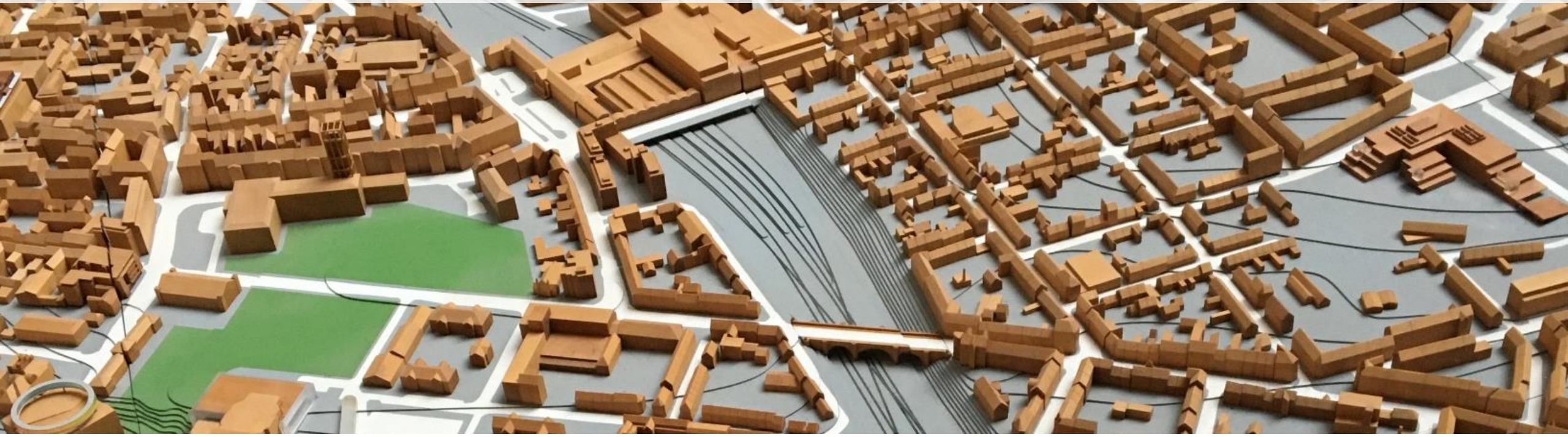




# AARHUS: NEW PLACES FOR CITY ACCESS

advancing urban accessibility for the European City



Aarhus Station Area Conference  
Aarhus, 31 October 2019

**Philipp Rode**, LSE Cities / Urban Age Programme  
London School of Economics and Political Science



 philippode



# ASPECTS

/ the urban transport challenge

/ transport futures

/ policy & design for better access

/ critical cases for Aarhus







the urban transport  
challenge











# ROAD TRAFFIC – OTHER NEGATIVE EXTERNALITIES



## AIR POLLUTION

4.2 million

premature deaths in 2016  
(WHO 2018)

For 311 cities, 86% exceed  
WHO air quality guidelines  
equating to 730,000  
premature deaths  
(Kuylenstierna et al 2014)

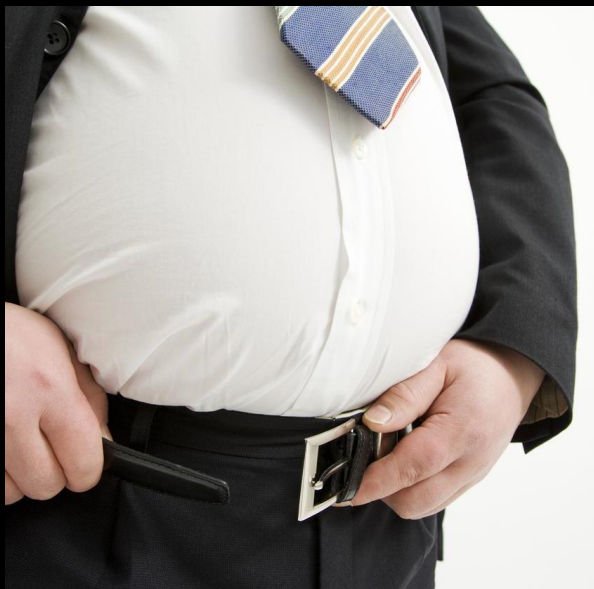


## TRAFFIC CRASHES

1.35 million

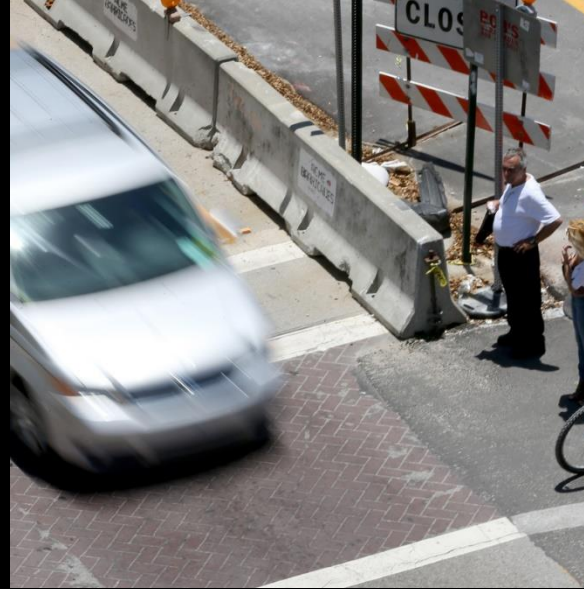
deaths per year  
(WHO 2018)

leading cause of death for  
children and young adults  
aged 5–29 years  
(WHO 2018)



## INACTIVITY

There is a clinically meaningful  
association between living in  
the most walkable  
neighbourhoods and having  
lower BMI in adults of all ages  
(Loo et al 2017)



## COMMUNITY SEVERANCE

Communities alongside  
streets with higher volume  
traffic have far fewer social  
interaction with neighbours  
(Appleyard et al 1982)



An aerial, high-angle photograph of a busy city intersection. A red tram is moving diagonally across the frame from the top left towards the bottom right. A red bus is stopped at a traffic light on the right side of the intersection. The street is filled with pedestrians, and the overall scene is one of a dense, active urban environment. The image is overlaid with semi-transparent text boxes.

23% of global CO<sub>2</sub> [energy related]

from transport (Sims et al 2014)

doubling of emissions by 2050

emissions from transport under BAU / fastest growing emissions (Sims et al 2014)

10 billion trips per day

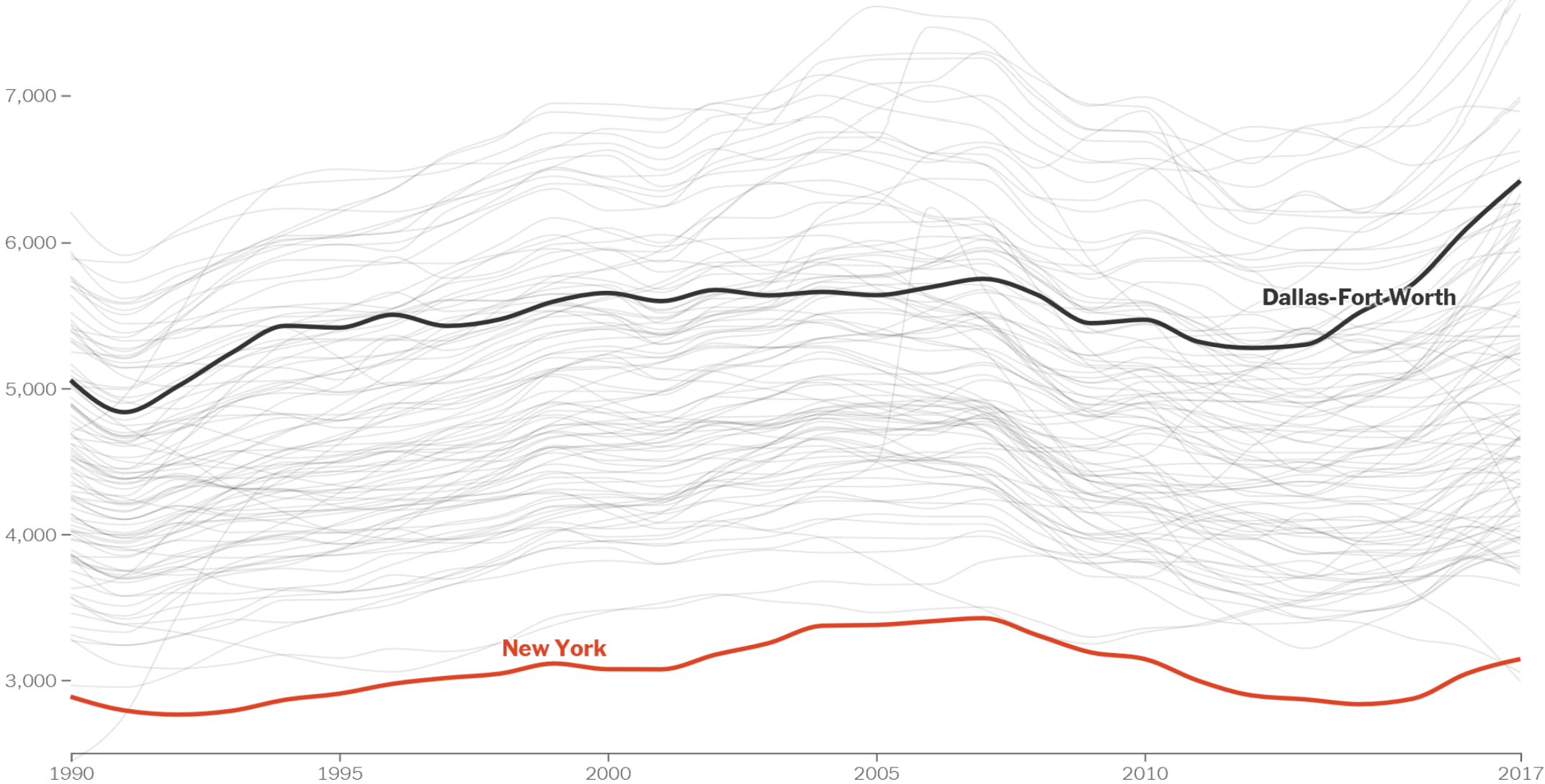
in urban areas worldwide / increasingly motorised (Rode et al 2014)



# TRANSPORT CO<sub>2</sub> EMISSIONS IN US CITIES 1990-2017

Source: NY Times 2019

Kilograms CO<sub>2</sub> per person  
on-road emissions







Resident permit holders only  
Mon - Fri  
8:30 am - 6:30 pm  
Sat  
8:30 am - 1:30 pm

WOOD





CLIMATE EMERGENCY

WAKE UP  
AMERICA

YOUR PROFIT  
DENIAL  
IS NOT  
POLICY

WHAT ABOUT  
OUR  
FUTURE

DON'T  
PUT IT IN THE  
AIR

Coca-Cola

COVERGIRL

DROCON  
ERA

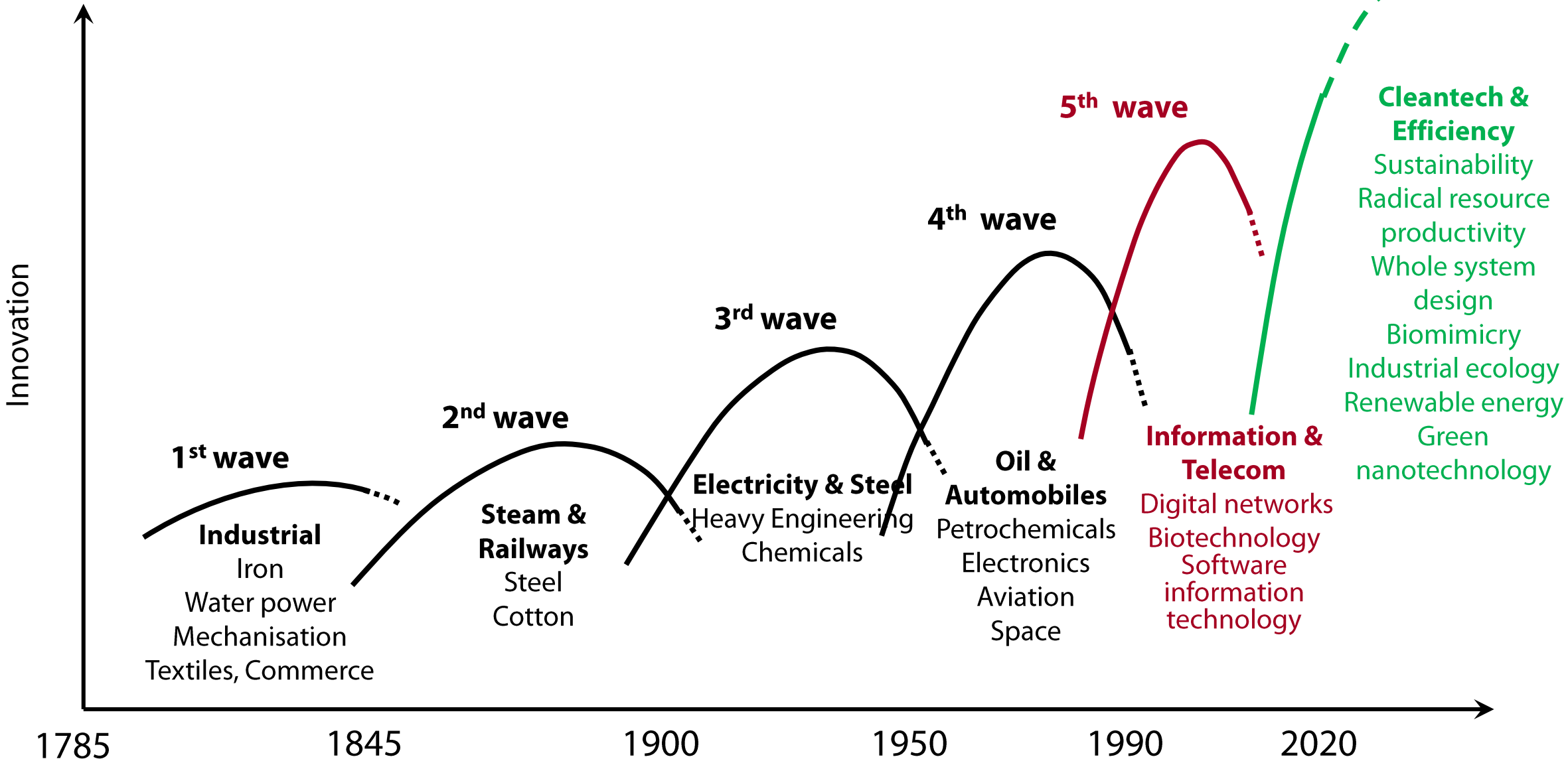




transport futures



# WAVES OF TECHNOLOGICAL INNOVATION



**1<sup>st</sup> wave**

**Industrial**  
Iron  
Water power  
Mechanisation  
Textiles, Commerce

**2<sup>nd</sup> wave**

**Steam & Railways**  
Steel  
Cotton

**3<sup>rd</sup> wave**

**Electricity & Steel**  
Heavy Engineering  
Chemicals

**4<sup>th</sup> wave**

**Oil & Automobiles**  
Petrochemicals  
Electronics  
Aviation  
Space

**5<sup>th</sup> wave**

**Information & Telecom**  
Digital networks  
Biotechnology  
Software  
information technology

**6<sup>th</sup> wave**

**Cleantech & Efficiency**  
Sustainability  
Radical resource productivity  
Whole system design  
Biomimicry  
Industrial ecology  
Renewable energy  
Green nanotechnology

1785

1845

1900

1950

1990

2020



# NEW URBAN MOBILITY



accessibility



walking



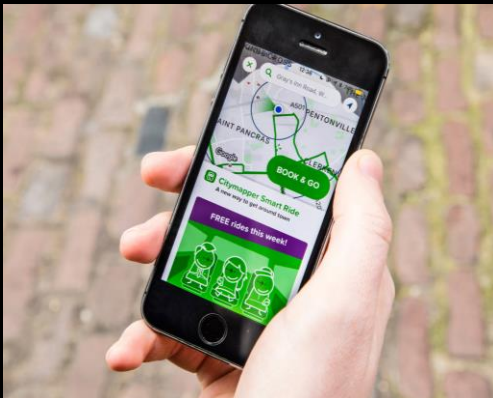
cycling



sharing



electric-mobility



multi-modality









BVG

BVG

BerlKönig

VIAVAN

S-PR 3285

W













20

by Uber

JUMP

⚡ Electric













TAXI

CREDIT AGRICOLE

Con l'autostrada  
in vita e più tranquillo  
in famiglia per tutti

Con l'autostrada  
in vita e più tranquillo  
in famiglia per tutti

SHOP

SHOP'NG

SHARENGO

SHARENGO







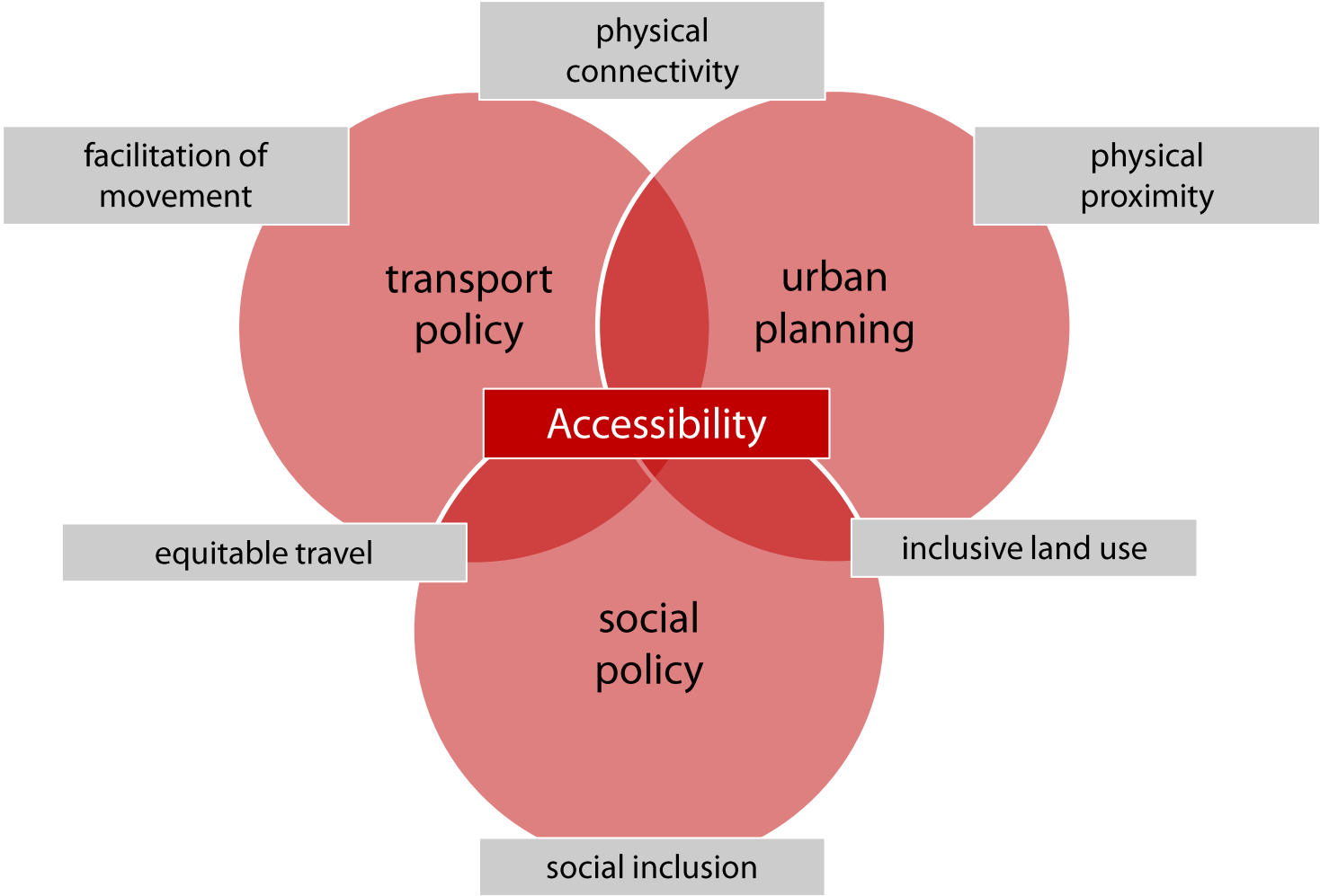


policy & design for better  
urban accessibility



# THE URBAN ACCESSIBILITY NEXUS

Source: Rode, Heeckt and da Cruz 2019

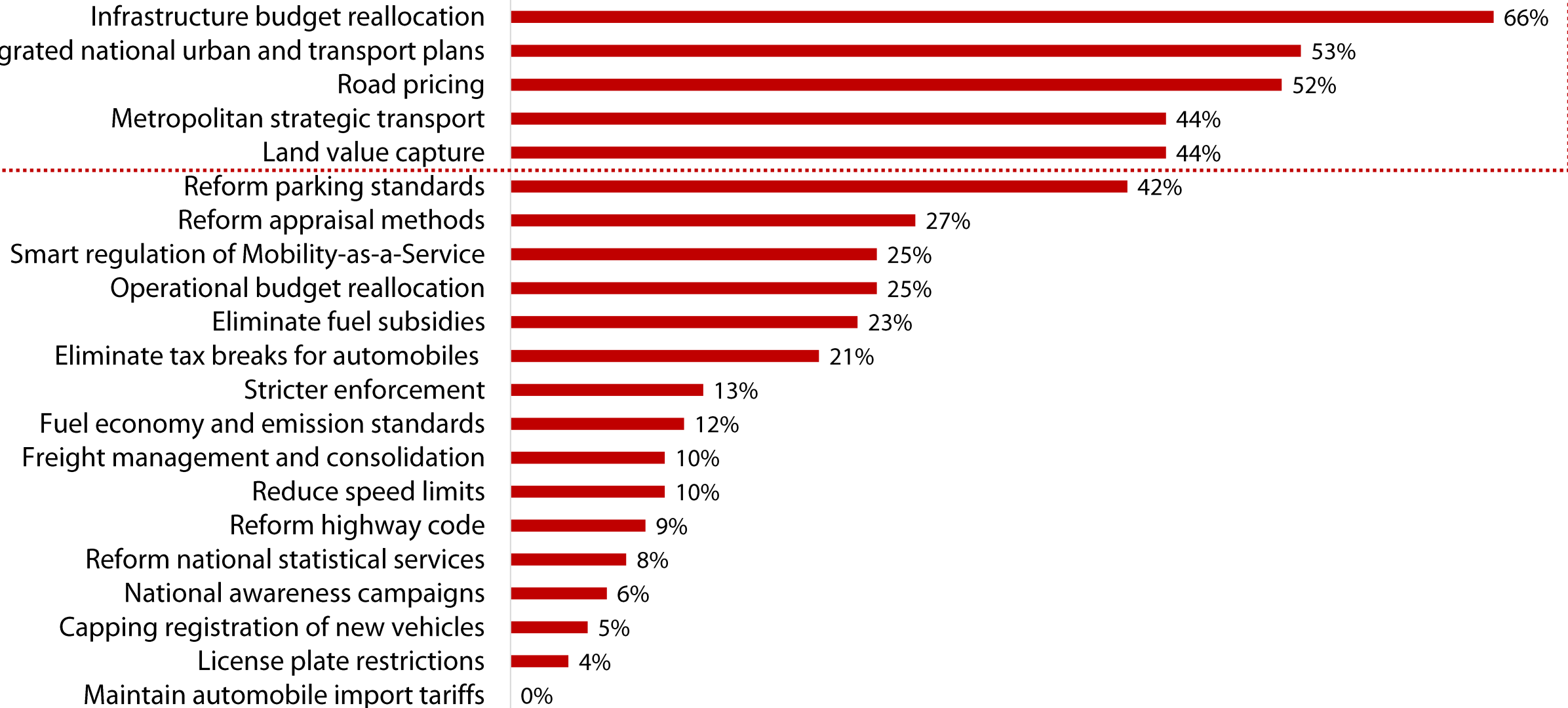




# FLAGSHIP POLICY INTERVENTIONS

Source: Rode, Heeckt, da Cruz 2019

## SURVEY OF 77 TRANSPORT EXPERTS FROM 26 COUNTRIES





# 01 INFRASTRUCTURE BUDGET REALLOCATION

Adjust national transport infrastructure budgets to increase the share of funds going to public transport and infrastructure for non-motorised transport.

*e.g. China Urban Rail Expansion (The National Development and Reform Commission 2018)*

## Benefit for cities:

Boosts funding for much-needed public transport projects, bike paths, pedestrian areas, etc.





## 03 ROAD PRICING

Charge for the use of inter- and intra-city roads through different forms of user fees

*e.g. London Congestion Charge (1997 UK New Deal For Transport)*

### **Benefit for cities:**

Fees incentivise modal shift and generate revenue for better urban transport services and infrastructure





# 05 LAND VALUE CAPTURE

Enable governments to raise revenue from increases in property values and/or business income due to public investment (e.g. metro line expansion), and use it to finance public transport infrastructure

*e.g. Hong Kong Transit Oriented Development (MTR Corporation 1975)*

## **Benefit for cities:**

Increases available funding for public transport projects







**COPENHAGEN  
CYCLING**



**MEDELLIN  
METROCABLE**



**PARIS  
VELIB**



**BOGOTA  
TRANSMILENIO**



**LONDON  
CONGESTION CHARGE**



**HONG KONG  
RAIL PROPERTY POLICY**



**SAO PAULO  
BUSES**



**BERLIN  
E-MOBILITY**



**ZURICH  
TRAMS**



**GUANGZHOU  
BRT**

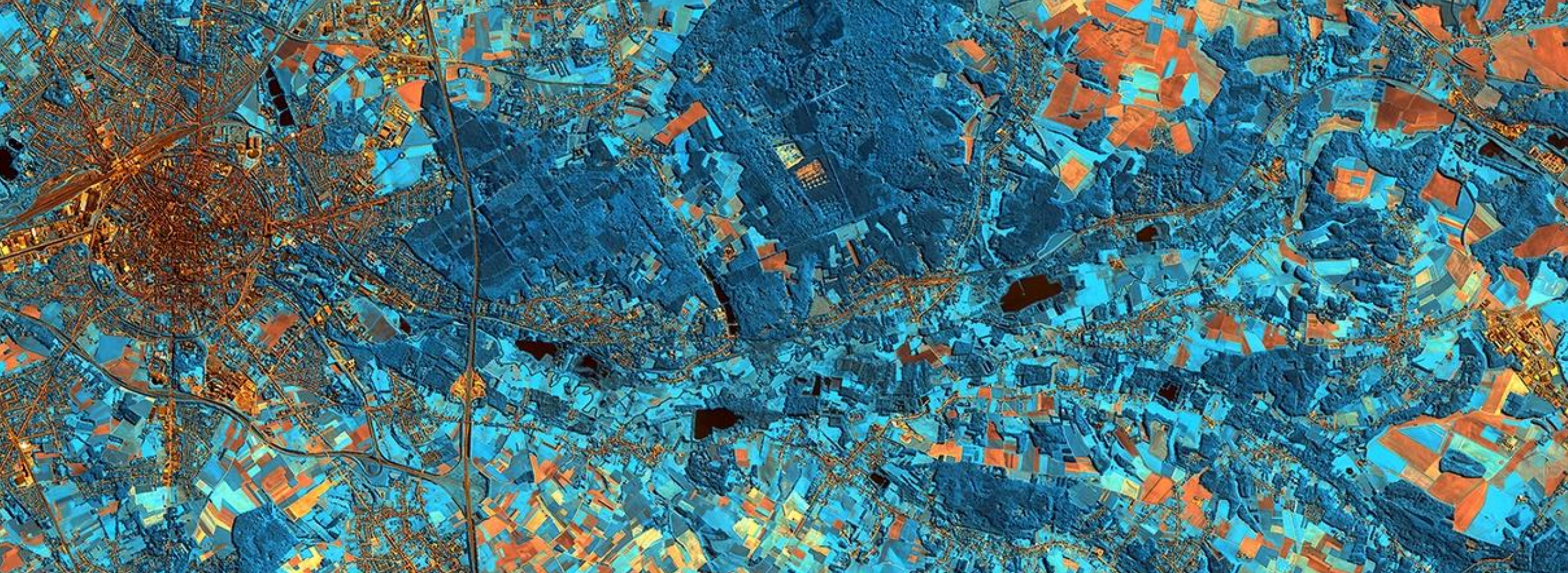


**NYC CYCLING**









# 01 – limit peripheral growth

and promote future population growth in more accessible urban cores





# 02 – urban islands

promote nodal intensification in most accessible peripheral places





# 03 – micro/shared e-mobility

shift to healthier and efficient collective modes





# 04 – virtualisation

more cables, less roads





critical cases for  
Aarhus Central



subsidising parking or better mobility?





# Ulm Main Station

Germany





**Straßenbahnlinie 2**

**Wilhelmspark**

**Theaterviertel**

**Dichterviertel**

**Bürgerdienste**

**Bahnhofplatz**

**Bahnhofspassage**

**Sedelhöfe**

**Masterplan**

**citybahnhof ulm**

**DB-Parkhaus**

**Parkhaus am Bahnhof**

**ZOB**

**Schillerrampe**











bike storage and/or cycling?





Utrecht Centraal

Netherlands















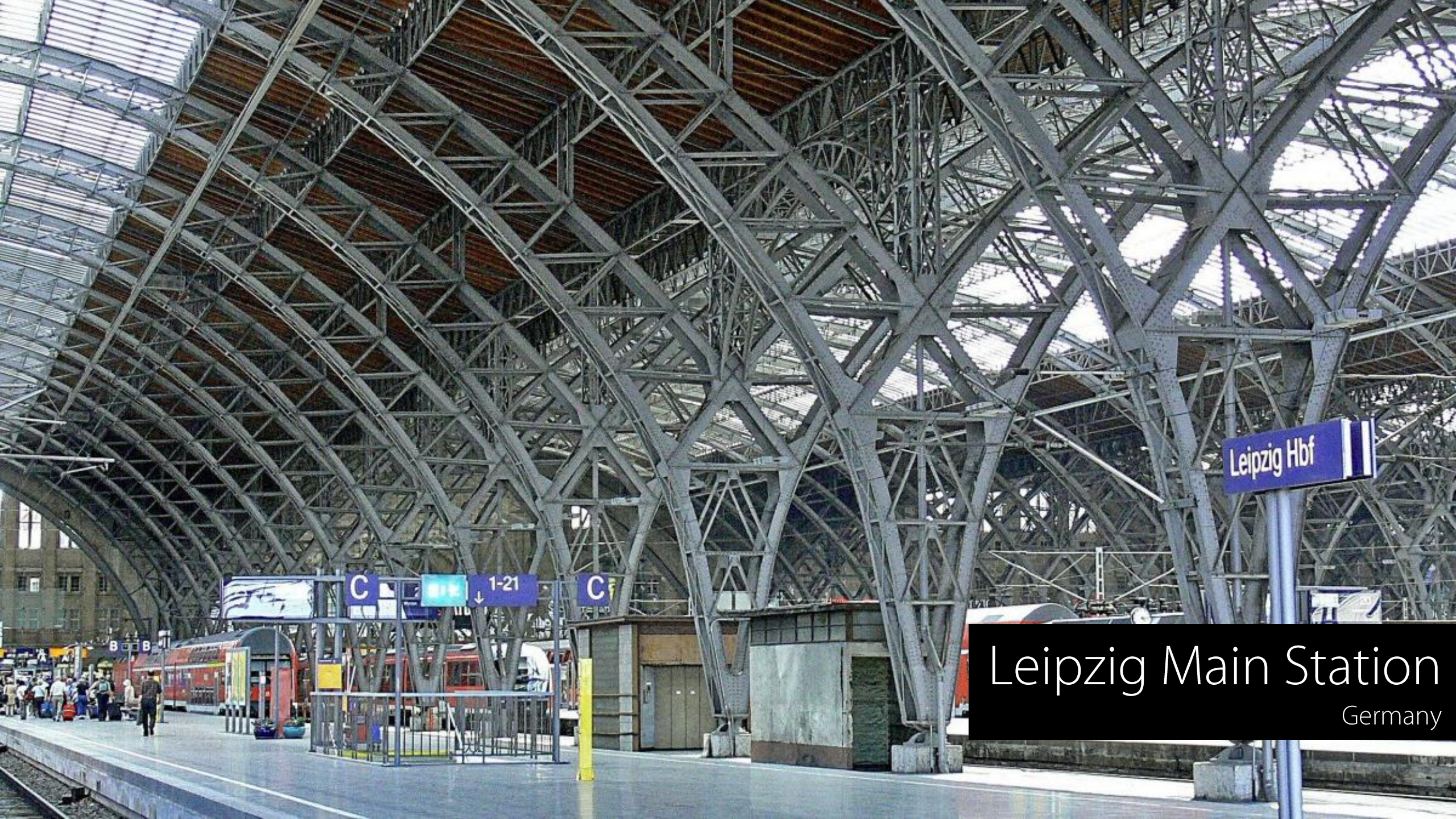


INDENGELEIDELI



shopping or sense of arrival?





Leipzig Hbf

Leipzig Main Station

Germany









TABATAI

SATURN

WORLD PRESS PHOTO

Was sind Fotos  
eigentlich, aber nicht  
für Kinder nicht  
geeignet ist



profit or public value?





# Hudson Yards

New York









Bishopsgate Goodsyard  
London



# A DARK FUTURE FOR SHOREDITCH

## HUGE

40+ storey towers dwarf the neighbourhood

## UNAFFORDABLE

£1m+ luxury flats not the homes we need

## SHADOW

cast across homes and businesses

## DESTRUCTION

of local creative and tech community

Proposed new development

BOXPARK

TEA  
Building

We've had the decision taken away from us -  
but it's not too late for you to have your say.

**SHOREDITCH DESERVES BETTER.**

Object to the Bishopsgate Goods Yard plans by emailing: [Mayor@london.gov.uk](mailto:Mayor@london.gov.uk)

Learn more at: [hackney.gov.uk/BGY](https://hackney.gov.uk/BGY)

Join the conversation: [@HackneyCouncil](https://twitter.com/HackneyCouncil) [#BorisSeeTheLight](https://twitter.com/BorisSeeTheLight)



SHOREDITCH IS UNDER  
**THREAT** AND IT NEEDS  
**YOUR** HELP.





VISMA

alp

# Oslo Barcode

Norway

500  
1000









Clichy-Batignolles

Paris, France







Aarhus Central 2020  
car free access to the European City









WASH







