

TOD2 – The International Conference on New-Generation Transit-Oriented Development  
Session 1 : Designing Public Transport  
Nordatlantens Brygge, Christianshavn  
Copenhagen, Denmark

# Transit Oriented Development, Development Oriented Transit & Movement and Place

Date: 4/9/2025 | Professor Graham Currie FTSE



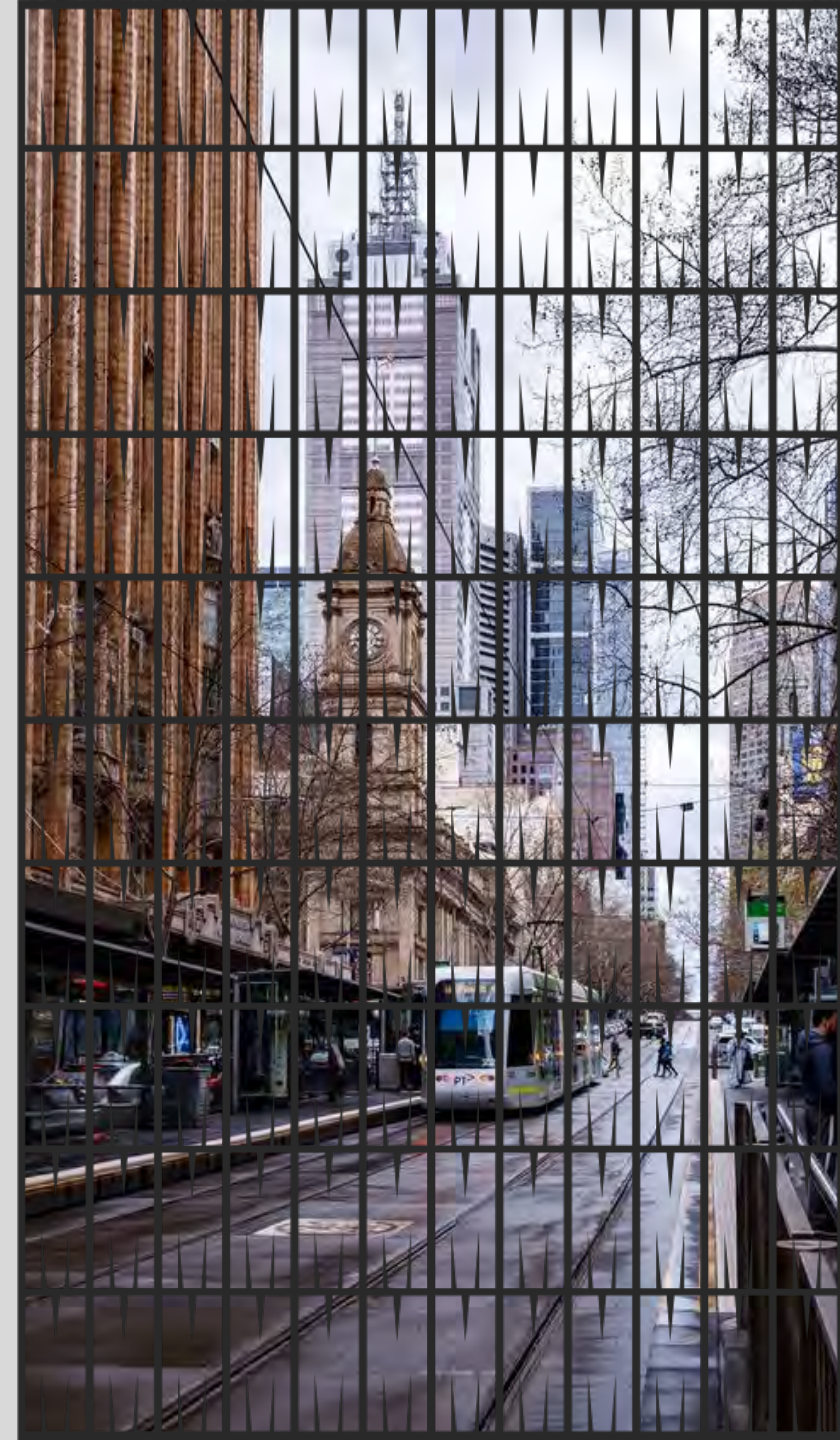
## Agenda

Introduction

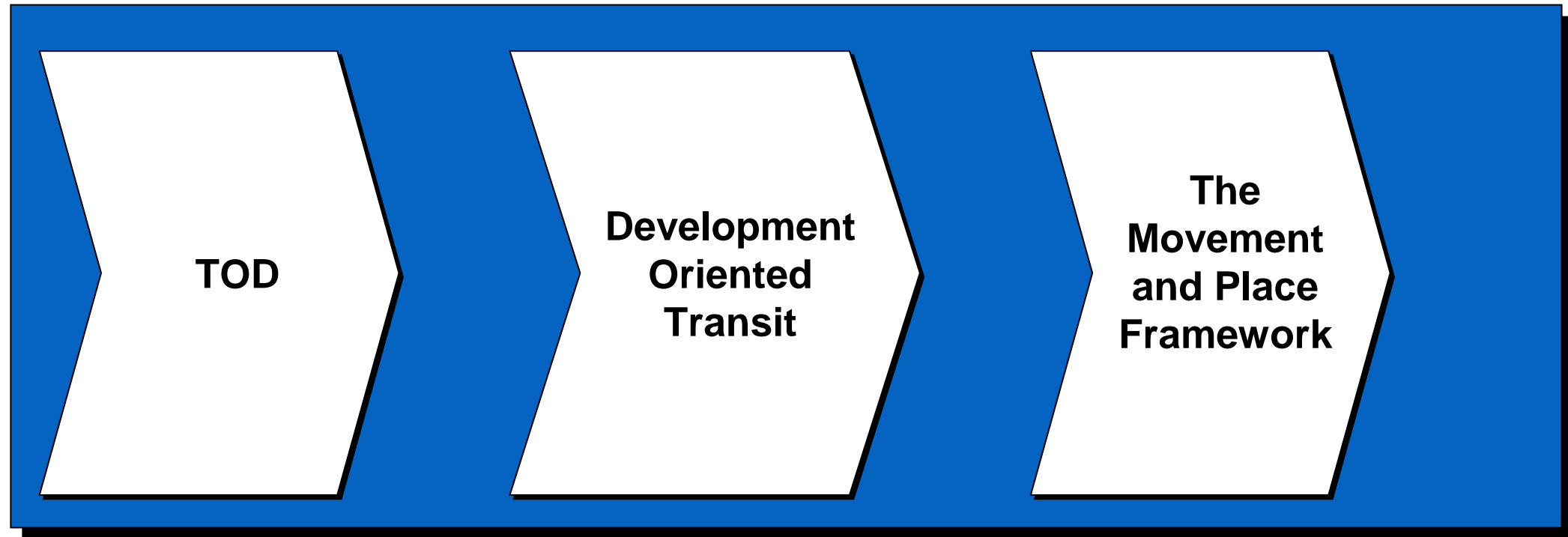
Transit Oriented Development

Development Oriented Transit

The Movement and Place Framework



This keynote introduces TOD, Development Oriented Transit & a new framework to bring together transport and urban design for better TOD for on-street transit



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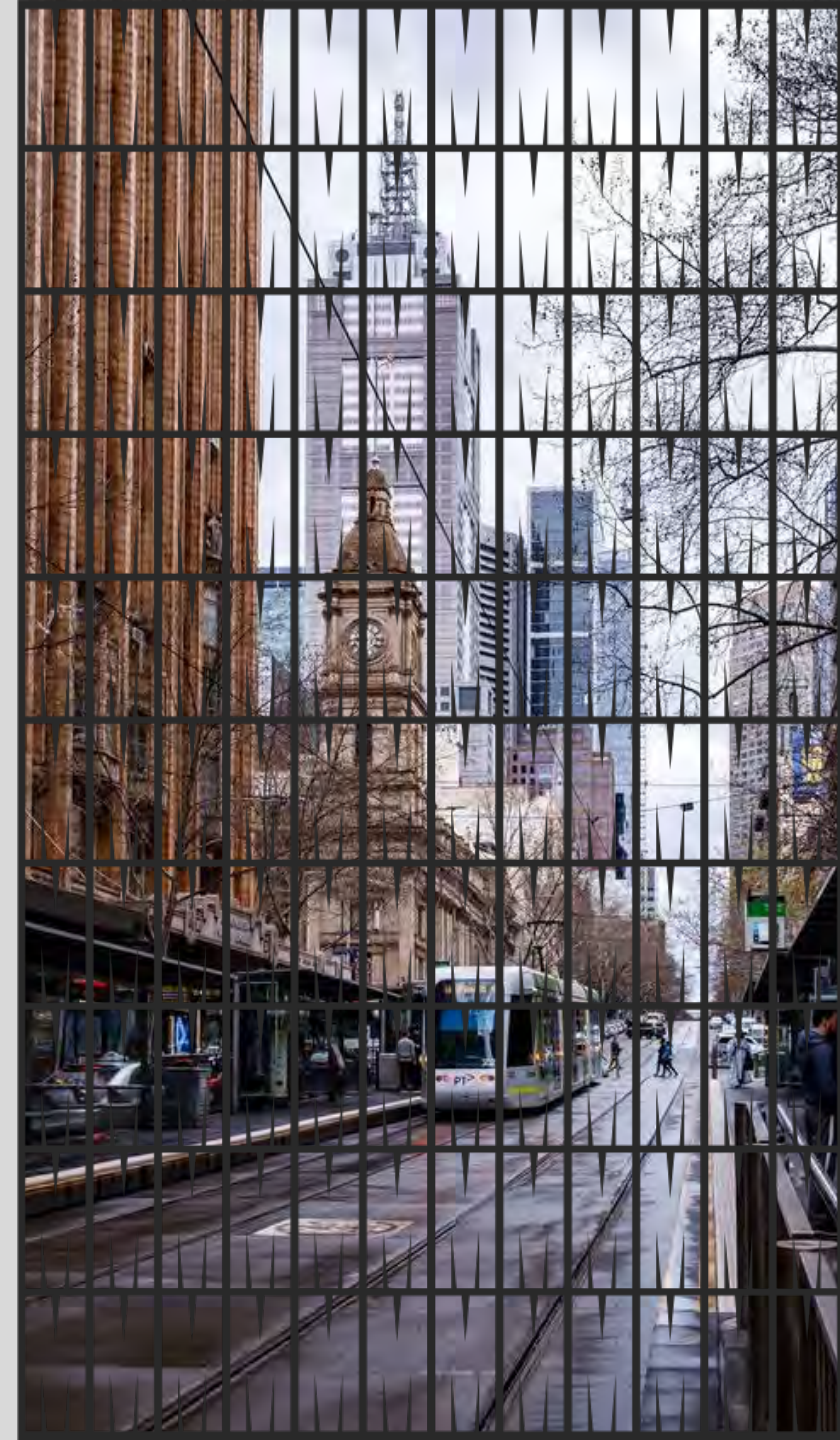
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# TOD integrates transit with dense urban development to generate significant environmental, economic and social benefits in cities

- Transit Oriented Development is
  - ❑ a type of urban development that maximizes the amount of residential, business and leisure space within walking distance of public transport. [Calthorpe, 1993, Cervero, 2004].
  - ❑ promotes a symbiotic relationship between dense, compact urban form and public transport use.[Caves, 2004] In doing so, TOD aims to increase public transport ridership by reducing the use of private cars and by promoting sustainable urban growth [Cervero, 2002]
- Key benefits; reduces climate emissions, assist in urban (re) development and economic growth, better social outcomes (well being, health, social equality and inclusion)



# There are subtle differences in TOD in practice between car dependent (North American) cities and walk/cycle/transit oriented cities (Europe/Asia)

## Differences in TOD between North American and Euro/Asian Contexts



Yonge St Toronto, (ZarlkX)

### Car Dependent (North American) ToD's

- ▶ Environment dominated by private car use and parking
- ▶ Urban downtown development made obsolescent by urban sprawl, out of town retail, shift to online retail
- ▶ TOD's as a means of recreating walkable downtown development
- ▶ TOD's often a single large project over a major new station redevelopment
- ▶ Patchy TOD development creating pools of development around a major transit node



Amsterdam

### Walk, Cycle Transit (European/Asian) ToD's

- ▶ Historic cities with medieval urban form
- ▶ Dominated by walking and strong public transport networks
- ▶ TOD as a means of reinforcing strong existing transit, walk and bike orientation of development
- ▶ TOD's as infill within existing strong high density urban form



# TOD's have significant climate benefits over sprawl, 20min neighbourhoods, or any areas with poor walkability; TOD's integrated with mobility hubs/interchanges have best performance

Climate Impacts of Types of Urban Neighbourhood Including TOD Types

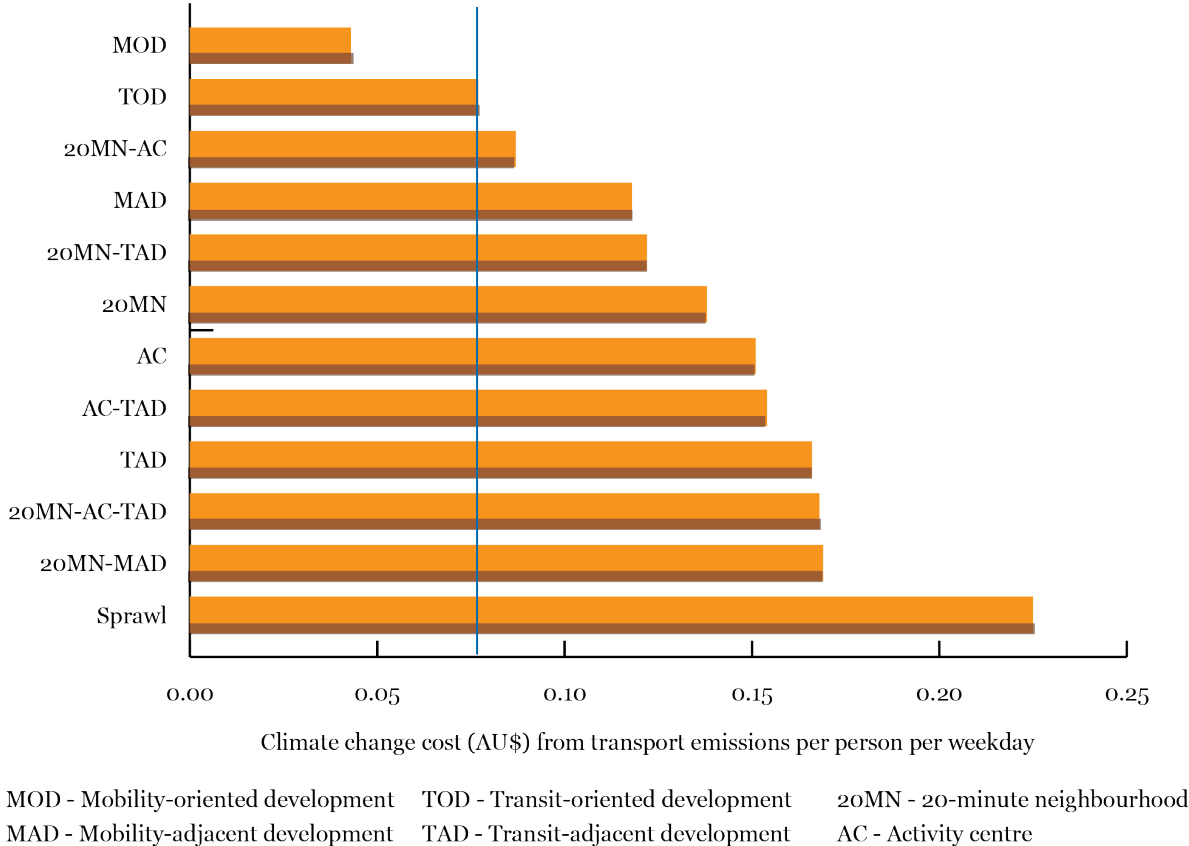


Figure 5: Patterns of climate change costs from transport emissions across different neighbourhood types

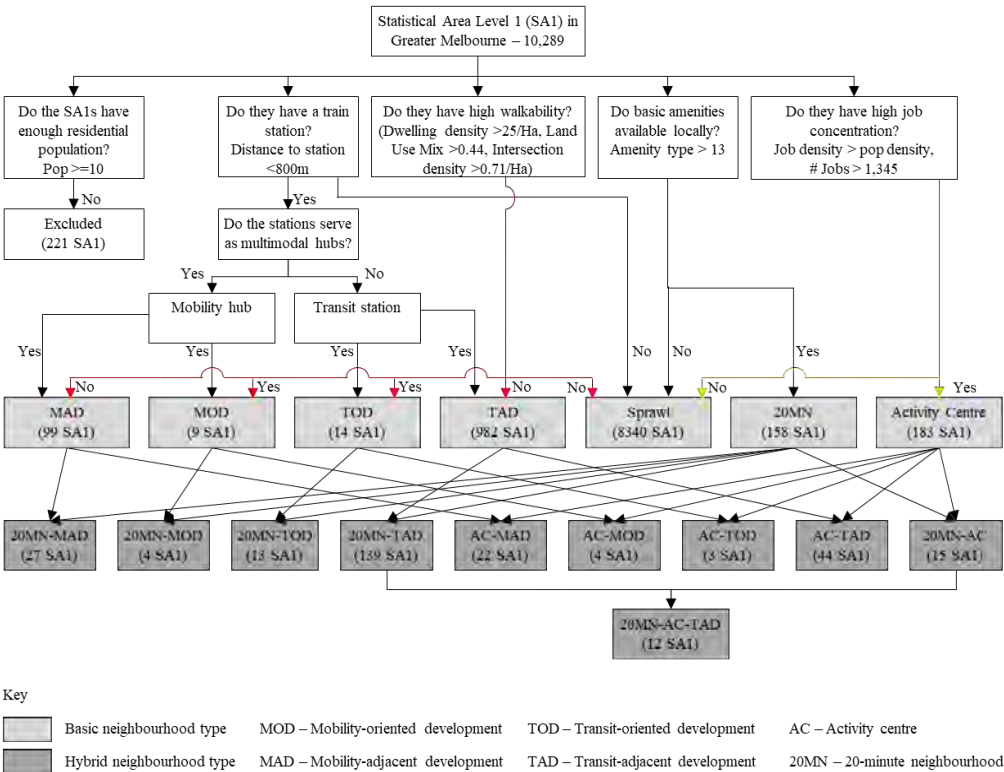
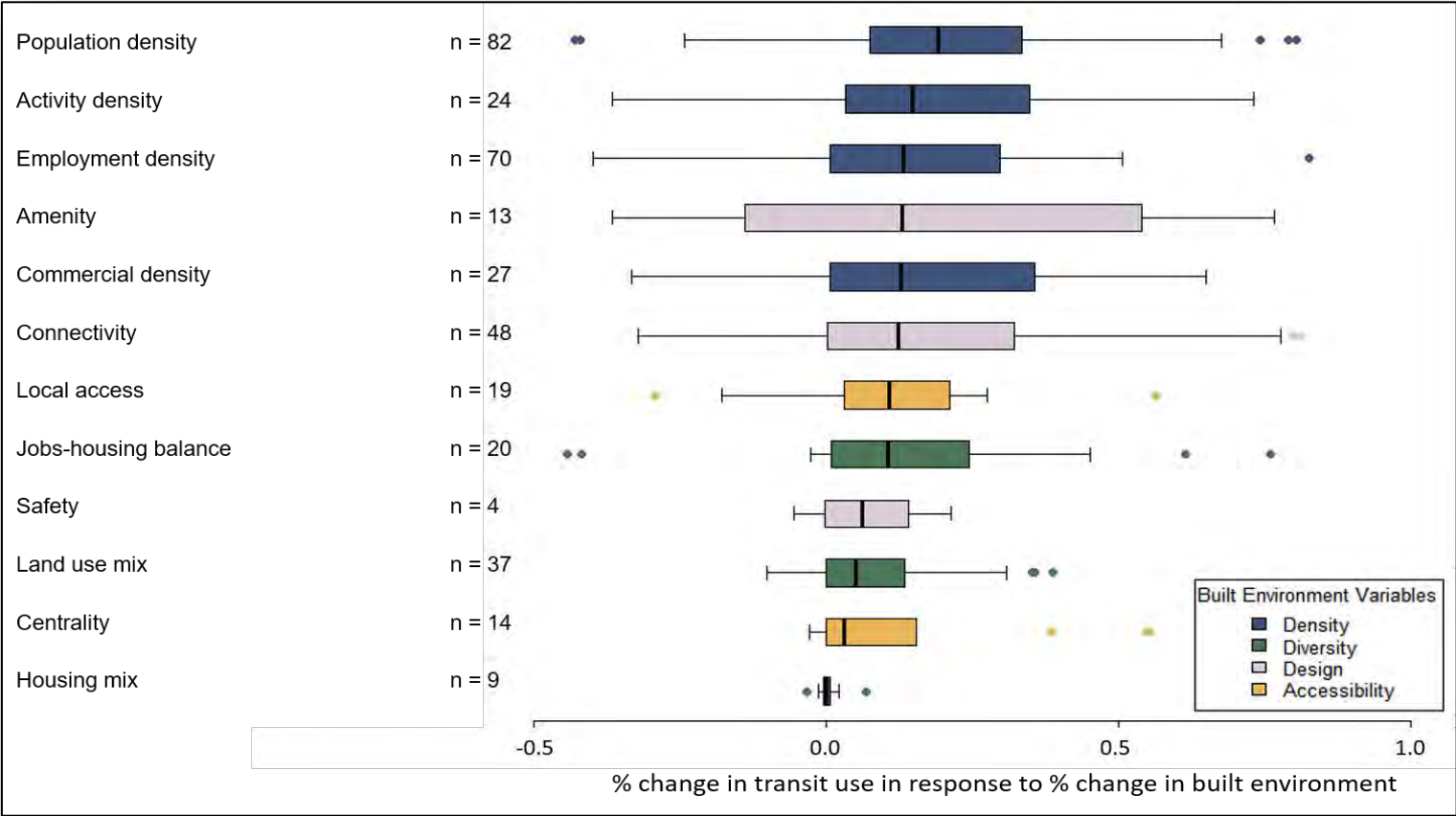


Figure 2: Proposed neighbourhood classification framework

Source: Kamruzzaman L, Currie G, Hai Vu, Miller EJ and Vickerman R (2025) "Place-based neighbourhood planning approaches to net zero transport" TRANSPORT REVIEWS accepted 15-8-2025

# What makes good Transit Oriented Development in practice? Dense population, activity and/or employment, amenity (bike infrastructure) commercial density and walk access



**Average Impact of Land Use Factors on Transit Use – Meta study of all research to 2020**



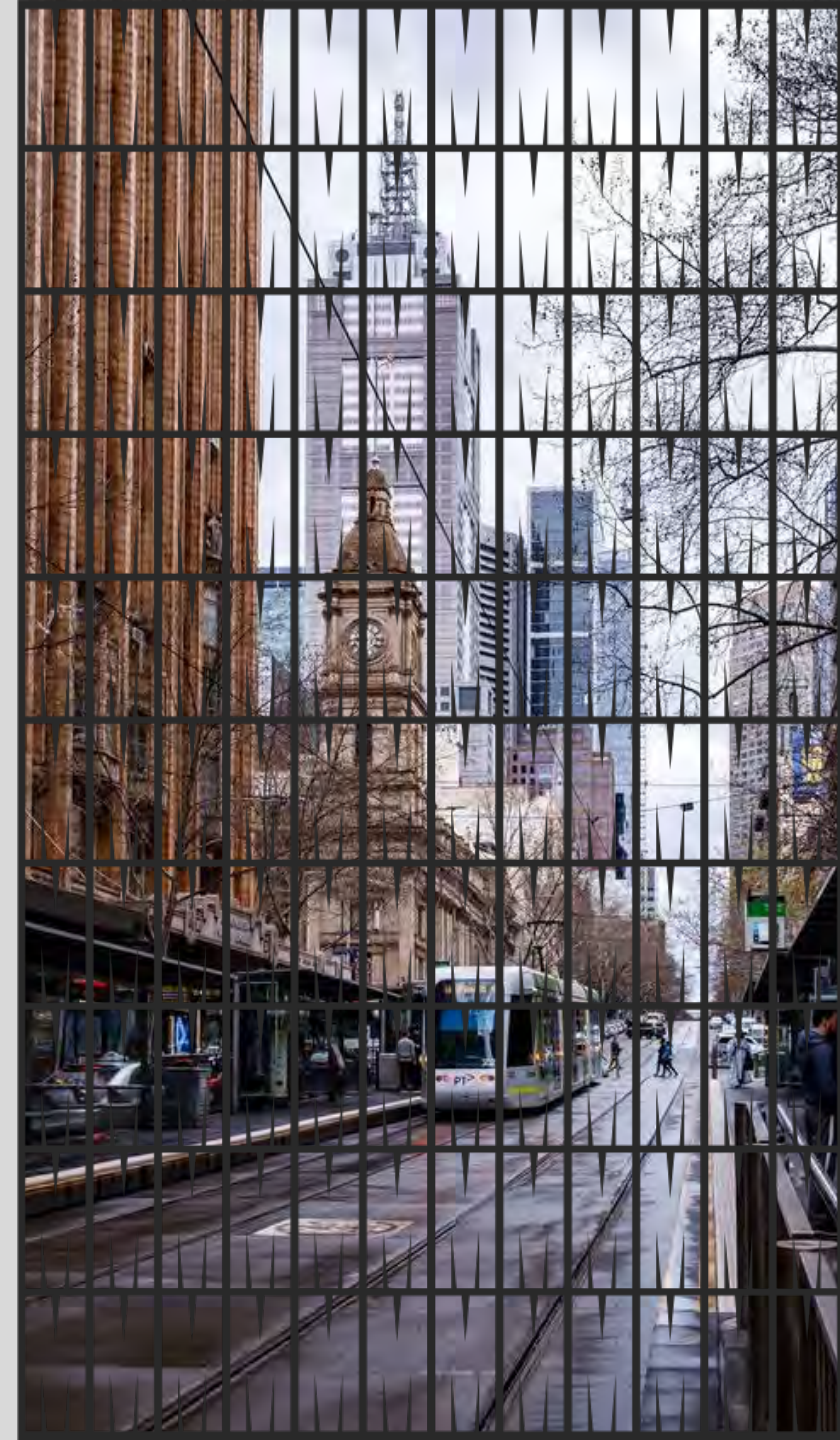
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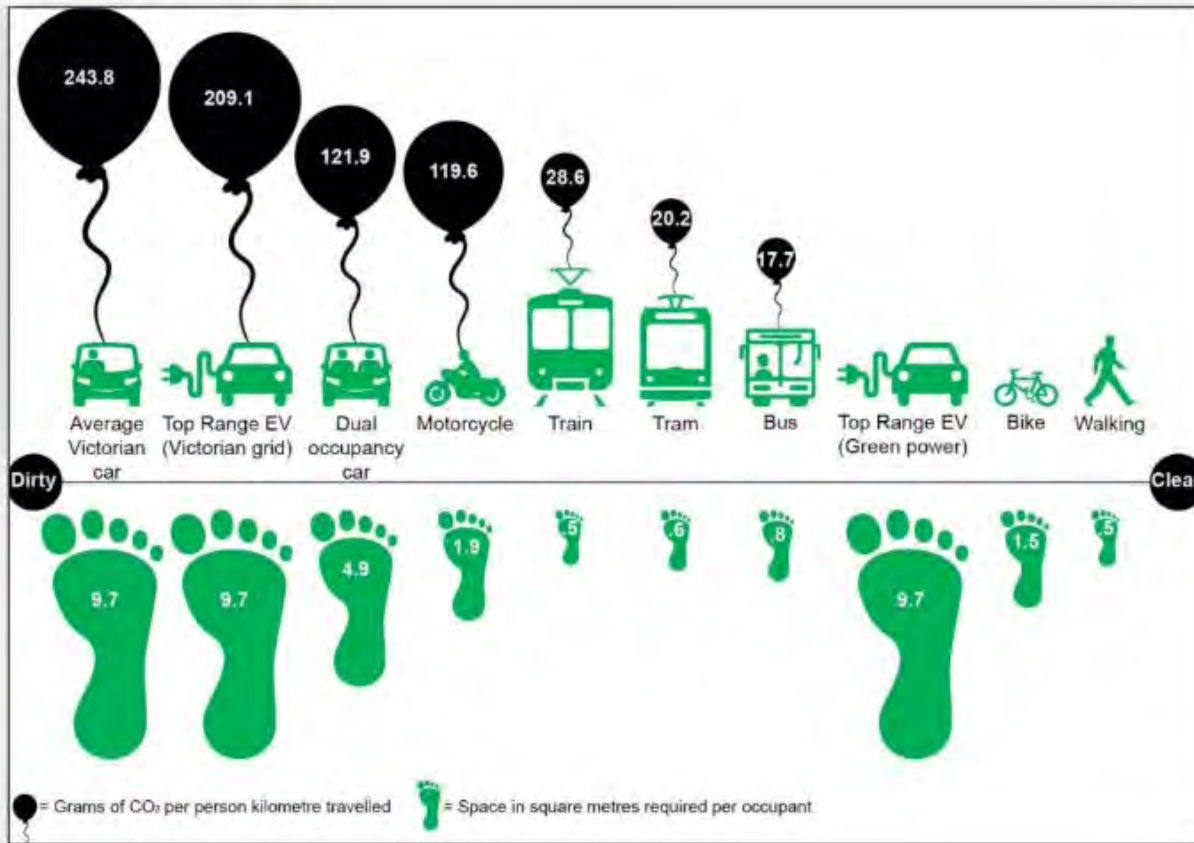
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Public transport is the cleanest climate impact travel mode for medium/long distance travel in cities and the most space efficient – some transit is more space efficient than others...

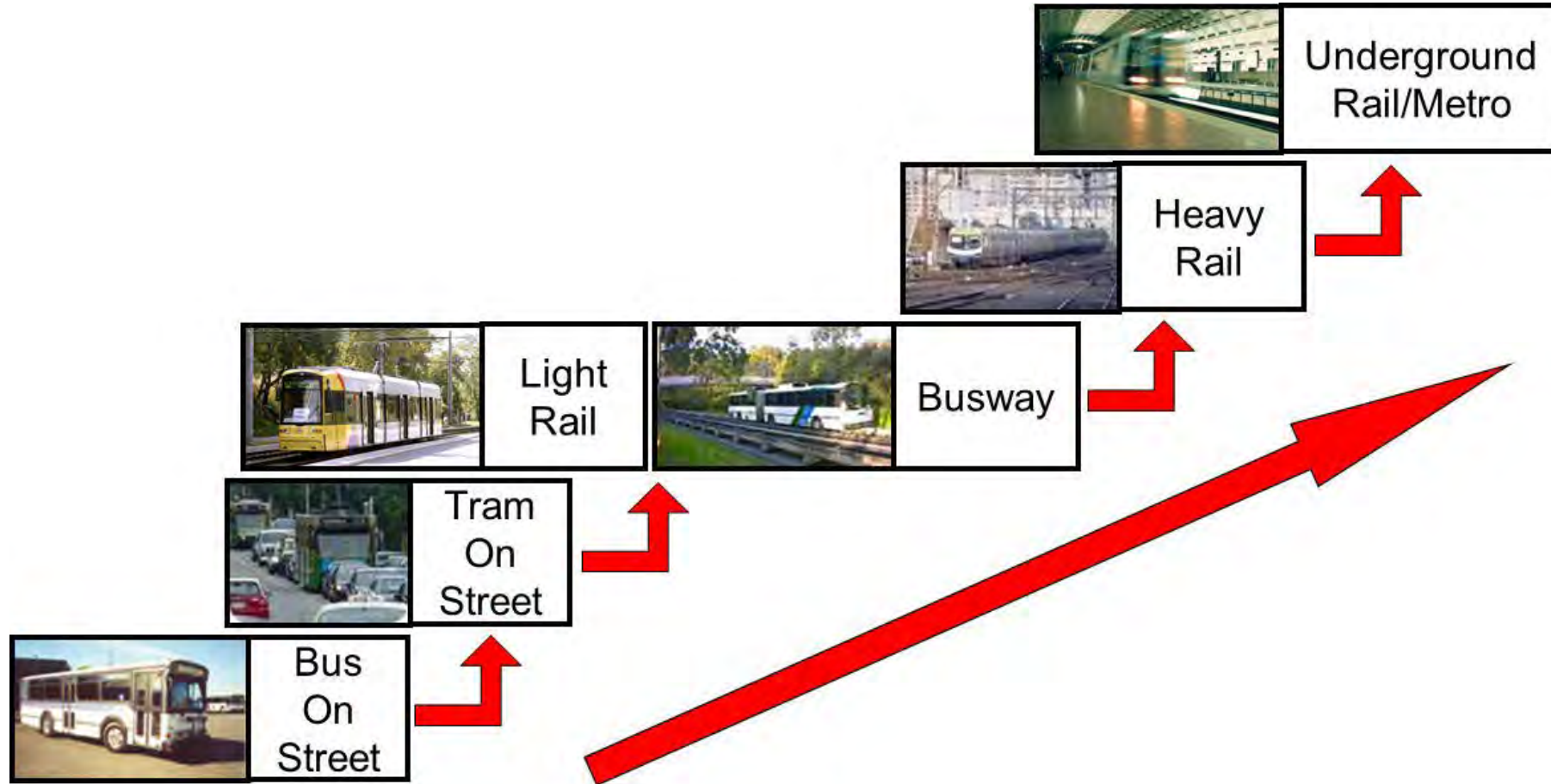


Source: Elliot Fishman - Institute of Sensible Transport (2019)

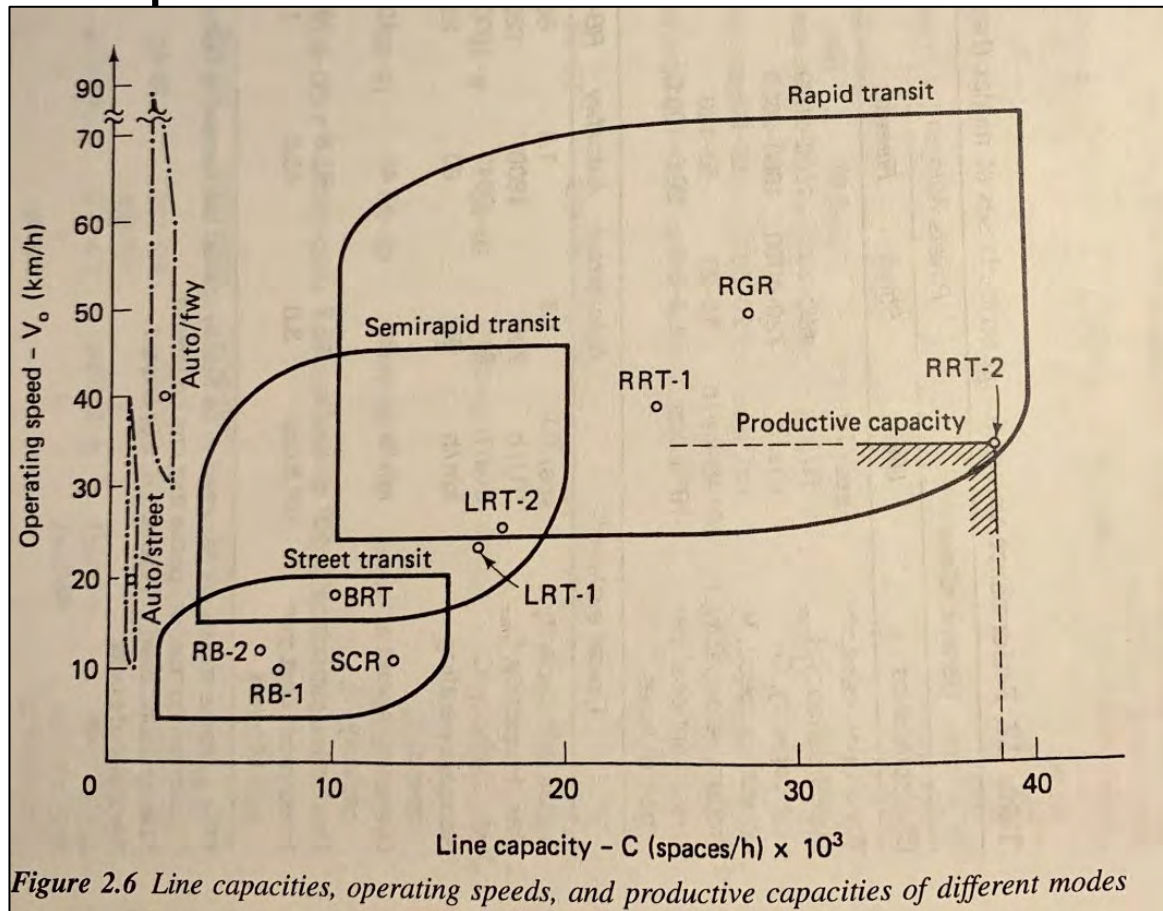




...there is hierarchy of transit with rail/metros at the top and on-street bus at the bottom...



Engineering demonstrates significant line capacity and speed advantages of Rail vs other transit modes – Cities have NO practical choice other than Rail for capacities above 20Kphpd at



Note: Vuchic V.R., (2007) Urban Transit; Systems and Technology (p.78)



Nagoya Station Japan



Downtown Rail and Tram thus seems a better match for transit orientation than suburban bus – but not always; or is downtown rail/tram caused by development which is transit oriented?

## Links between Transit Mode and the Transit Orientation of Development – Melbourne, Australia

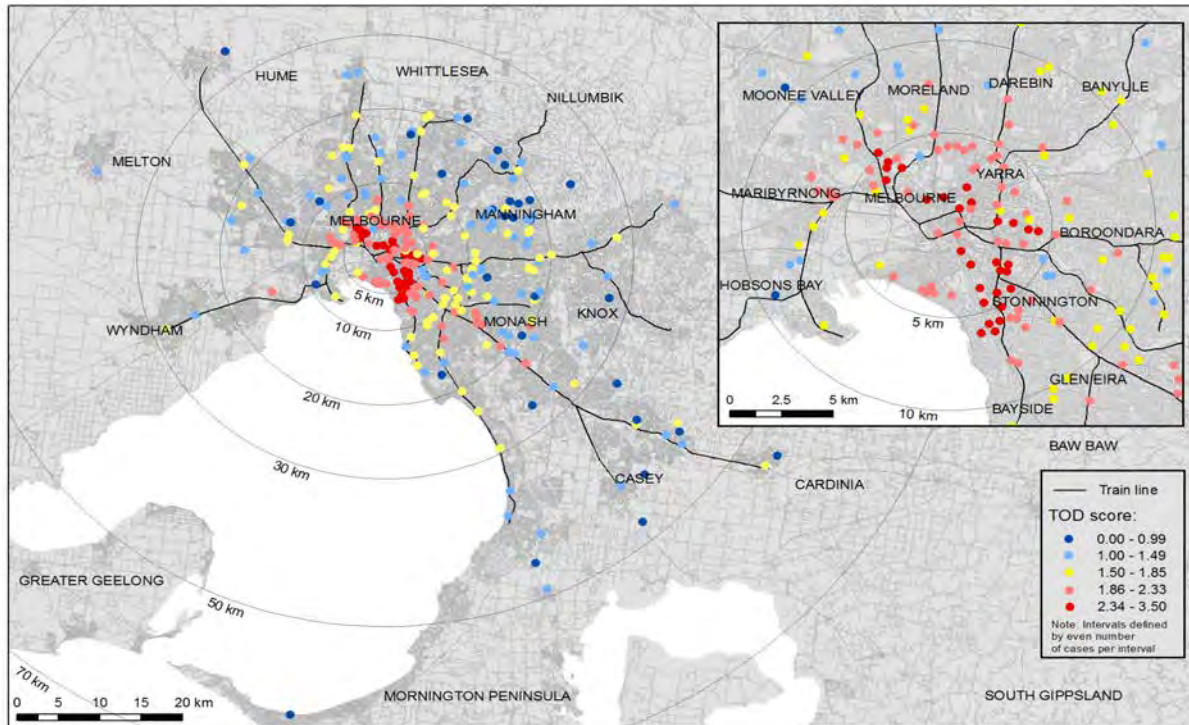


FIGURE 2 – Geographic spread of TOD score by Catchment

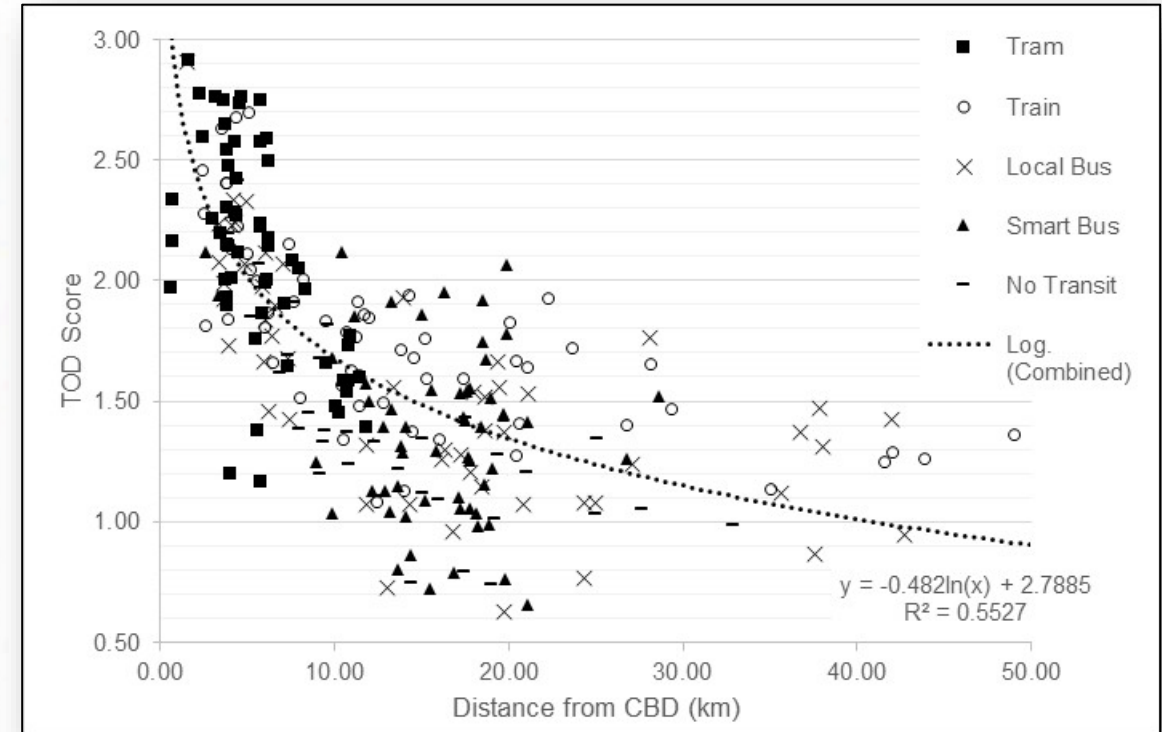
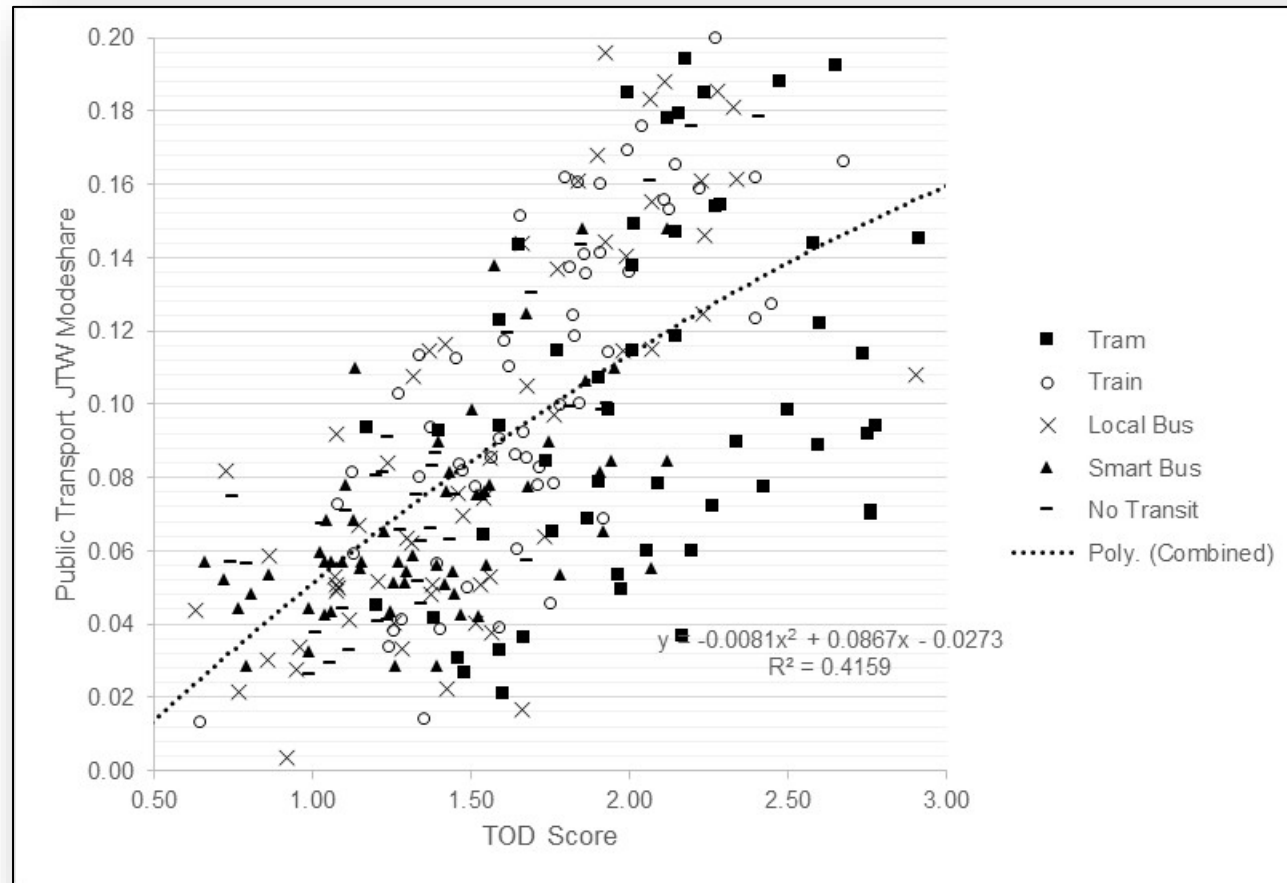


FIGURE 1 - Relationship Between TOD Score and Distance from the CBD

In practice transit orientation of development impacts transit share but the transit mode aspects of this are unclear – on-street tram/bus also have high share due to TOD

### Links between Transit Mode and the Transit Orientation of Development – Melbourne, Australia



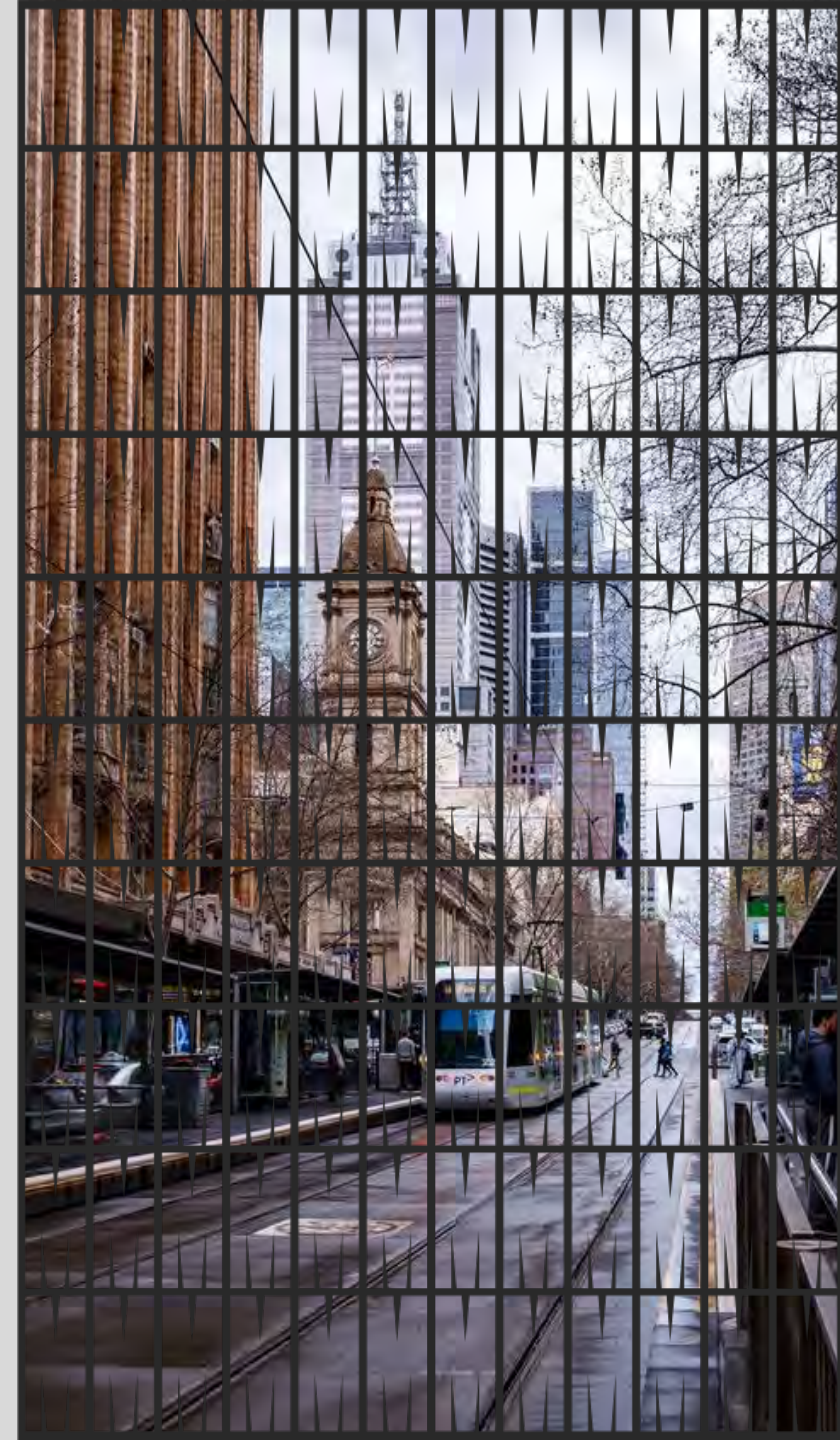
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There is conflict in TOD/DOT planning between transport planners and urban designers over streetspace design notably over on-road transit

(Regional) Transport Planners

(Regional) Transport Designers



(Local) Urban Planners

(Local) Urban Designers

Travel Time

Traffic Speed

Roadspace Priority

Roadspace Management

Place Quality

Public Realm

Streetscape Design

Street Activation

Link (Movement) and Place was developed to bring local planning of places and transport planning of roads/streets together; bringing transport/urban planners/designers together

- Developed by Jones et al (2007) as 'Link & Place'
- Street segments classified by movement importance and place significance (i.e. M2 / P3)
- Grouped into categories of 'Street Types' based on placement along the matrix



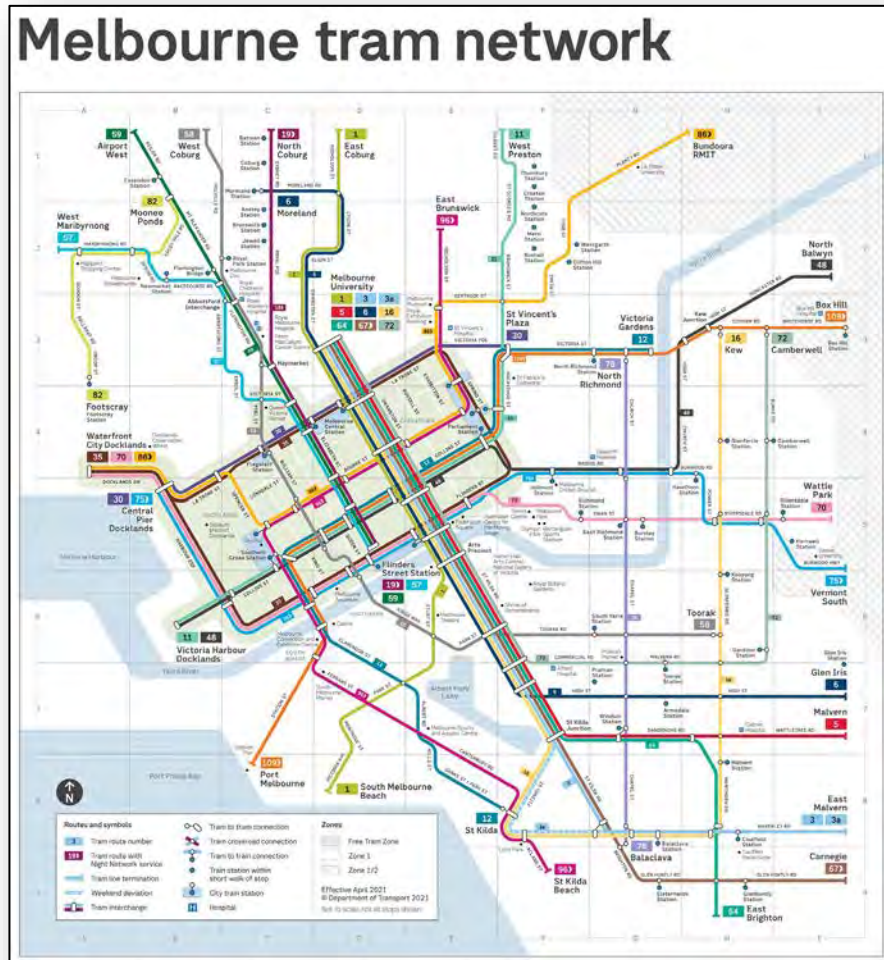
Source: Transport for London (2011)

	Link	Place
Planning	Transport planners	Urban planners
Design	Traffic engineers	Urban designers

Source: Jones P and Boujenko N (2009) "Link" and "Place": A New Approach to Street Planning and Design



# Our research aimed to develop a M&P framework for the Melbourne Tram Network

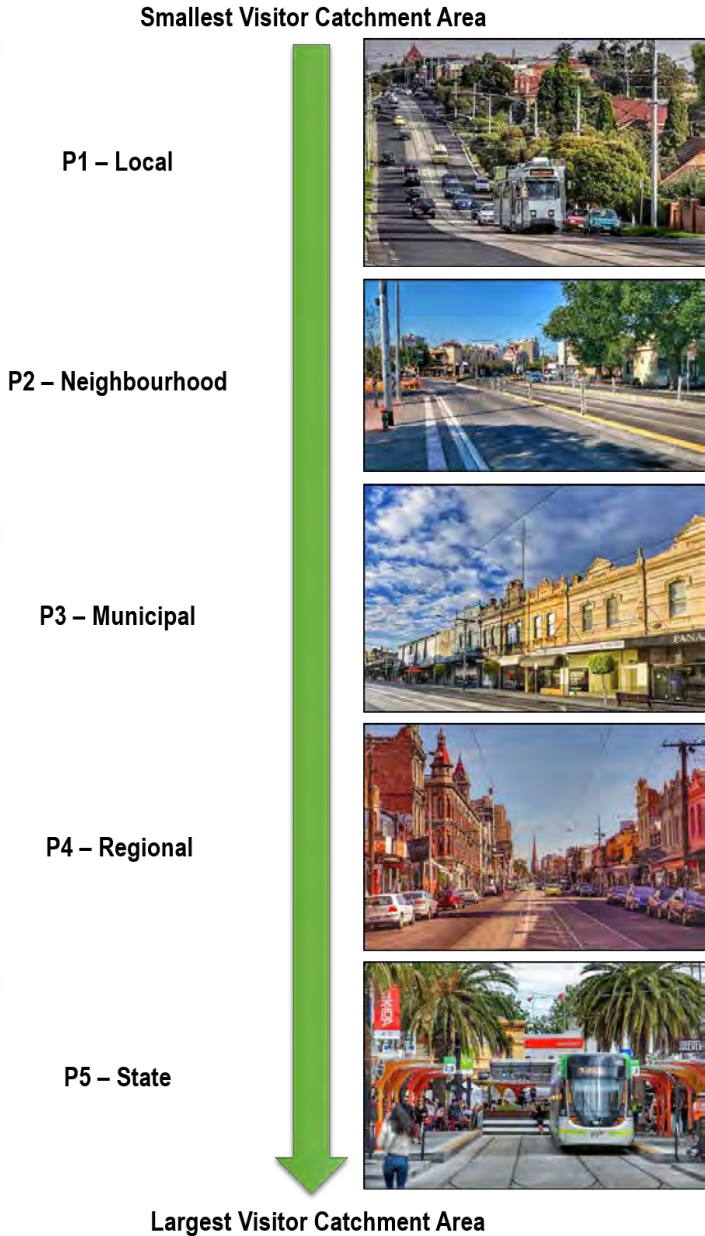
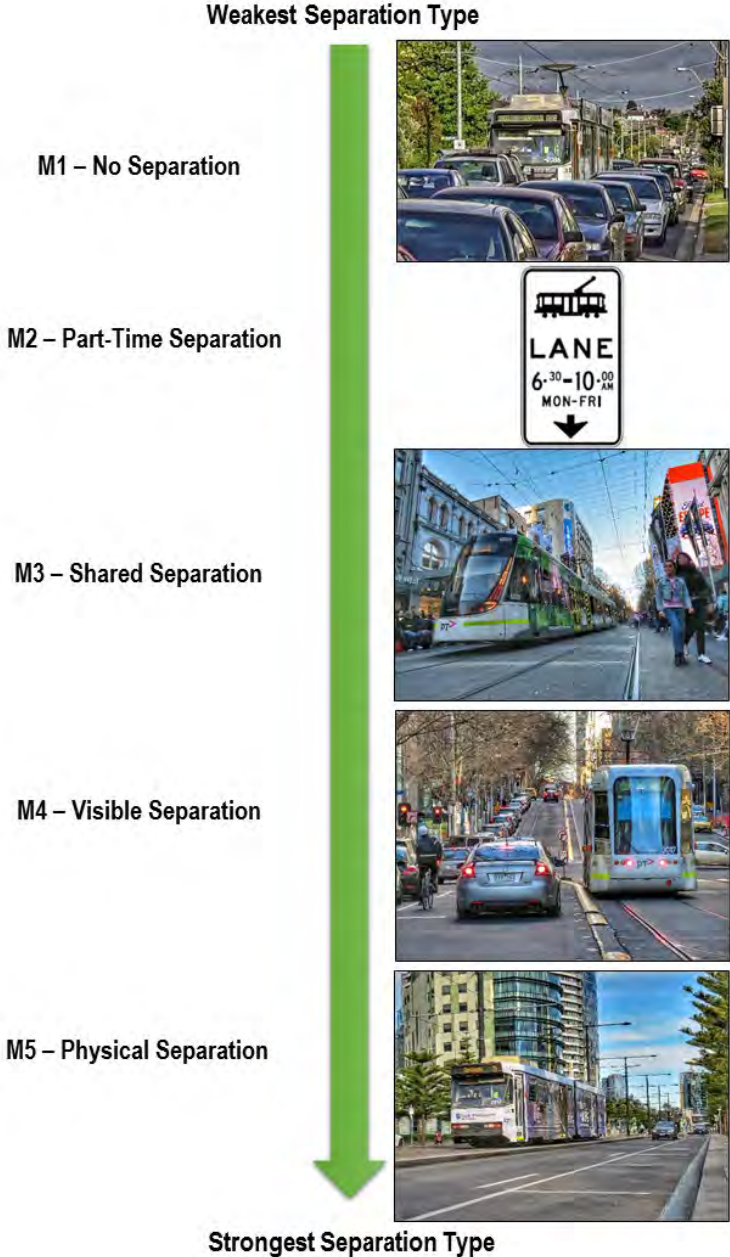




# MOVEMENT based on tram right of way quality

# PLACE based on planning hierarchy

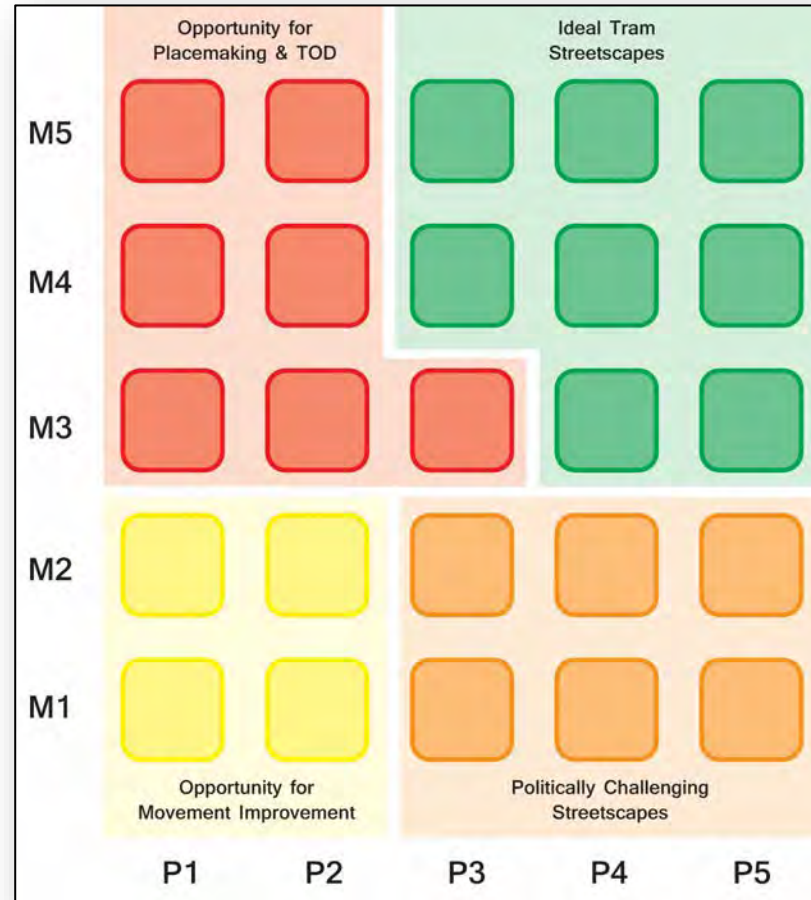
Movement Classification:	Yarra Trams Classification:	Vuchic (2005) Classification:
M1 – No Separation	<ul style="list-style-type: none"><li>Shared Running</li></ul>	<ul style="list-style-type: none"><li>ROW Type C</li></ul>
M2 – Part-Time Separation	<ul style="list-style-type: none"><li>Part-Time Tram Lane</li></ul>	<ul style="list-style-type: none"><li>ROW Type C</li></ul>
M3 – Shared Separation	<ul style="list-style-type: none"><li>Shared Space</li></ul>	<ul style="list-style-type: none"><li>ROW Type B</li></ul>
M4 – Visible Separation	<ul style="list-style-type: none"><li>Full-Time Tram Lane</li><li>Mountable Separation Kerb</li></ul>	<ul style="list-style-type: none"><li>ROW Type C</li><li>ROW Type B</li></ul>
M5 – Physical Separation	<ul style="list-style-type: none"><li>Boulevard</li><li>Right of Way</li></ul>	<ul style="list-style-type: none"><li>ROW Type B</li><li>ROW Type A</li></ul>





# An innovation – define 4 quadrants in the M&P framework; highlighting opportunities for TOD/Placemaking / Movement improvements & those which are challenging politically

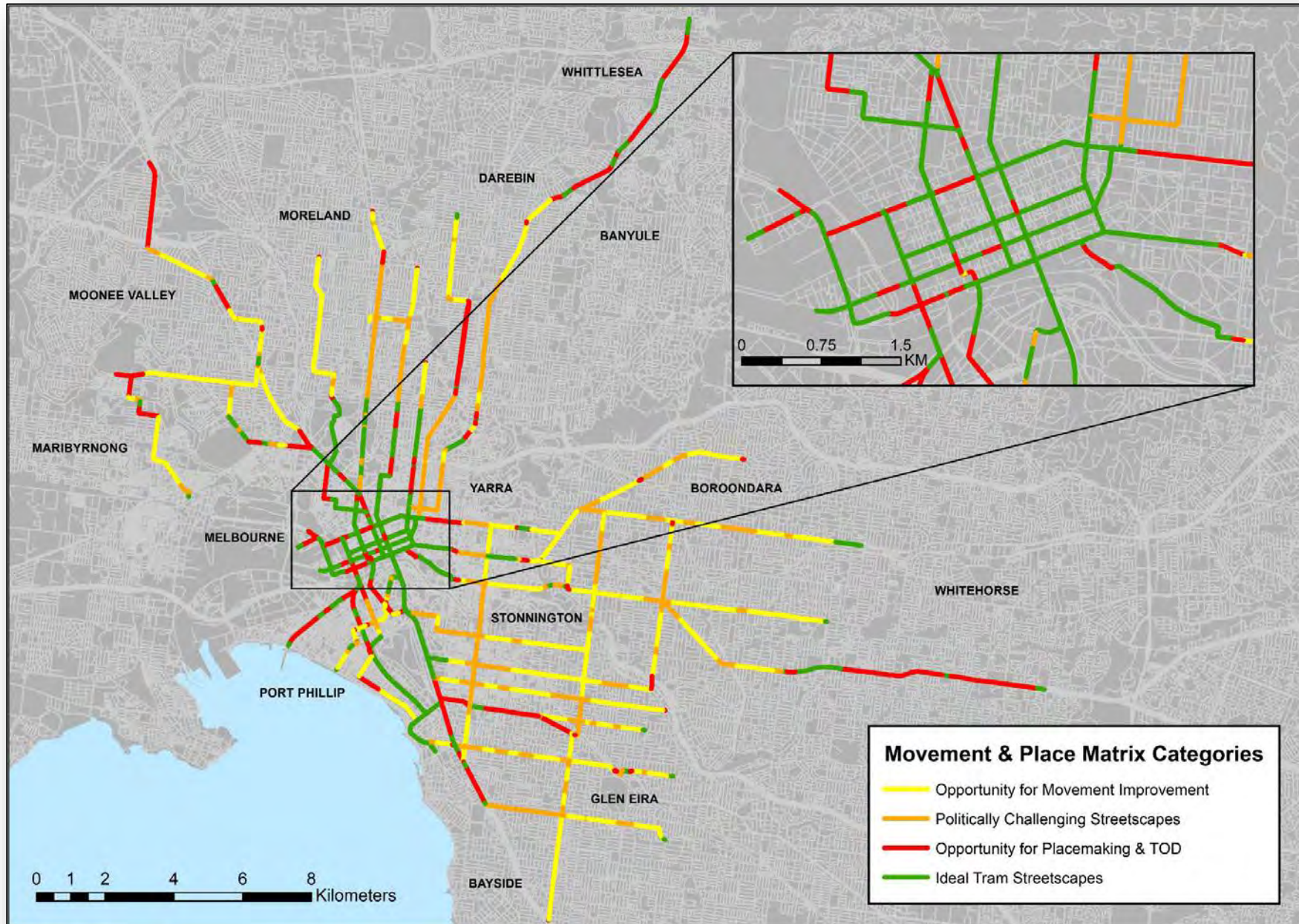
Framework Classification in 4 Planning Groups



Actual size of network in each cell

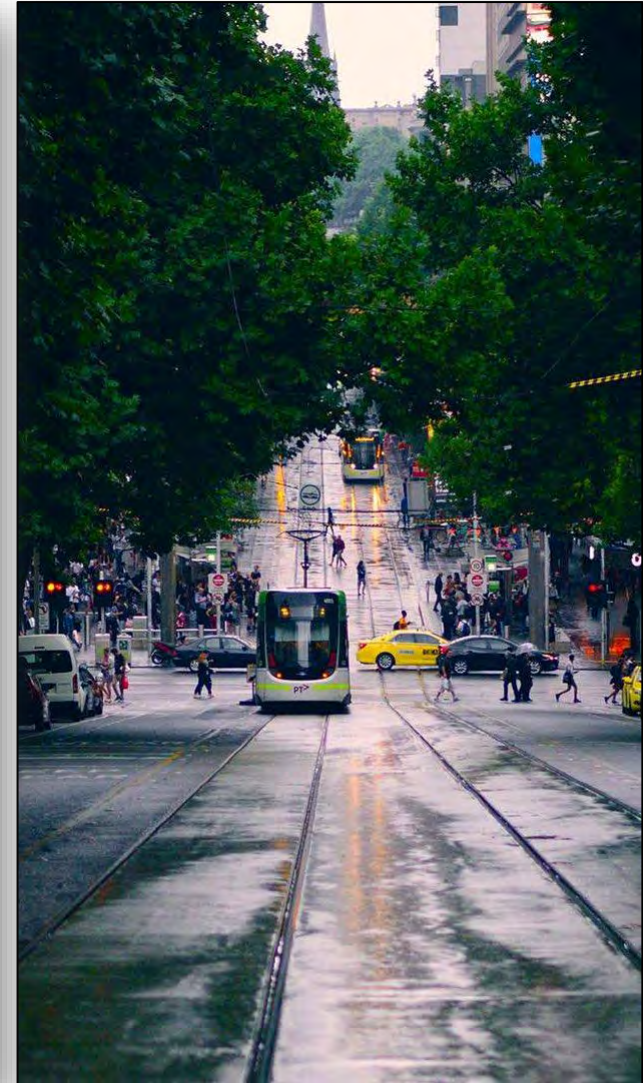
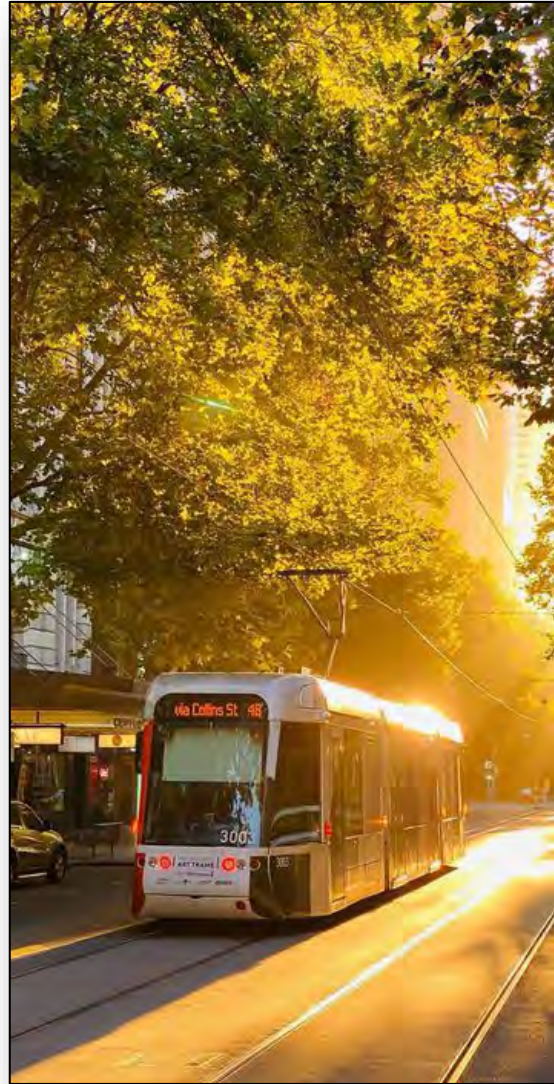


This where each group lies on the network – opportunities for improved TOD in red



Can this  
Enable  
**GAMING** of  
policy to  
projects with  
better change  
of success?





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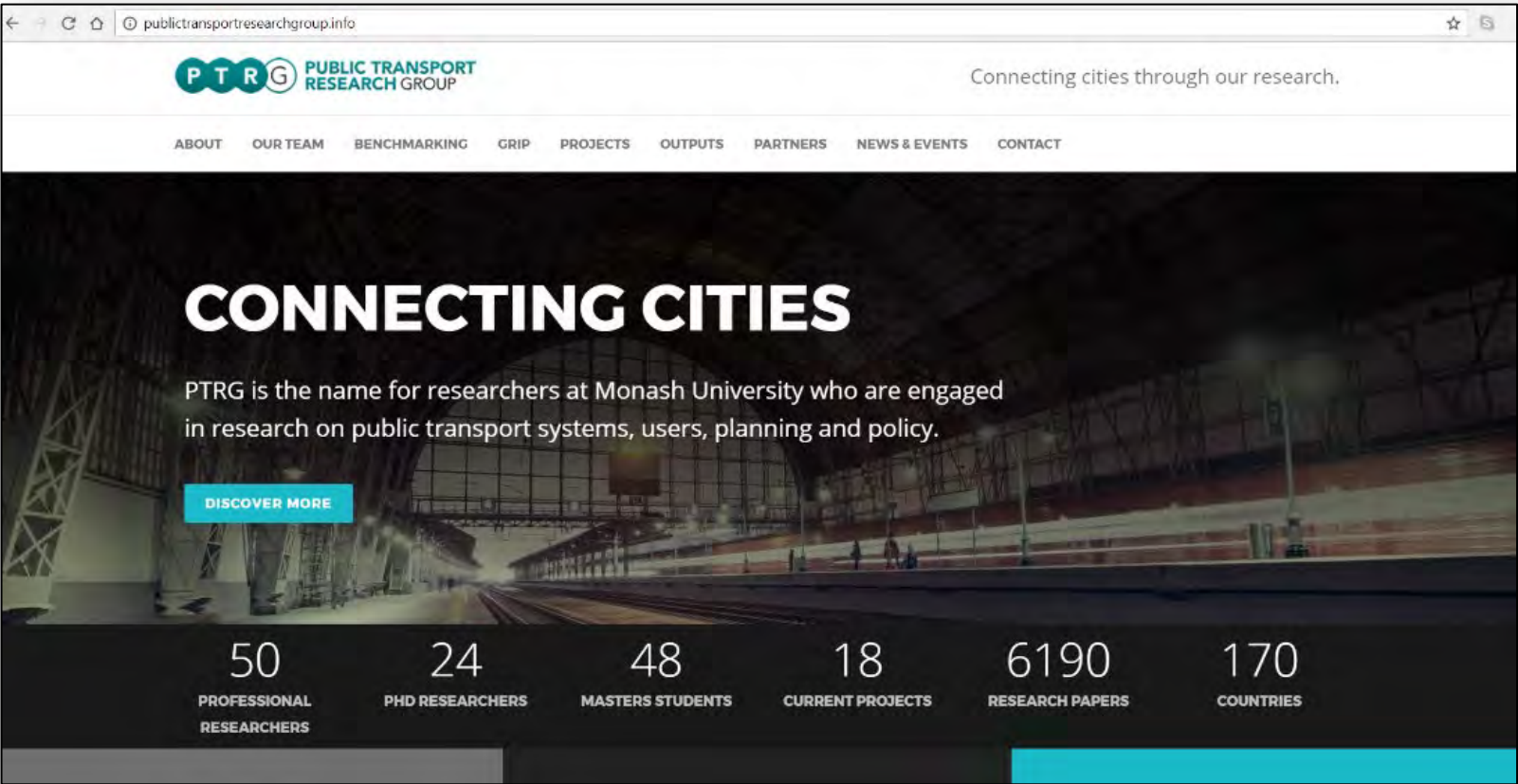


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**Professor Graham Currie FTSE**  
Director, PTRG



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# How designing lines and networks boosts public mobility?

**Presented by Corinne Mulley**

Professor Emerita

ITLS, University of Sydney Business School



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Source: <https://www.intelligenttransport.com>



## An overview

- TODs and public transport
- Understanding attitudes
- How good public transport is a choice
- The essentials of public transport planning, including interchange
- All in 15 minutes – Todor prescribed a huge agenda!

# TOD and public (sustainable) transport

- TOD and public transport are symbiotic
- TOD is urban development predicated on linking dense and compact urban form design and public transport use
- TOD should be an effective sustainable strategy
  - Efficient creating ‘local efficiency’
  - Creating urban space for community use
  - Promotes sustainable transport patterns
    - Lower car use
    - Public transport use
    - Increases active travel

Source: <https://planningtank.com/urbanisation/transit-oriented-development>



# TODs and public transport

- TOD environment must encourage sustainable travel behaviour
- TODs must have good access to public transport
- Public transport serving TODs must be well designed
- Living in a TOD must be ‘easy’



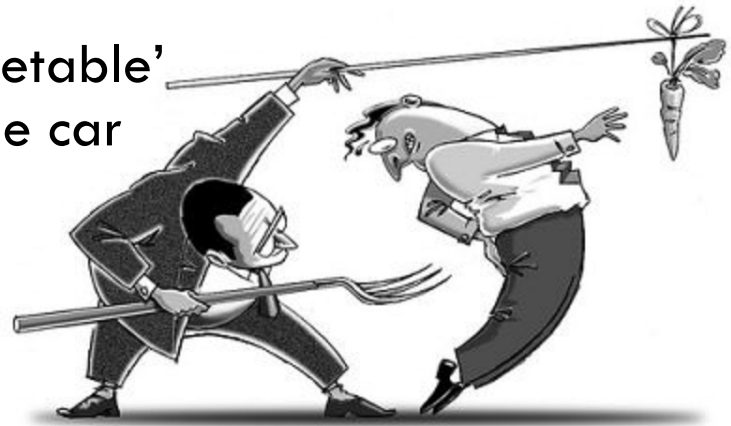
Source: <https://my.spokanecity.org/projects/tod/>



# Understanding attitudes to create 'choice' users

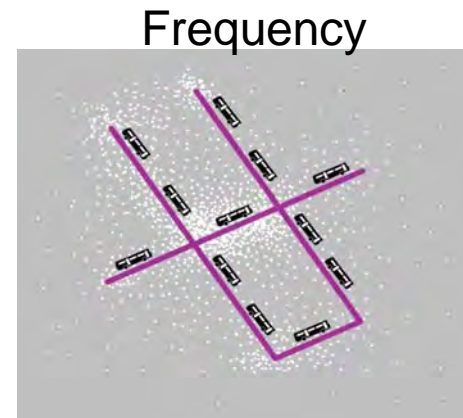
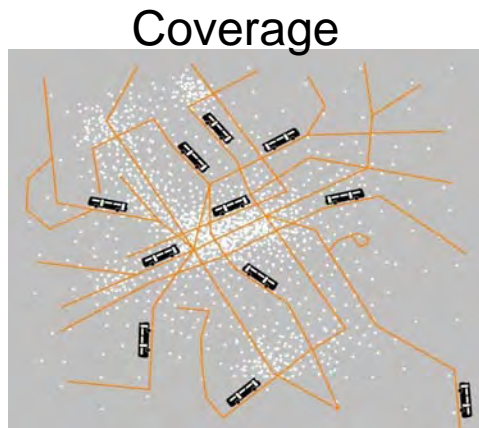
- Built environment makes a difference to public transport use
  - Walkable environments associated with more public transport use
  - Soft factors
    - Short to medium term - perceptions of neighbourhoods (particularly safety), attitudes to travel
    - Long lasting – childhood effects can impact adult behaviour
- Impact of COVID – the world has changed and this has impacted travel behaviour
  - Working from home – probably here to stay for many making the built environment around the home increasingly important
- Public transport is used when
  - Frequency is good – 'forget the timetable'
  - Journey times compete well with the car
  - Parking is difficult

A case of sticks and carrots...



# Good public transport is a choice: coverage versus frequency

- Public transport budgets are often fixed so how to design?
  - More public transport use – need good frequency
  - More inclusion – need good coverage (but fixed lines are not the only way of giving coverage)



*... but when it's presented this way, they see why it's a tradeoff.*

*Source: Dr Jarrett Walker*



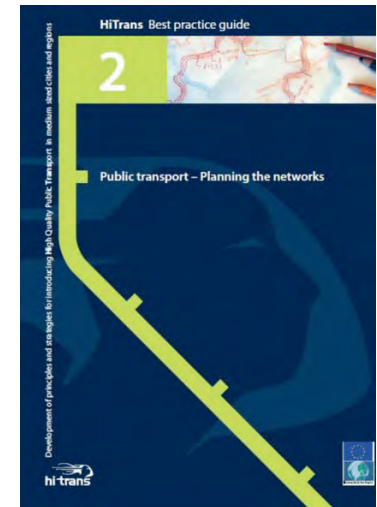
## An aside: what are public transport systems designed for?

- Too many transport systems are operated for the peak, essentially for the journey to work
  - Post COVID, this might be changing
  - Systems should cater for the ‘messy trips’ eg
    - Trip chaining taking children to school/nursery on the way to work
    - Taking dogs to vet in systems where dogs not allowed on public transport (eg in Sydney, estimated 2.4 million trips per week made by dog owners by car for dog related activities)
- Public transport should not be just for commuters – should include ‘messy’ trips
  - With a greater focus on quality of place, this should hopefully begin to happen

# Essentials of public transport planning

- Rarely can TOD benefit from new public transport infrastructure
- In the short run, rail based systems (tram, metro, train) are fixed but the bus can provide the flexibility
- Overall, the design should be with
  - Corridor based lines
  - Simple to understand network
  - Concentrate on building a network effect

(Much more detail in Hitrans vol 2, available from <https://www.transportformelbourne.org/transport-network-planning-best-practice/>)



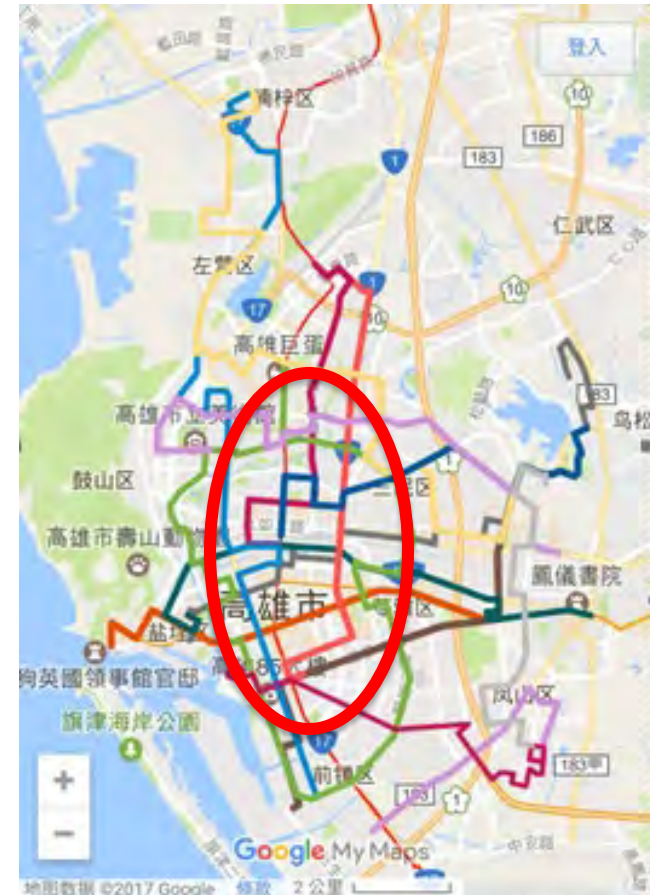


# Simplicity

Brisbane, Australia (around 2010)



Kaohsiyng, Taiwan city bus



# Corridors = Concentrating resources and increasing frequency

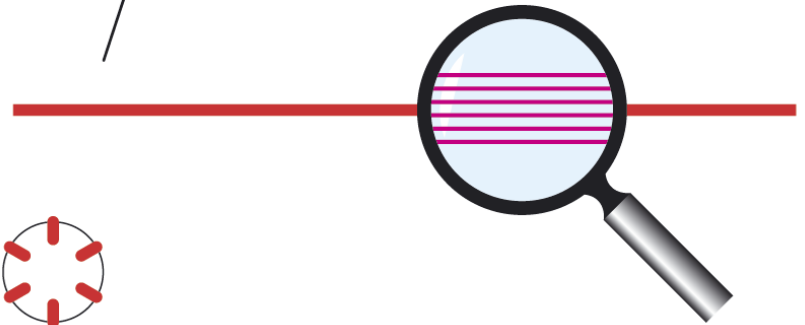
## Before

Two low frequency lines that run in the vicinity of each other



## After

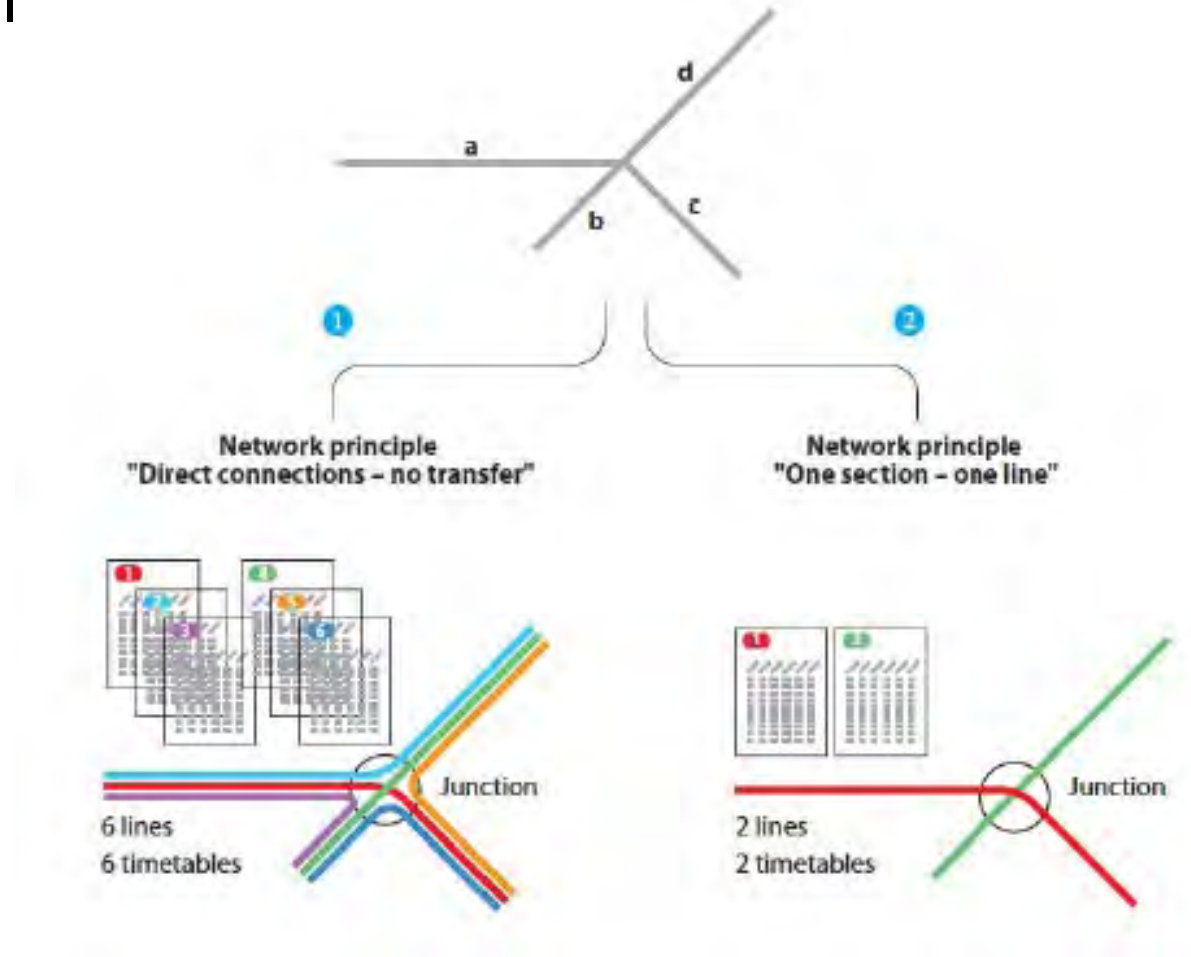
... replaced by one line with doubled frequency.





# SIMPLICITY

- One section-one line

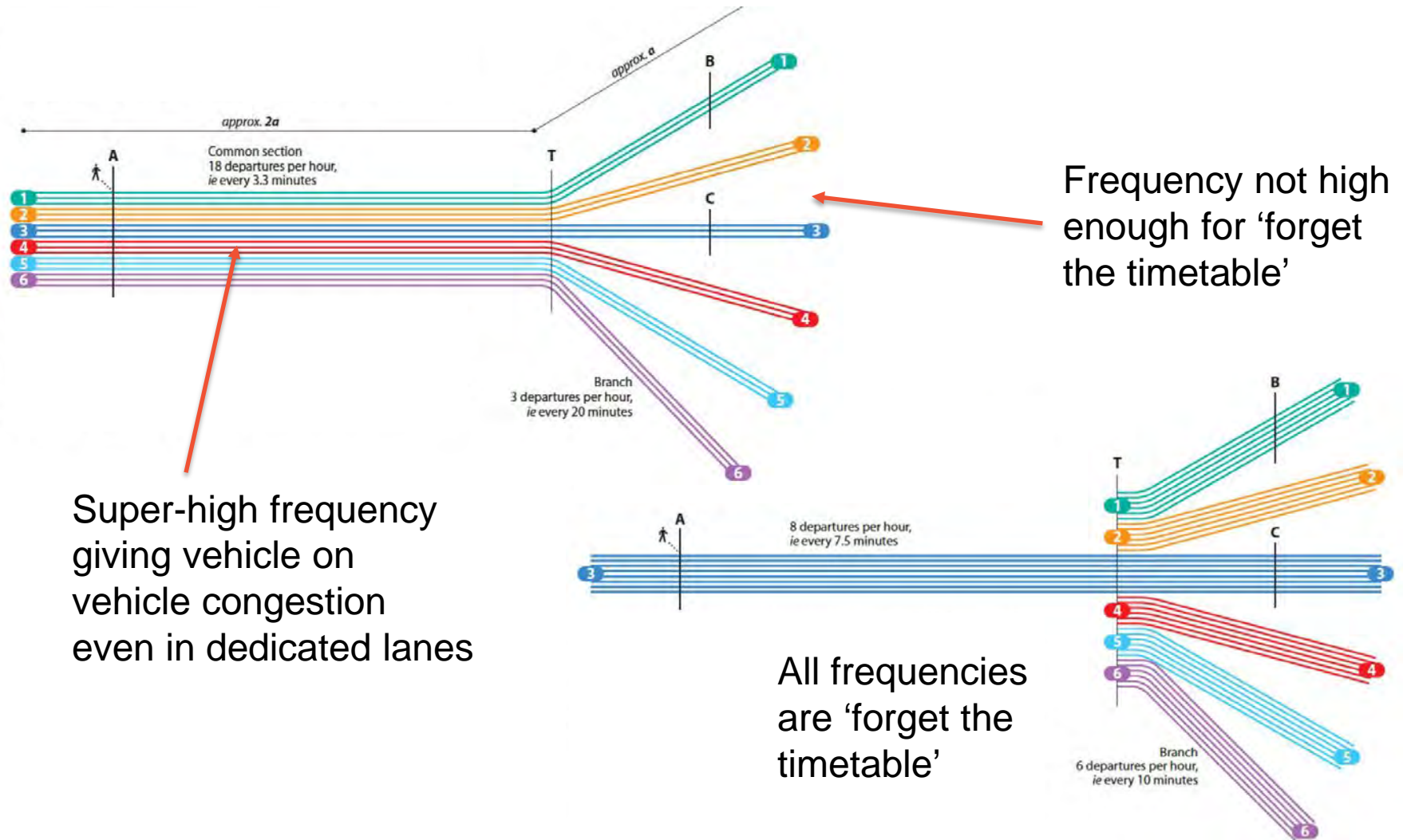


Source: Public Transport – planning the networks. Hitrans Best Practice Guide 2

## Interchanges

- If it is accepted that interchanges are needed, then design becomes one that focuses, for a given budget, on frequency
- Simple networks will need interchanges between
  - Lines operated by the same mode
  - Lines operated by different modes
- Interchange allows the best of the mode to be exploited and transfer to another mode when better

# Interchange can release resources



Source: Public Transport – planning the networks. Hitrans Best Practice Guide 2



# Transfer and Interchange

- Minimise the cost of interchange
  - Ensure timetable co-ordination
  - Present route information accessibly
  - Remove fare penalties
  - Create good interchanges
- Should interchanges be large or distributed?
  - Useful to distribute interchange where possible
  - Good interchanges do not have to have a large footprint
  - In the past 'large' was frowned upon because these tended to be complicated to navigate but the experience of Madrid....



Canary Wharf, London

Source: <https://uk.pinterest.com/pin/421297740120482244/>

## Madrid program shows 'big' can be beautiful....

- Planned for walkability
- Good interchange between modes
  - Increases the 'reach' of public transport
- Based on vision of putting interchange where necessary from a transport point of view
- Good design – indoor 'built environment'
- Created local environment through integrated shopping precinct
- **ALL THE THINGS WHICH INCREASE WALKING!**
- Throughput increased dramatically
- Opened in 2005, capacity increased from 2014 and still growing



Source: [www.eia-ngo.com](http://www.eia-ngo.com)

## A way forward? A vision from a transport economist....

- We must take the opportunities that TOD offers to make sure public transport design has
  - Frequent and well designed, and simple to understand network, based on corridor lines
  - Good interchanges so public transport and public space are interlinked
  - Understands the needs of all citizens, not planned around commuters
  - Understands attitudes to create more walking friendly environments which in turn improves public transport use and encourages public space in design





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Business School



# Thank you for listening

# Questions and discussion

[corinne.mulley@sydney.edu.au](mailto:corinne.mulley@sydney.edu.au)

# Public Transport Planning from a Stockholm Perspective

TOD2 Conference Copenhagen September 4th 2025



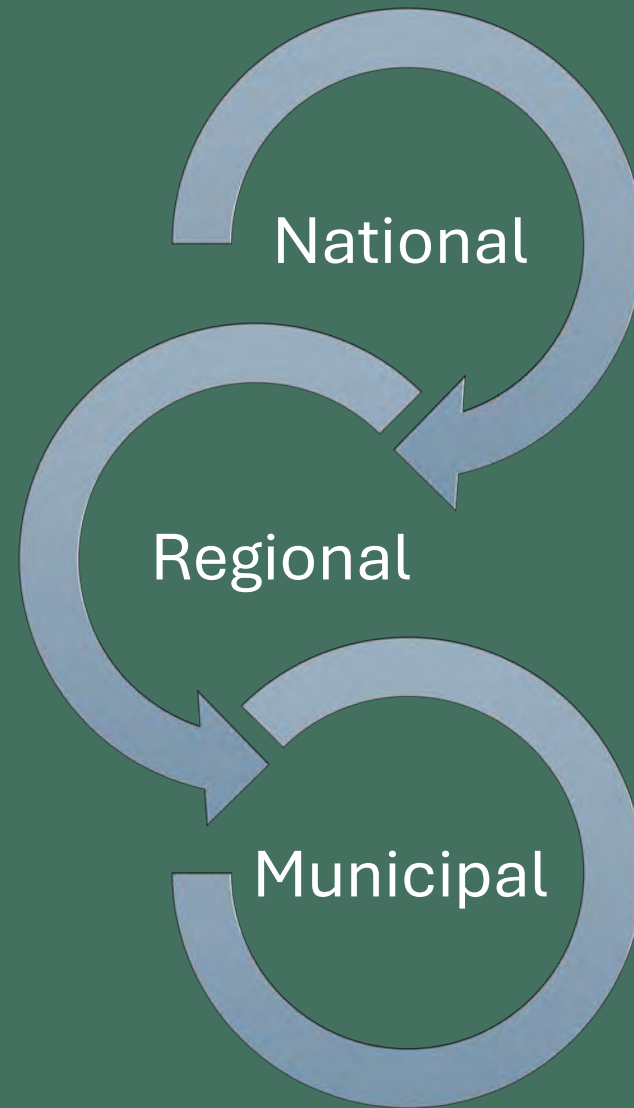


- The municipality of Norrköping
- The Region of Stockholm (SL)
- AFRY
- Guidance to Zero

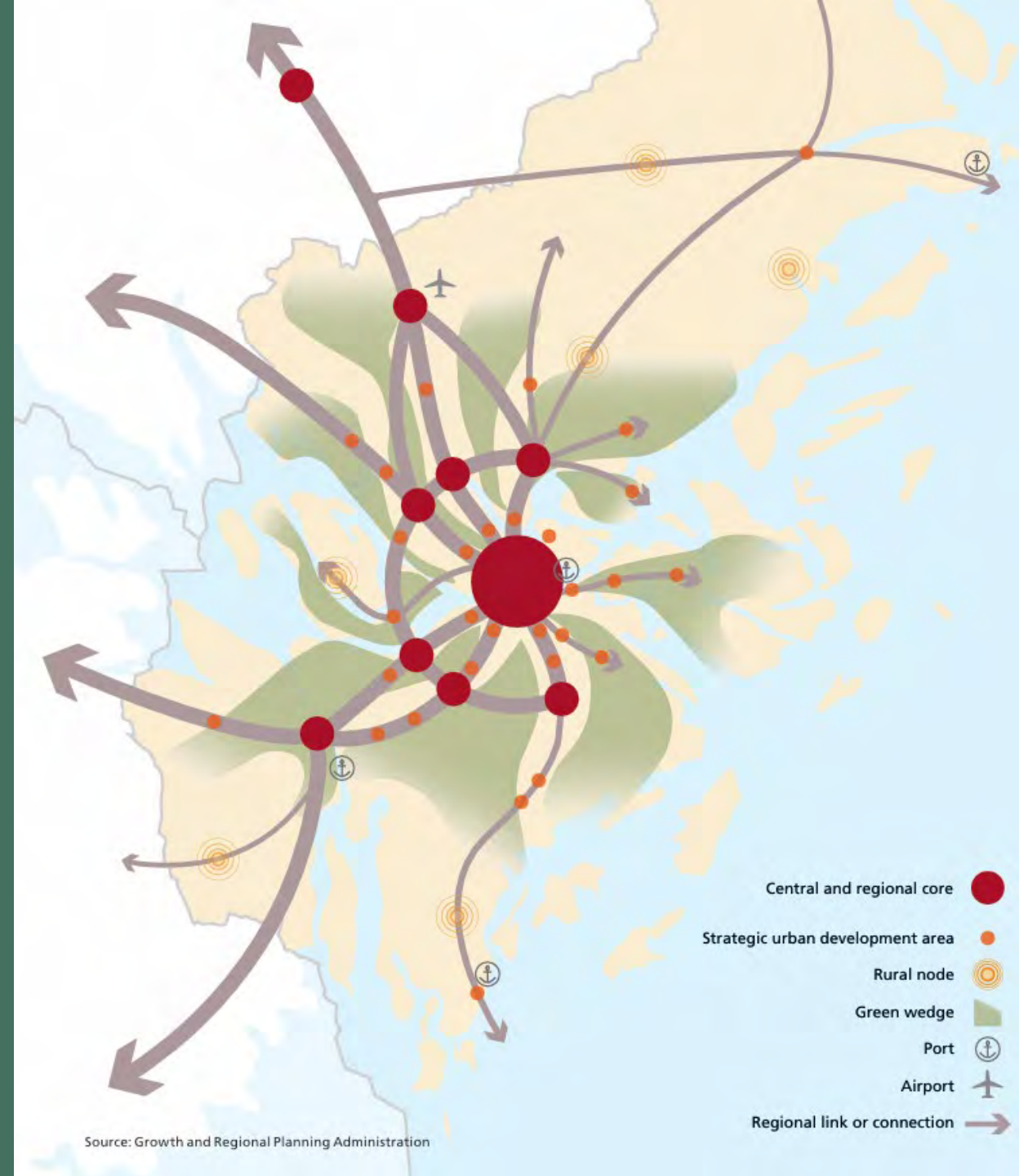




A divided  
responsibility



# Regional Planning

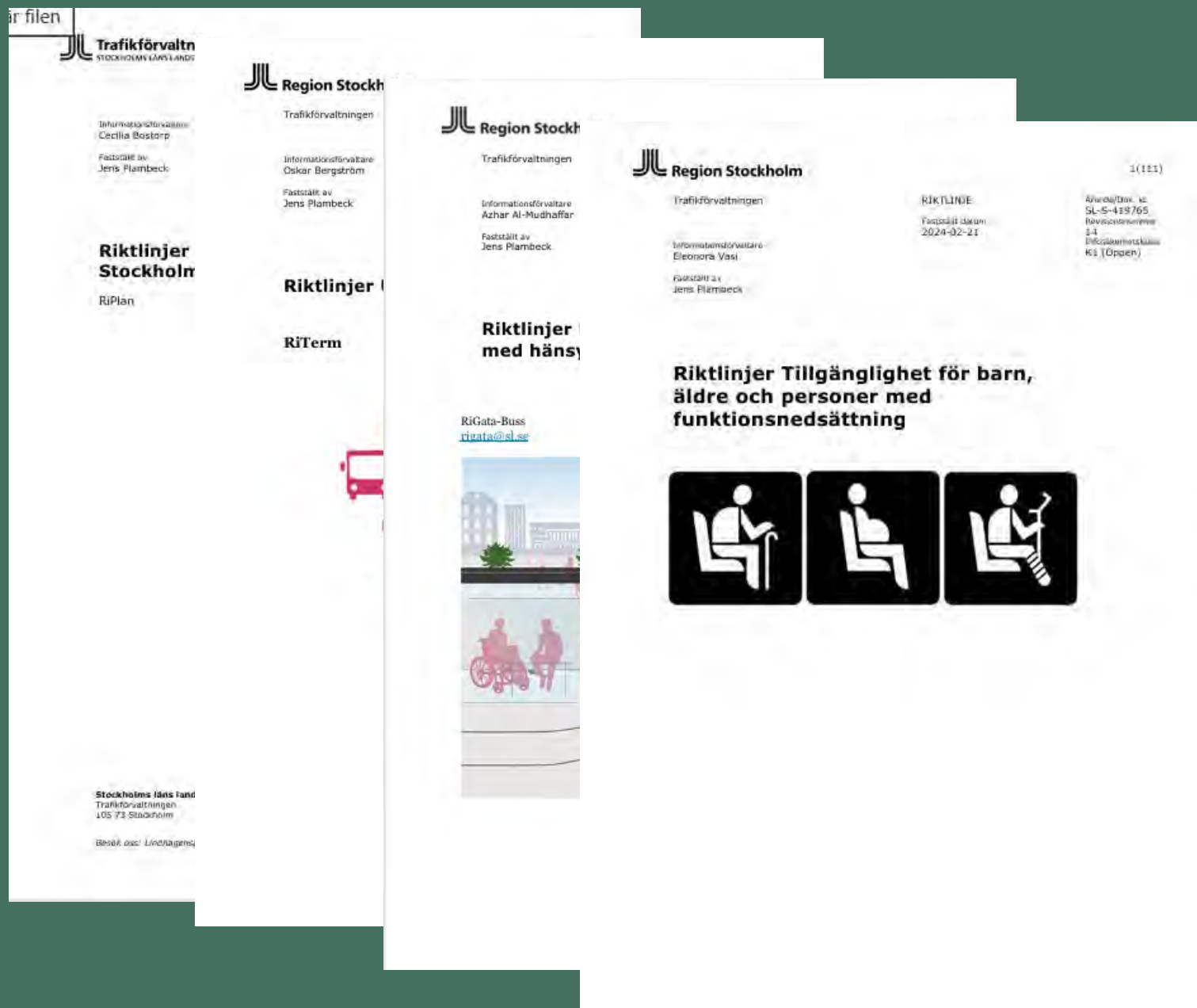




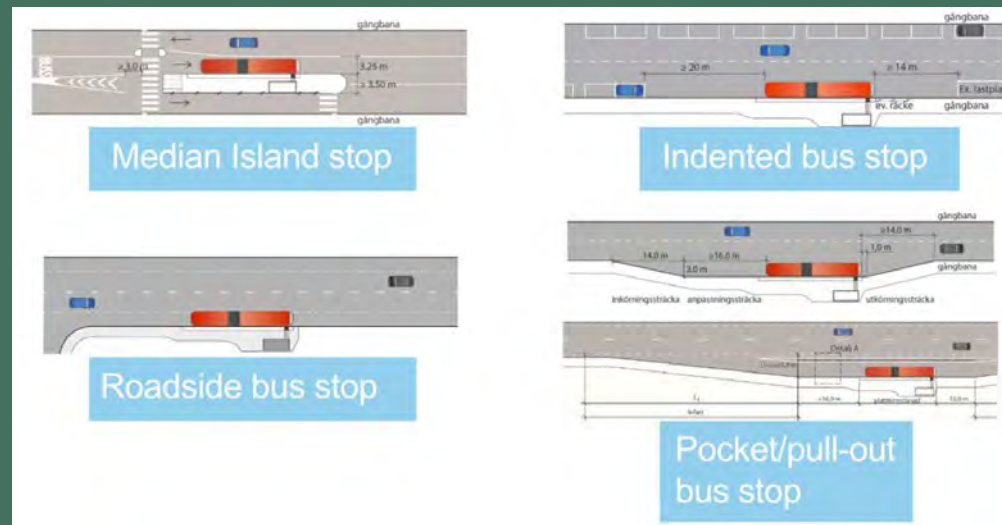
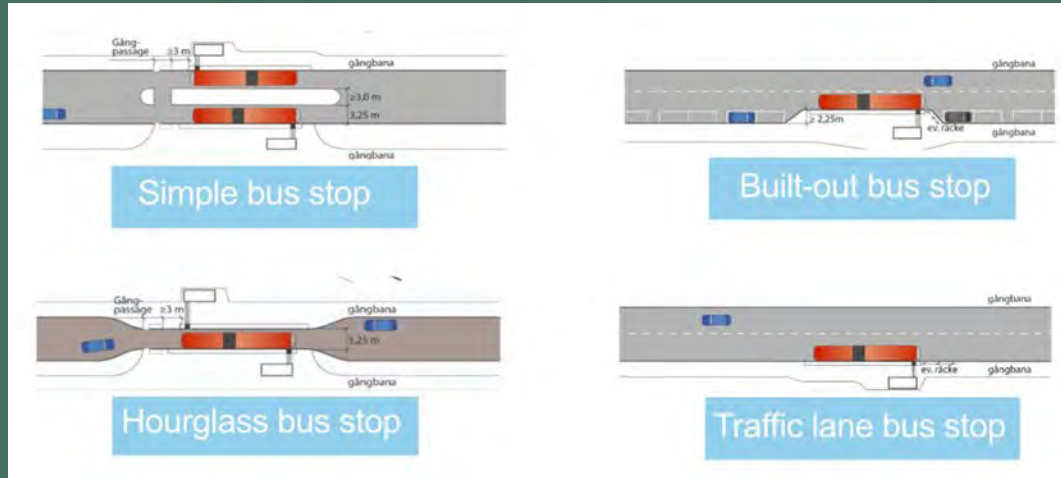




# Stockholm PTA Guidelines



# BEST PRACTICES IN DESIGN FOR BUS-TRAVELLED STREETS



## Riktlinjer Utformning av infrastruktur med hänsyn till busstrafik

RiGata-Buss  
[rigata@sl.se](mailto:rigata@sl.se)



“Sustainable urban planning which promotes a modal shift towards safe walking and cycling and access to public transport can lead to health benefits from increased physical activity, reduced ambient air pollution and lower noise exposure” (WHO, 2023). +

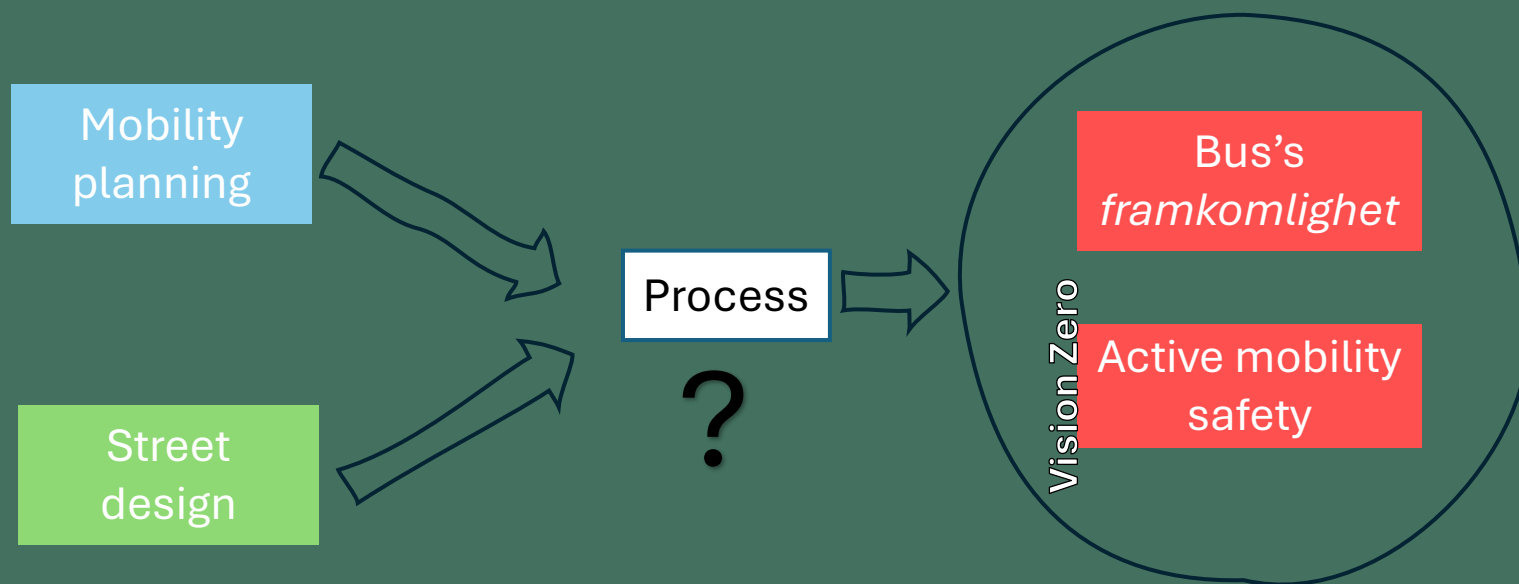




# Applying Vision Zero principles in multimodal streets: conflicts and compromises

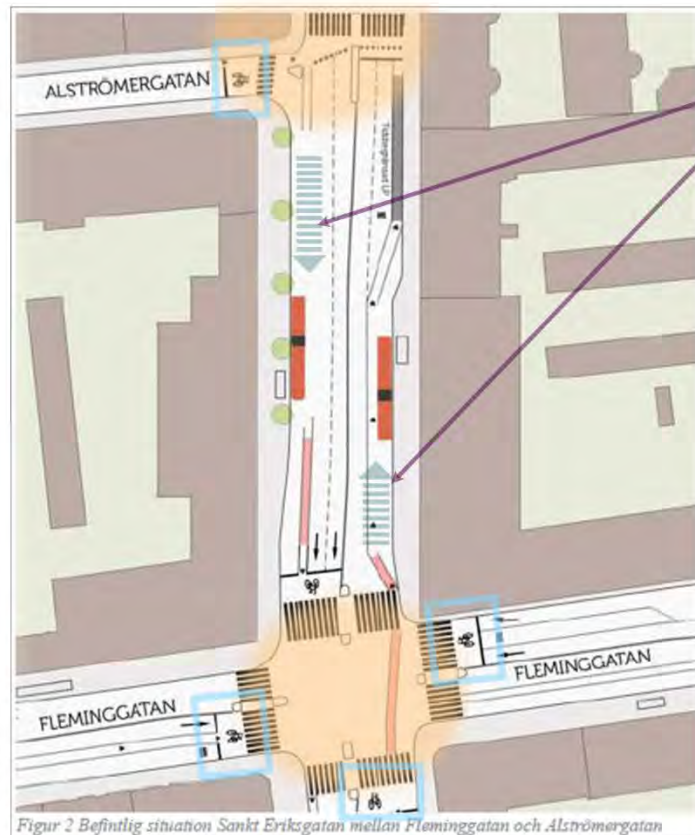
An investigation of best practices in the street design process focused on bus capacity and active mobility safety

**How can the mobility planning and street design processes be conducted in a holistic manner, to prevent conflict between bus's *framkomlighet*, and active mobility and its safety as prescribed by Vision Zero principles?**



# CASE STUDIES: DESCRIPTIVE ANALYSIS

## Sankt Eriksgatan, Stockholm - Before

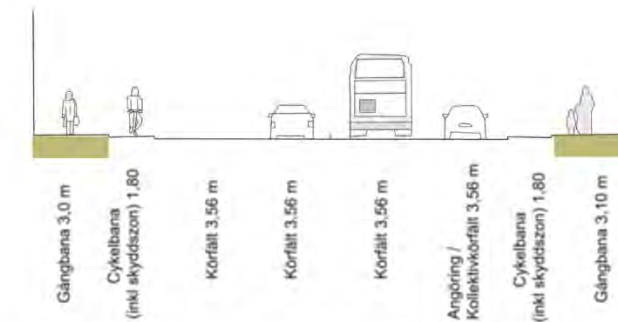


- Bicyclists must navigate mixed traffic and move between the car lane and the bus stop between Fleminggatan and Alströmergatan.

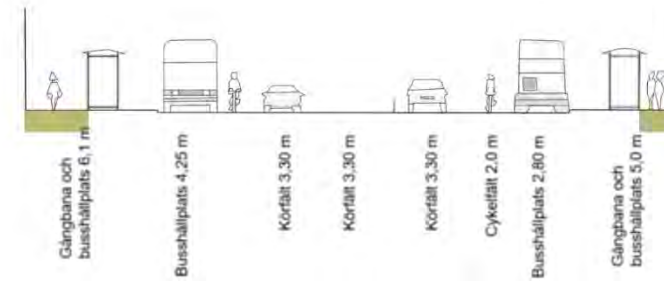
- On average, during daytime, a bus comes every 3 minutes in each direction, leading to a high number of potential conflicts with bicyclists.

- Intersections are categorized as “less good” in terms of safety for pedestrians, bicyclists and moped users, by Trafikverket: no traffic calming measure, speed limit of 40 km/h and no protected path for bicycles.

- Bicycle box at every crossing direction, which are used rather irregularly by bicyclists according to observations.



- Although the street constitutes one of the most important pedestrian path in Stockholm, the sidewalks do not offer a street space that would allow for enjoyment of quality of stay and interactions before storefronts, development of urban activities.



- The bicycle lanes do not respect the primärt cykelstråk width standards of 2,25 m.

- 19 000 motor vehicles drive on Sankt Eriksgatan every day, which makes it a heavy traffic street, detrimental to the development of social qualities and community life.

Crossings every 80 to 100 m

Advanced Stop Lines (bike boxes) at junction

Bus stop located at  $\geq 20$  meters from crossing or roundabout

Limited frequency of speed humps

# CASE STUDIES: DESCRIPTIVE ANALYSIS

## Sankt Eriksgatan, Stockholm - After



- Raised cross-walk to be added (although not shown on this preliminary plan)

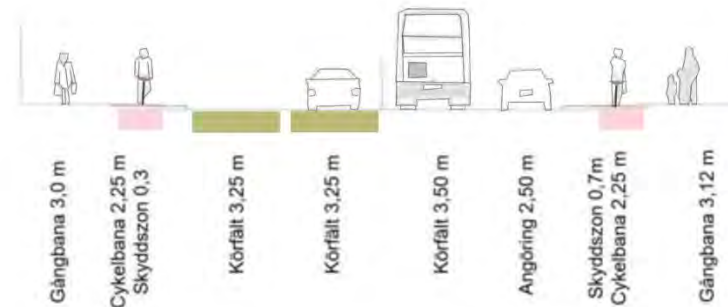
- Built-out bus stops ⇨ curb extension which ties the stop to the bus lanes: (1) waiting passengers are kept at distance from the car lane; (2) no maneuver needed from the bus driver approaching the stop.

- Better defined bus lanes.

- The traffic signal will be updated to allow the right turn to be controlled by a separate signal, allowing allocated green light time in a way that prevents traffic accidents and reduces conflicts between pedestrians, cyclists, and right-turning motorists.

- Additional refuge due to right turn traffic signal addition.

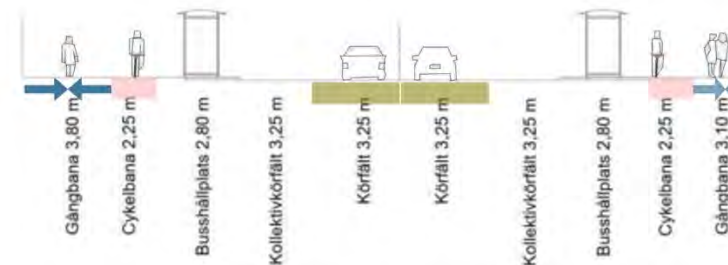
- Reduction of the car flow by 10 to 20% due to adjusted traffic signals on neighbouring streets.



Figur 9 Föreslagen sektion mellan Alströmergatan och Sankt Eriksbron

- Motor-vehicle lanes narrowed down to 3,25 wide, which is the minimum allowed vehicle lane width in Stockholm.

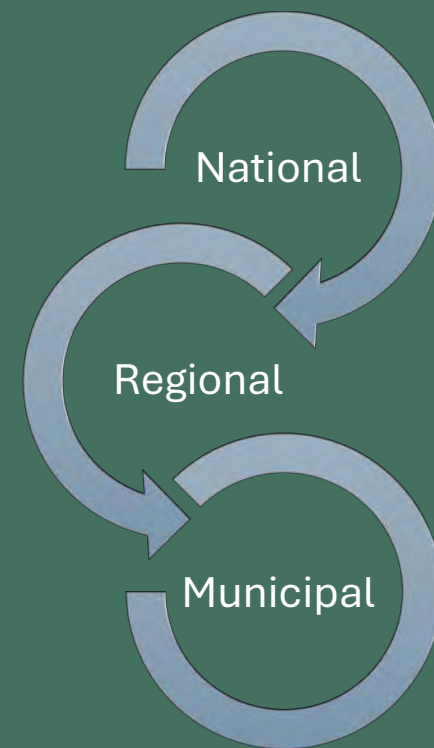
- 2,25 meters-wide bike lane on both street sides on both street sections.



Figur 8 Föreslagen sektion mellan Fleminggatan och Alströmergatan

- Reduction of the space available to pedestrian if the bus stop space is not counted.















# HEALTH, SAFETY AND ACTIVE TRANSPORT



# CONTACT

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CEO, Traffic Safety Expert

Guidance to Zero AB

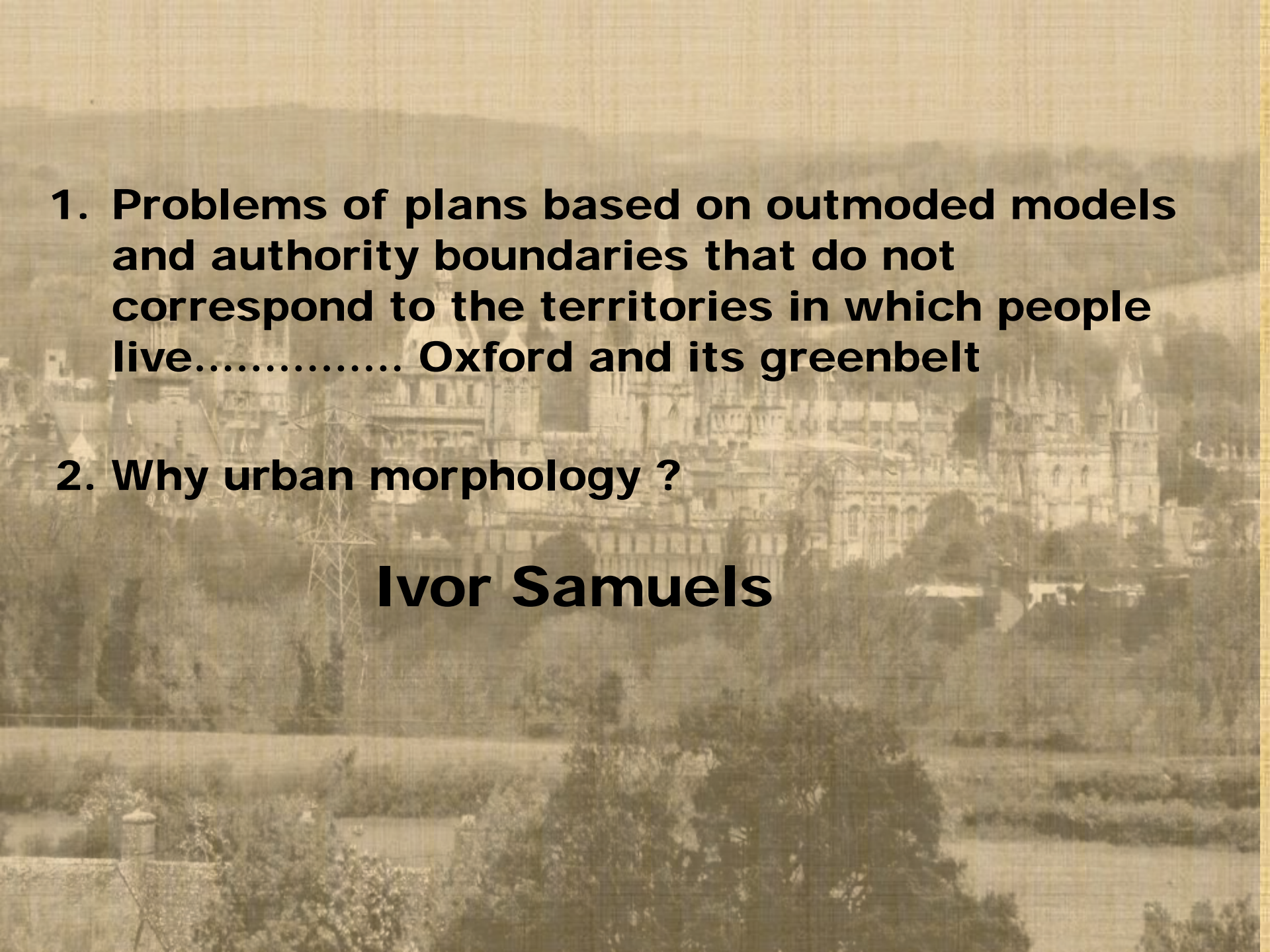
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A sepia-toned photograph of a city, likely Oxford, with a large cathedral and a greenbelt in the foreground. The image is used as a background for the text.

1. Problems of plans based on outmoded models and authority boundaries that do not correspond to the territories in which people live..... Oxford and its greenbelt

2. Why urban morphology ?

Ivor Samuels



# Ebenezer Howard



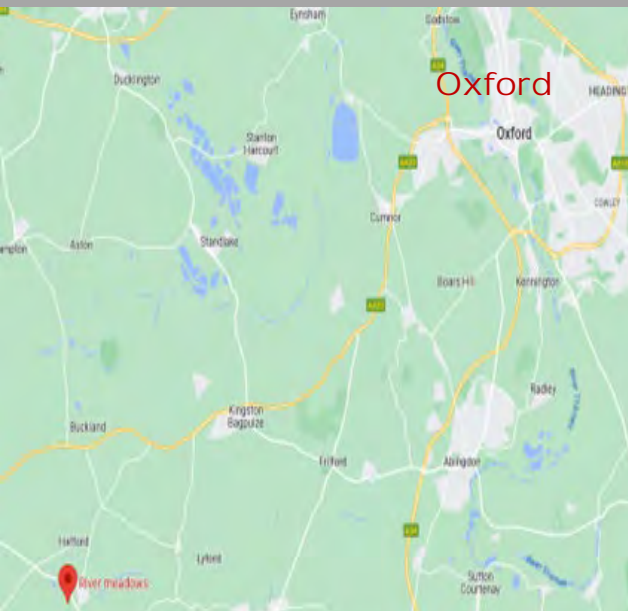


See [CPRE Oxfordshire Interactive Map of Oxford Green Belt](#)

Oxford Green Belt



# New “cowpat” housing developments are adding to traffic congestion and locking communities into car-dependency



David Wilson Homes | New Builds in River Meadow 🏡 | WhatHouse

Home > Housebuilders > David Wilson Homes > Oxfordshire > Faringdon > River Meadow



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## Housing affordability

Table 14: Housing affordability ratio

Rank	City	Affordability ratio	Average house price, 2022 (£)	Annual wages, 2022 (£)
10 cities with the highest affordability ratio				
1	Oxford	15.1	369,600	37,800
2	Brighton	14.4	494,100	34,300
3	Bournemouth	14.3	414,300	28,900
4	London	14.2	694,700	49,000
5	Cambridge	13.4	591,400	44,200
6	Worthing	12.3	325,100	30,500
7	Exeter	11.9	334,700	28,200
8	Bristol	11.8	376,200	31,800
9	Slough	11.4	369,700	32,500
10	Aldershot	11.3	446,100	39,300
10 cities with the lowest affordability ratio				
53	Doncaster	6.2	168,000	26,900
54	Glasgow	6.2	209,800	33,800
55	Blackburn	6.2	154,100	24,800
56	Barnsley	6.2	167,200	27,000
57	Stoke	6.2	161,400	26,100
58	Middlesbrough	5.7	158,200	27,700
59	Hull	5.6	134,900	24,200
60	Sunderland	5.5	147,100	26,600
61	Burnley	5.4	135,600	25,000
62	Aberdeen	5.2	188,600	36,300
	Great Britain	9.9	339,900	34,300

Source: Land Registry 2022, Price Paid Data, 2022 data; Scottish neighbourhood statistics 2022, Mean House Prices, 2022 data.

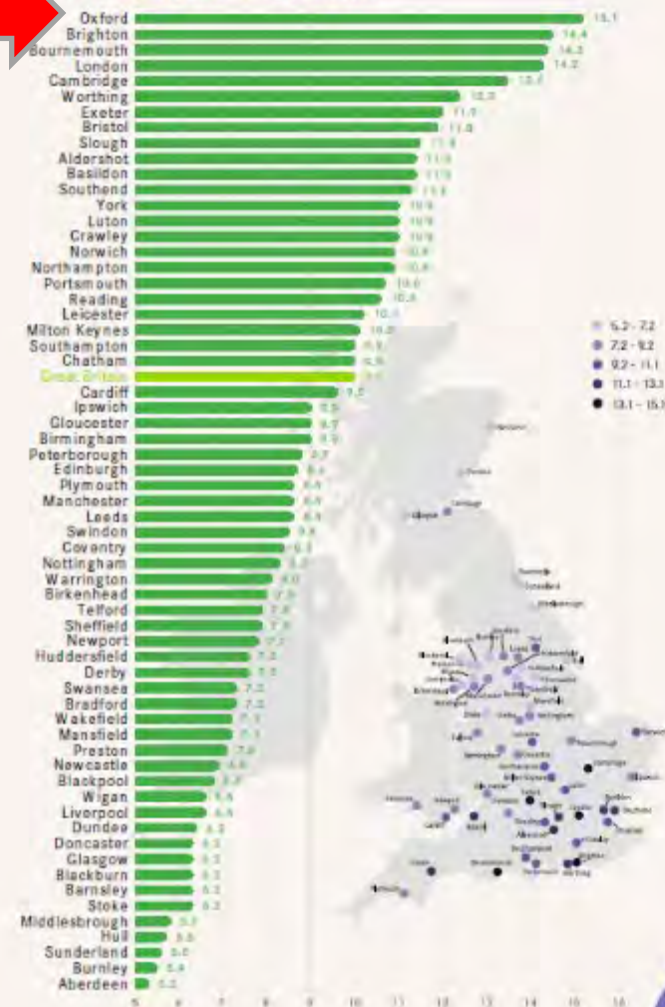
Note: Northern Ireland data not available so the figure for Great Britain is shown. ONS 2022, Earnings and employment from Pay As You Earn Real Time Information, seasonally adjusted, 2022 data. CPI inflation adjusted (2019=100). Earnings data is for employees only.

Note: The affordability ratio is the average cost of a house compared to the average wages paid to a worker in a year. For example, an affordability ratio of 10 means that the average house costs 10 times more than the average yearly wage.

Oxford has least affordable housing in UK

## Which cities or large towns have the most or least affordable housing?

Figure 21: Housing affordability ratio, 2022



# The Oxford Times

Celebrating our 155th year

Thursday, December 27, 2018

£1.40

## Wishing all our readers and advertisers a happy New Year

## 'Peeling away city's precious green border'

Environmentalists say latest district housing plan motivated by money and targets city's Green Belt

Nathan Briant  
n.briant@oxfordtimes.co.uk

OPPOSITION to development on Oxford's Green Belt have offered stark warnings of its potential impact after a key development plan was approved.

South Oxfordshire District Council signed off its new Local

against the public interest and against the local's wishes. The only thing motivating this is the Growth Deal."

During last week's meeting, senior councillors said they would be opposed to any changes to the Local Plan because they would delay its completion.

As part of the Growth Deal, all Local Plans must be submitted and finalised before April 1, 2021.

high quality, well-paid jobs. It's about shops, leisure and local green spaces. It's about all the facilities needed to support thriving communities.

It will help to deliver the infrastructure our district and Oxfordshire badly need. It's a plan that will enable residents to continue enjoying living and working in North Oxfordshire." Mr Blomfield was the council's

## Green Belt homes 'would ease jams'

### County opposes city's push to use land

OXFORD City Council says building more homes on Green Belt land on the edge of the city would

By Esme Kenney  
esme.kenney@newsquest.co.uk

Villages such as Kidlington, Kennington, Botley, Cumnor, Berinsfield and Wheatley would be in-

## Outrage over 'hostile' rural housing plans

By David Jones  
david.jones@oxfordtimes.co.uk

OXFORD has learned that there is a real risk of a hostile reception to the city's plans to build 10,000 new homes on the Green Belt.

The city council has been told that the plans to build 10,000 new homes on the Green Belt are "hostile" and "unacceptable".

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The city council has been told that the plans to build 10,000 new homes on the Green Belt are "hostile" and "unacceptable".

## 'Village full' say home objectors

Chris Christie  
chris.christie@oxfordtimes.co.uk

OXFORDSHIRE has rejected the plan to build 10,000 new homes on the Green Belt. The plan is "hostile" and "unacceptable", say local objectors.

The plan is "hostile" and "unacceptable", say local objectors.

The plan is "hostile" and "unacceptable", say local objectors.



Local objectors, including Mrs. Jones, Mrs. Smith and Mrs. Brown, standing in front of the site of the proposed retirement village in Prestwood.

Christ Christie is a local objector to the plan to build 10,000 new homes on the Green Belt.

The plan is "hostile" and "unacceptable", say local objectors.

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The plan is "hostile" and "unacceptable", say local objectors.

The plan is "hostile" and "unacceptable", say local objectors.

oxfordtimes.co.uk/news

Thursday, March 8, 2018 OXFORD TIMES 11

oxfordtimes.co.uk

## Village is 'under attack' from developers

After fighting off retirement village plans, community now faces an application to build 80 homes

By David Jones  
david.jones@oxfordtimes.co.uk

PELHAM has been targeted by a plan to build 80 new homes on the Green Belt. The plan is "hostile" and "unacceptable", say local objectors.

The plan is "hostile" and "unacceptable", say local objectors.

The plan is "hostile" and "unacceptable", say local objectors.



Local objectors, including Mrs. Jones, Mrs. Smith and Mrs. Brown, standing in front of the site of the proposed retirement village in Pelham.

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The plan is "hostile" and "unacceptable", say local objectors.



# TRAPPED BEHIND THE WHEEL

HOW ENGLAND'S NEW BUILDS  
LOCK US INTO CAR DEPENDENCY

NEW  
**ECONOMICS**  
FOUNDATION

Oxford traffic jam

What is being built in 2025?

# In search of the station...

Oxford traffic jam



TRANSPORT FOR NEW HOMES



# The Low Traffic Neighbourhood as solution to excessive car use

manipulation

## The 15-Minute City Freakout Is a Case Study in Conspiracy Paranoia

Far-right protesters in the UK claim that Oxford's traffic-control plan is a part of a global authoritarian plot. What the heck is going on?



Protesters in Oxford resist the oppressive yoke of walkability on Feb. 18. Photograph: Martin Pope/Getty Images Europe

BBC



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## NEWS

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## Oxford: Thousands join protest against traffic schemes

5 days ago



The protest objecting to the traffic measures is being held in Broad Street, Oxford

Thousands of people have joined a protest in Oxford against measures where roads are shut off to stop motorists driving through.

Some demonstrators in Broad Street protest over Traffic Neighbourhoods



Drive to







**“The urge to be original at all costs is now a guiding force and compulsion of architecture”**

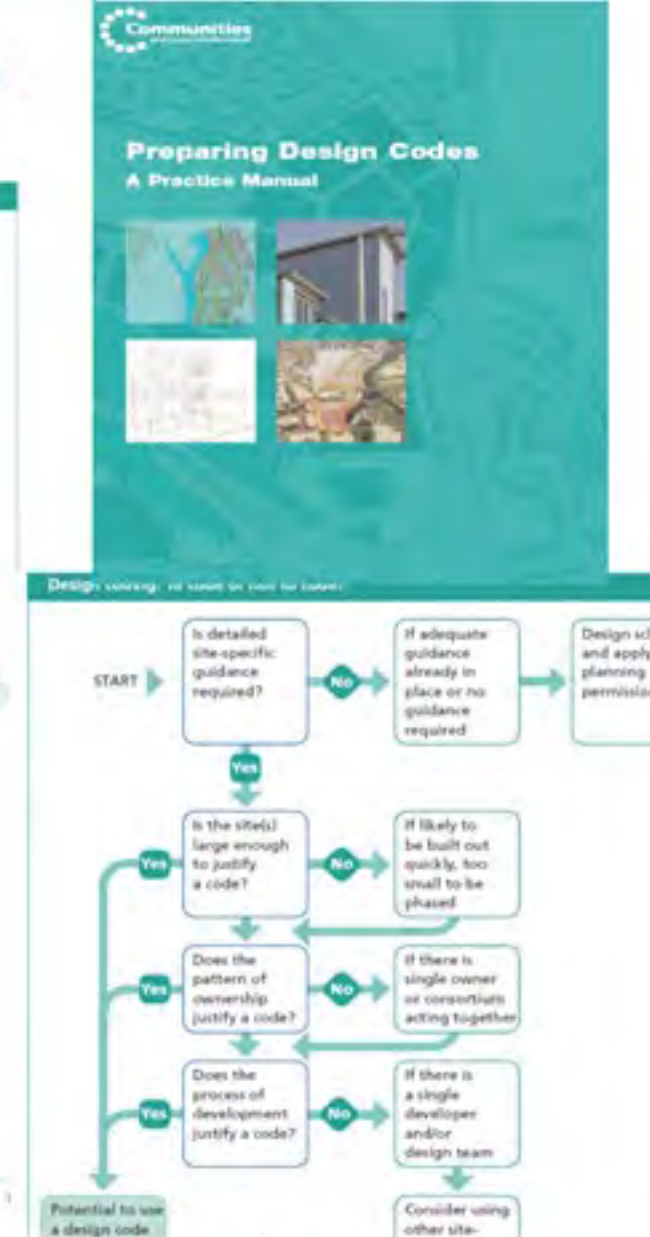
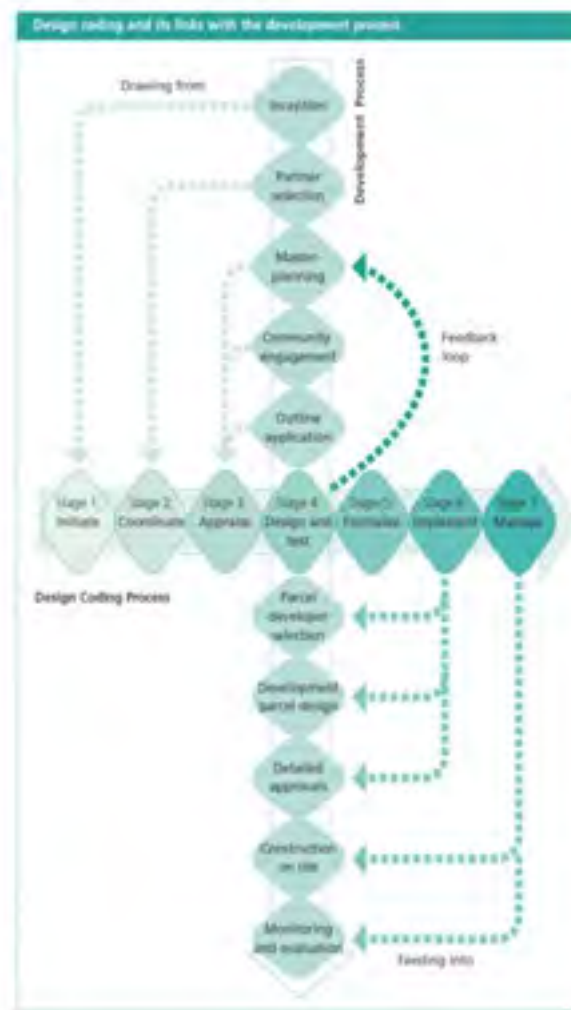
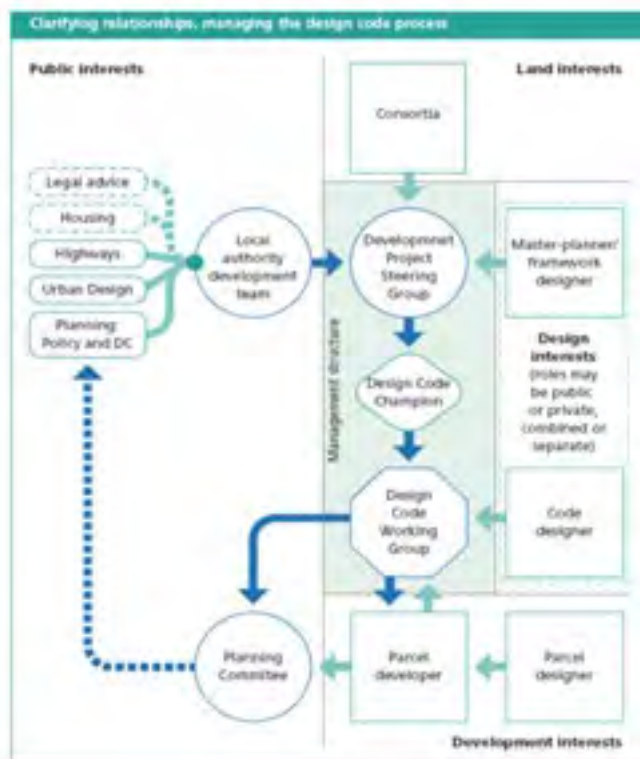
**“The future of built environment had become a matter of brilliant all - encompassing vision rather than patient cultivation”**

(Habraken 2005)



Architectural aspirations

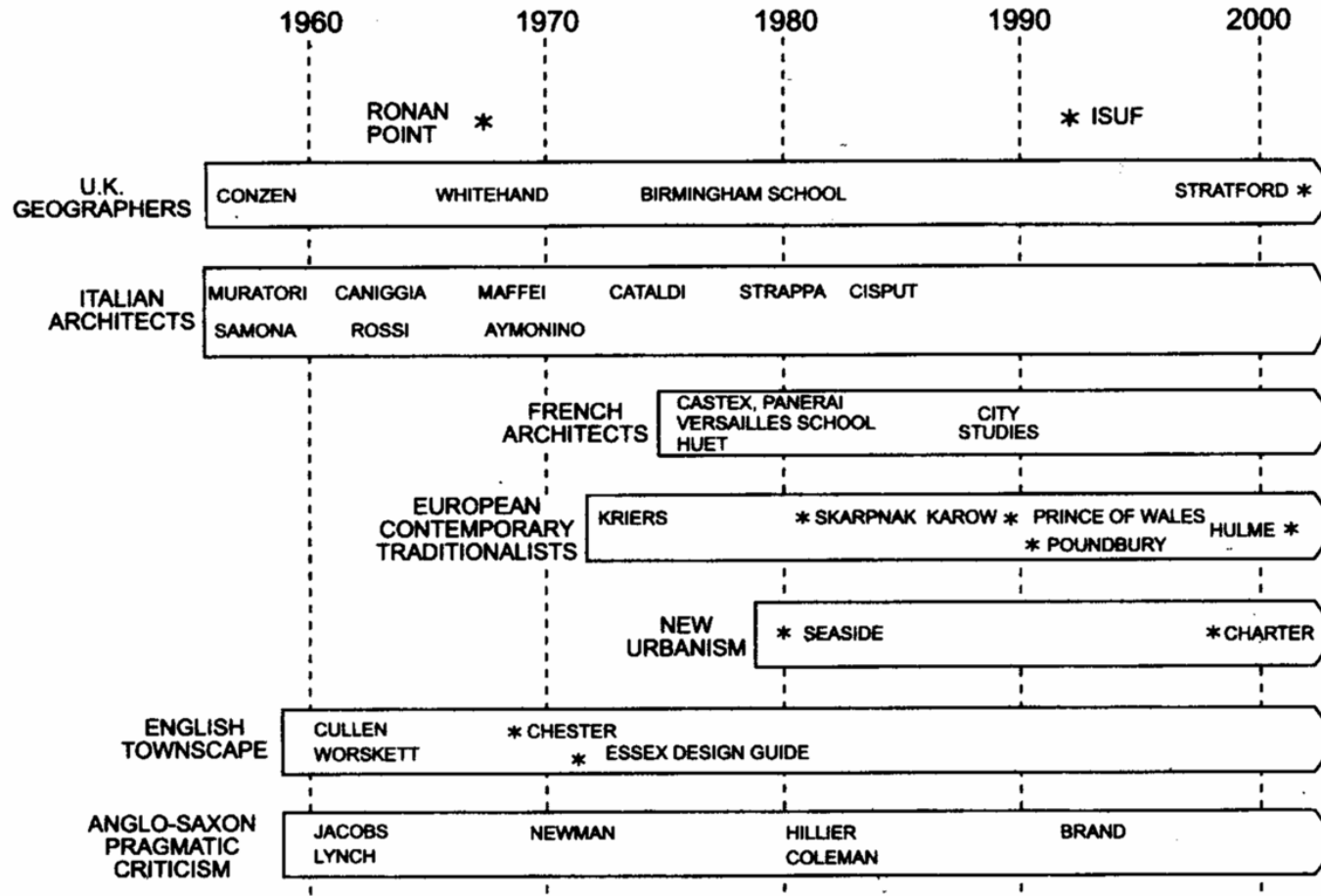
# Planners obsessed with Process



This publication has been approved by Ministers and has official status.



# A genealogy of morphology



## **Prescription**

Architects, planners etc

## **Normative Theory**

What cities should be

## **Description**

Geographers, historians

## **Substantive Theory**

How cities are..and why

**Verify normative by reference to substantive**

Without this **norms can be a nonsense....**or an illusion



last time we often got it wrong:



**Unverified norms?**

## **The salient features of a typomorphological approach:**

- **Concern with “ordinary” buildings**
- **Recognition that elements of urban form change differentially over time**
- **Understanding of levels of resolution and their interrelation**
- **Awareness of socio- economic impacts on urban form**
- **Locationally specific**



# Cycles of Change

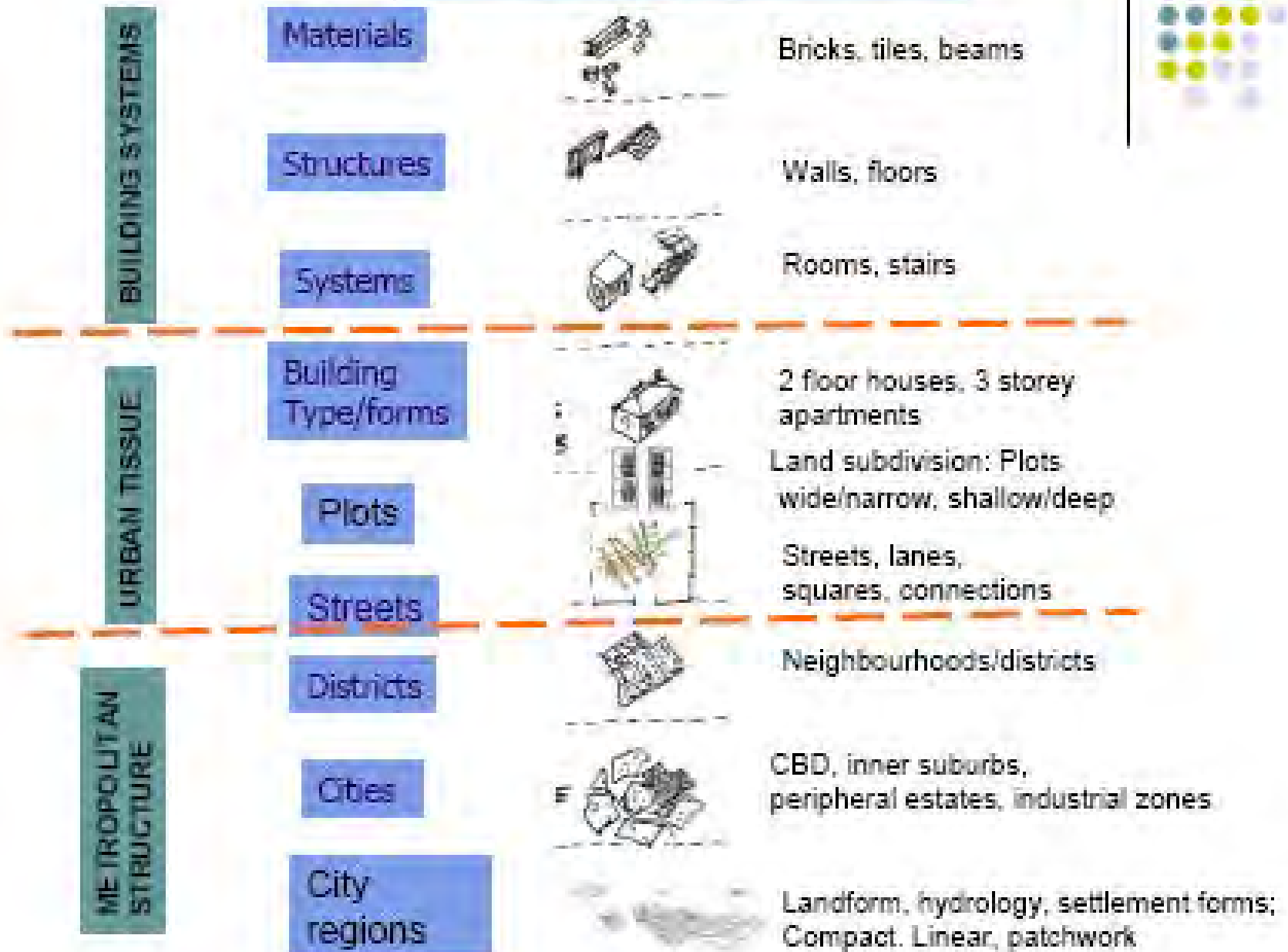
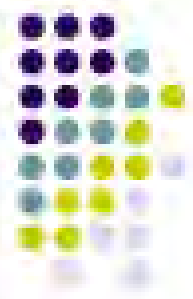


Figure 1. Elements of the town plan. Reproduced from the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office, Crown copyright reserved.



# LEVELS OF RESOLUTION

## Elements and Arrangements





Peter J. Larkham

Table 1. Themes of published papers (excludes review articles etc)

Broad theme of papers	Number
Nature of urban morphology	1
Study of urban form	19
Philosophy of urban morphology	2
Traditions of morphological study	8
Theory of urban morphology	11
Research techniques & methods	42
Morphology and practice	5
Historical urban form studies	51
Contemporary urban form studies	5
Future urban form studies	0
Other	20

Discipline origin of authors

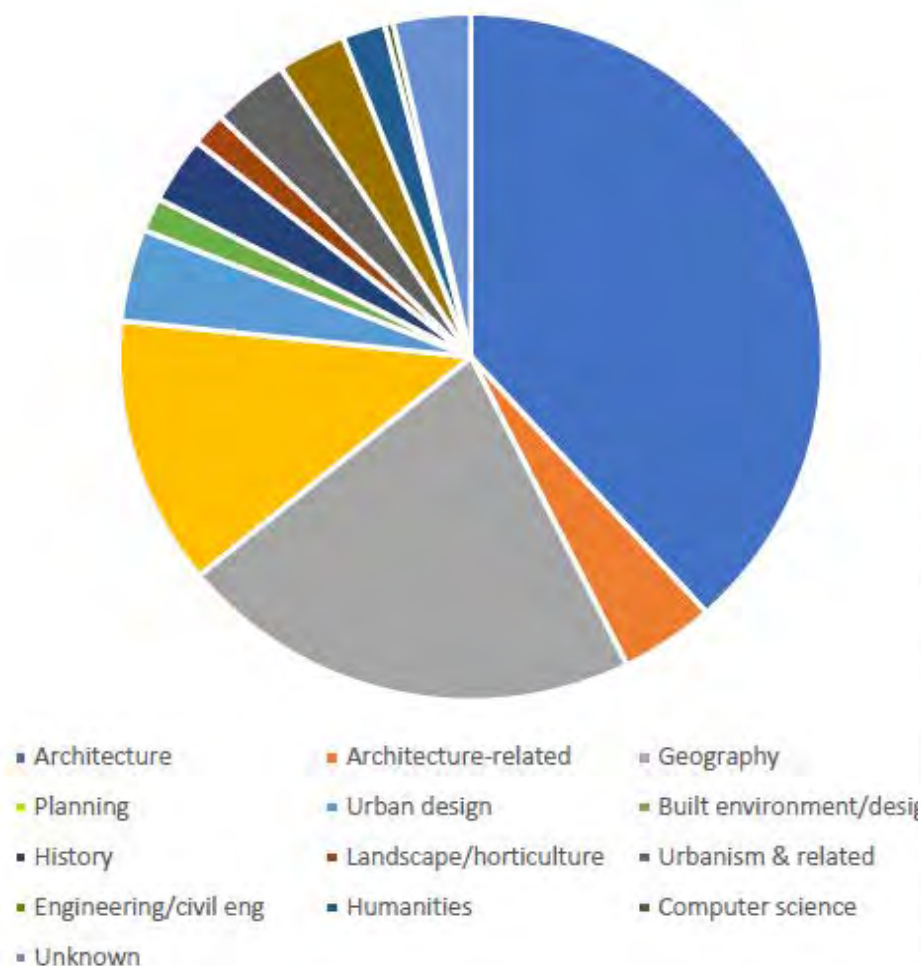


Table 2. The study of urban form series of papers.

Vol(issue)	Country	Citations (Google Scholar)
2(1)	Spain	39
2(2)	France	74
5(1)	USA	139
6(2)	Italy	106
8(1)	Germany	71
10(1)	Canada	26
10(2)	Australia	16
10(2)	UK	110
12(1)	Ireland	
13(2)	Sweden	10
14(1)	Turkey	25
14(2)	Poland	19
16(2)	S Korea	25
18(2)	Brazil	15
19(2)	Japan	2
20(1)	Netherlands	1
26(1)	Iran	
Related papers		
10(1)	Mapping urban morphology	137
17(2)	Overview of series	8

Figure 3. Disciplinary origin of authors of main papers.




# Krakov Planty a Greenbelt that works



**Ebenezer Howard visited Krakow in 1912 for a world conference of Esperanto and he referred to it as a naturally evolved garden city.**



Thank you



**TOD2**

The International Conference on  
Next-Generation Transit-Oriented Development

4th September 2025

# TOD2

2025-09-04

**Changing by adding  
Reparatory complementations  
reaping synergy  
catalysator effects  
of urban acupuncture**

**2 contributions to nurture:**

**Copenhagen finger plans  
Stockholm tram/bus-stop squares**

+46 70 422 28 78

Torbjörn Einarsson  
arkitekt SAR MSA

  
Arken **SE**  
arkitekter ab





**TOD2**

The International Conference on  
Next-Generation Transit-Oriented Development

4th September 2025

# TOD2

2025-09-04

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2 contributions to nurture:

Copenhagen finger plans  
Stockholm tram/bus stop squares



Torbjörn Einarsson  
arkitekt SAR MSA  
+46 70 422 28 78





III. "Det goda regerandets effekter på stadens liv", Le Allegorie del Buono e Cattivo Governo / Ambrogio Lorenzetti 1338-40 Palazzo Pubblico, Siena CC BY-SA

**Stad möter land - gränssnittet, stadsmuren, på bilden fungerade som skydd av staden.**  
**Gränssnitt i framtiden, Kajer mot det Gröna, kan omvänt ses som skydd av land, natur och odling.**

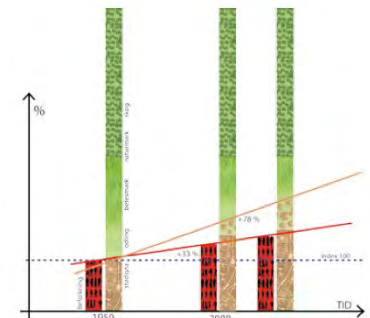
**EUs PLUREL-rapport har påvisat en djupt oroande stadsspridning över värdefull naturmark**

Städerna fortsätter växa mer i yta än i invånarantal. Välmenande planering utifrån krav på buffertzoner för buller och krav på att nya områden ska vara allt längre utom synhåll, gör att markanspråken skenar.

**Så här kan det inte fortsätta.**

Denna handbok visar hur en gränssättning kan ge växt inåt som "reparativa kompletteringar" av bebyggelser som visat sig utgöra ineffektiv och markslösande förortsbygd.

Baksidor kan bli livgivande framsidor, stadsbryn, med odling, dagvattendammar och urbana "kajer mot det gröna".



## The threat remains:

**Urban area growth**  
 grows faster than  
**urban population growth**

## Proposal:

**Reparatory growth**  
**complementary growth**  
**inner – "bouncing inwards"**  
**outer – finger plans, linking**  
**fragments**



# Criteria for paradigm change

- humble enough

## ...flops

...coming from 2 earlier efficiency-noias:

land reform act destroying large  
parts of our villlage heritage  
modernist zoning devastating  
towns and town centres

- people are voting with their feet  
&  
we see segregation ravaging
- we mustn't be cocky or "after-wise",  
but:  
it is time  
to draw conclusions  
se draw conclusions,  
reset the tool box  
and  
act



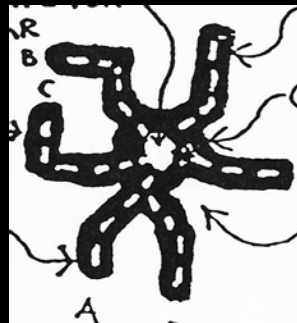
# Hans Åkerlind

100 år

- ett livsverk att inspireras av  
och...
- lite att tänka på  
inför nästa  
uppfordrande sekel...

...om nyttan och glädjen av  
kreativa oenigheter

/Torbjörn Einarsson  
Arken Arkitekter AB  
070 – 422 28 78



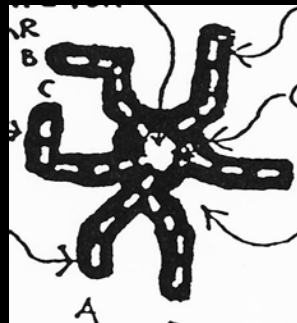
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...om nyttan och glädjen av  
kreativa oenigheter

/Torbjörn Einarsson  
Arken Arkitekter AB  
070 – 422 28 78



"I'm preparing  
for my next  
century"





**Gräns- & kaj-strategi i olika städer**

Beslut om att finna gränser kan ta olika vägar. "Stadens gränser" som komplettering, väja sig eller "nya städer" i hållbara städer. Låga väg visar kajer och riktiga komplettering. Gränser utifrån vilken utifrån som "typer ut" om eller när det behövs.



# Steg 1

Välj stadens långsiktiga växtmönster, dess morfologi\* och relation till naturens gröna strukturer

Beakta Din stad i ett historiskt perspektiv, bakåt och framåt. Välj stadens/kommunens/ortens långsiktiga växtmönster. Visa var staden kan växa, och var den kan minska. Illustrera hur stadens form bör se ut vid två långsiktiga scenarier: Stad 2.0 resp Stad 0.7. Prioritera en stadsform som utgår från de kollektiva färdmedlens logik, och som samtidigt beaktar beläsnings- och utbytet mellan bebyggelsestruktur och grönskastruktur.

Vid tillväxescenariet, Stad 2.0, fastlägg hur stor del av tillväxten som kan ske som inre reparationer kompletteringar\* och hur mycket som behöver ske i form av utväxter av stadsstrukturen. Ett gott exempel på gränssättning är Portland\*, ett gott exempel på smärre utväxter är fingerplaner\* av t.ex. Köpenhamns sort.

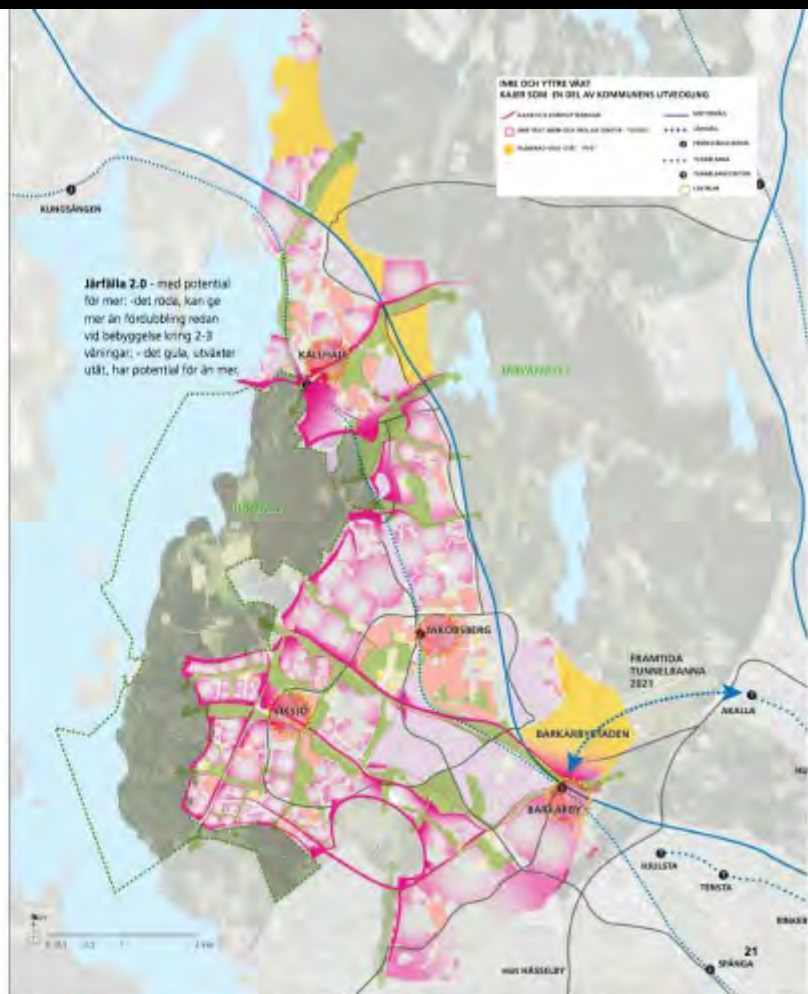
Vid minskningsscenarioet, Stad 0.7, fastlägg vilka bebyggda delar som med fördel kan omvandlas till naturmark av olika karaktär, odlings-, besöks-, etc. Fastlägg parallellt var befintliga bebyggelsestrukturer och grönskastrukturer kan behöva kompletteras.

Välj strategi för gränsväx och stadsstruktur, dvs en morfologi\*, som innebär att stadens respektive\* stegvis kan förbättras. Ta hämd ett beslut om ett slut på bubbel-planeringen\*.

# Steg 2

Välj stadstyper för en god planrepertoar\* - "matris-fasen"\*

Ta ett resolut beslut om planens utifrån vilka stadstyper\* med goda perspektiv\*. Utgå från t.ex. stadstypsmatrisen\*. Modifiera den gärna för Din kommun. Komplettera med stadstyper som kommer från i olika dialoger – och lämna en del rutor öppna för fortsatta inspel. Kartlägg vilka stadstyper som kommunen har bra exempel på, och vilka stadstyper som det behövs mera av, dels för att passa olika klymmen, dels för att profilera kommunen. Säkerställ en rik mix av stadstyper i olika stadsdelar.



'studs inåt'  
&  
'pys utåt'

'bouncing back  
inwards'

&

'trickling out  
outwards'



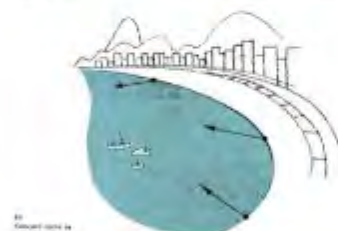




Kajer mot det gröna:  
Forma gränsen så att den uppstår en serie landskapsrum.  
Kajskoten har blivit en serie landskapsrum.



10  
Centrala delen av staden  
Landskapsrum



11  
Centrala delen av staden  
Landskapsrum

12  
Centrala delen av staden  
Landskapsrum

**Situats:** Kajformens geometri kan ge artikulerade lägen för gröna etableringar för olika målgrupper, från lokala intima platser till paradlägen för regionala eller nationella etableringar. Allt från stugor vid en kolonitradgård, till naturrum, eller en arena för kultur eller idrott.

## Verktøy 36

### Kajformer/landskapsrum

• stadsbrynets\* form formar också landskapsrummets form

Vi bygger inte bara hus och stadrum, vi bygger också landskapsrum. Jordbruk och skogsbruk har redan berört de mesta av våra landskaps kvadratmeter, vi har sett spår både av vård och vernad.

Så försätter vi att göra, när det gäller landskap påverkar vi både genom att göra saker och genom att låta bli att göra saker. Natur växer. Anser skogs om brynet, tar över eller redinerar.

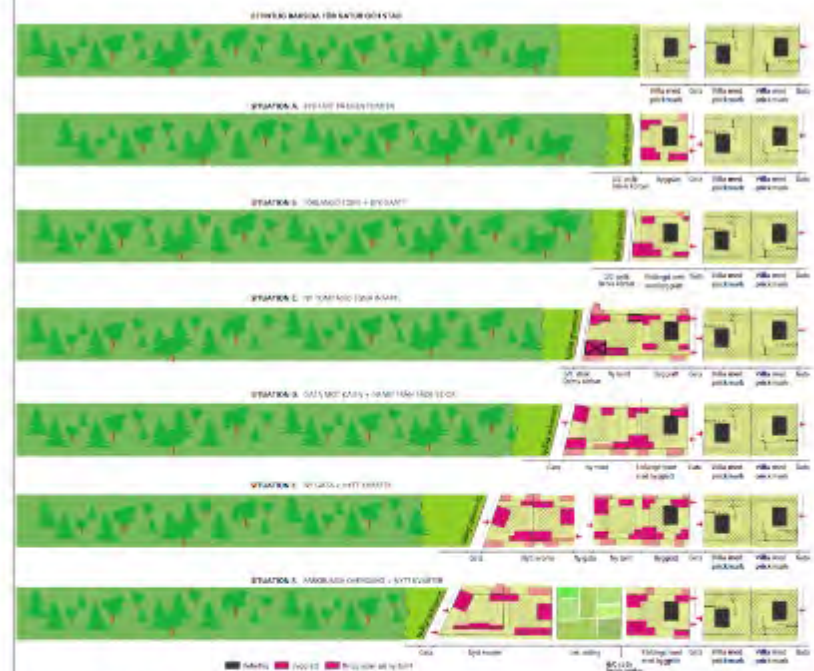
Att sätta gränser för stads utbredning ska utifrån detta perspektiv ses som en aktiverande handling. Gränser gånggäster bynneffekter, på både belyggessidan och den gröna sidan. Gränser ökar, både till gröna lokaliteter och till byggande. Metakajen Kajer mot det gröna avser våra tankar till att se hur baiditor kan bli aktiva framsidor. "Som vore det fråga om kajer mot det blå, mot en bukt eller ett hav".

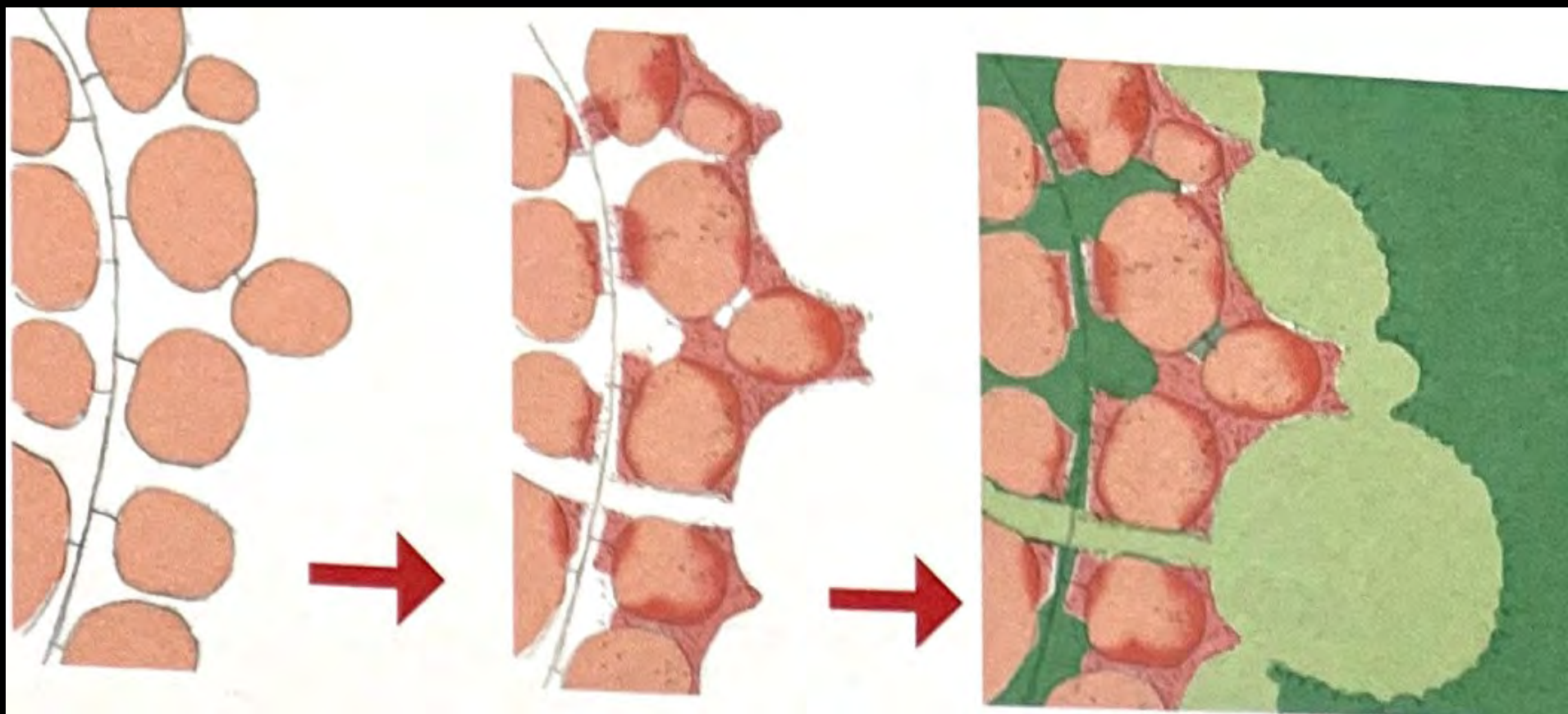
En genomtänkt gränsdregning gör "kajen" omväxlande. Handboken illustrerar hur kajen på belyggessidan kan ha allt från vilostad till stor stad, och på den gröna sidan allt från ren skogsnatur till åker, odling och dagstugedammar.

En serie "bukter" illustreras som en möjlighet att längs gränssnittet dela in en lång vy till delar av olika landskapsrum med olika karaktärer och olika hemhörigheter.

Med en sådan inläggning kan den som rör sig längs kajen dessutom utveckla en serie förändringar och accentuerade vändpunkter med den tillägg för serier, som naturrum, förskolor eller andra funktioner av allmänt intresse.

Ett annat exempel, med kajer både utåt och inåt. Längsgående "kajer mot det gröna" kan som i illustrationen för ströket Nynäs hamn-Osmo formas till en färdande form av belyggessida, vatten, skog och odling, både odling inåt och odling utåt. Formen av "färd" ger, med sin serie av hållplatser, urbana kvadrater i längsled och samtidigt, i tvärsnitt, naturrum, skogsområden och odlingsområden, kvarter. "Urban i längsled, skog i tvärsnitt". Illustrationen på denna "färd" kan ses som ett exempel på de "fingerplaner" som rekommenderas om en kommun vill eller behöver utveckla utifrån verktöget "Repetitiva kompletteringar".





As by-product  
creating or improving  
the 4 rooms:

Street scapes  
square spaces  
park spaces  
landscape spaces







2019-02-10 MZ + TP



WHAT do we want to do  
WHAT ought we do?  
WHAT can we do?

# vad vill vi? vad bör vi, vad kan vi?



Stigtuna

Foto: Stefan Sjögren

## Symptombilden är bred

**Kuren behöver fokusera på orsakerna  
- och ange verktyg**

Delegationen för hållbara städer gav 2012 anslag till denna studie och handbok om städers växt, planeringsverktyg och dialogmetoder. Delegationens namn förpliktar, dess lägesbeskrivning\* och maning till snabbare omställning likaså.

Uppgiften "att realisera ett hållbart stadsbyggande" kan synas bred. Ja, till och med mycket bred, eftersom vårt pågående stadsbyggande enligt Delegationens slutrapport\* har visat sig vara problematiskt över ett så brett spektrum. Det gäller, som man skriver, inte bara markslöseri, energislöseri, påtvingat resande, ohälsa eller CO<sub>2</sub>-utsläpp, utan lika påtagligt brister i stadbygdens roll att utgöra motor för lokalt näringsliv och lokalt framväxande stadsliv.

Kort sagt: symptombilden är bred. Kruket, den ansats som denna Handbok prövat och vill visa, är att komma åt de faktor-

Bottom up:  
Citizen-based planning  
mitigates nimby

demand/secure P + P  
= Plan preparedness  
& Plan repertoire

medborgarburen planering  
för

P + P

= Planberedskap  
& Planrepertoar







## COMPLETION - CHANGING BY ADDING

Using supplementary functions to transform open anonymous housing area into mixed grid town plan. Arken commission for Östberga suburb, south of Stockholm.

Completion  
- or should we say Complementation!

...or:  
Changing by adding





# Should we rethink TOD beyond mobility?

Luca Bertolini – University of Amsterdam

(<http://www.essen-fuer-das-ruhrgebiet.ruhr2010.de/en/home.html>)



**depletion of non-renewable  
energy sources, climate  
destabilizing carbon emissions, air  
and noise pollution, traffic  
accidents, congestion, lack of  
physical movement, disruption of  
local communities, degradation of  
public space, consumption of land,  
fragmentation of natural  
ecosystems, inequality of access ...**



Performance of different transport modes (Municipality of Amsterdam)



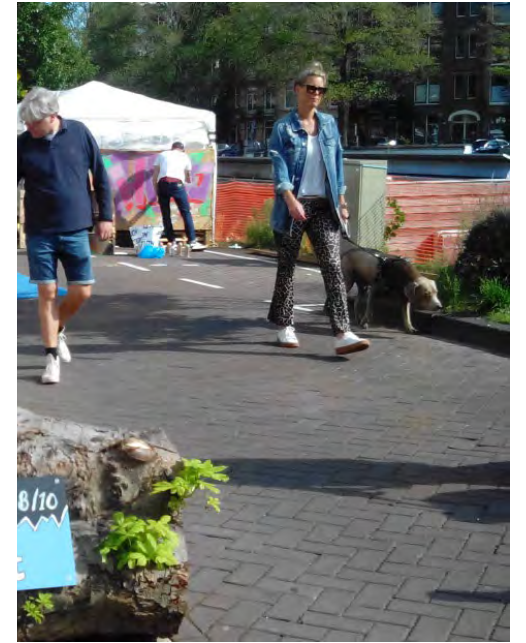
*What if ...*  
*streets were (again) multi-purpose public spaces?*

On a 'normal' day



'Leefkade' Hugob  
(photo: Luca Bertolini)

- + walking and cycling
  - + physical activity
  - + safety
  - + air and noise pollution
  - + liveability
  - + social interaction
  - + sense of community
  - + physical and mental health
- (Bertolini, 2020)





*What if ...*

*all everyday needs could be accessed by walking or cycling?*

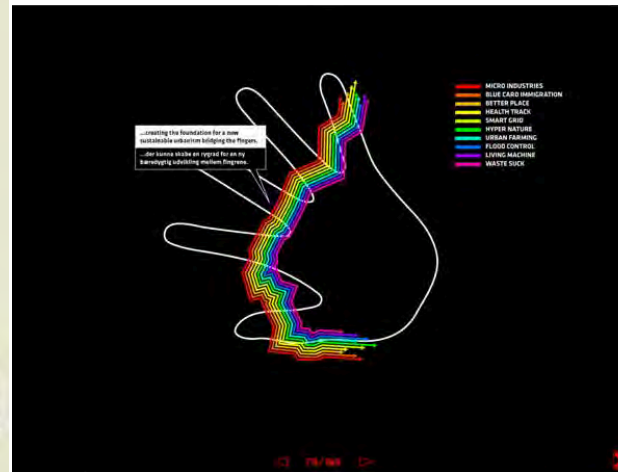
# Paris 15-minute city (Paris en Commun)





*What if ...*  
*public transport could take us anywhere else?*

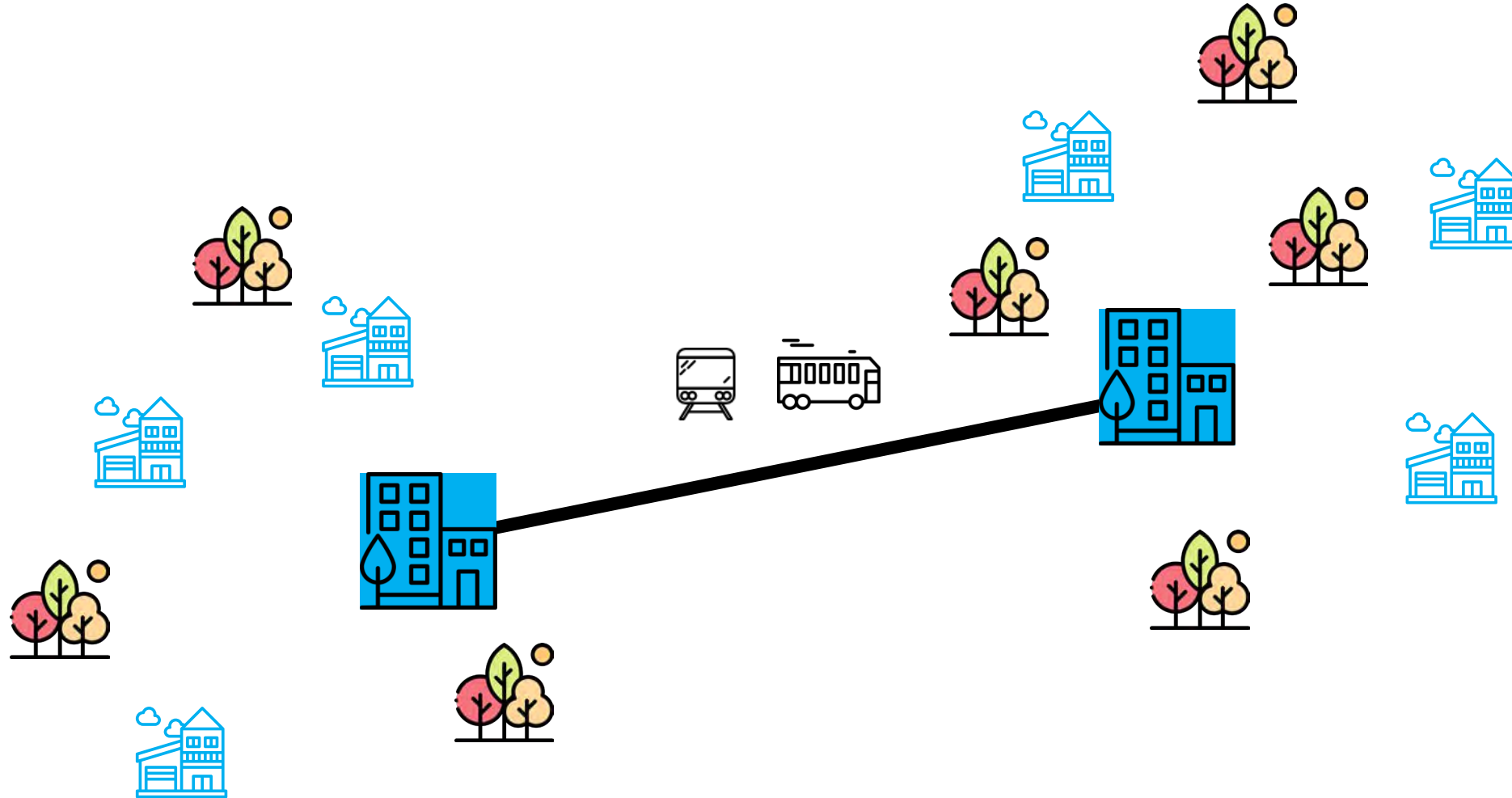
# Transit Oriented Development (TOD): Copenhagen 1947-2078



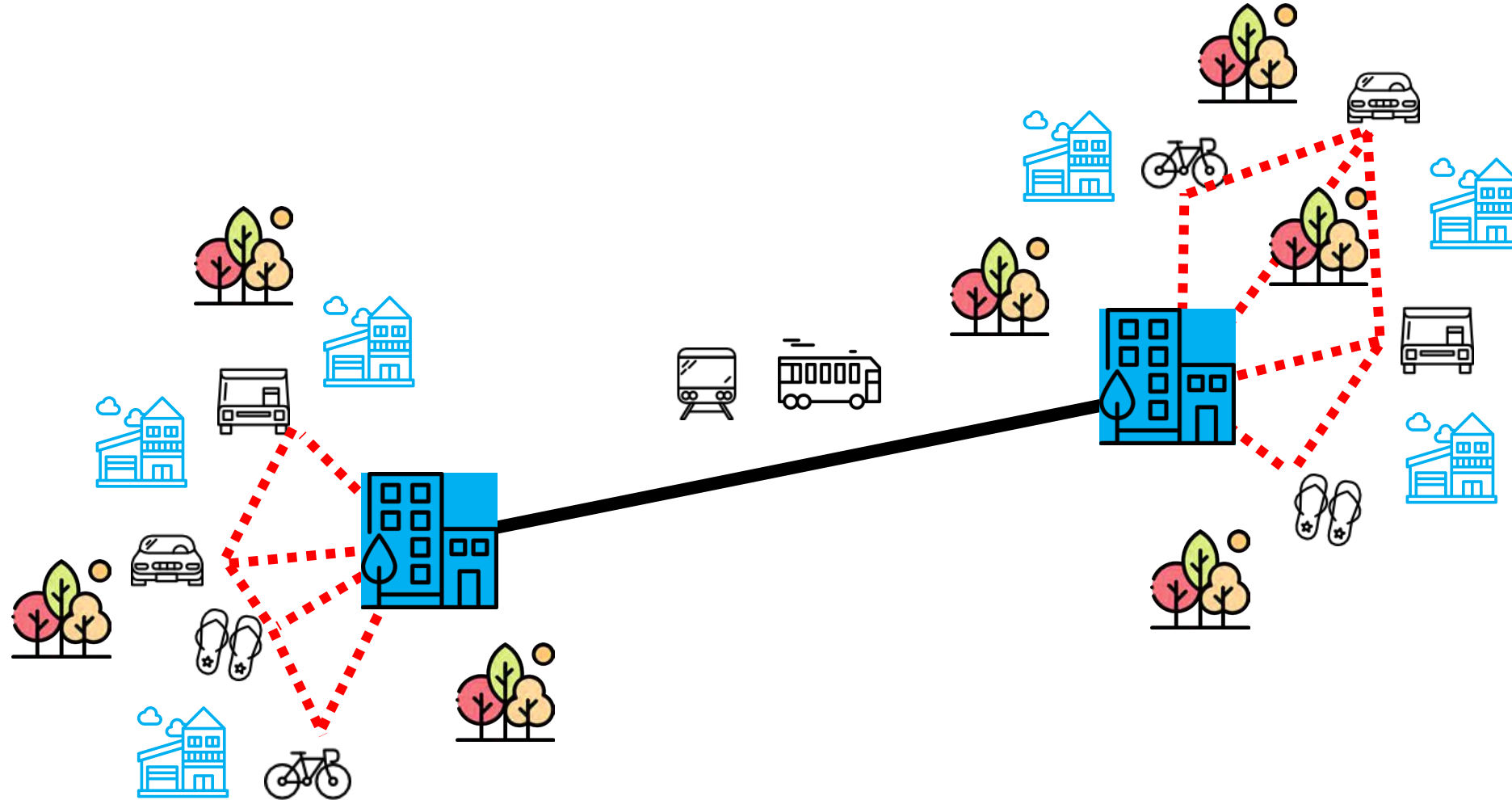
(Municipality of Copenhagen)



# Getting there, conventional TOD: high capacity/speed PT and nodal developments



# Getting there, *diffused* TOD: trip chaining





In the NL, 4 out of 10 comes to the station by bike





# Getting there, *diffused* TOD: adding public value to stations ...



## Pitlochry Station Bookshop

*Selling Donated Books in Aid of Charities*

[Home](#)[Our Story](#)[Our Charities](#)[FAQs](#)[Rota](#)[Archive](#)[More](#)

**Over £420k  
raised for our  
charities since  
2006**

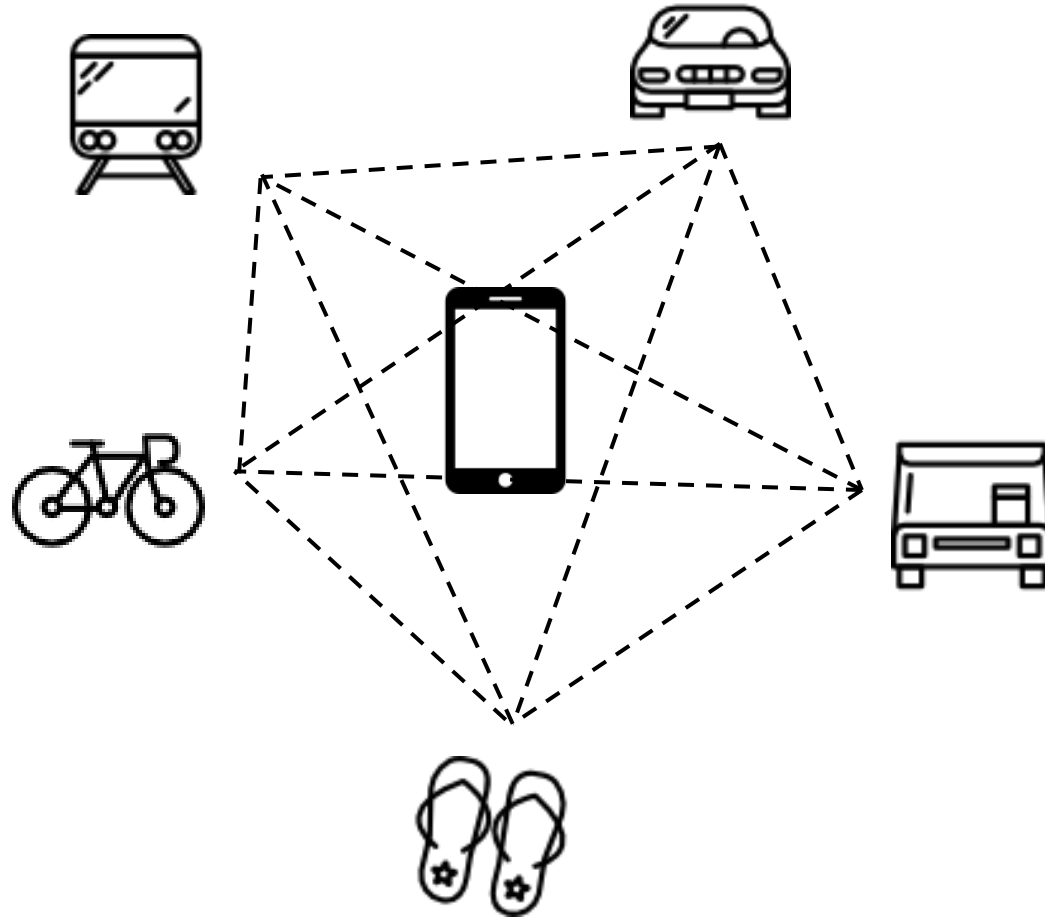
(ScotRail 'Adopt a Station' program)



*What if ...*

*the car was an option rather than a necessity?*

# ‘Mobility as a Service/ Commons’: the car as option?



(icons by dariusdan and freepik on [www.flaticon.com](http://www.flaticon.com))



# Also constraining car use (parking policy, Amsterdam)



Over parkeren Aan de slag Actueel ▾ Kenniscatalogus

Meer informatie ▾

Meld je aan



Inloggen



Nieuwsbericht

## Amsterdam cuts 7,000 parking spaces in 4 years



Print nieuwsbericht



Kennisplatform CROW

27 maart 2024 | 3 minuten lezen

In Amsterdam zijn tussen 2019 en eind 2023 ruim 7000 parkeerplekken verdwenen. Het opheffen van de parkeervakken valt onder de doelstelling van de gemeente om de hoofdstad meer autoluw te maken.



60



0



Privacy - Terms





RIC LE CRI  
DU PEUPLE

ALL POWER  
TO THE  
PEOPLE  
PP

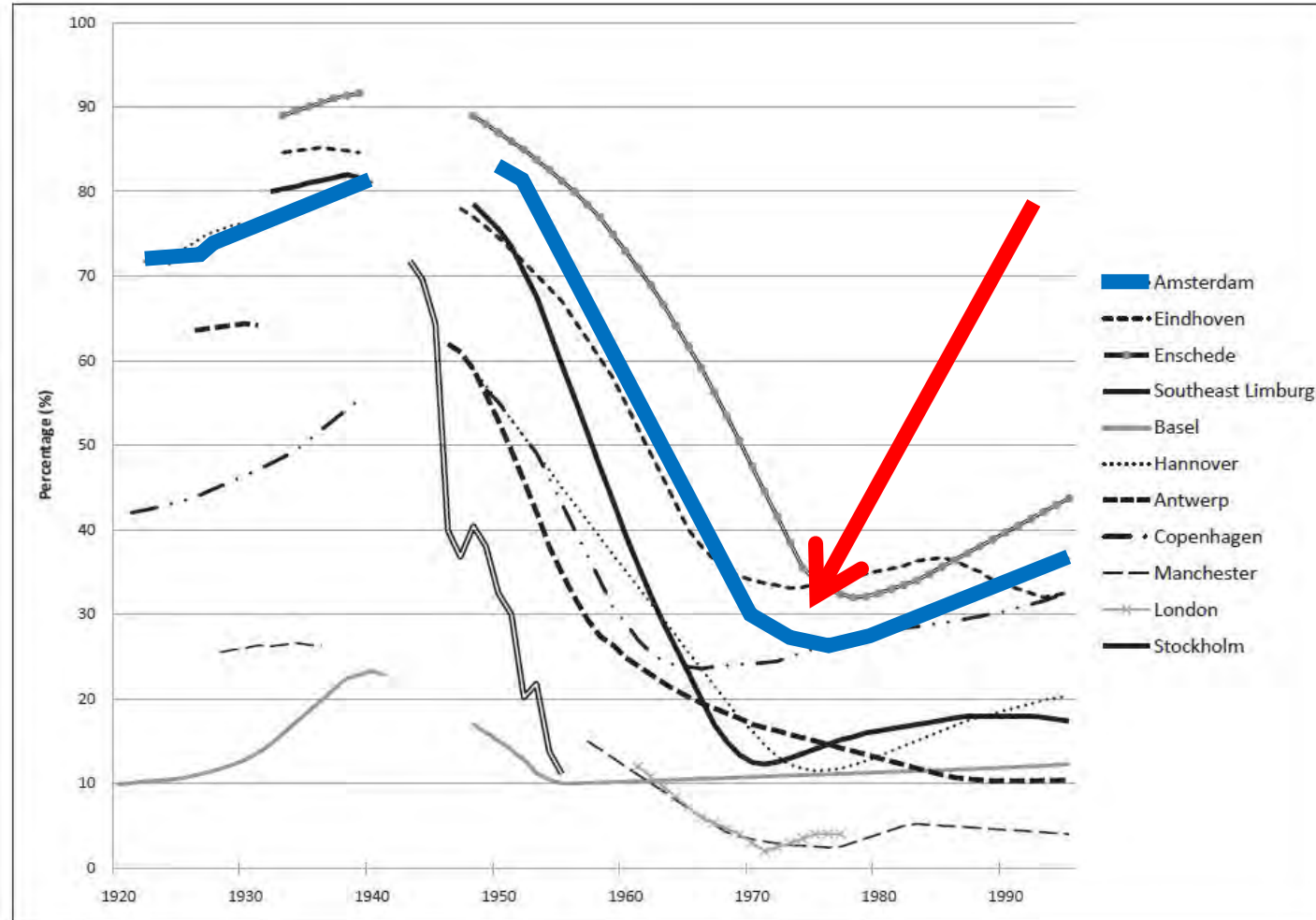


How to enable transformative change in the face of systemic resistance to change?

For social transformation, we need a 'multi-political approach' (Schiller-Merkens, 2022), **linking prefigurative politics** (experiments), **institutional politics** (plans and policies), and **contentious politics** (political protests and social movements)



# Learning from the past: e.g., cycling cities



Bicycles' share in total number of car, public transport, bicycle, and moped trips in eleven European cities, 1920–1995  
(Oldenziel & de la Bruhère, 2011)

## Prefigurative politics



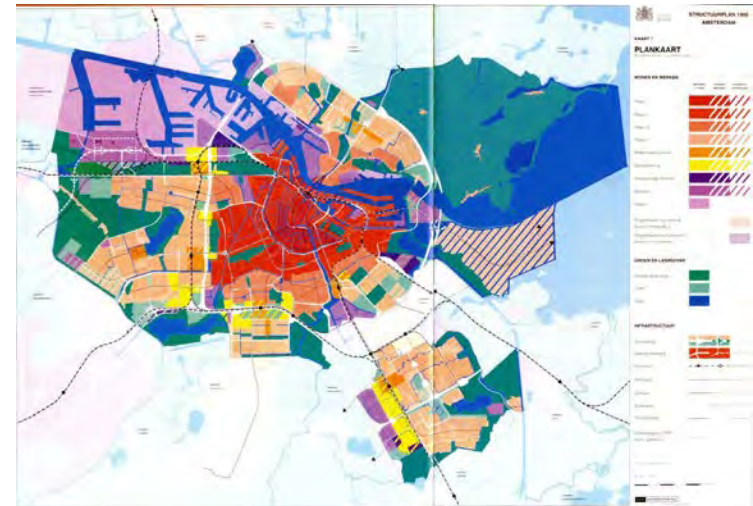
*organizing  
between ...*

*organizing  
between ...*

## Contentious politics



## Institutional politics



*organizing  
between ...*





# Let's talk!



# References

- Bertolini, L. (2020). From “streets for traffic” to “streets for people”: can street experiments transform urban mobility?. *Transport reviews*, 40(6), 734-753.
- Bertolini, L. (2023). The next 30 years: planning cities beyond mobility?. *European Planning Studies*, 31(11), 2354-2367.
- Geels, F. W. (2012). A socio-technical analysis of low-carbon transitions: introducing the multi-level perspective into transport studies. *Journal of transport geography*, 24, 471-482.
- Oldenziel, R., & de la Bruhèze, A. A. (2011). Contested spaces: Bicycle lanes in urban Europe, 1900-1995. *Transfers*, 1(2), 29-49.
- Schiller-Merkens, S. (2022). Social transformation through prefiguration? A multi-political approach of prefiguring alternative infrastructures. *Historical Social Research/Historische Sozialforschung*, 47(4), 66-90.



Über Google Store

Gmail Bilder

# Google

Google Suche

Auf gut Glück!

Google angeboten auf: [English](#) [Español](#)

## HEALTHCARE

Hospital  
Retirement home  
Specialist doctor  
General Practitioner  
Pharmacy

## EDUCATION

University  
Secondary school  
Library  
Primary school  
Nursery  
Kindergarden

## RECREATION

Place of Worship  
Cafe  
Bar  
Gym  
Sports ground  
Swimming Pool  
Restaurant

5 minutes (ca. 400m)    15 minutes (ca. 1.200m)    30 minutes (ca. 2.400m)

## COMMERCE

Butcher  
Bank/ATM  
Supermarket  
Bakery  
Hairdresser  
Fruit and vegetable seller  
Clothing shop  
Post office  
Consumer electronics retailer

## LIVING

Park  
Playground  
Youth home  
Public meeting place

Co-working space

Office/Workplace

## WORKING



# Flowers and its local context

Marguerite Daisy

The marguerite daisy serves as the national flower of Denmark, representing the country and its capital, Copenhagen.

Flowers invite us to slow down and stop.  
By this, we experience our streets, neighborhoods (the local context) in different pace.

TOD2 Conference  
Copenhagen, 04.09.2025

Head of Research Group Accessibility Planning  
Technical University Munich &  
Editor-in-Chief at the Journal of Urban Mobility





\_\_\_\_\_



Including  
universal  
accessibility and  
affordability?

What are the  
essentials? To  
whom are they  
essential?

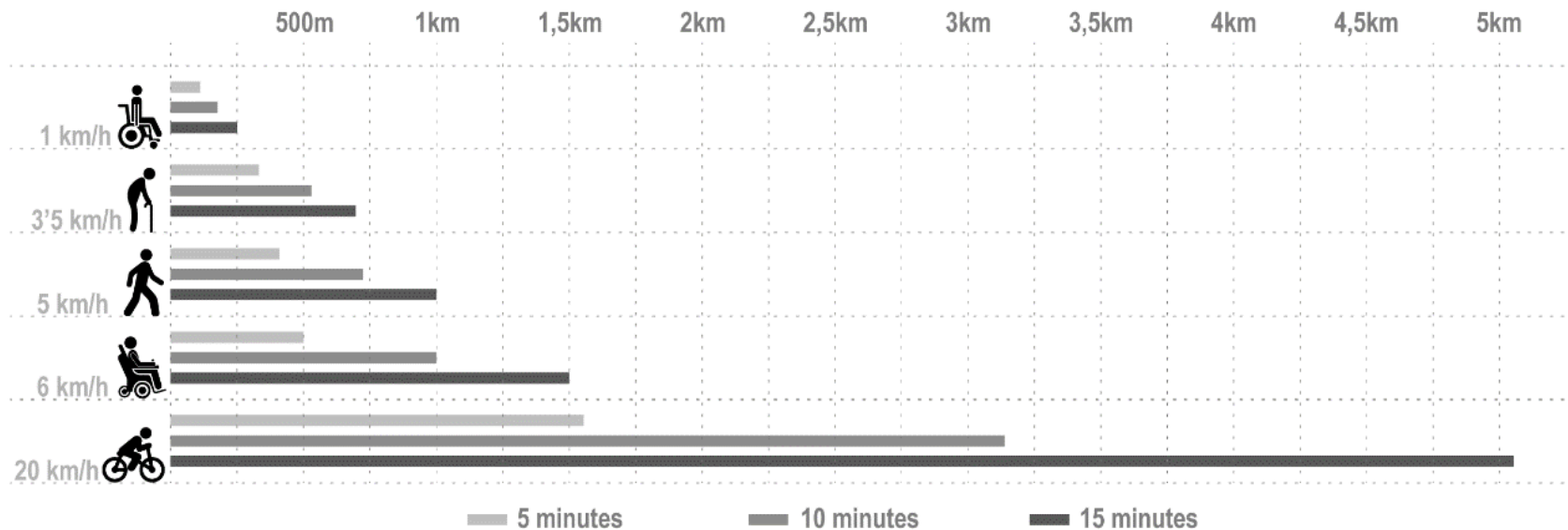
“an urban set-up where locals are able to  
**access** all of their **basic essentials** at  
distances that would not take them more  
than **15 min by foot or by bicycle**”

Why 15  
minutes? And  
for whom?

What about  
other modes  
of transport?



# How far do you get in 15 minutes?



Source: Büttner et al., 2022

Even if  
speed is not  
a problem...





...we might  
need to  
remove  
barriers



# Do ± 15-Minute City concepts consider vulnerable travelers?

	Walking	Cycling	Wheelchairs (and other aids)	(Local) Public Transport
Dublin (Ireland)*	X	X		
<b>Edinburgh (UK)</b>	X	X	X	X
Eugene (USA)	X	X		
Hailsham (UK)	X	X		X
<b>Kirkland (USA)</b>	X	X	X	
Melbourne (Australia)	X	X		X
Ottawa (Canada)	X	X		
Paris (France)	X	X		
<b>Portland (USA)</b>	X	X	X	
Singapore	X	X		X
Surrey County (UK)	X	X		X
Tempe (USA)	X	X		X
Utrecht (Netherlands)	X	X		

Source: Büttner et al., 2022, p. 6





In our theories and concepts, **universal accessibility** and **inclusiveness** are seldom considered.

Basic essentials might also differ in **different geographical contexts** and for **different people**.

# Ignacio

„I am a 78-year-old man  
from Madrid and I love  
my neighbourhood.”





# Amila

„I am 9 years old. I was born in Amsterdam and my parents are from Lebanon. I love to play outside with my friends.“



# Emma

„I am Emma, a 37-year-old woman living in Munich with a deep love of nature and my favorite way of getting from A to B is by cycling.”





**How to design a neighborhood that is safe and enjoyable for Amila, Maria or Ignacio?**

**How to design a neighborhood that is liveable for ALL?**

**Therefore, we must  
consider diverse  
needs and  
preferences**



# Flowers of Proximity

## Putting People's Needs First

The 'Flower of Proximity' helps to map people's preferred city services/location in relation to the distance to their homes. How does the flower for your hometown look like?

Create your an ideal Flower of Proximity for your hometown by writing the name of amenities inside each flower petal according to the distance to home.

Location suggestions (feel free to add more that you think are missing or ignore locations that are not relevant in your context):

### EDUCATION

- University
- Secondary School
- Primary School
- Kindergarten
- Nursery
- Library

### ENTERTAINMENT

- Theatre
- Cinema
- Bar
- Café
- Gym
- Restaurant
- Swimming Pool
- Place of worship

### WORKING

- Office/workplace
- Co-working space

### COMMERCE

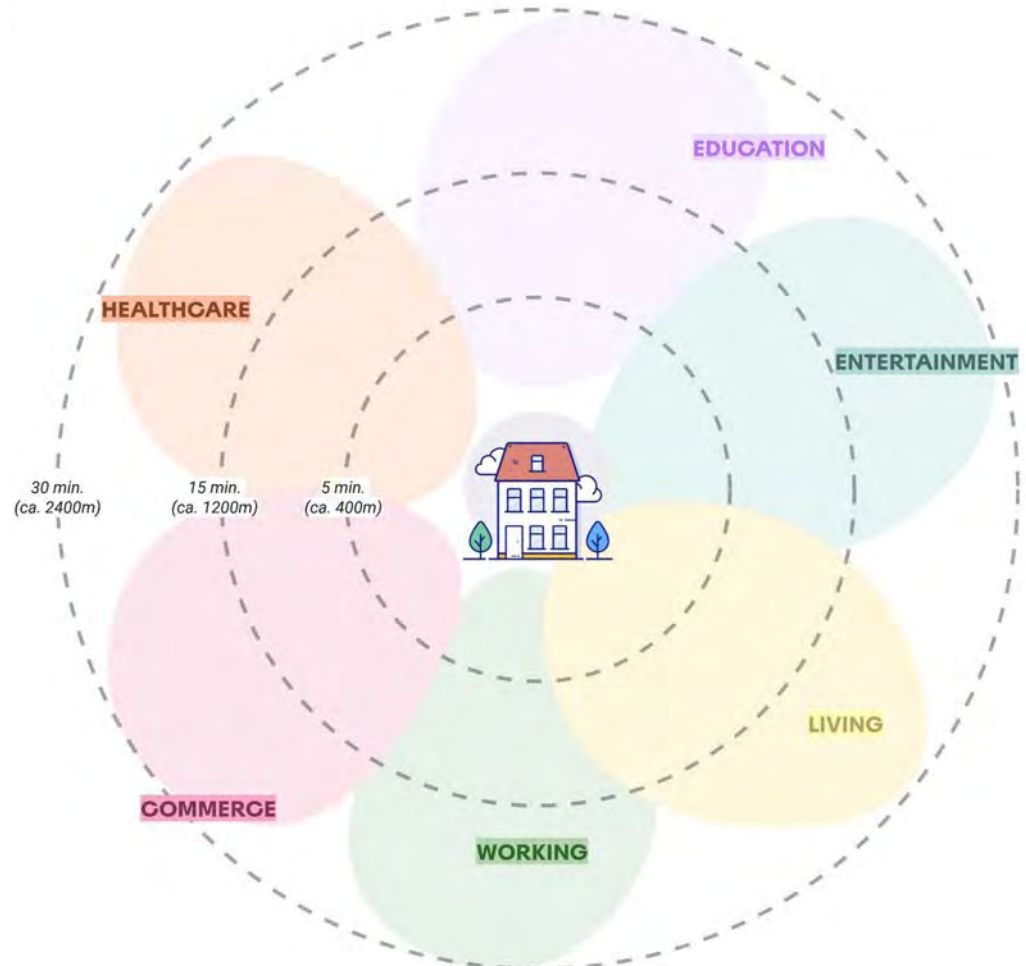
- Post Office
- Bakery
- Bank/ ATM
- Supermarket
- Hairdresser
- Butcher

### LIVING

- Park
- Public Transport Stop
- Playground
- Friends house
- Family house
- Public meeting place

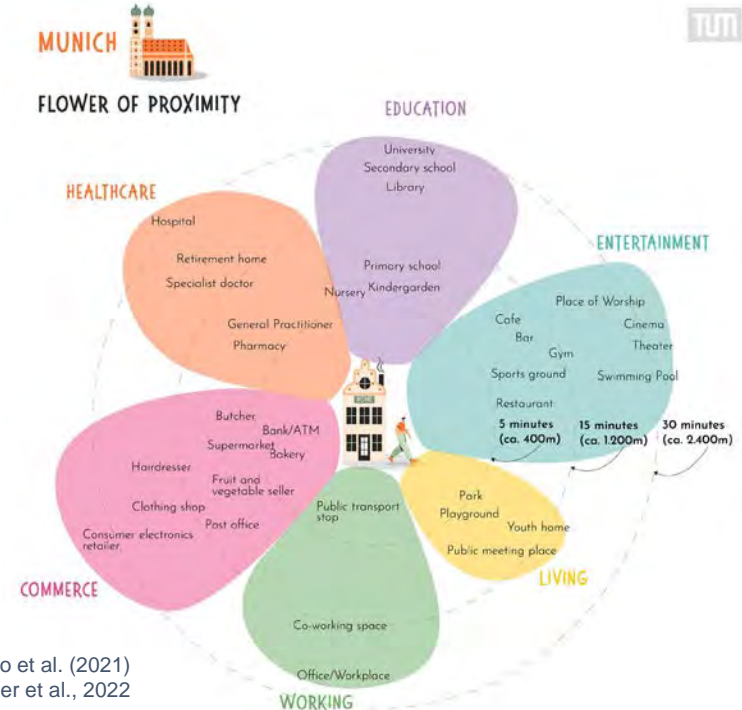
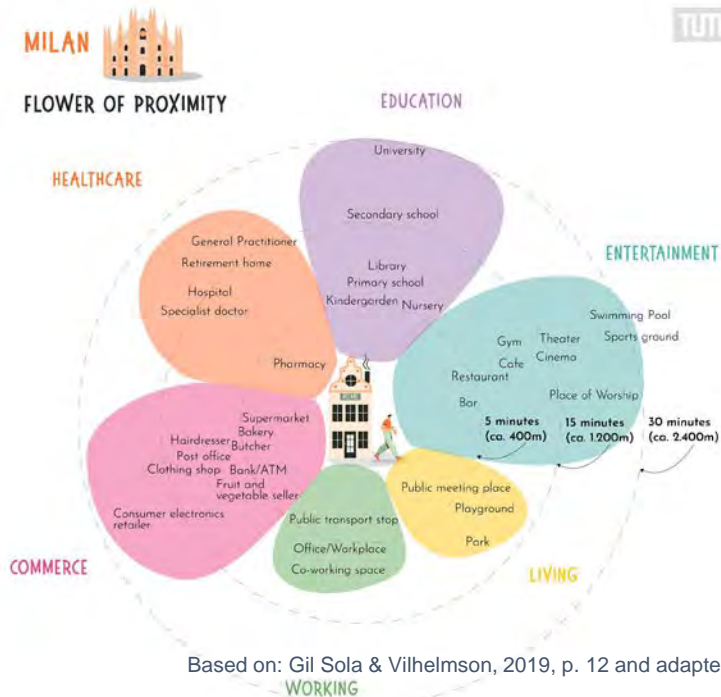
### HEALTHCARE

- Hospital
- Retirement home
- Specialist doctor
- General Practitioner
- Pharmacy



Based on Gil Solá & Vilhelmson 2018 and adapted based on Moreno et al. (2021)

# „Basic essentials“ might also be different in different contexts and for different people



Based on: Gil Sola & Vilhelmson, 2019, p. 12 and adapted based on Moreno et al. (2021)

Source: Büttner et al., 2022



# ±15-MINUTE CITY PLANNING PRINCIPLES

## 1. PROXIMITY TO ESSENTIAL SERVICES



Residents can access essential services within a reasonable time by foot, bicycle or other non-motorised devices.

## 2. PROXIMITY TO PUBLIC TRANSPORT



Residents have public transport nearby and free of barriers, to reach areas outside of their home's vicinity without having to rely on a car.

## 3. DENSITY



The population and employment density of an area supports the existence of local businesses and services.

## 4. MIXED LAND USE



Residents find a variety of land uses that fulfil all their daily needs and urban functions close to their homes.

## 5. WALKABLE AND BIKEABLE STREETS



Walking and cycling paths are well connected, free of barriers and comfortable for pedestrians, cyclists, and all other non-motorised road users.

## 6. PLACEMAKING



Co-creation of places together with the community to strengthen the connection and identity to new destinations according to their needs.

## 7. INCLUSIVENESS



All residents are able to move safely and free of barriers in public spaces and make use of services, irrespective of their individual capabilities, age, gender or origin.

## 8. UBIQUITY



All these characteristics, should be so widespread that they are available to each resident all around the cities, irrespective of their socio-economic and demographic status.

Steps to  
build a  
good  
Garden

# From a Seed to a Garden

## HOW TO ACHIEVE SYSTEMIC CHANGE?

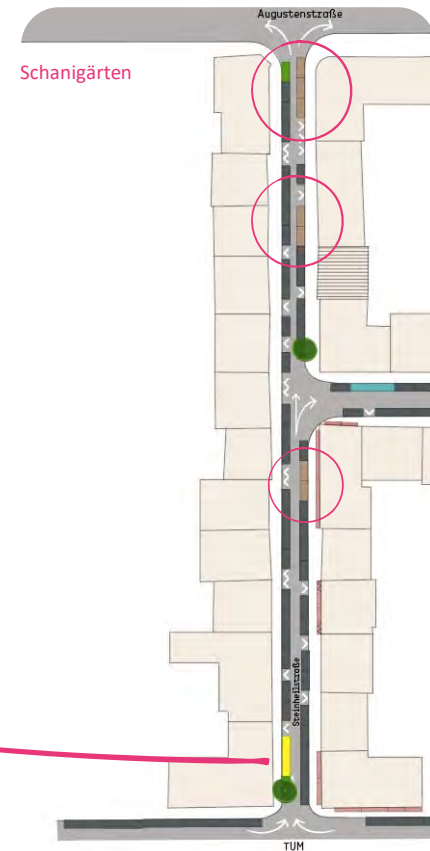


This process should be applied simultaneously in other neighbourhoods.

Source: Büttner et al., 2022



# Parklet Steinheilstraße (Summer 2022)



# Identified Issues



Monofunctional streets

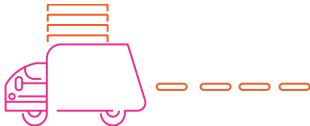
Lack of seating

Lack of greenery

Lack of liveability

Sidewalks blocked by micromobility

Delivery vehicles blocking streets





# Steinhuber Miniblock



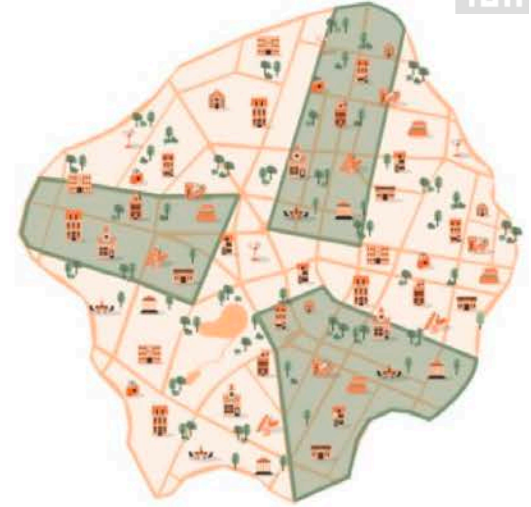
Parking Spot  
(Parklet)



Street  
(Summer Streets)



Neighbourhood  
(Superblocks)



City  
(Human-centred cities)

# Steinhuber Miniblock



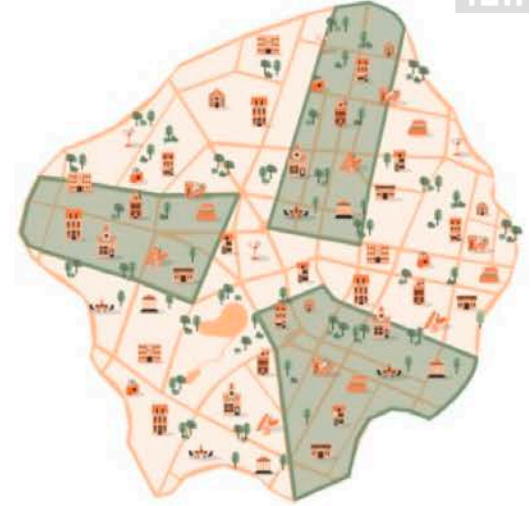
Parking Spot  
(Parklet)



Street  
(Summer Streets)



Food  
blocks)



City  
(Human-centred cities)





# ±15-MINUTE CITY ROADMAP

## 1. DEFINE YOUR ±15-MINUTE CITY



Activities x Time

## 2. MEASURE IT!



Accessibility  
Walk-/ bikeability scores

## 3. IDENTIFY AREAS OF NEED



Set priorities!  
E.g. social deprivation, vulnerable groups

## 4. CONCEPTUALIZE YOUR ±15-MINUTE CITY



E.g. policies, implementation site, measures, timeline, budget

## 5. PLANNING & IMPLEMENTING BY PHASES

Short-Term

Medium-Term

Long-Term



Evaluation

Action Plan

Citizen Engagement



# Communication, Public Participation & Co-creation

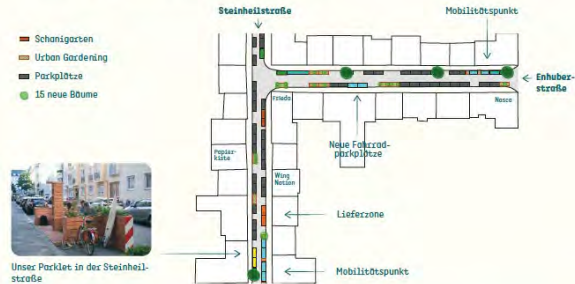
## Steinhuber Miniblock

Im Rahmen der bürgerschaftlichen Projekte für nachhaltige Mobilität des Mobilitätsreferats (MOB) der Landeshauptstadt München

Liebe Nachbarschaft,

diesen Sommer wollen wir, der Lehrstuhl für Siedlungsstruktur und Verkehrsplanung (TUM) und Kollektivis e.V., die Aufenthaltsqualität der Steinheil und Enhuberstraße temporär verbessern. Hierfür werden wir folgende Maßnahmen umsetzen:

- Wanderbäume bieten Schatten und Abkühlung
- Mobilitätspunkte entlasten die überfüllten Gehwege und bieten alternative Mobilitäts Optionen
- Hochbeete geben Euch Raum zum Gärtnern
- Eine feste Lieferzone verhindert wildes Parken



Ihr seid herzlich eingeladen:

Informationsstand:

am 15. Juni (17.00 - 19.00 Uhr) im Parklet  
Wir möchten Ihre Wünsche und Ideen gerne in die Gestaltung miteinbeziehen und freuen uns auf Ihre Teilnahme.

Am 26. Juli wird aufgebaut.

Der Miniblock steht dann der gesamten Nachbarschaft zur Verfügung.

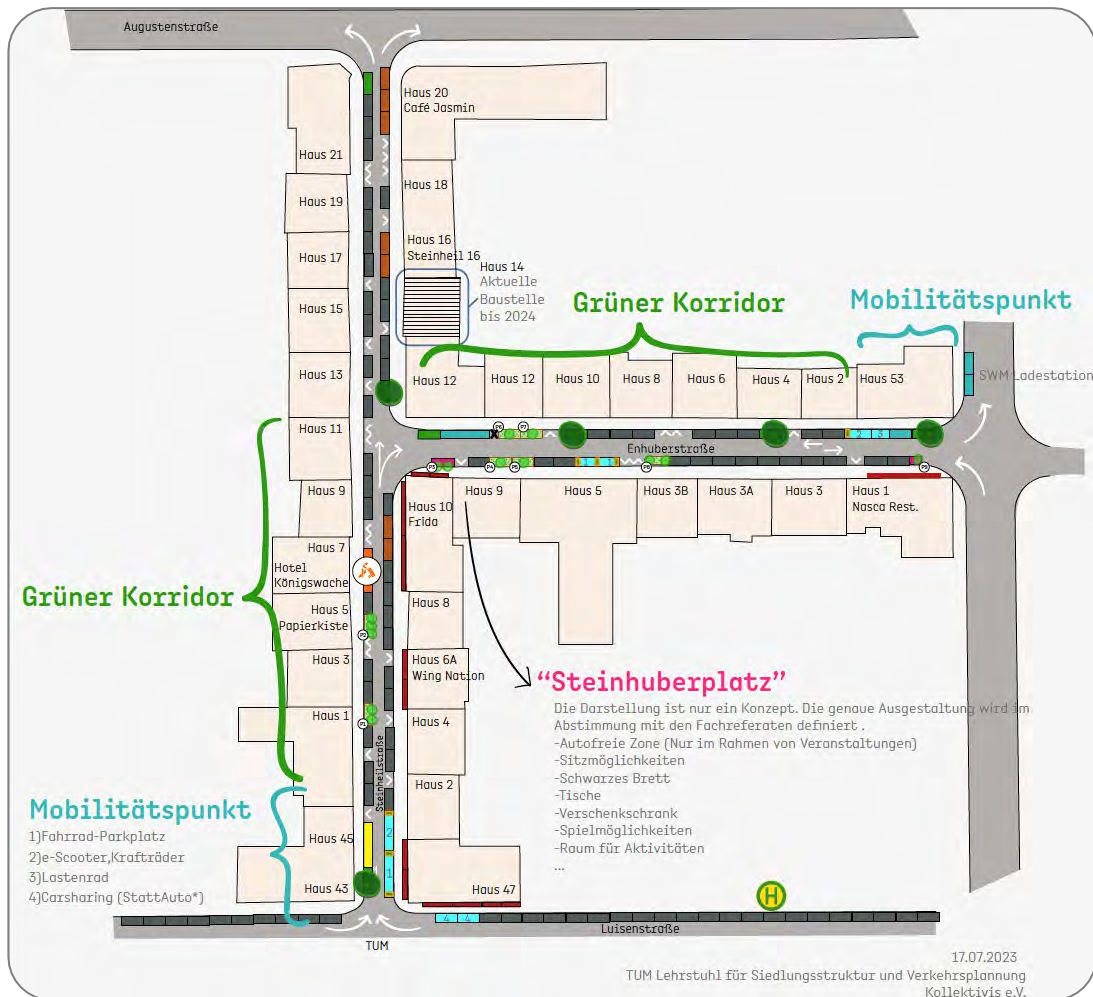
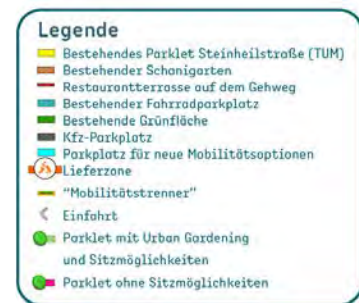
Im Herbst werden alle Parklets wieder abgebaut.

Bei Interesse an der Mitgestaltung, sowie weiteren Fragen und Anliegen, meldet euch bitte an: [info@streetexperiments.com](mailto:info@streetexperiments.com)

Das Projekt wird in Zusammenarbeit des TUM Lehrstuhl für Siedlungsstruktur und Verkehrsplanung und der Kollektivis e.V. geplant und durch das Mobilitätsreferat der Landeshauptstadt München in Auftrag gegeben.



# Steinhuber Miniblock





STEINHEILSTR.  
ENHUBERSTR.

# miniBLOCK PARTY®

JULY 28  
3PM



- 15:00** WELCOME TO THE MINIBLOCK: EMBEDDEDNESS AND STREET RULES (ANA RIVAS, BENJAMIN BÜTTNER)  
**15:15** POLITICS: MUNICH, WHAT'S HAPPENING? (SVENJA JARCHOW-PONGRATZ, SIGRID ECK)  
**15:30** 15-MINUTE CITY: WHY PROXIMITY PLANNING MATTERS? (CARLOS MORENO, CATHERINE GALL)  
**16:00** INSIGHTS FROM BARCELONA: GLOBAL RISE OF SUPERBLOCKS? (XAVIER MATILLA, SILVIA CASORRÁN)  
**16:30** FROM PARKING TO PARKLET TO MINIBLOCK (ANA RIVAS, BENJAMIN BÜTTNER)  
TAKING BACK THE STREETS (ELISA MASCHMEIER, BENJAMIN DOMINICK)  
**17:00** **WALKING TOUR THROUGH THE STEINHUBER MINIBLOCK**  
**17:30** HOW TO COMMUNICATE TRANSITIONS: WHY WAS JOHN LENNON IN BED WITH A BICYCLE?  
(MARCO TE BRÖMMELSTROET)  
**18:00** AROUND THE WORLD IN 30 MINUTES: MOBILITY EXPERIENCES AND EXPERIMENTS  
(LIOR STEINBERG, GEORGE LIU)  
**18:30** FROM STREET FOR TRAFFIC TO STREETS FOR PEOPLE: CAN STREET EXPERIMENTS REALLY  
TRANSFORM URBAN MOBILITY? (KATHERINE VAN HOOSE)  
**19:00** **OPEN MIC:** VOICES FROM THE NEIGHBORHOOD: WHY ARE YOU INVADING MY BLOCK?  
**20:00** **PICNIC IN THE MINIBLOCK** WITH AN INPUT ON LINEAR GREEN PLACES (PATXI J. LAMIQUIZ,  
BEATRIZ MARTÍNEZ) & **LIVE MUSIC:** (VAN COE KONINK)  
**21:00** SOCIAL GATHERING WITH A MYSTERY GUEST ACCOMPANIED BY **DJ DANCE**

STEINHUBER  
MINIBLOCK

3. SEPTEMBER  
15.30 - 19.00

# STEINHUBER Straßenfest

STEIN-  
HEIL  
STRASSE

**3. SEPTEMBER 15.30 - 19.00 UHR**

EN-  
HUBER  
STRASSE



## VORTRÄGE \* SPAZIERGANG \* MUSIK

STEINHUBER MINIBLOCK

- 15:30** WILLKOMMEN ZUM STEINHUBER STRAßENFEST - ANA RIVAS & BENJAMIN BÜTTNER (TUM)  
**16:00** MAXVOR15-MINUTENSTADT - ELIAS PAJARES & ULRIKE JEHL (PLAN4BETTER)  
**16:30** SPAZIERGANG DURCH DEN STEINHUBER MINIBLOCK - TUM, WOW! URBANE UTOPIEN  
**17:00** BÜRGER DIALOG AM PARKLET - TUM, PLAN4BETTER, MVV, PSU  
**17:00** WANDERBAUMALLEE - BARIS TOLGAY (GREEN CITY E.V.)  
**17:30** HAUSFLOTTE - BERNHARD KALKBRENNER & MAXIMILIAN RITZ (UNTERNEHMERTUM)  
**18:00** OFFNER AUSTAUSCH BEI MUSIK

STEINHUBER MINIBLOCK

# Temporary Re-Design of Parking





# Mobility Hubs





# Temporary Re-Design of Parking



# Temporary Re-Design of Parking





# Temporary Re-Design of Parking





**Flowers of Proximity  
can playfully  
visualize needs and  
preferences for  
different socio-  
demographics**



# Participatory tool

In Munich, Germany (2023), Bratislava, Slovakia (2024) and La Plata, Argentina – Children (2025)



# Participatory tool

In Curridabat, Costa Rica (2024) – Older Adults



# Findings and Concluding Thoughts

- In order to enable a transition to more proximity and human-centred planning we have to bring along neighbours
- For this, simple and accessible language is needed → positive narratives
- Co-design and co-creation need to be aligned with the neighbours' needs
- Simple and playful tools can empower a common understanding of what is needed around the corner
- Social cohesion and a sense of community can be achieved by establishing new inclusive participation methods



# Welcome to the Garden of Proximity

Let's create your own  
'Flower of Proximity'!



START

How would your ideal neighborhood look like?  
[flowersofproximity.com](https://flowersofproximity.com)

**Thank you!**  
**Looking forward to**  
**the discussion!**

Contact:

Dr.-Ing. Benjamin Büttner

[benjamin.buettner@tum.de](mailto:benjamin.buettner@tum.de)

<https://www.linkedin.com/company/tum-accessibility-planning>







UNIVERSITY OF LEEDS

# Transport and sustainable mobility: *we have to talk about car ownership*

TOD2, Copenhagen, 4th September 2025

**Jillian Anable**

Chair of Transport and Energy

Institute for Transport Studies, University of Leeds, UK

[J.L.Anable@leeds.ac.uk](mailto:J.L.Anable@leeds.ac.uk)



[www.linkedin.com/in/jilliananable](https://www.linkedin.com/in/jilliananable)



[@jilliananable.bsky.social](https://jilliananable.bsky.social)

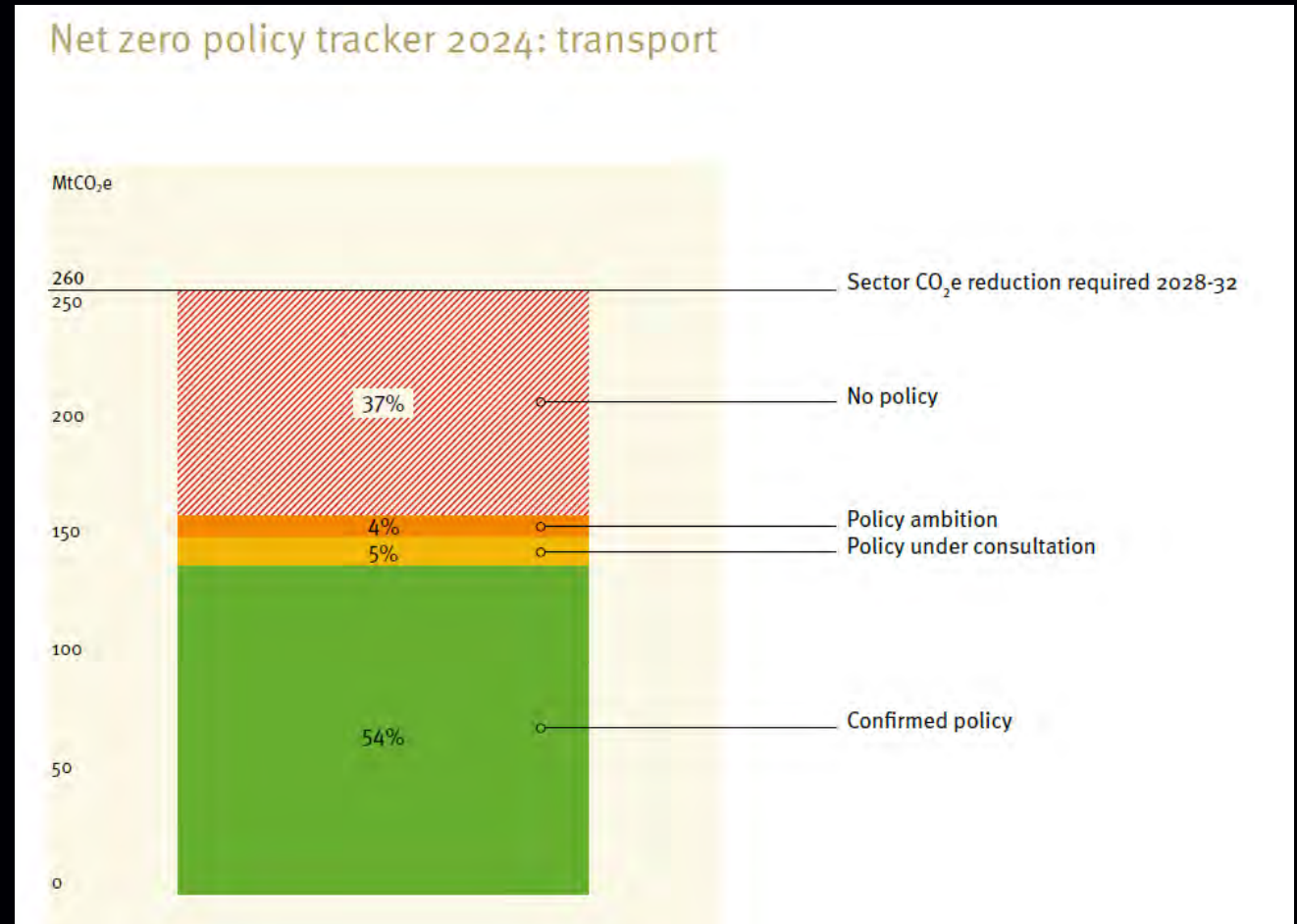


# The policy gap to 2032



UNIVERSITY OF LEEDS

In the UK, study after study shows that we need to reduce car miles from current levels by 1/3 over the next 7 years even whilst pushing faster on electric vehicle uptake





**“Transport mitigation  
strategies lack credibility”  
(Gossling and Cohen, 2014(!))**



But we know what less car dependent places look like, don't we?

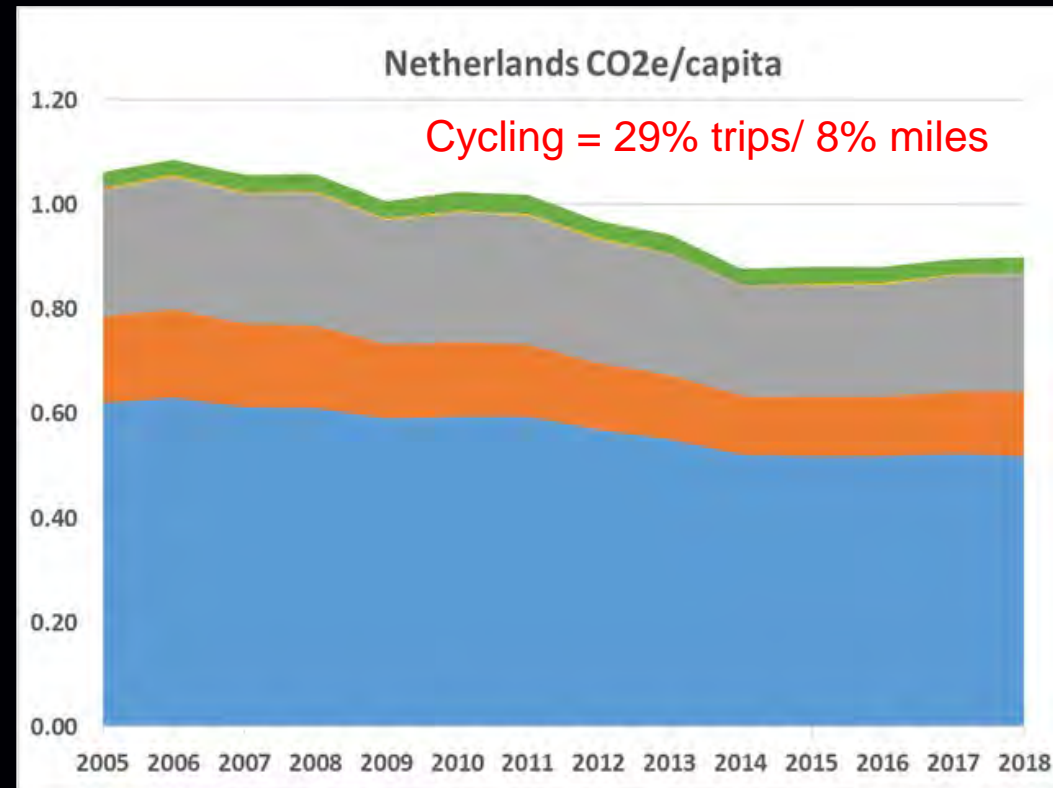
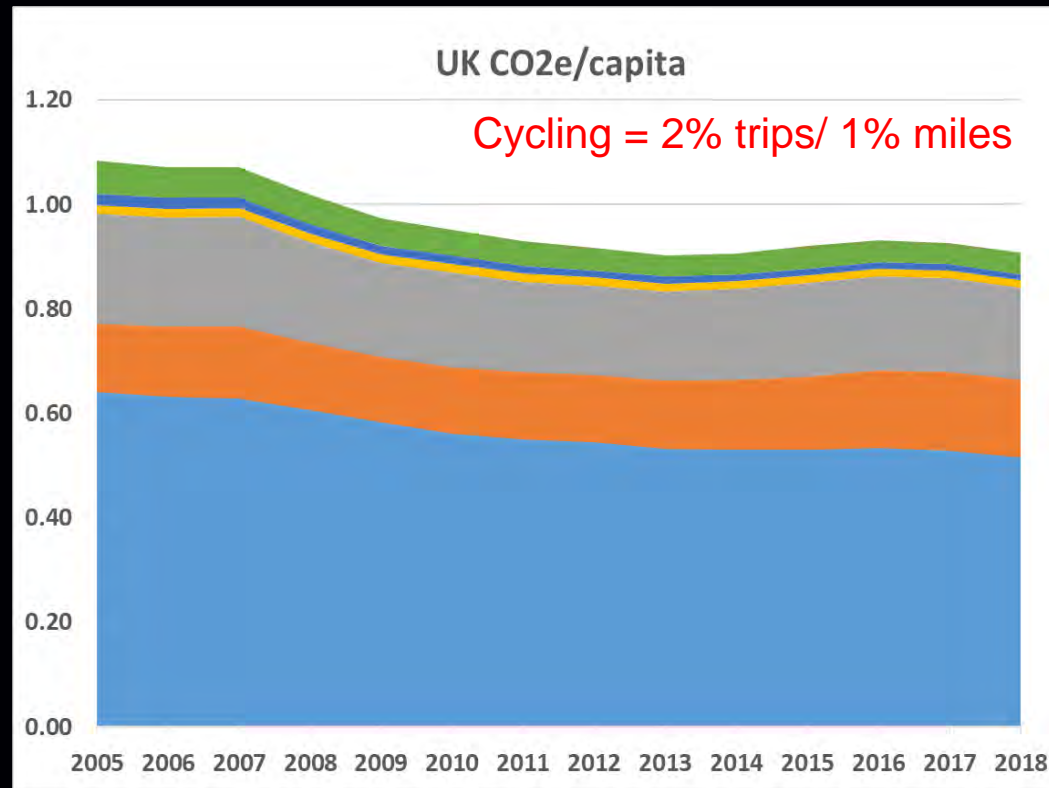


UNIVERSITY OF LEEDS



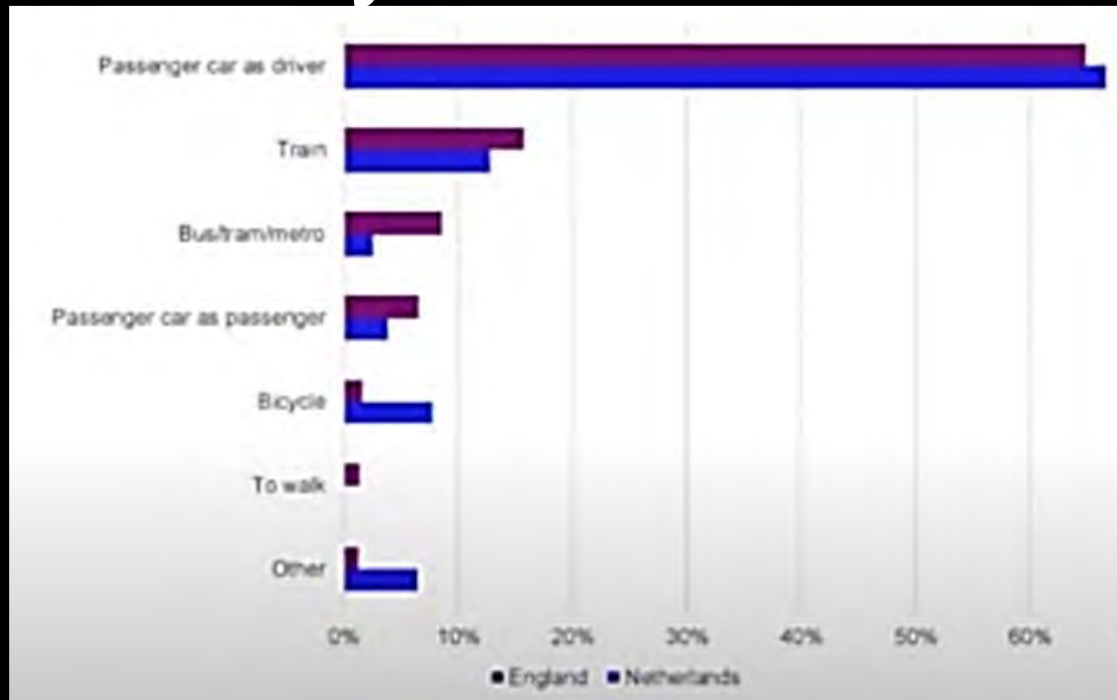
Per capita CO<sub>2</sub> from transport in the Netherlands is as high as in the UK despite huge levels of cycling.

Why? Because the Dutch have not had their car ownership and car use curtailed

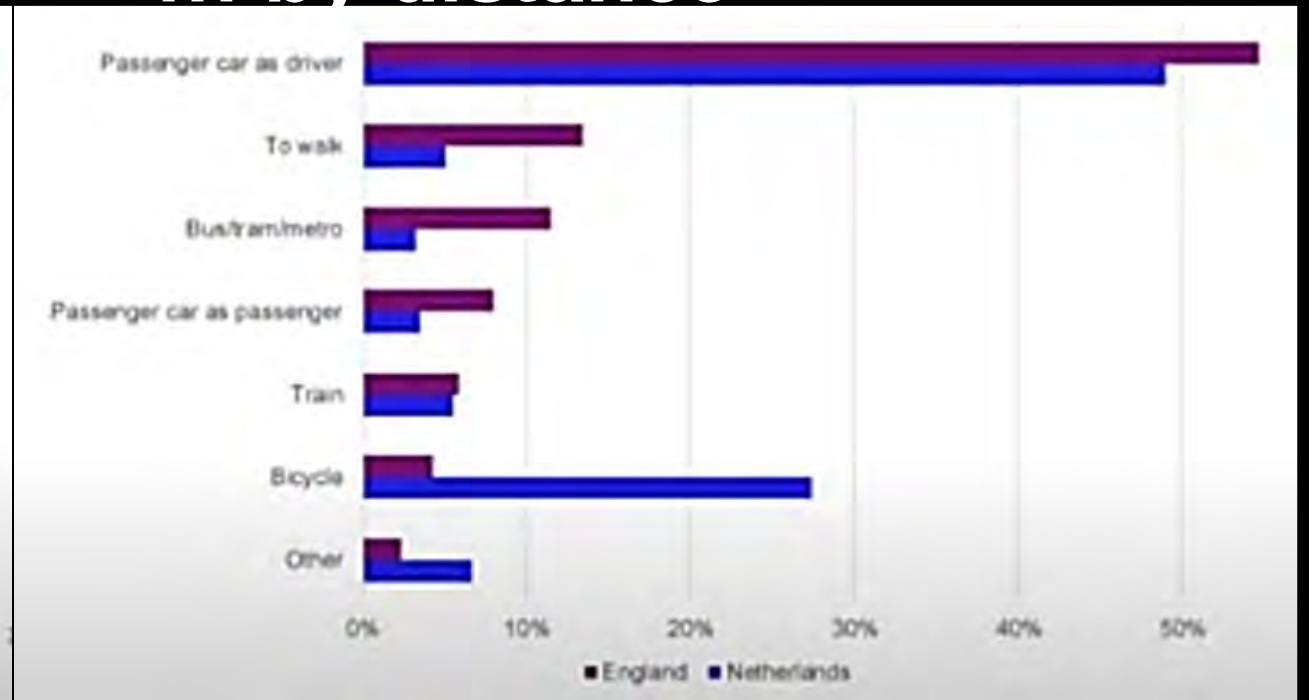


# England v Netherlands: Proportion of commuting ...

... by mode



... by distance

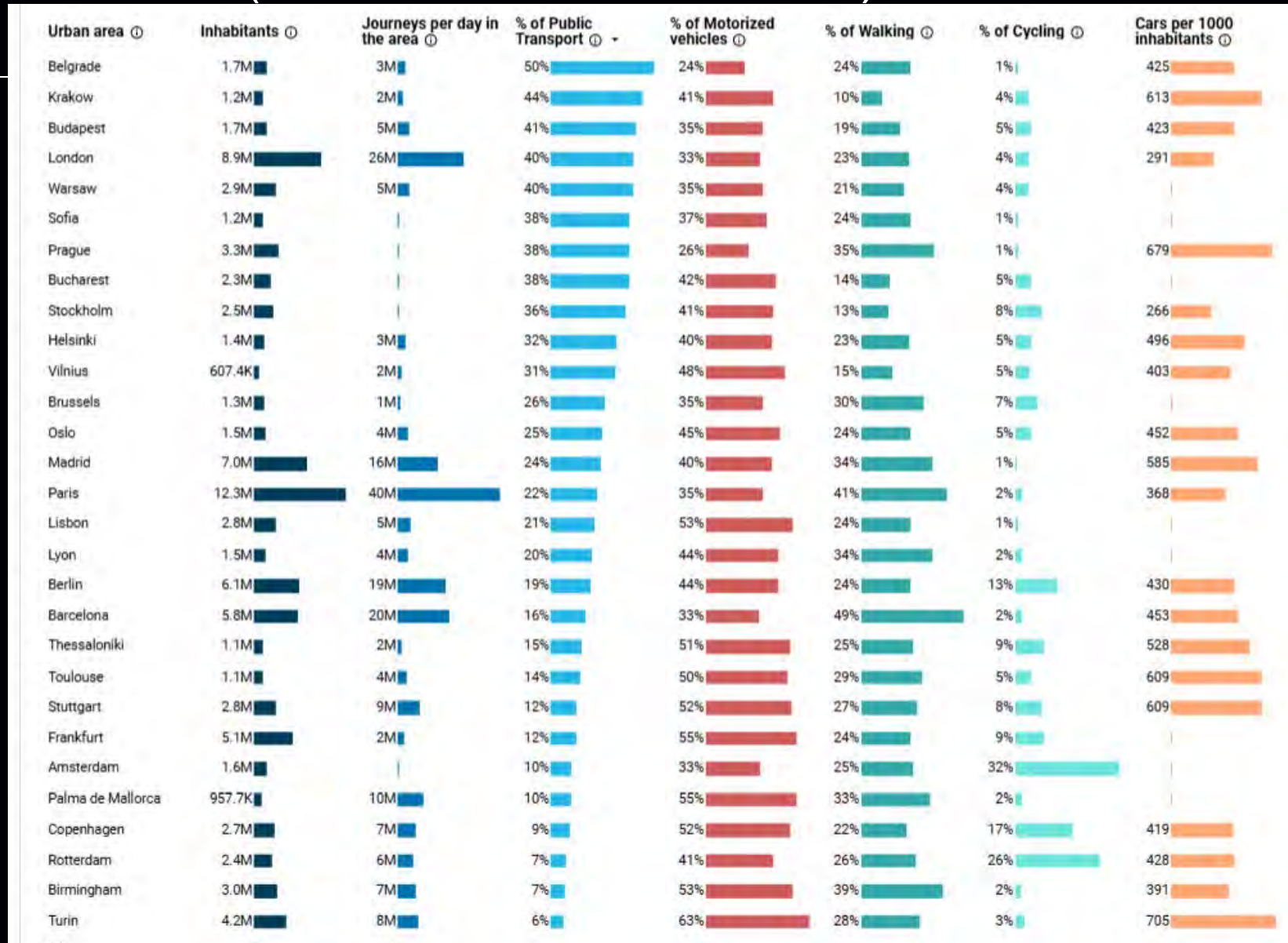




# Where public transport ridership is high, cycling tends to be low ... (EMTA Barometer 2024)



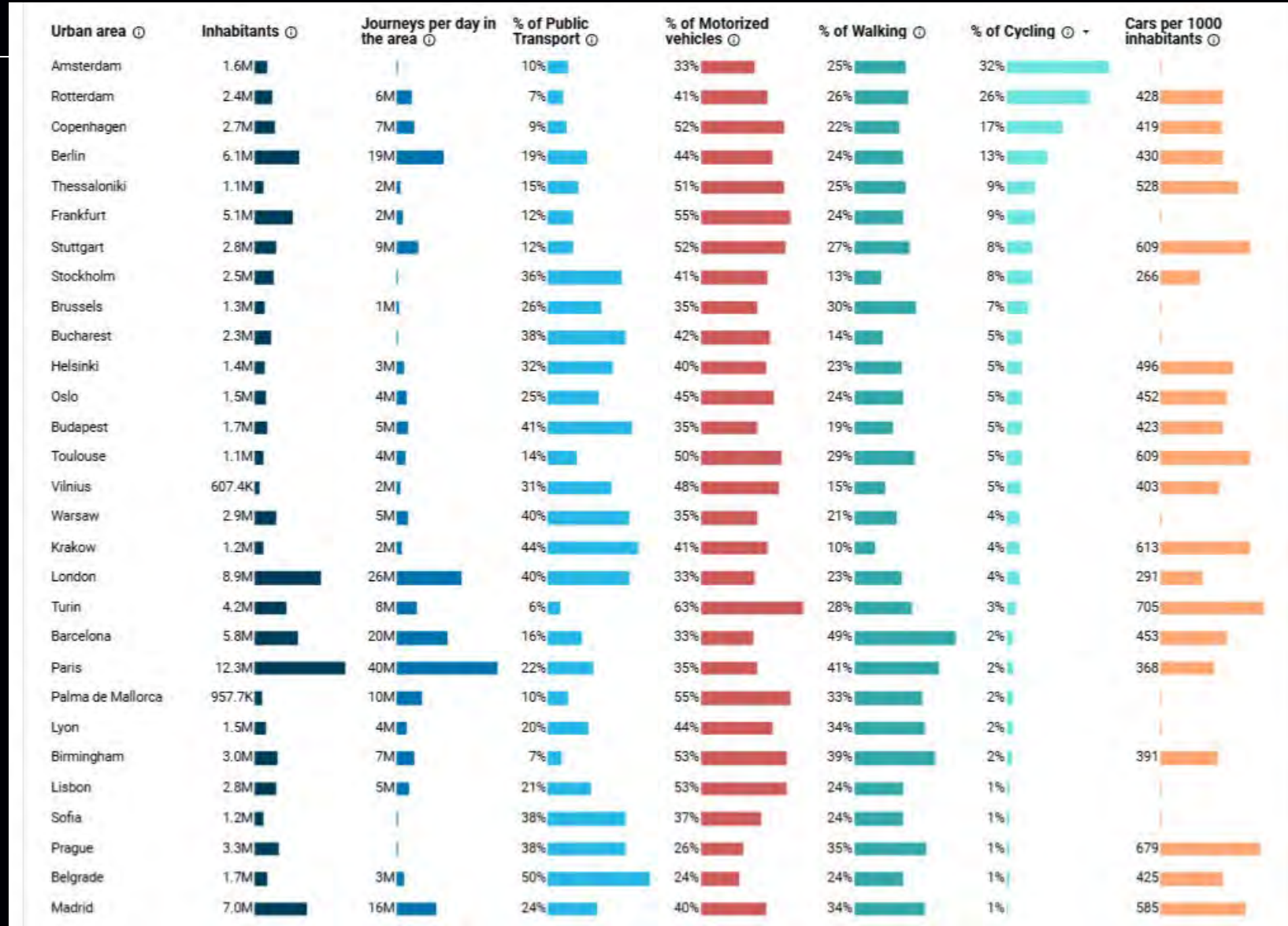
UNIVERSITY OF LEEDS



# Where cycling is high, walking tends to be lower ... (EMTA Barometer 2024)



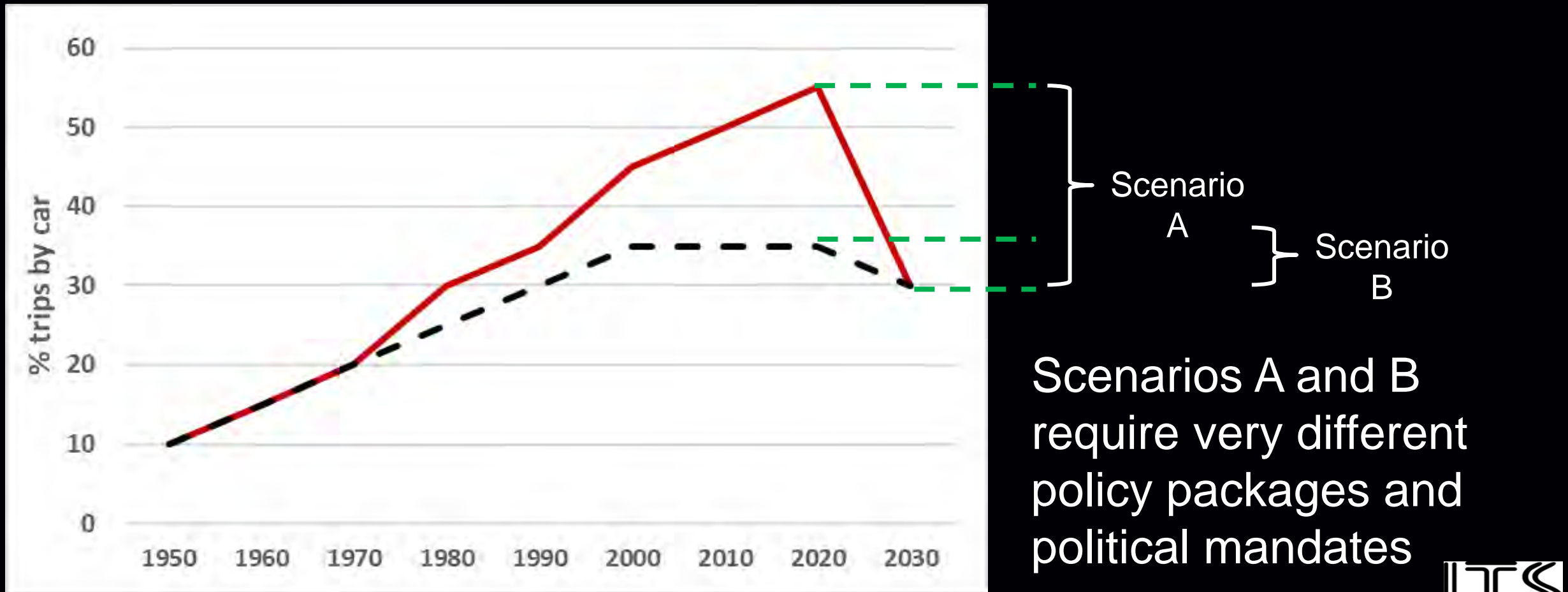
UNIVERSITY OF LEEDS



Where has achieved reductions in car use *from a high starting point* among a stable population?



UNIVERSITY OF LEEDS



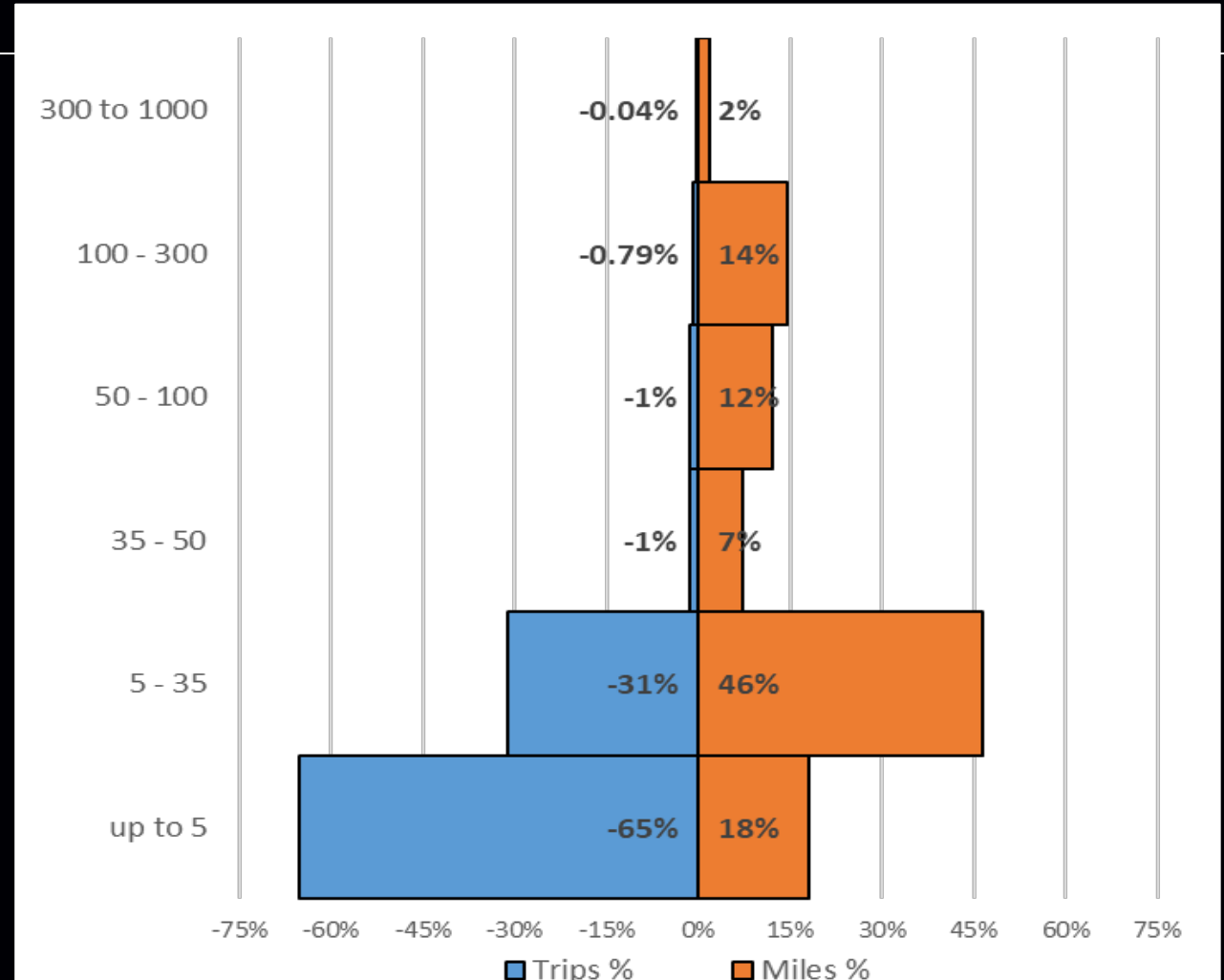


# Which journeys should we be focusing on?



UNIVERSITY OF LEEDS

- UK: 65% of all journeys are less than 5 miles, but = only 18% miles
- But 2.5% of trips (those >50 miles) = 30%
- TOD 'Sweetspot': 10-35 mile journeys



Source: NTS 2015 - 2017, pooled weighted N=46,603





- Research has **not** helped us to understand how to reduce car ownership and use among a given population
- We **do not know** much about who/how/why individuals get rid of cars

# Why a focus on car owning/ car shedding?

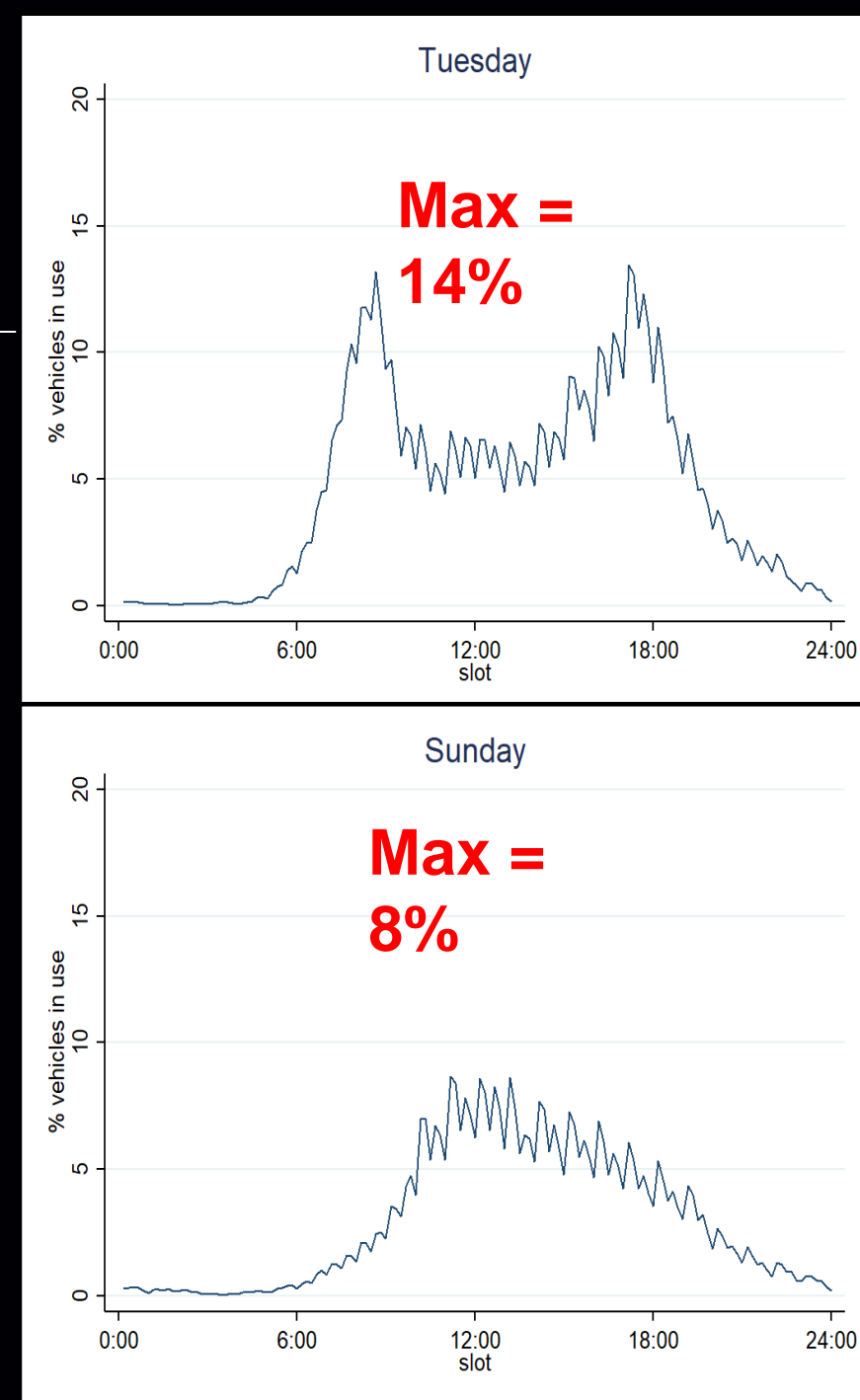
- **Evidence shows: *'have car, will use it'***
- (In the UK) car ownership is still growing, but utilisation of each individual car is reducing  
= greater embodied energy and sunk cost per mile travelled
- 33% of cars do not move on a given day  
= embedded environmental, land (space) demands and monetary cost



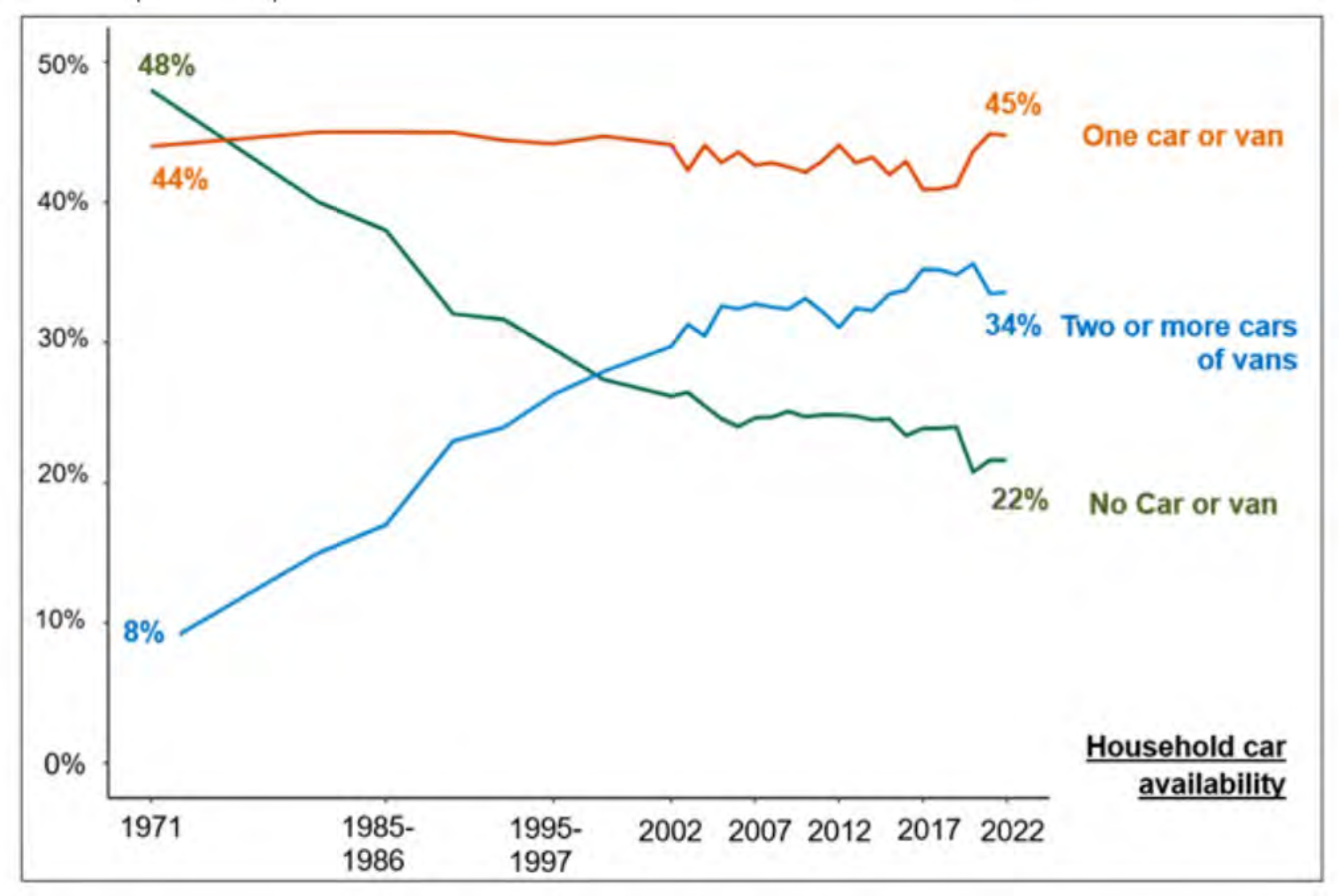
# Embodied carbon, wasted time, wasted money and wasted space – we have to talk about the *number* of cars

- Maximum 14% of the car fleet on the road at any one time
- Pre-covid, 1/3 of cars did not go out in any one day (8% p/wk)
- Average car occupancy falling
- 621bn empty vehicle seat-miles per annum in the morning commute

Ramirez-Mendiola, J.L., Mattioli, G., **Anable, J.** and Torriti, J., 2022. I'm coming home (to charge): The relation between commuting practices and peak energy demand in the United Kingdom. *Energy Research & Social Science*, 88, p.102502. <https://doi.org/10.1016/j.erss.2022.102502>



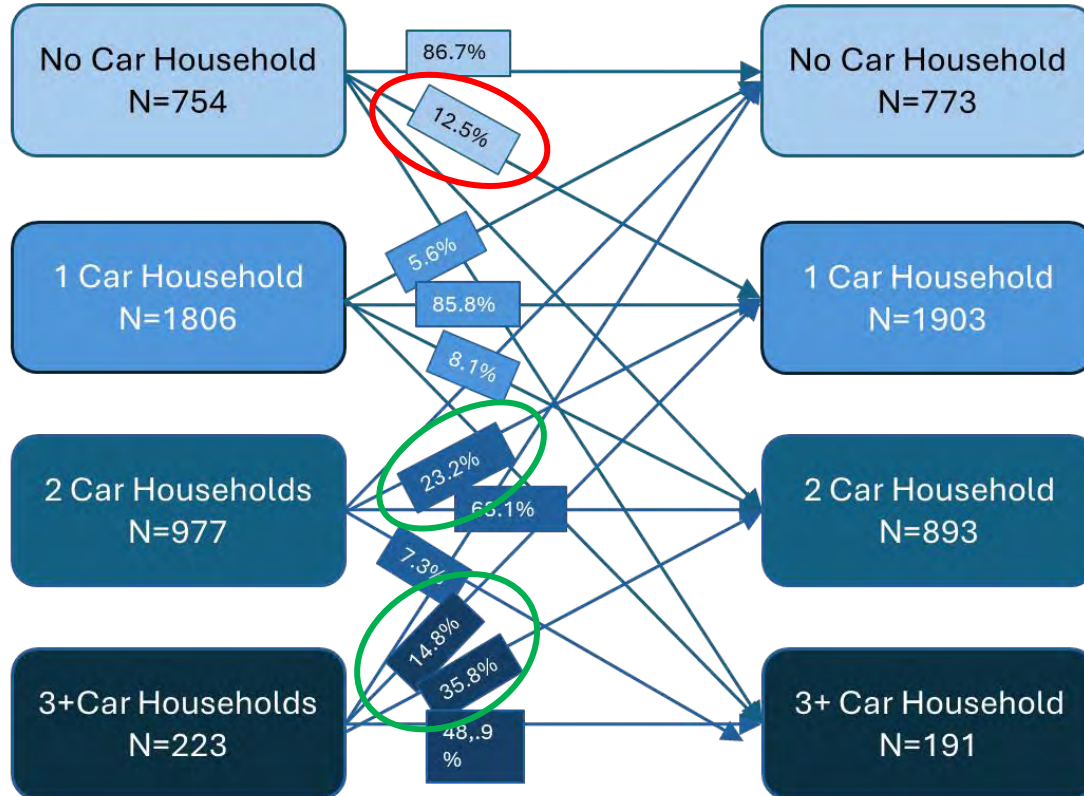
Percentage of households by car access: Great Britain (1971 to 1988) and England (1989 to 2022) (NTS0205)



# Churn in car ownership between W1 (Feb/March '20) & W6 (July '23)

## Wave 1

Average = 1.18 cars per household



## Wave 6

Average = 1.14 cars per household

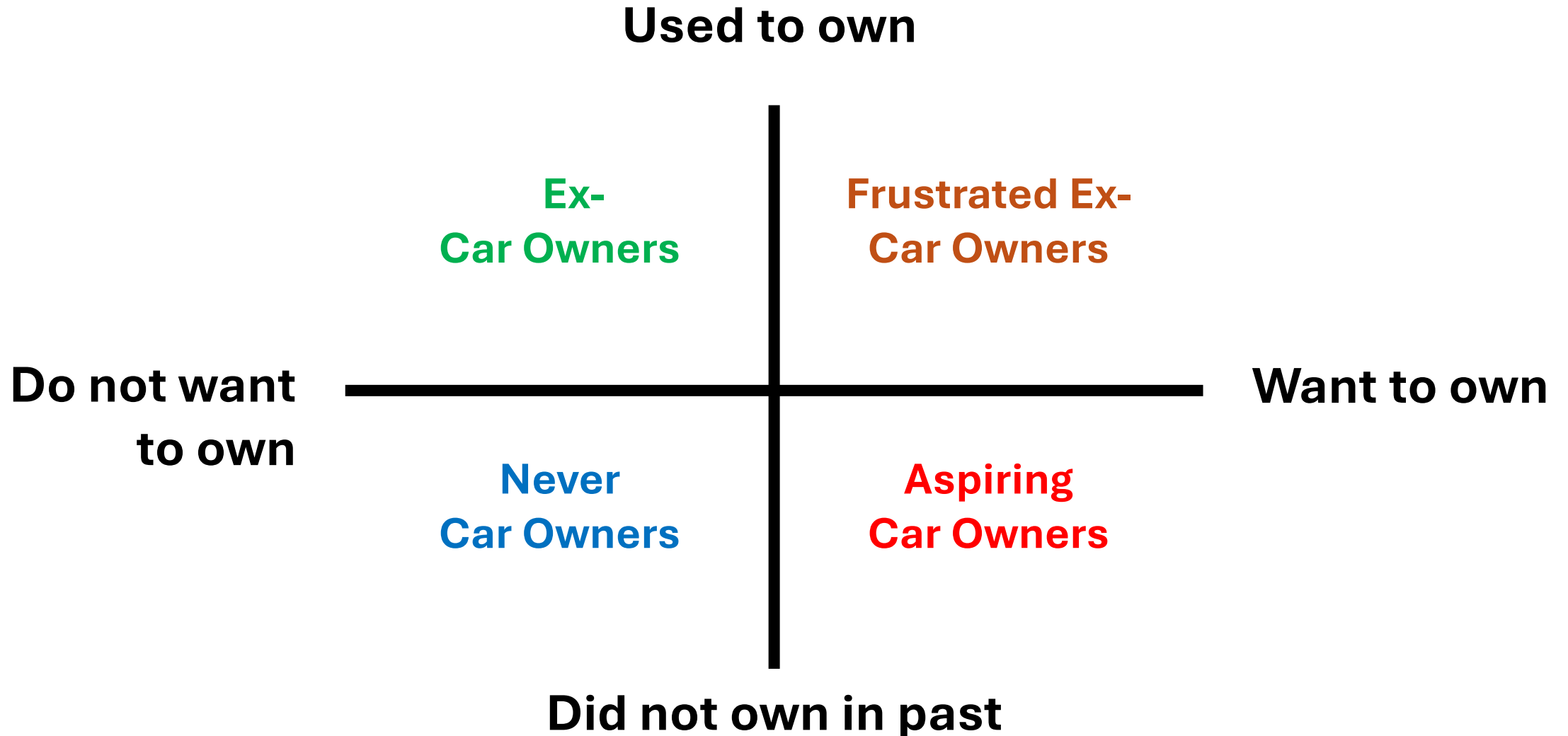
- 12% decreased and 9% increased
- 12.5% of 'No car' households became car owners
- 23% of 2 car owning households went to '1 car'
- 50% of '3+ car' households got rid of a car

Sample size = 3760 (those that answered both W1 and W6)  
Percentages less than 2% not shown

**Transport and Travel Social Adaptation Study (TRANSAS)** <https://covid19transas.org/>



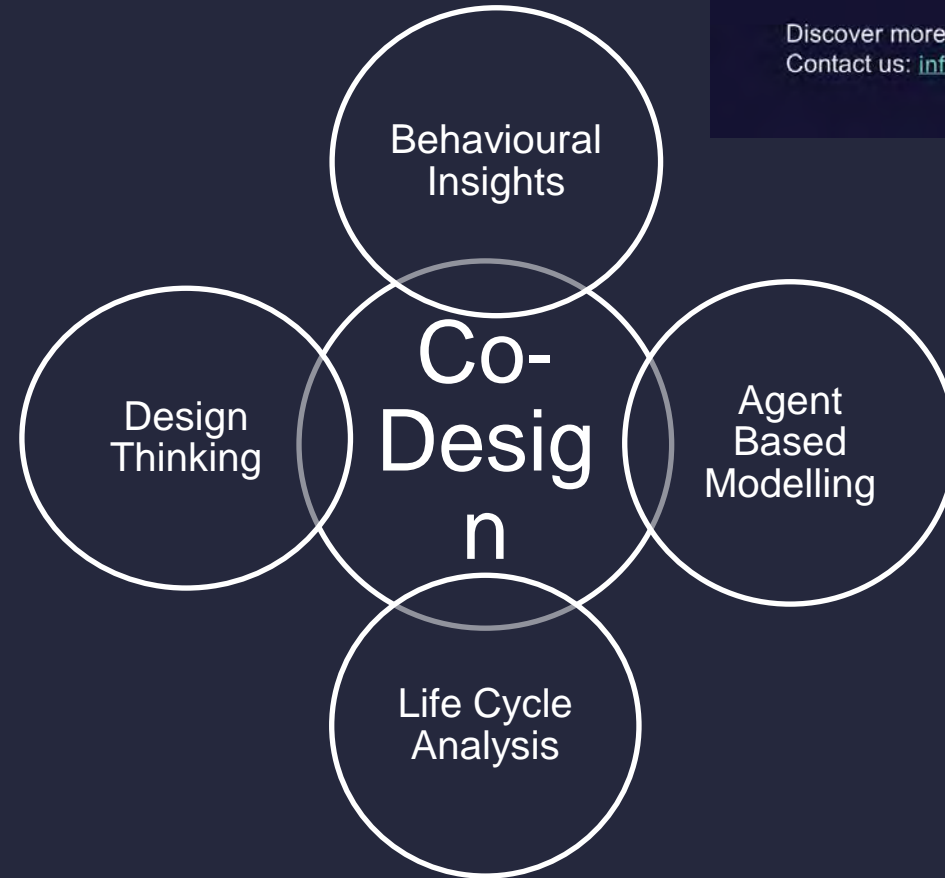
# Categories of Non-car owning



# INFUZE – Inspiring Futures for Zero Carbon Mobility

**The Connecting Leeds transport strategy has set out a vision for ‘Leeds to be a city where you don’t need a car’**

**The question is not ‘can you live without your car?’ but ‘what would a world where people did not need to own their own cars look like?’**



# INFUZE

Discover more: [in-fuze.org.uk](http://in-fuze.org.uk)  
Contact us: [infuze@leeds.ac.uk](mailto:infuze@leeds.ac.uk)

## **Scoping review on ‘car shedding’ – aim and method**

**Aim: provide an overview of the relative coverage of the types of car owning change, how they have been studied and provide an indication of clear gaps in knowledge**

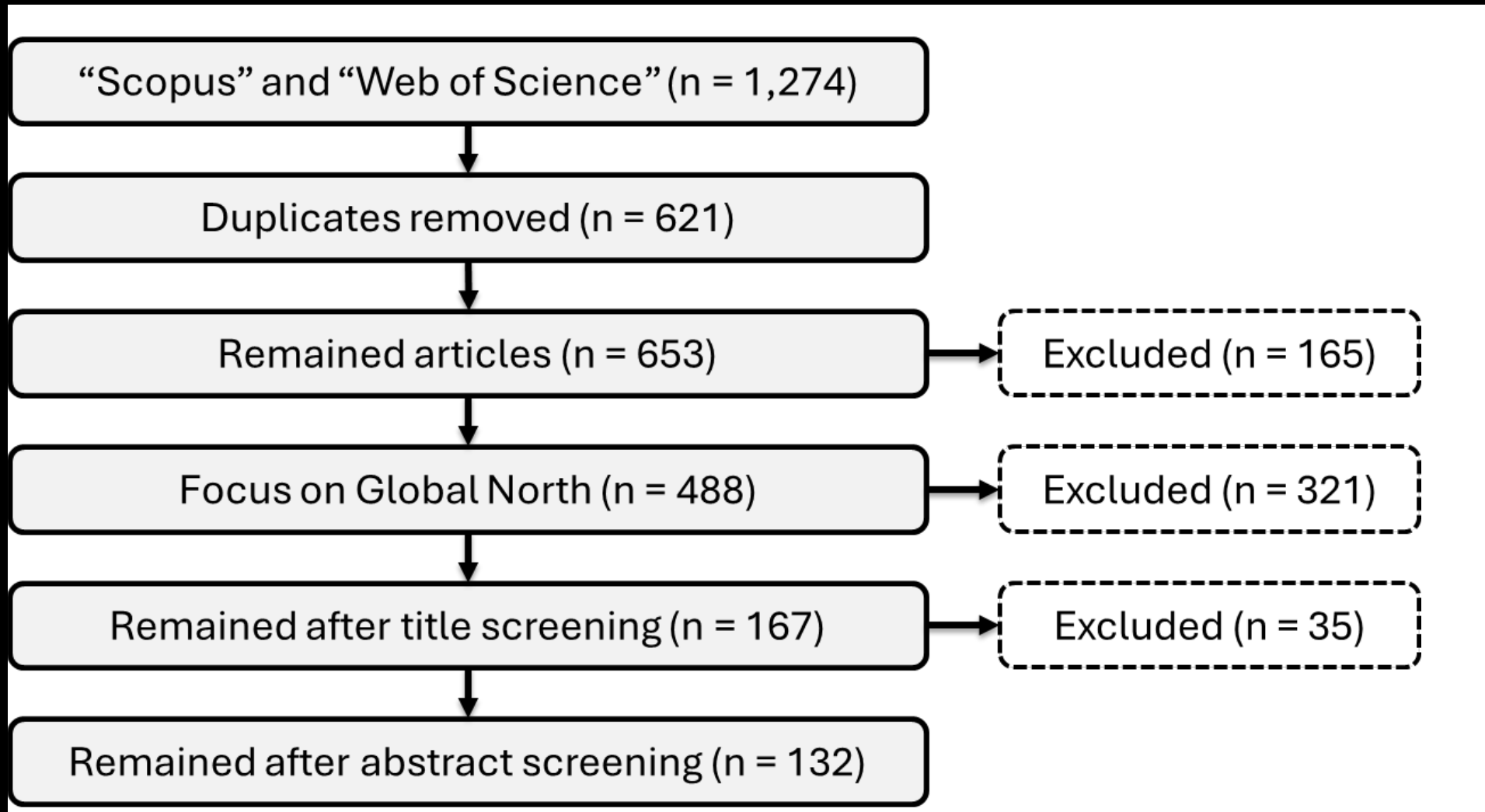
**Web of Science + Scopus**

**Published journal papers & chapters (2000-2024)**

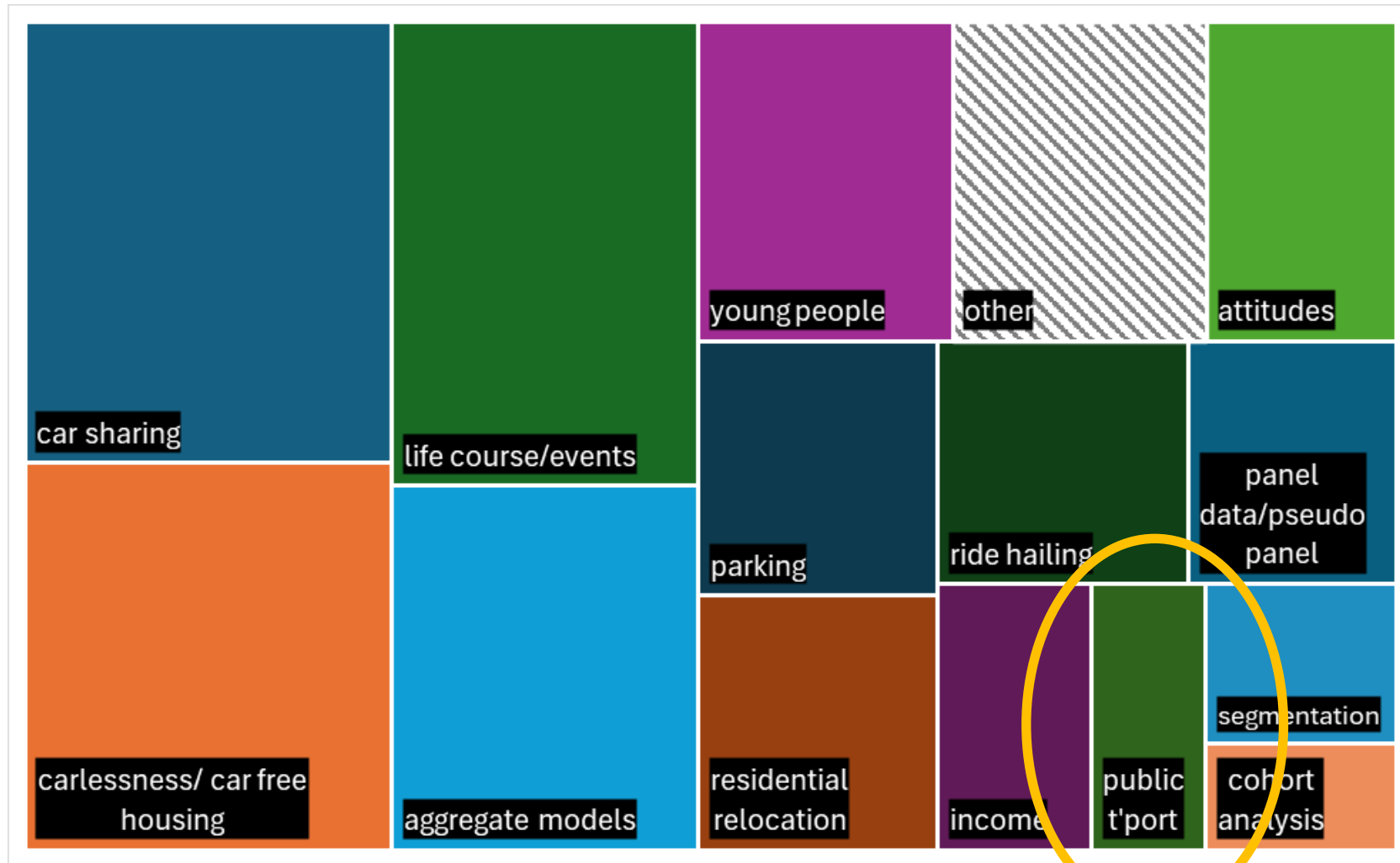
**TI= “car-own\*” OR TI= “car adopt\*” OR TI= “car buy” OR TI= “car less\*” OR TI= “car-less” OR TI= carless\*” OR TI= “car free” OR TI= “car-free” OR TI= “vehicle own\*” OR TI= “vehicle free” OR TI= “vehicle-free” OR TI= “car shed\*” OR TI= “car-shed\*” OR TI= “car reduc\*” OR TI= "giv\* up" AND TI= "car " OR TI= “car-own\*” OR TI= "Car" AND TI= "own\*"**



# Scoping review filtering process



# Categorisation of topic areas from the 132 papers



Car shedding happens before, after and among a number of states of car owing





# Car Shedding is...



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- ... multifaceted – includes Going car free, reducing, avoiding, delaying, not replacing
  - the preconditions for each of these 'behaviours' are not the same
- ... mostly associated with financial stress or life-events, not voluntary considerations
- ... usually preceded by car use reductions, but accelerated by targeted car ownership and use interventions



# Instead, we are Hardwiring automobility



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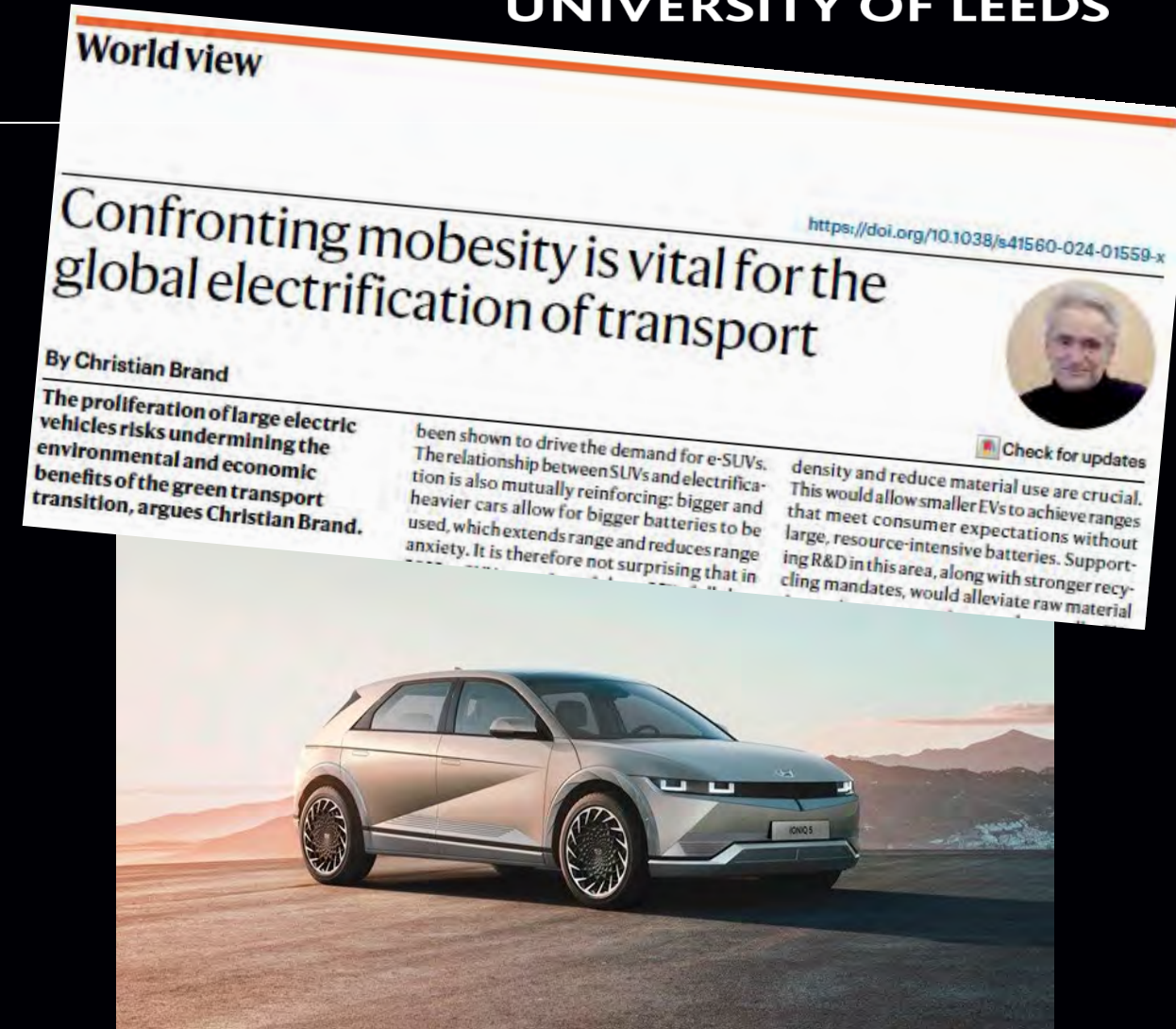


# Now – the obesity epidemic



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- SUVs = 51% of new light duty vehicle sales globally in 2022. This is a fivefold surge over the past decade
- Without this shift:
  - Squandering energy demand reductions
  - Taking up road space = congestion, harm to urban realm, making active travel less attractive
  - More fatal collisions



Source: Brand, C., 2024. Confronting obesity is vital for the global electrification of transport. *Nature Energy*, 9(8), pp.909-909.





# Key messages

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- We, as a transport planning community, are still largely in denial about our failure to achieve system change
- TOD does not equate to reductions in car use and emissions at scale
- TOD must centrally embed the principle of reduction and use of car ownership
- Evaluation of interventions is inadequate unless it uses panel/ longitudinal data to understand who shifts from car use and why
- The impacts of increasing hardwiring of automobility and 'mobesity' on the urban realm are important topics for TOD



# INFUZE

Discover more: [in-fuze.org.uk](https://in-fuze.org.uk)  
Contact us: [infuze@leeds.ac.uk](mailto:infuze@leeds.ac.uk)



Prezi

Log in

# Three Impossible Things Before Breakfast: Planning for Caring Mobility Futures

TJ

By Tanja Joelsson  
Sept. 3, 2025

Click to view the Prezi:  
[Three Impossible  
Things Before  
Breakfast](#)



# TOD2 Design guide DK

Introduction to the Danish methodology



European  
Commission

**NIRAS**

# How to support danish mobility hubs as urban space

## Part of the danish design-gudeline.

In Danish urban areas, especially around stations, the built environment is often already established, leaving limited opportunities for physical changes to support Transit-Oriented Development (TOD).

This study (as part of the design guide) is therefore intended to help municipalities better understand their stations and the role they play within the existing urban context.

It aims to support the integration of mobility hubs as vibrant urban spaces by enhancing the sense of place and their connection to the surrounding environment.

Biggest opportunity: change the perception from transportation mashine to urban space



**New method focuses on understanding the mobility hub from the perspective of a first-time user**, someone who has just arrived at the station and steps into the surrounding urban hub area.

**The method looks at the spatial design and functions that shapes the immediate experience.**

The investigation focuses on how intuitive and accessible the mobility hub is for transportation, while also considering the sense of place and feeling of safety.

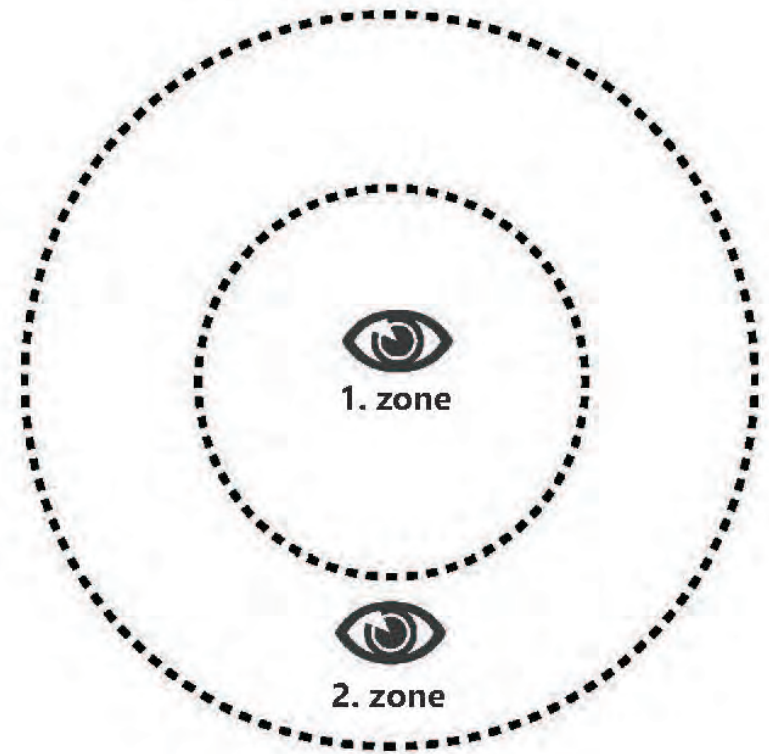
### A Two-Zone Spatial Framework

#### Zone 1: The arrival Area

Includes everything immediately visible upon arrival, framed by buildings, walls or corners. It's what you "stumble upon" before you make your first decision about what direction to go in.

#### Zone 2: The supporting Area

The area you reach after you turn the corner or move past the wall. Elements outside direct visibility but within the immediate surroundings of the arrival zone.





## Key Areas of investigation

### The Mobility Hub as a Transportation Machine

- Key modes of transportation
- Supportive modes of transportation

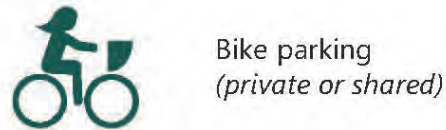
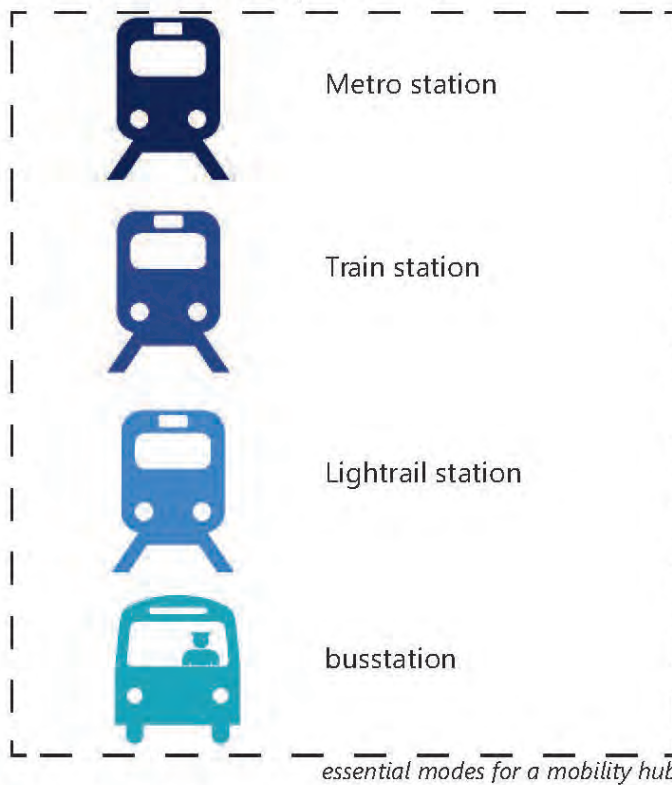
How intuitive is it to navigate within the mobility hub and change transportation?

### The Mobility Hub as a Place

- Urban functions
- Urban furniture

What urban functions and urban furniture are integrated into the hub area to support a sense of place?

#### Modes of transportation



#### Urban functions

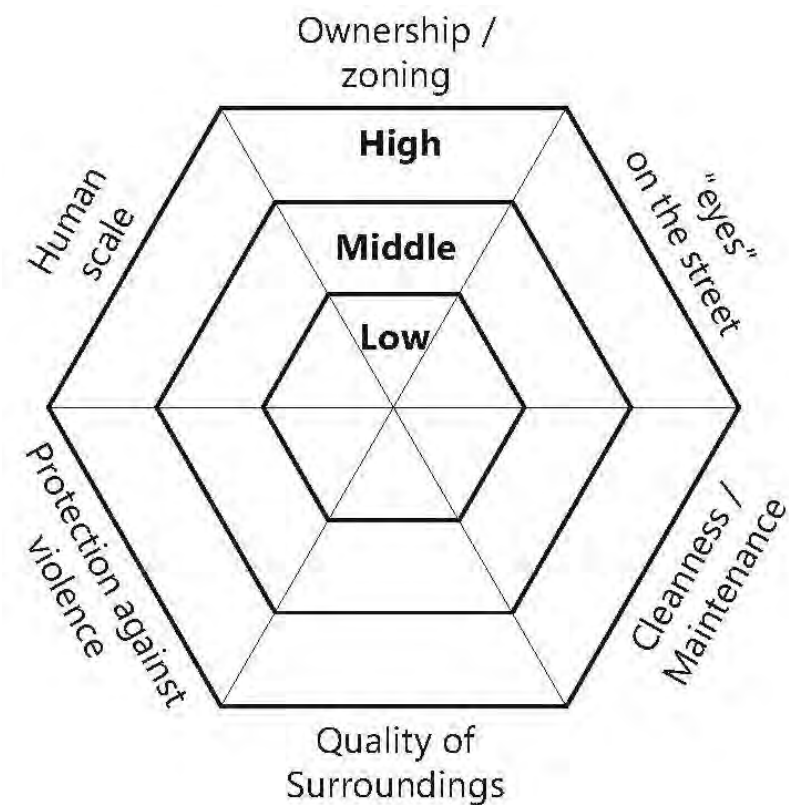


## Safety analysis simplified

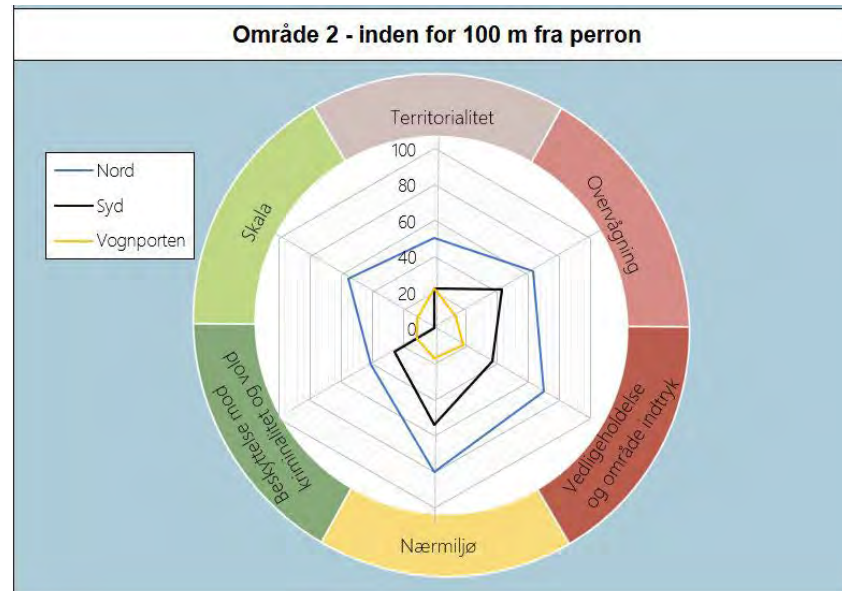
Same categories as for a thorough safety analysis of urban space.

## Three levels of fulfillment

- Based on the landscape architects / urban designers knowledge and what they can observe on site.
- Made to be accessible for practitioners.



CPTED værktøj		Scoringssystem										Indtælling af score		Hvorfor er det vigtigt?		Såfremt ikke ændres		Hvordan højt spørgsmål bedrager til CPTED (+ eventuelle forklaringer)											
Spørgsmål		1	2	3	4	5	6	7	8	9	10	Score 1	Score 2	Hvorfor er det vigtigt?		Såfremt ikke ændres				Hvordan højt spørgsmål bedrager til CPTED (+ eventuelle forklaringer)									
Område 1 - Station																													
1	Hvor mange passagerer er der gennemsnitligt om dagen?	Over 10.000 passagerer	Mellem 5.000 og 10.000 passagerer	Færre end 5.000 passagerer	Igen passagerer								Hvorfor er det vigtigt?		Såfremt ikke ændres				Hvordan højt spørgsmål bedrager til CPTED (+ eventuelle forklaringer)										
2	Er der mulighed for at se ind i de bygninger inden for 100 m fra perronen?	Ja, og ind i alle bygninger inden for 100 m fra perronen, såsom butikker, restauranter, kafeer, etc.	Ja, men der er enkelte bygninger, der ikke er synlige inden for 100 m fra perronen, såsom butikker, restauranter, kafeer, etc.	Ja, men der er enkelte bygninger, der ikke er synlige inden for 100 m fra perronen, såsom butikker, restauranter, kafeer, etc.	Nej, der er ingen udsyn inden for 100 m fra perronen								Hvorfor er det vigtigt?		Såfremt ikke ændres				Hvordan højt spørgsmål bedrager til CPTED (+ eventuelle forklaringer)										
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5	Hvor mange indgange er der til perronen?	Over 10 indgange	Mellem 5 og 10 indgange	Færre end 5 indgange	Igen indgange								Hvorfor er det vigtigt?		Såfremt ikke ændres				Hvordan højt spørgsmål bedrager til CPTED (+ eventuelle forklaringer)										
6	Er der mulighed for at se ind i de bygninger inden for 100 m fra perronen?	Ja, og ind i alle bygninger inden for 100 m fra perronen, såsom butikker, restauranter, kafeer, etc.	Ja, men der er enkelte bygninger, der ikke er synlige inden for 100 m fra perronen, såsom butikker, restauranter, kafeer, etc.	Ja, men der er enkelte bygninger, der ikke er synlige inden for 100 m fra perronen, såsom butikker, restauranter, kafeer, etc.	Nej, der er ingen udsyn inden for 100 m fra perronen								Hvorfor er det vigtigt?		Såfremt ikke ændres				Hvordan højt spørgsmål bedrager til CPTED (+ eventuelle forklaringer)										
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## ROSKILDE STATION

Roskilde Station is located at the edge of the historic city center.

**Established in 1847 as Denmark's first railway connection to Copenhagen, the station remains a major regional transit hub**, as well as a central bus terminal.

The surrounding area is characterized by **2–4 story buildings** with brick facades and pitched roofs.

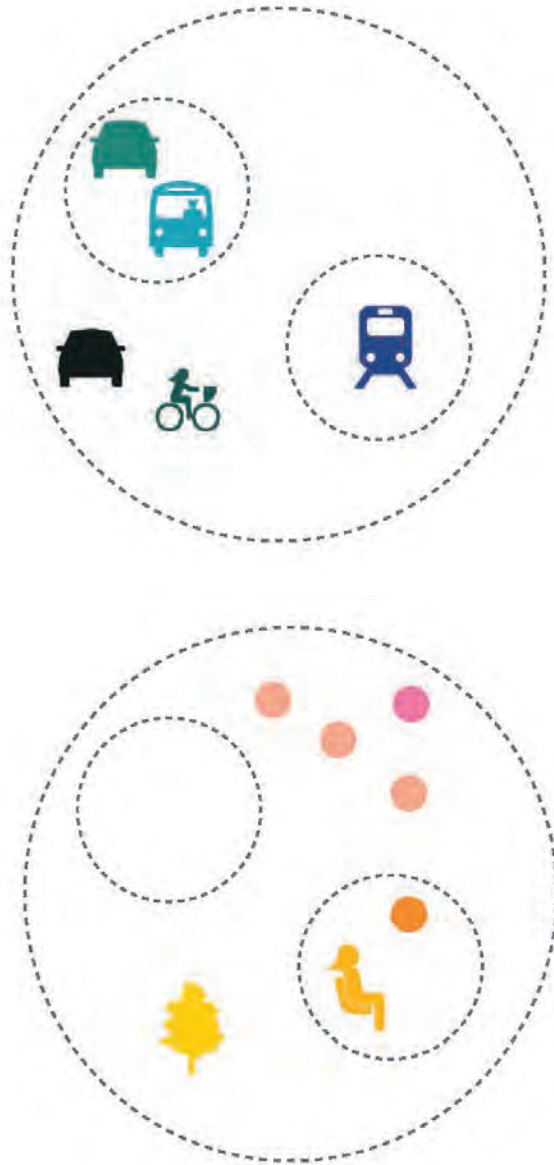
**Building footprints are compact, and the streetscape is structured around pedestrian access and moderate vehicular traffic.**

The station square connects directly to the main shopping street. South of the station is a mix of residential neighbourhoods and institutions like the hospital, city hall, and multiple schools.



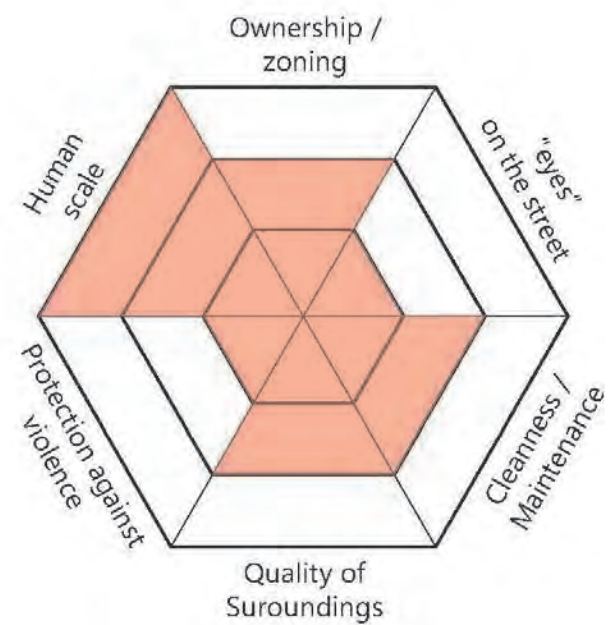
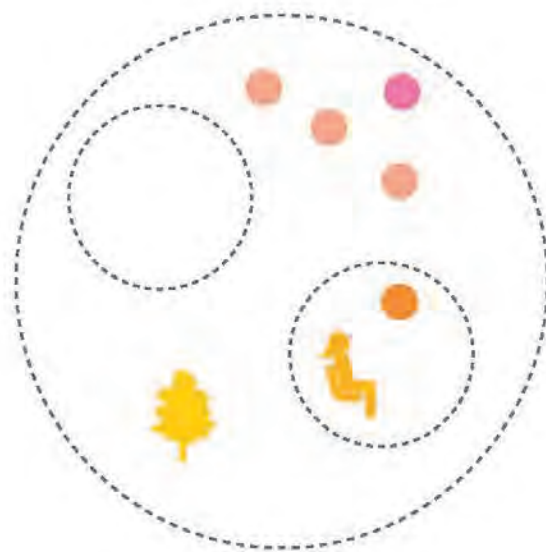
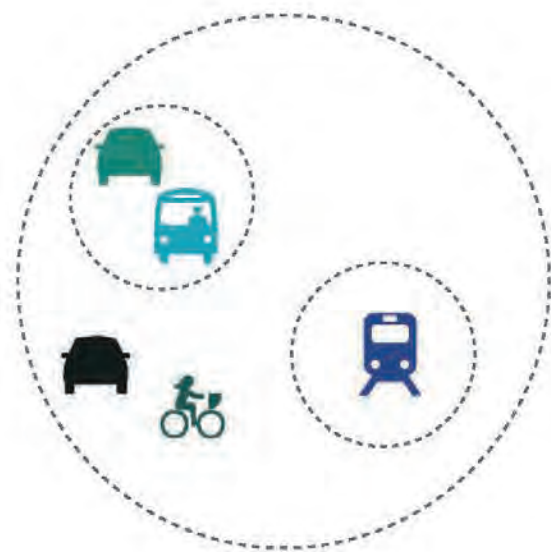


## TOD2 Design guide DK





## TOD2 Design guide DK



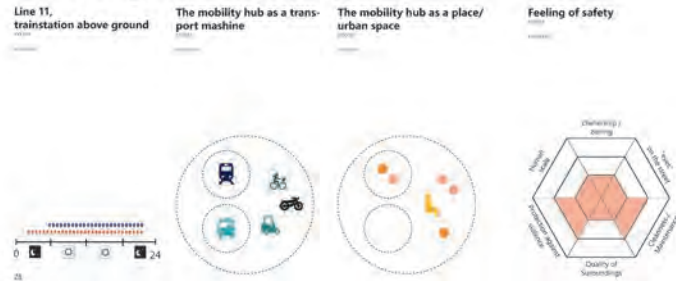


# TOD2 Design guide DK – investigating if the methodology works in an international context

## Ishøj station (DK)



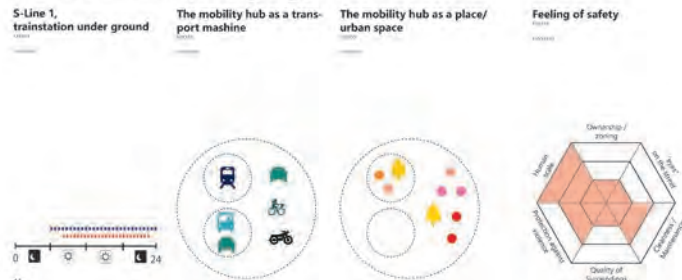
## Nanxiang station (Shanghai)



## Longxi Road (Shanghai)



## Fochexi Lu (Nanjing)



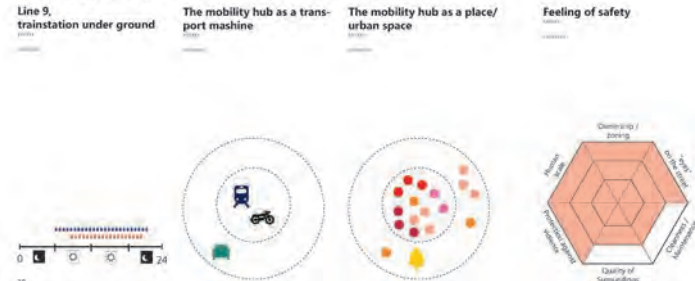
## Lyngby station (DK)



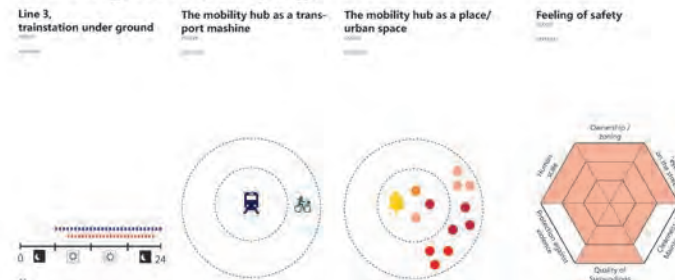
## West Jiading station (Shanghai)



## Songjiang Xicheng (Shanghai)



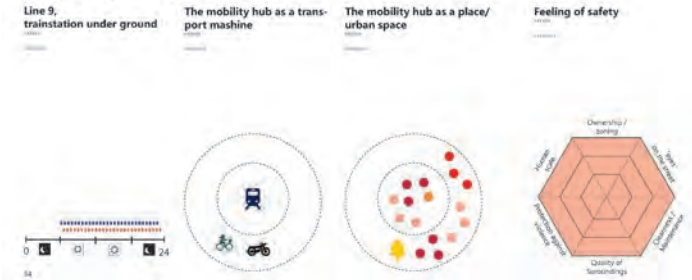
## Wudingmen (Nanjing)



## Cph Central Station (DK)



## Dapuqiao (Shanghai)



## Linchan (Nanjing)



## Zhangfuyuan (Nanjing)

