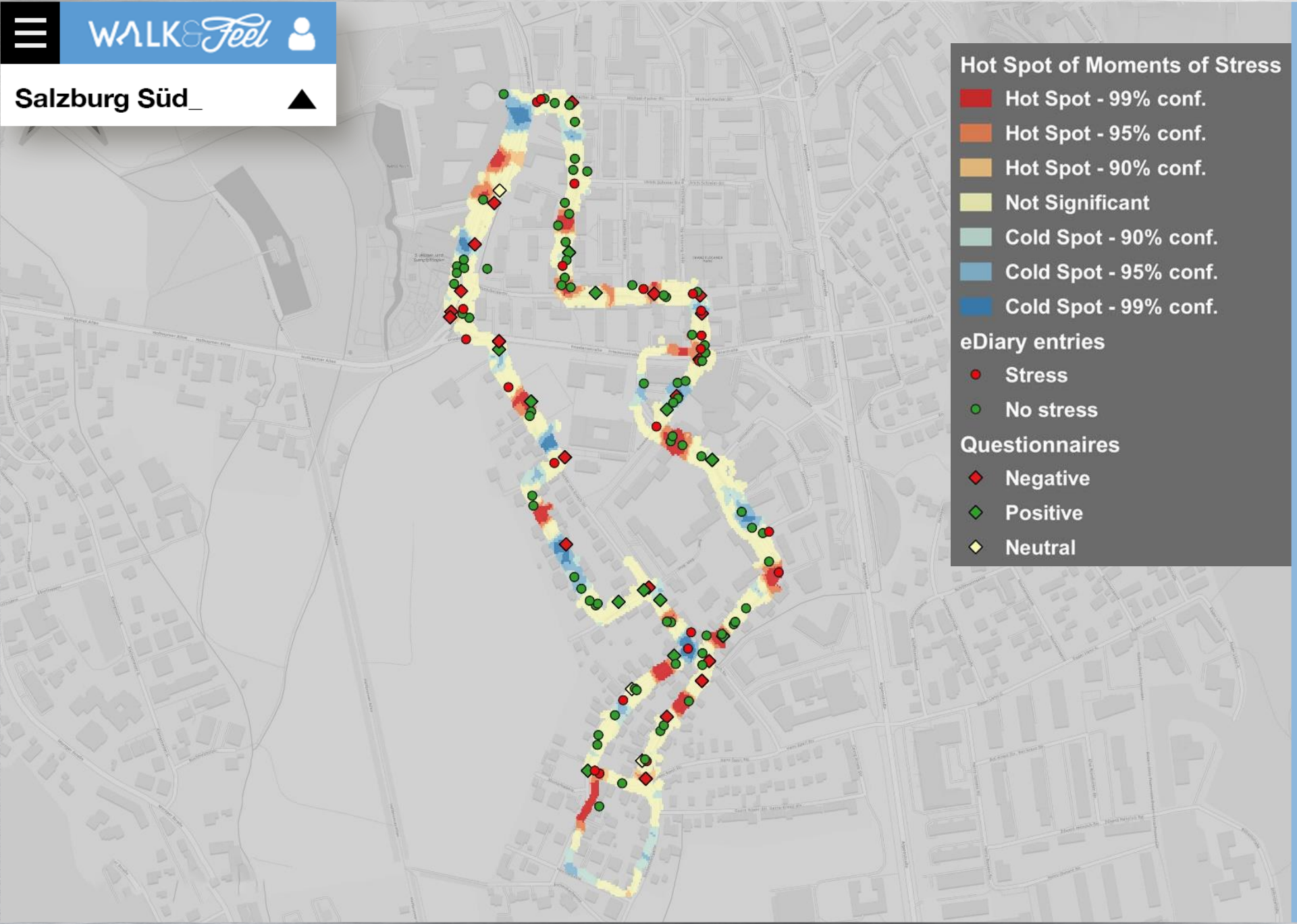
- ☒ Walkability Index
 - ☐ IWI
 - ☐ PFI
 - ☐ UQI
- ☒ Stress Indicator ri
 - ☐ Progress
 - ☒ Culmulation Points

TRACKS

- ☐ 04_Track_20190525
- ☒ 056_Track_20190527
- ☒ Readings
 - ☒ HRV
 - ☒ HLF
 - ☐ Temp.

LEGEND

- ☐ Satellite
- ☒ Map
- ☐ POIs



i

MAP LAYER

☒ Walkability Index

- ☐ IWI
- ☐ PFI
- ☐ UQI

☒ Stress Indicator ri

- ☐ Progress
- ☒ Culmulation Points

📍

TRACKS

☐ 04_Track_20190525

☐ 056_Track_20190527

☒ 066_Track_20190528

☒ Readings

- ☒ HRV
- ☒ HLF
- ☐ Temp.

↕

LEGEND

☐ Satellite

☒ Map

☐ POIs

New methods for recording and evaluating Walkability

WALK & Feel



Linda Dörrzapf

Vienna University of Technology
Institute of Spatial Planning
Research Unit of Transportation System Planning

linda.doerrzapf@tuwien.ac.at



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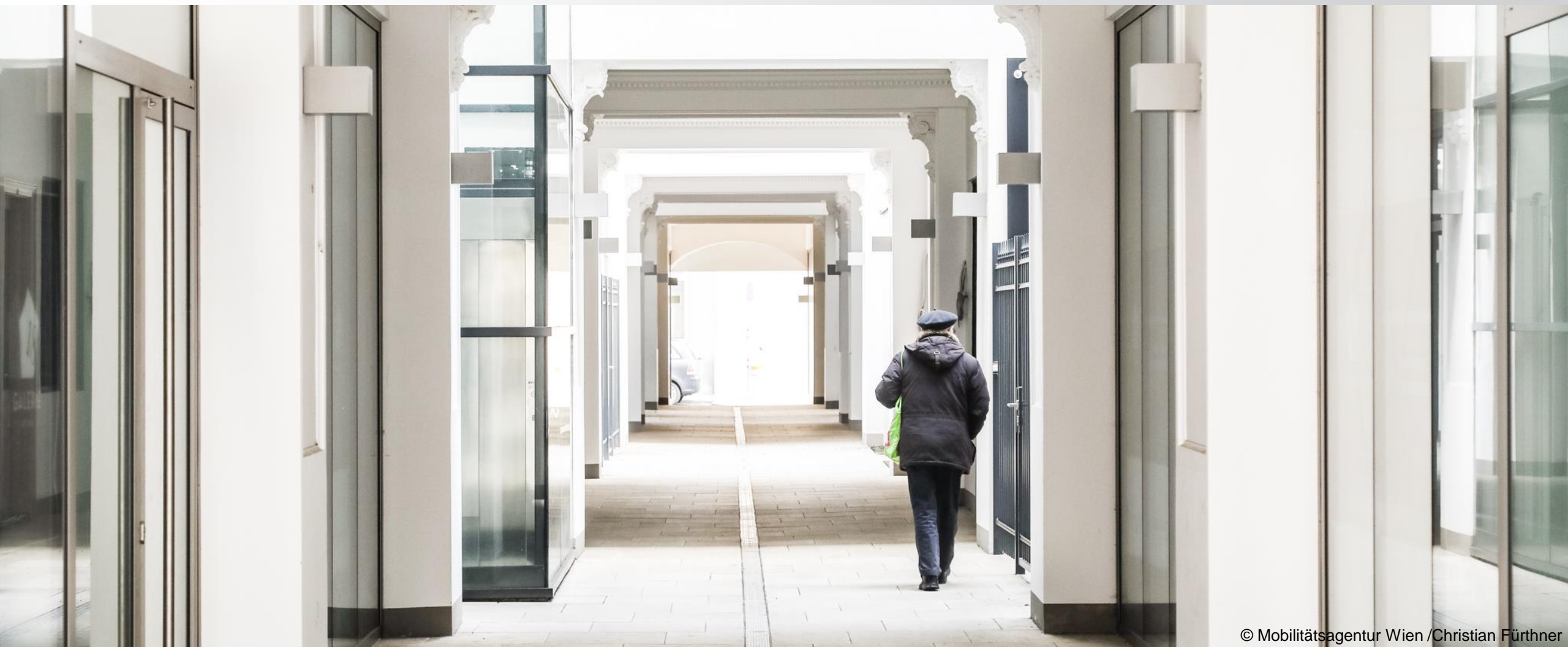
Petra Jens

Walking officer for the City of Vienna
Mobility Agency Vienna





© Mobilitätsagentur /Heidi Pein



© Mobilitätsagentur Wien / Christian Fürthner

Shortcuts signs



© Mobilitätsagentur Wien /Christian Fürthner



School streets



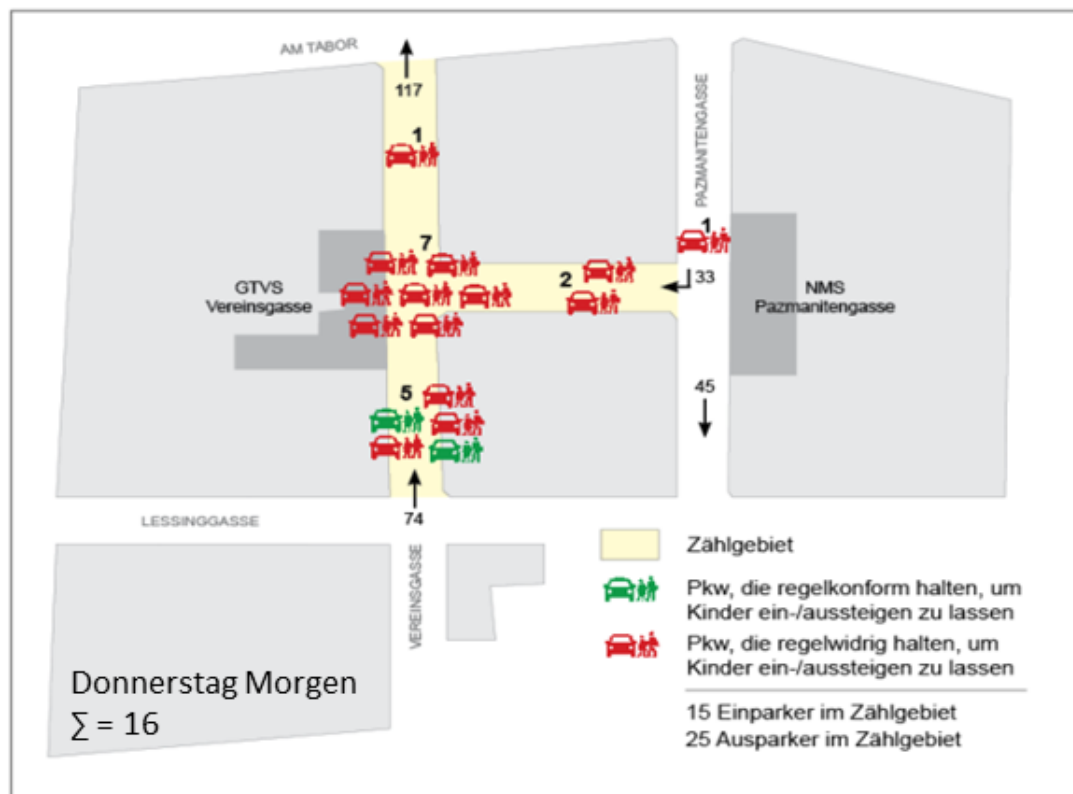
© Mobilitätsagentur Wien /Christian Fürthner

Wrong parking reduced



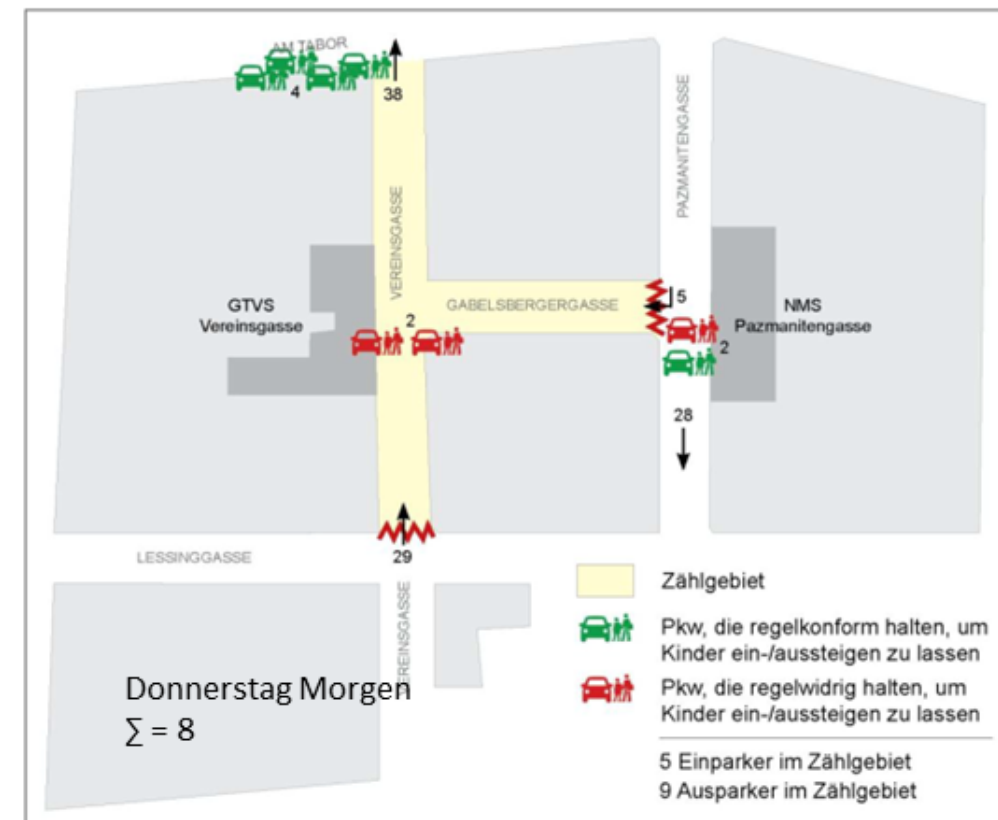
Pilot Survey

Juni



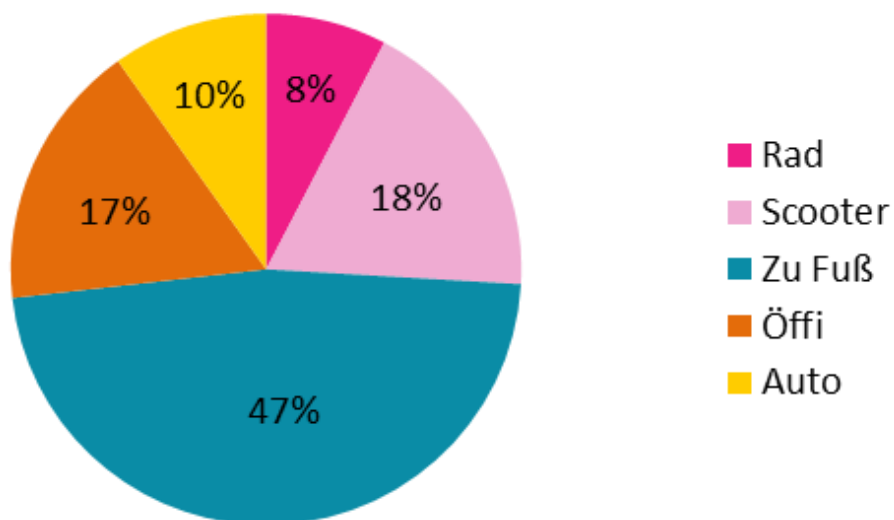
Survey

September

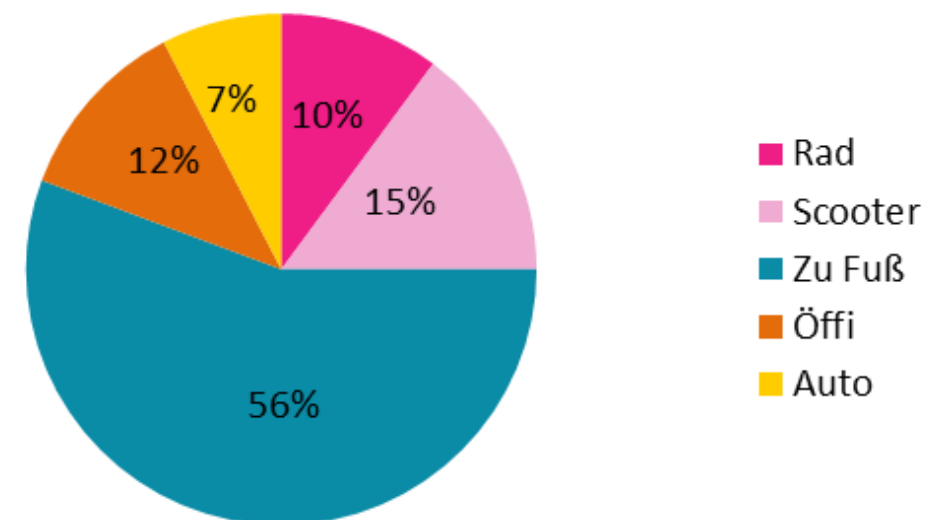


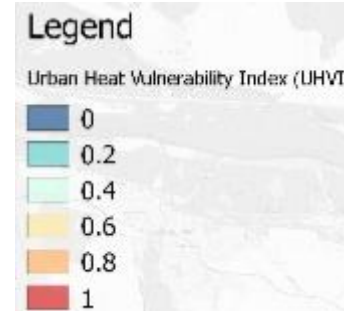
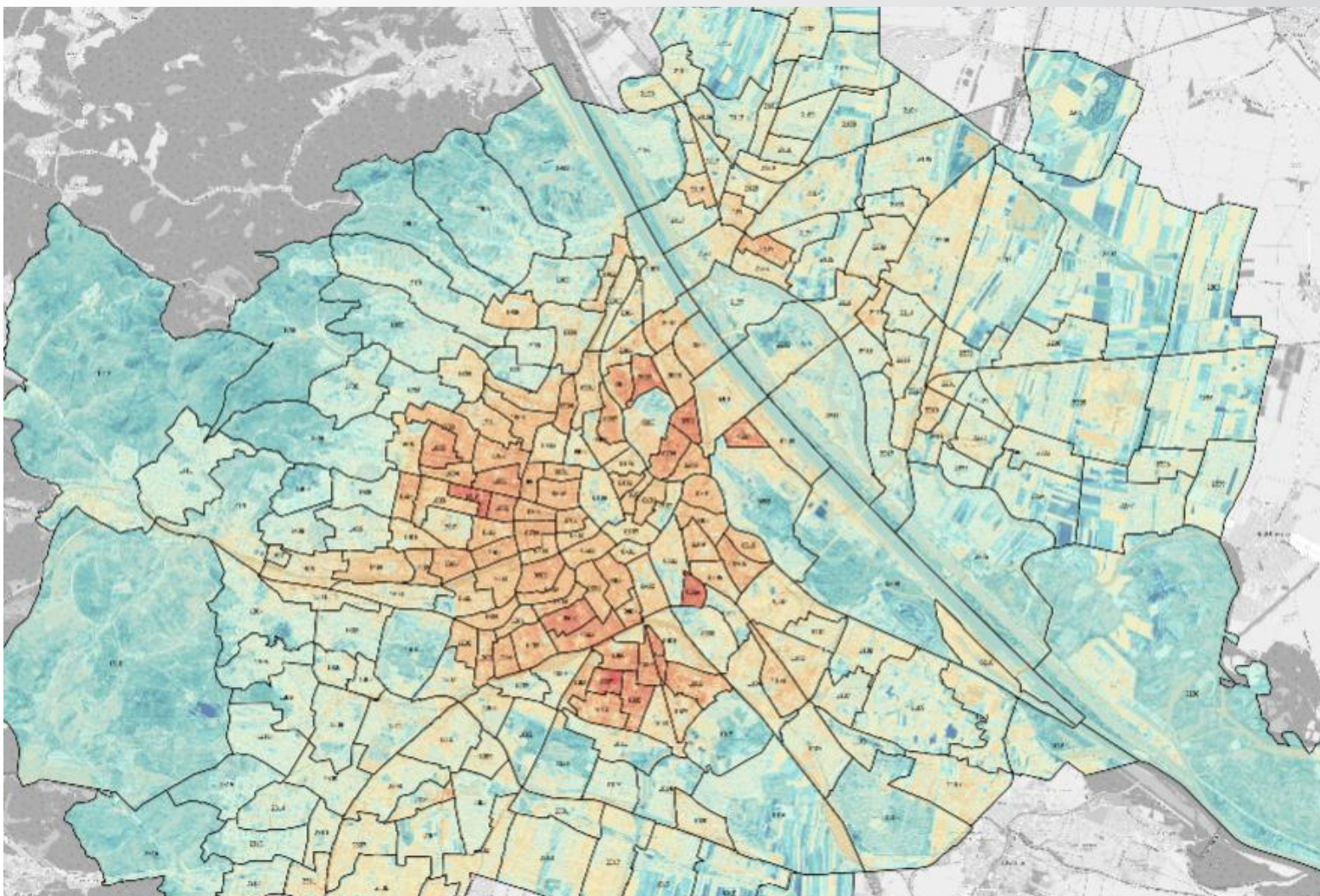
Modal share of students

Erhebung Modal Split
Juni



Erhebung Modal Split
September/Oktober





Cool Streets





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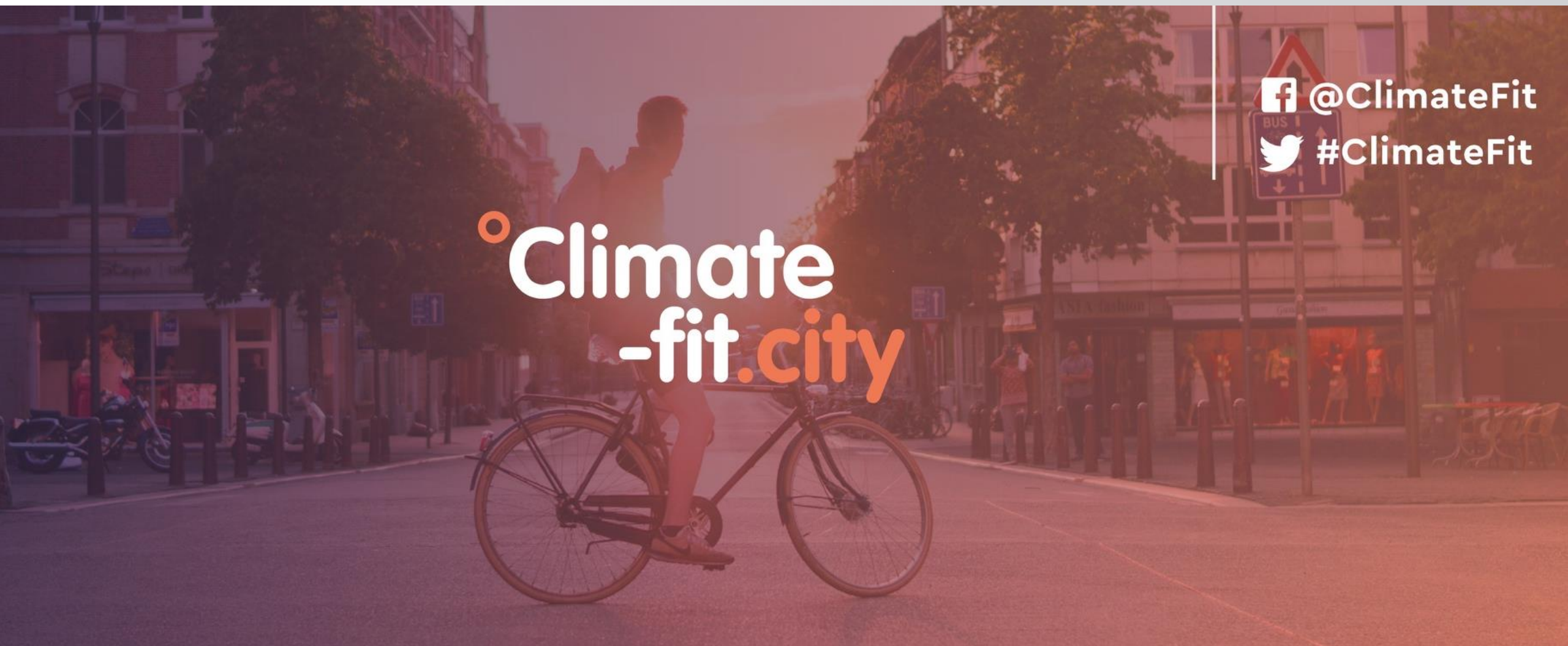
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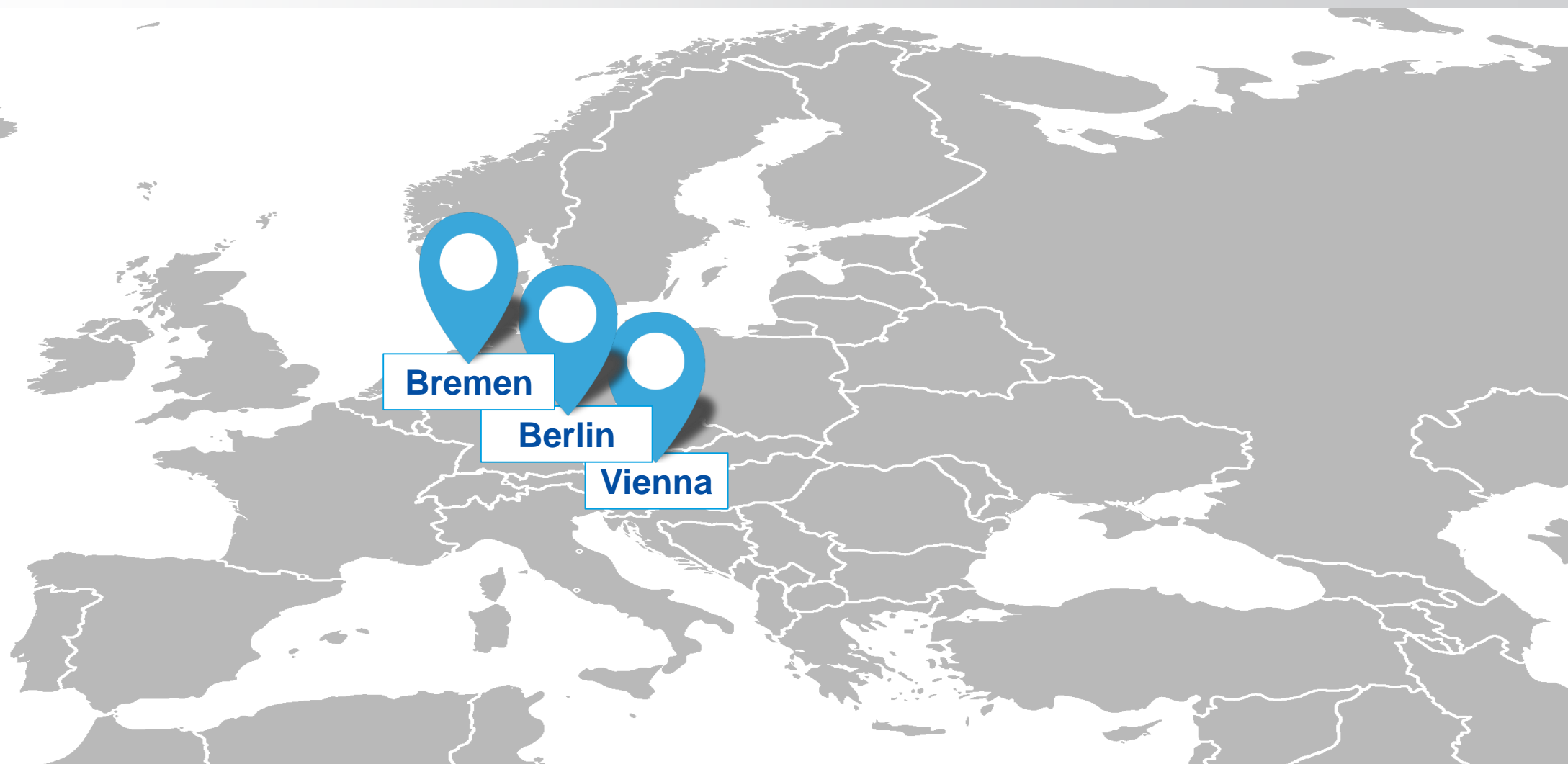


Judith Köberl
Joanneum Research
Austria



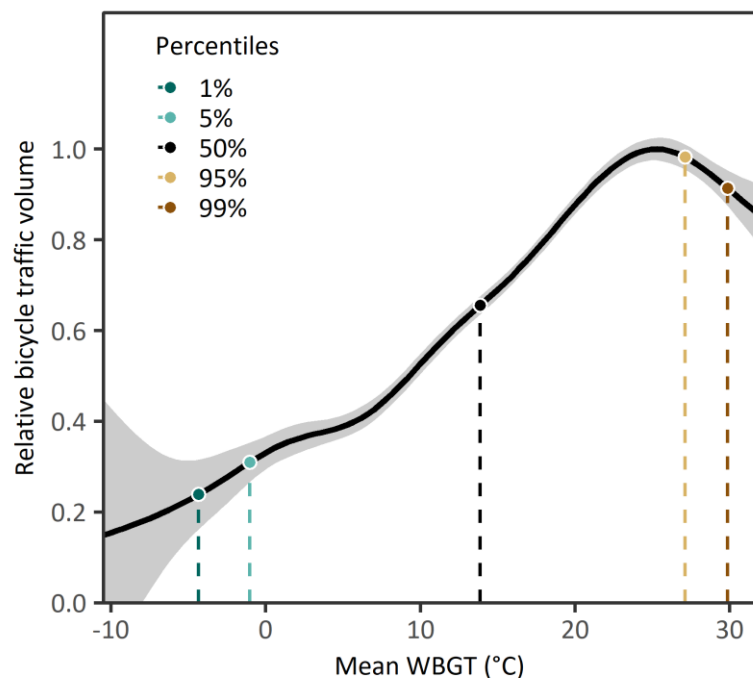
KU LEUVEN



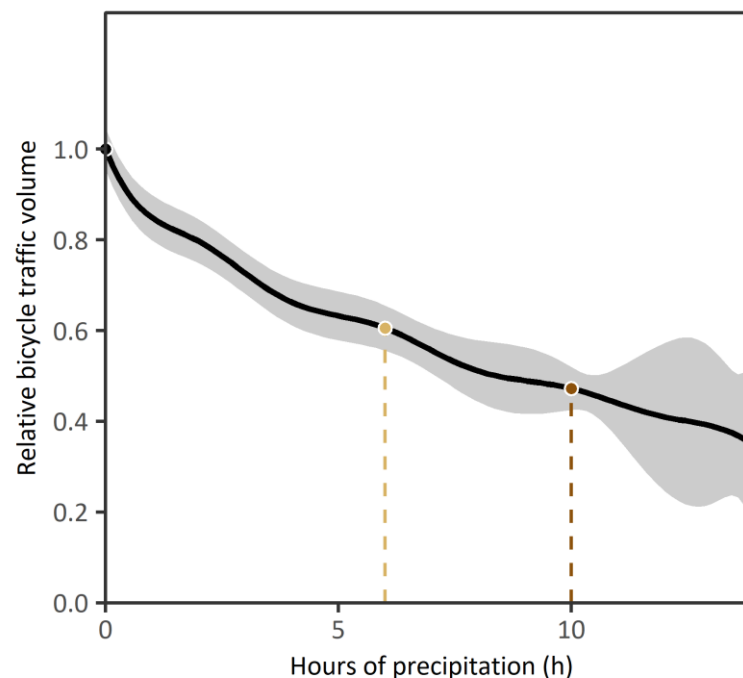


How do Vienna's cyclists respond to ...?

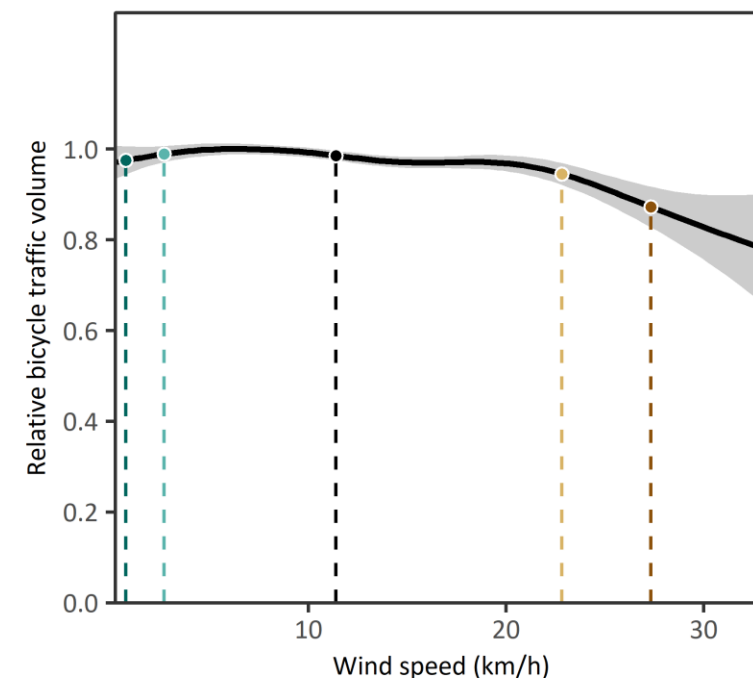
... perceived temperature



... precipitation

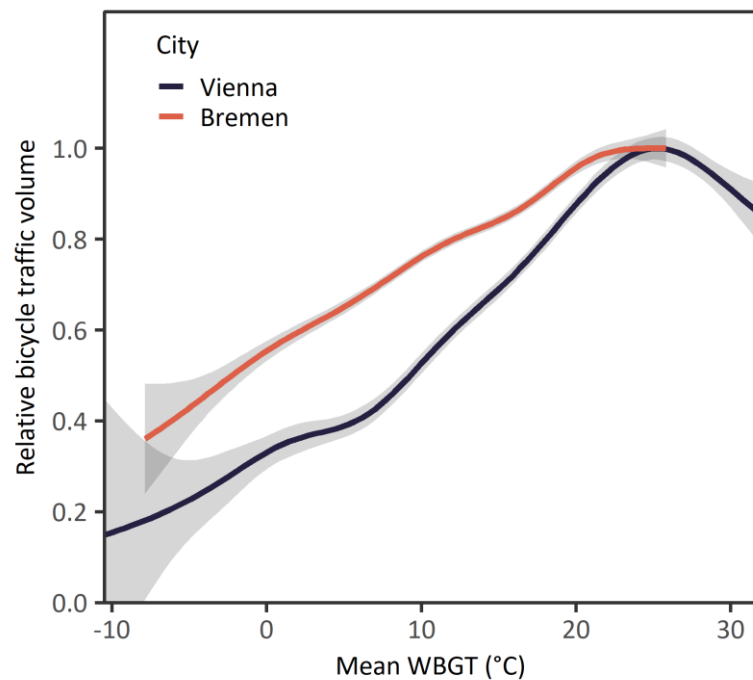


... wind speed

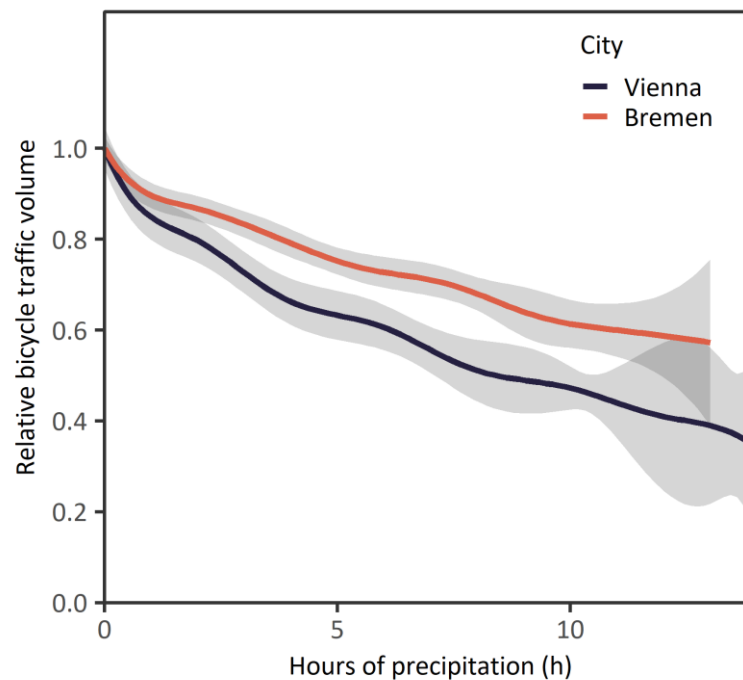


How do Bremen's cyclists respond differently to ...?

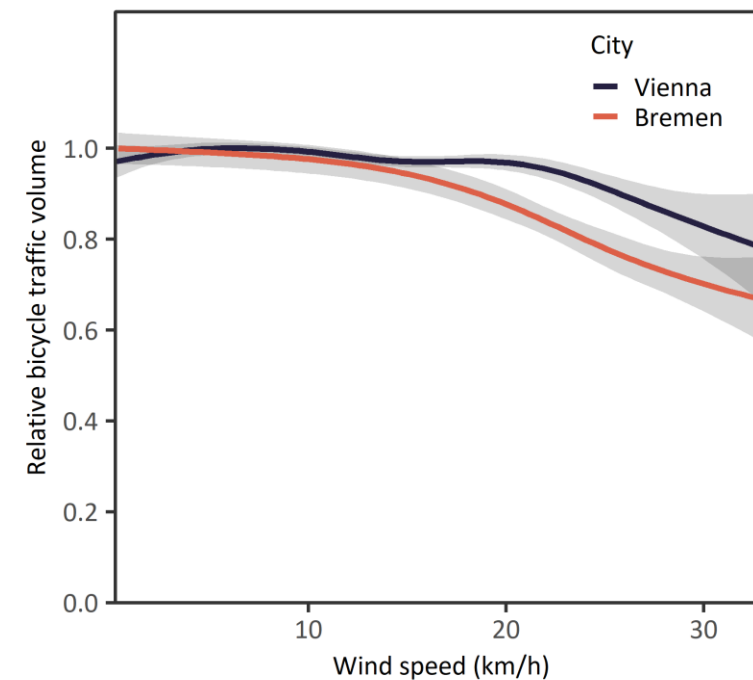
... perceived temperature



... precipitation

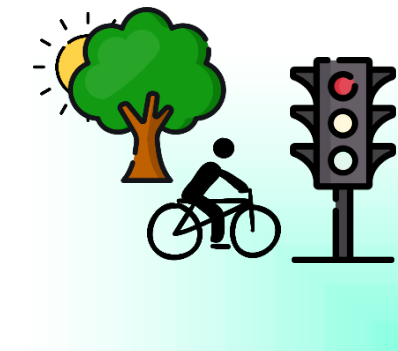
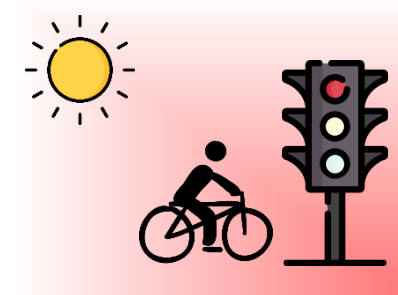
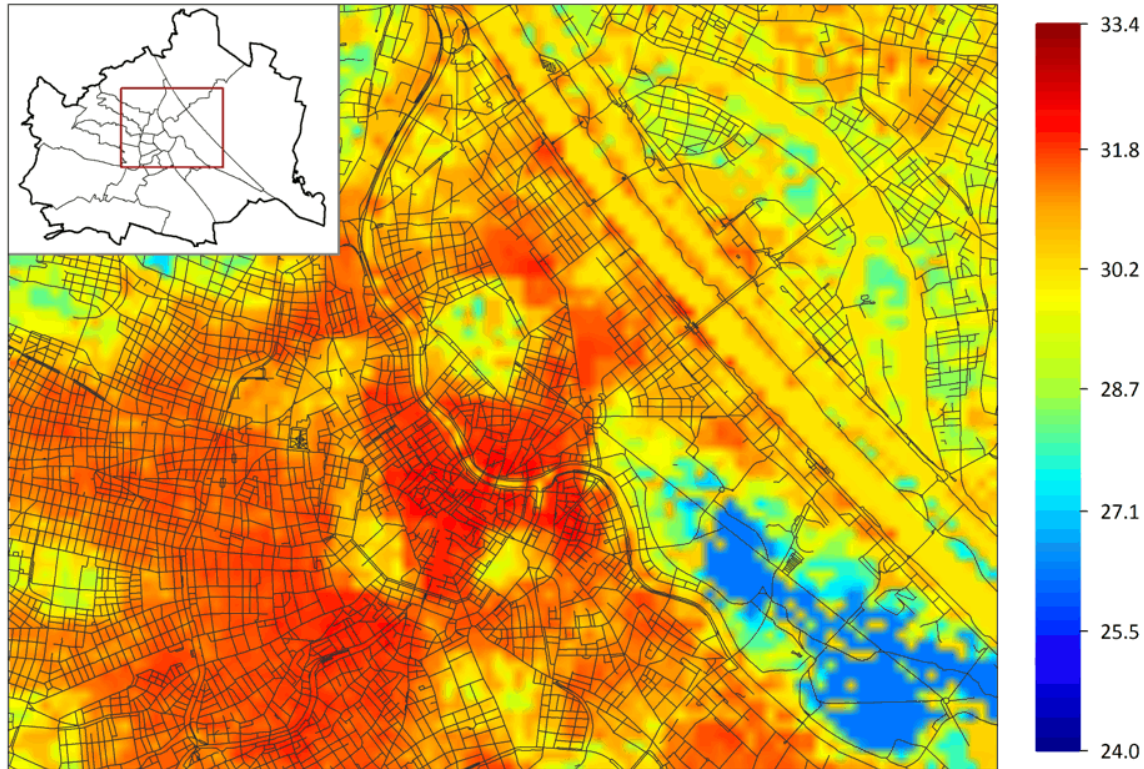


... wind speed



What does the future (climate) look like?

Heat stress on hot days under current climatic conditions [°C]



Icons made by [Freepik](https://www.flaticon.com/) from www.flaticon.com

Bremen (climate-fit city)

2015-01-01 - 2018-12-31

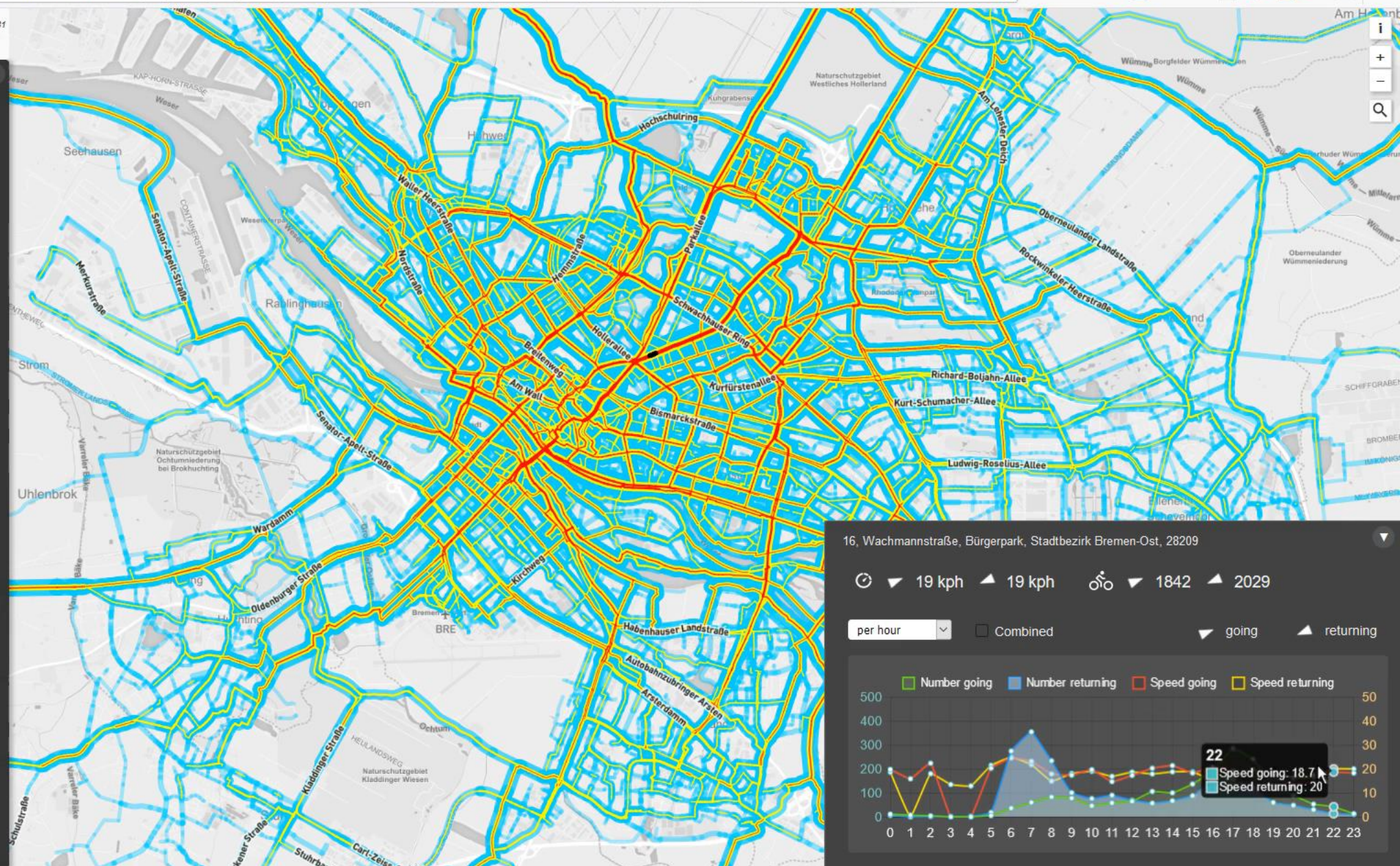
no filter

Intensity

Number of cyclists on the road network

Click on road segment to show more detailed information (speed, number of cyclists).

- 0 - 10 cyclists
- 10 - 20 cyclists
- 20 - 50 cyclists
- 50 - 100 cyclists
- 100 - 200 cyclists
- 200 - 500 cyclists
- 500 - 1000 cyclists
- > 1000 cyclists



16, Wachmannstraße, Bürgerpark, Stadtbezirk Bremen-Ost, 28209

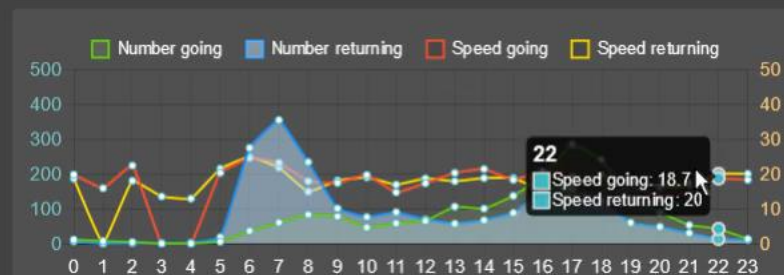
19 kph 19 kph 1842 2029

per hour

Combined

going

returning





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Ramiro Burgos
Municipality of La Paz
Responsible for Mobility











An aerial photograph of a densely populated urban area, likely a favela or informal settlement. The image shows a complex network of narrow, winding streets and a high density of small, closely packed buildings. Many of the buildings have red-tiled roofs, which are prominent throughout the scene. The terrain appears rugged and uneven, with some areas showing signs of erosion or exposed earth. A single, straight red line is drawn across the middle of the image, highlighting a specific street or road that runs diagonally from the upper left towards the lower right. This line likely represents a proposed or existing bidirectional traffic route. The overall color palette is dominated by the earthy tones of the buildings and the surrounding landscape, with the red roofs providing a strong visual contrast.

ENTIDO BIDIRECCIONAL



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8th **SUMP**
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Safe Walking and Cycling



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Thank you!

Juan Caballero

EUROCITIES

juan.caballero@eurocities.eu



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