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

Transit Oriented Development, Development Oriented Transit & Movement and Place

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

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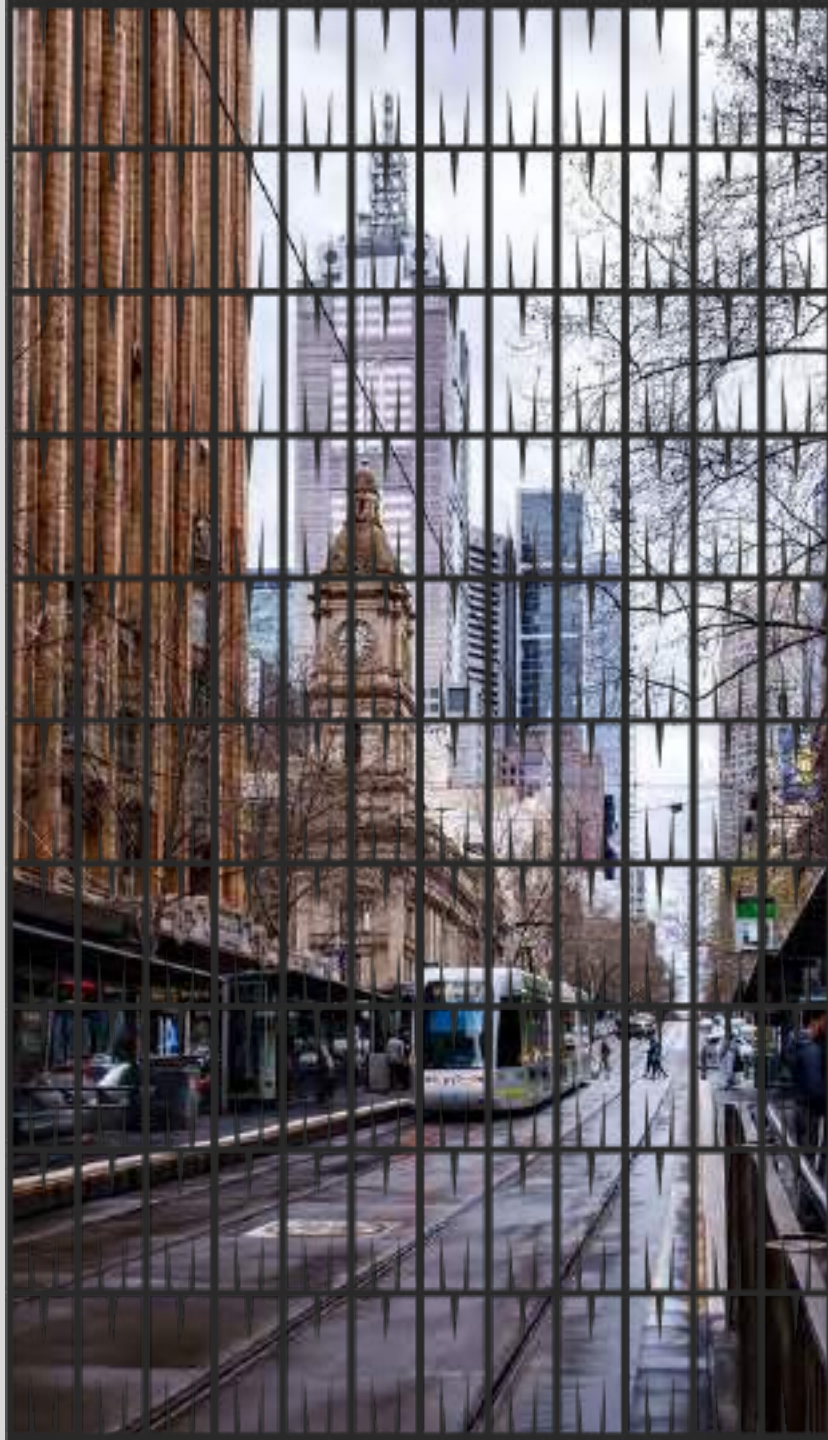
Agenda

- Introduction
- Transit Oriented Development
- Development Oriented Transit
- The Movement and Place Framework



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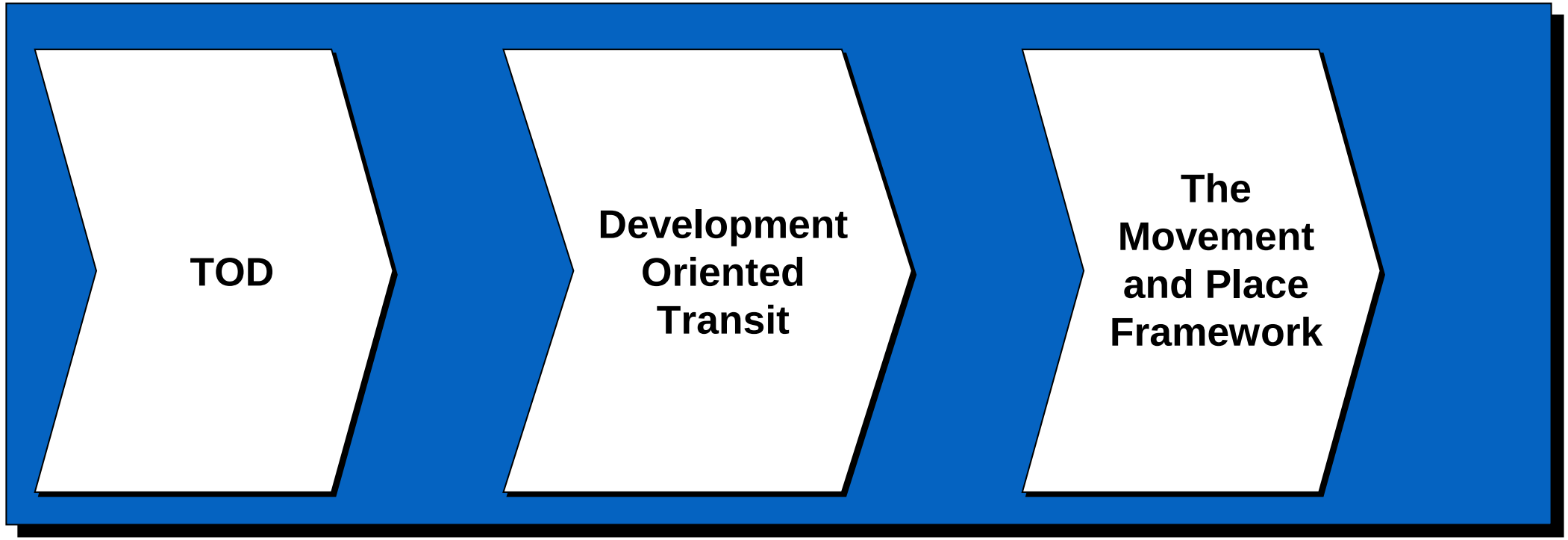
This keynote introduces TOD, Development Oriented Transit & a new framework to bring together transport and urban design for better TOD for on-street transit



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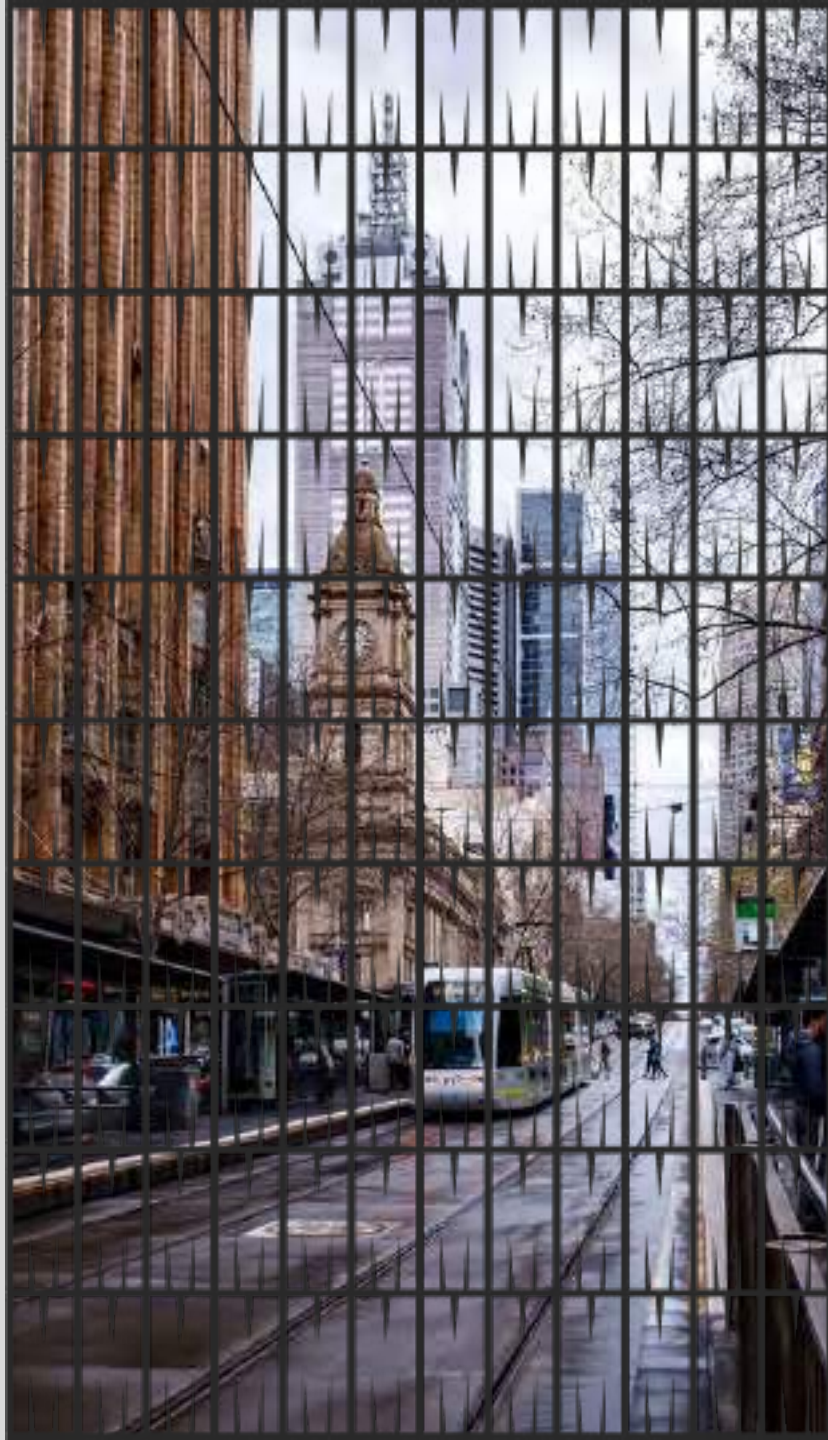

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TOD integrates transit with dense urban development to generate significant environmental, economic and social benefits in cities

- 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)

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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

Younge 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

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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

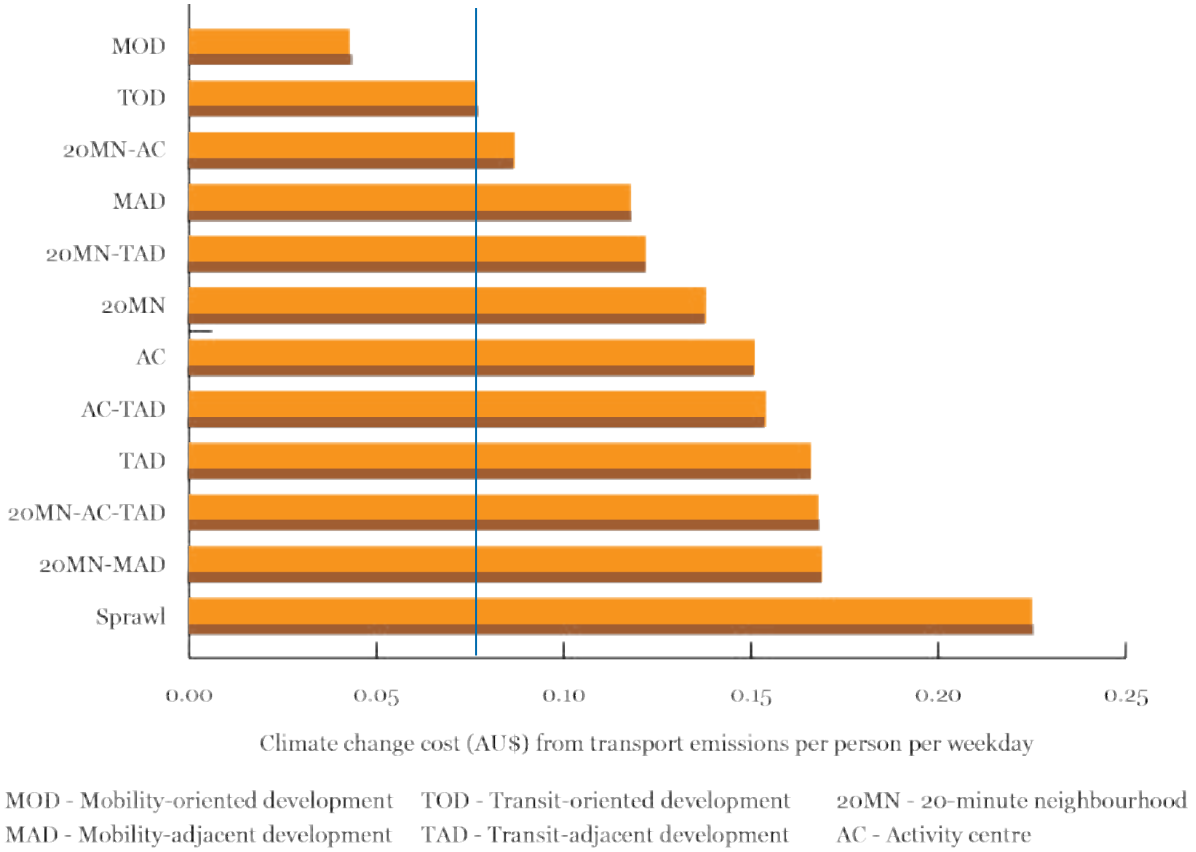


Figure 5: Patterns of climate change costs from transport emissions across different neighbourhood types

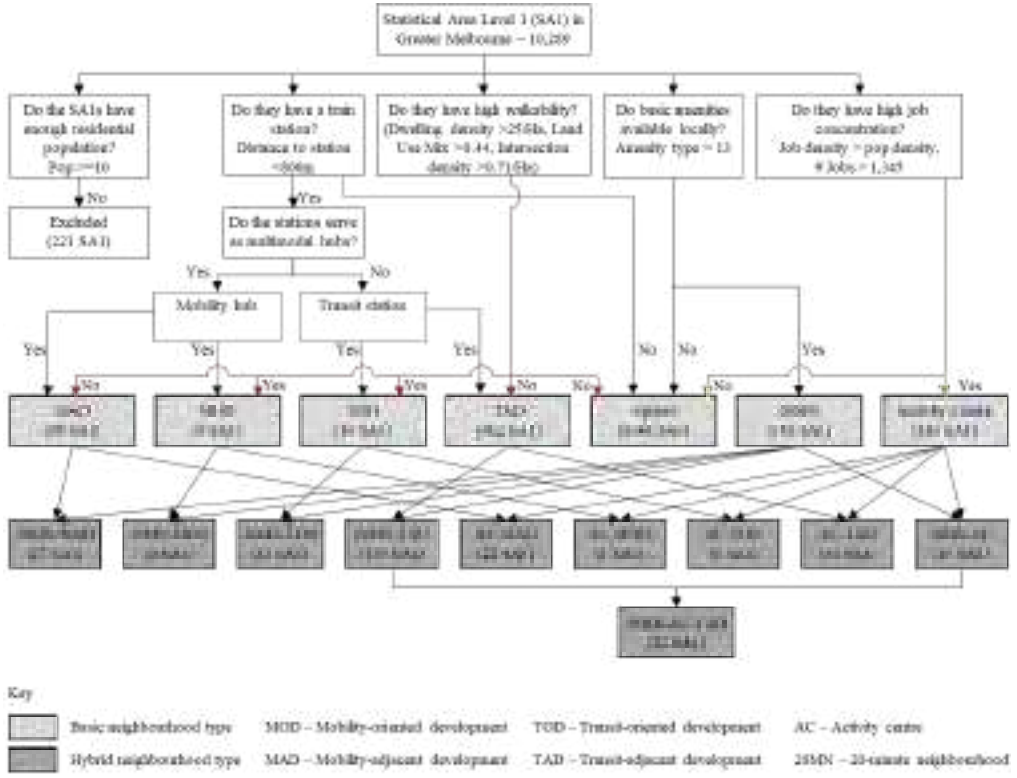
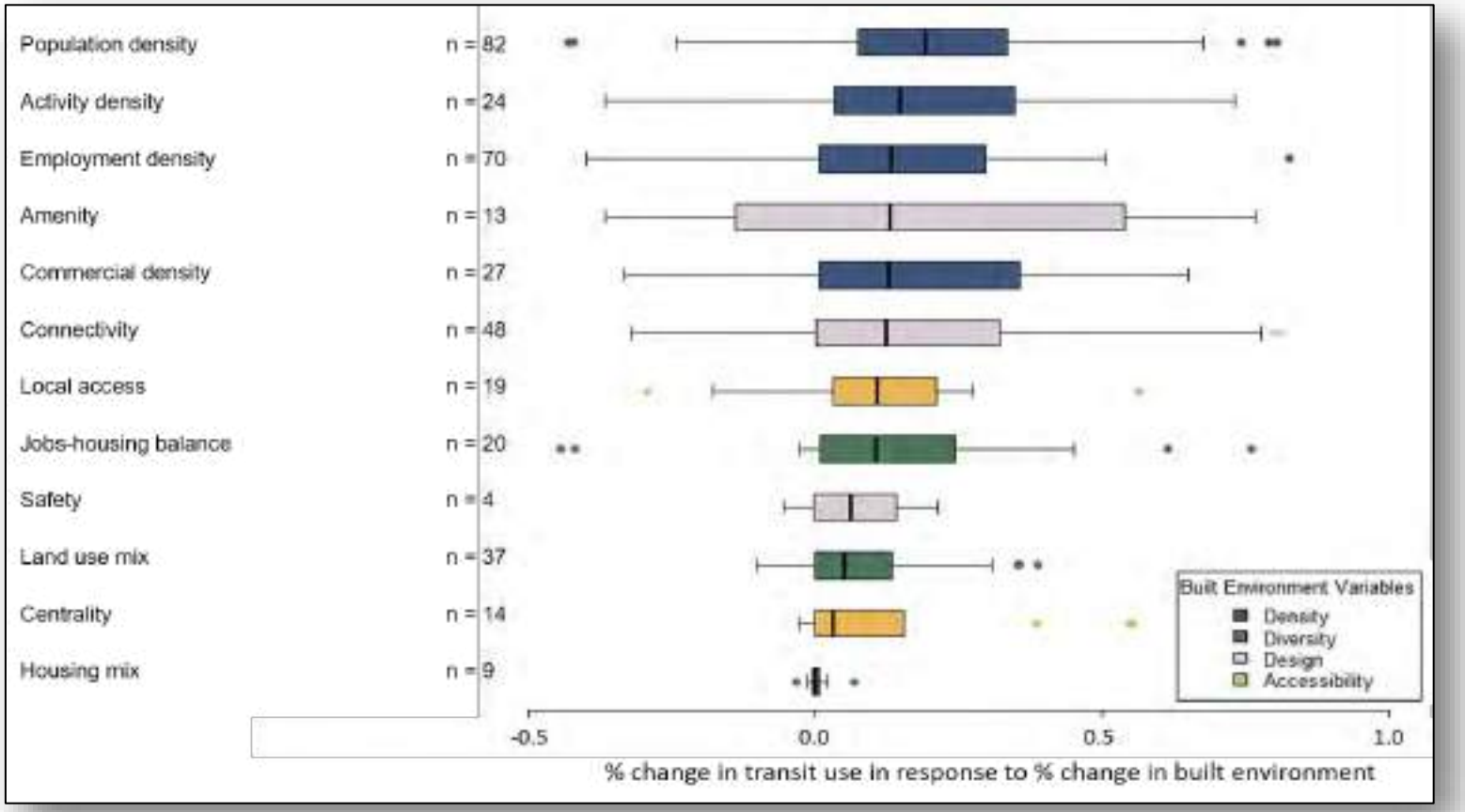


Figure 2: Proposed neighbourhood classification framework

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

Source: Aston L , Currie G, Delbosc A,. Kamruzzaman M & Teller D (2020): Exploring built environment impacts on transit use - an updated meta-analysis, TRANSPORT REVIEWS

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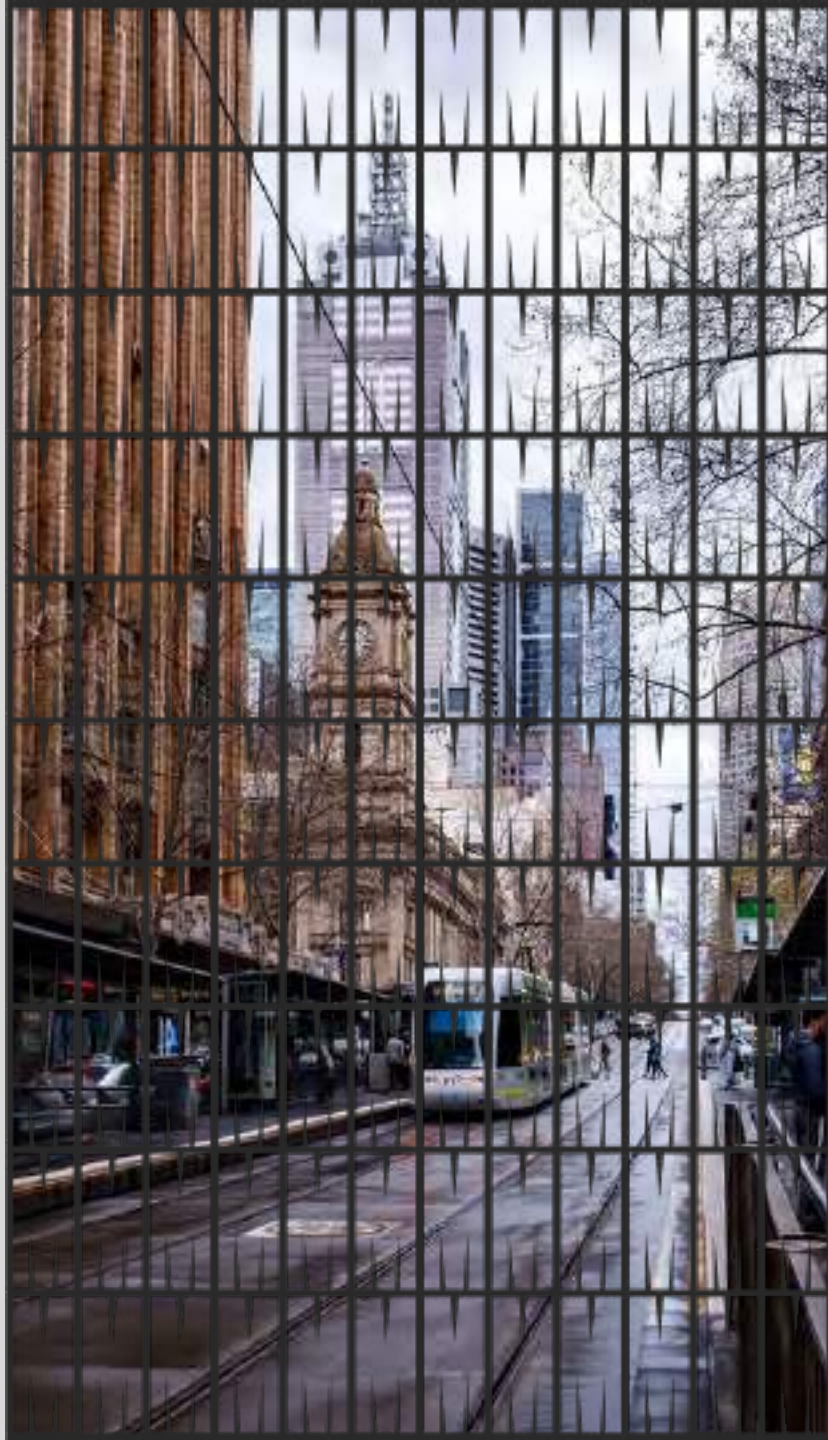
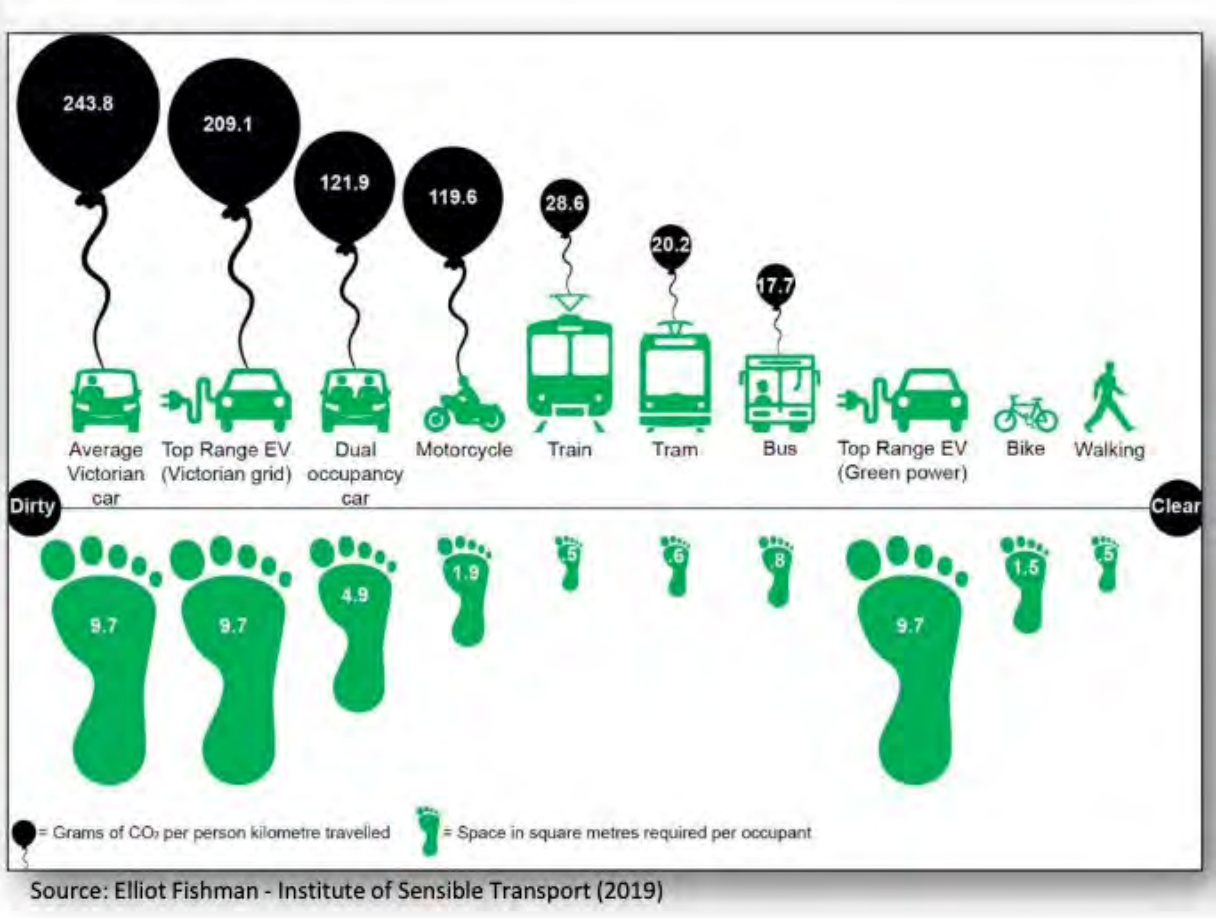


Public transport is the cleanest climate impact travel mode for medium/long distance travel in cities and the most space efficient – some transit is more space efficient than others…



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

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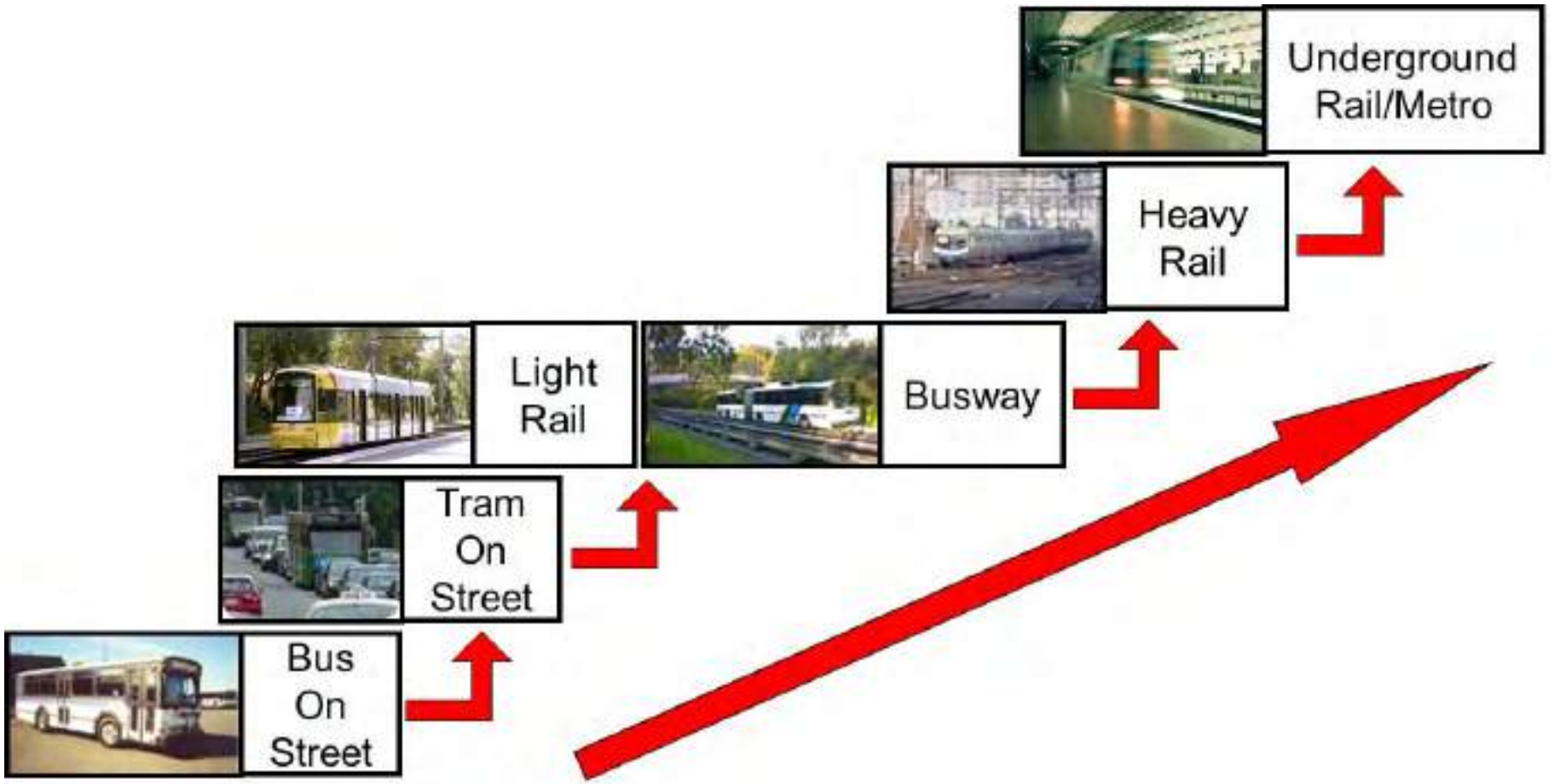
...there is hierarchy of transit with rail/metros at the top and on-street bus at the bottom...



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

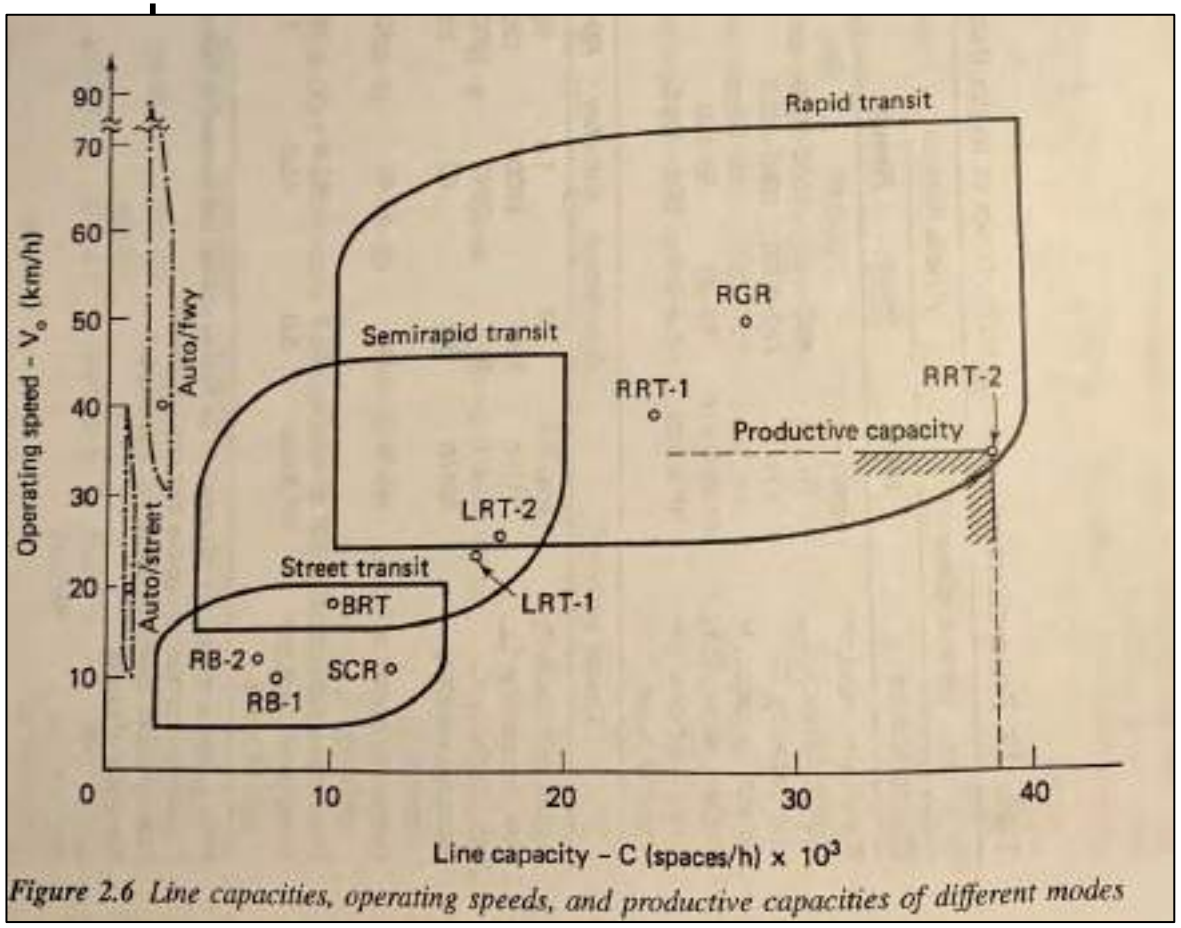


Figure 2.6 Line capacities, operating speeds, and productive capacities of different modes

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

Nagoya Station Japan

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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

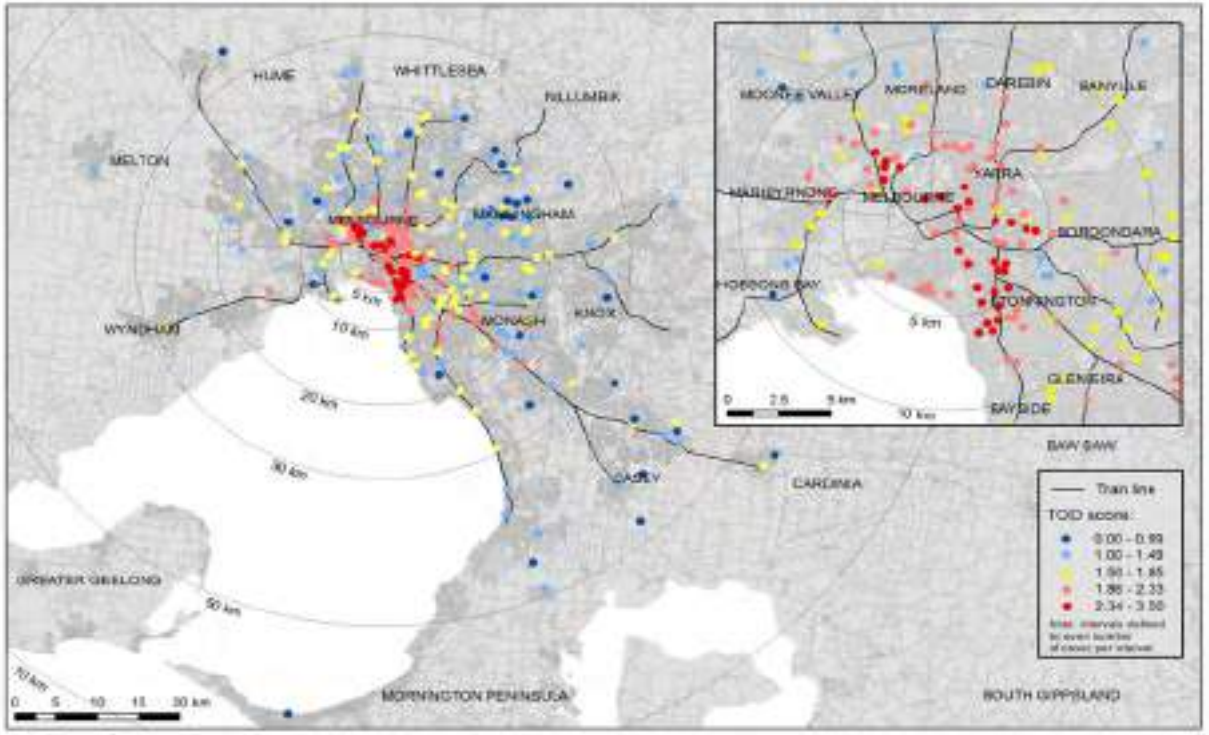

FIGURE 2 – Geographic spread of TOD score by Catchment

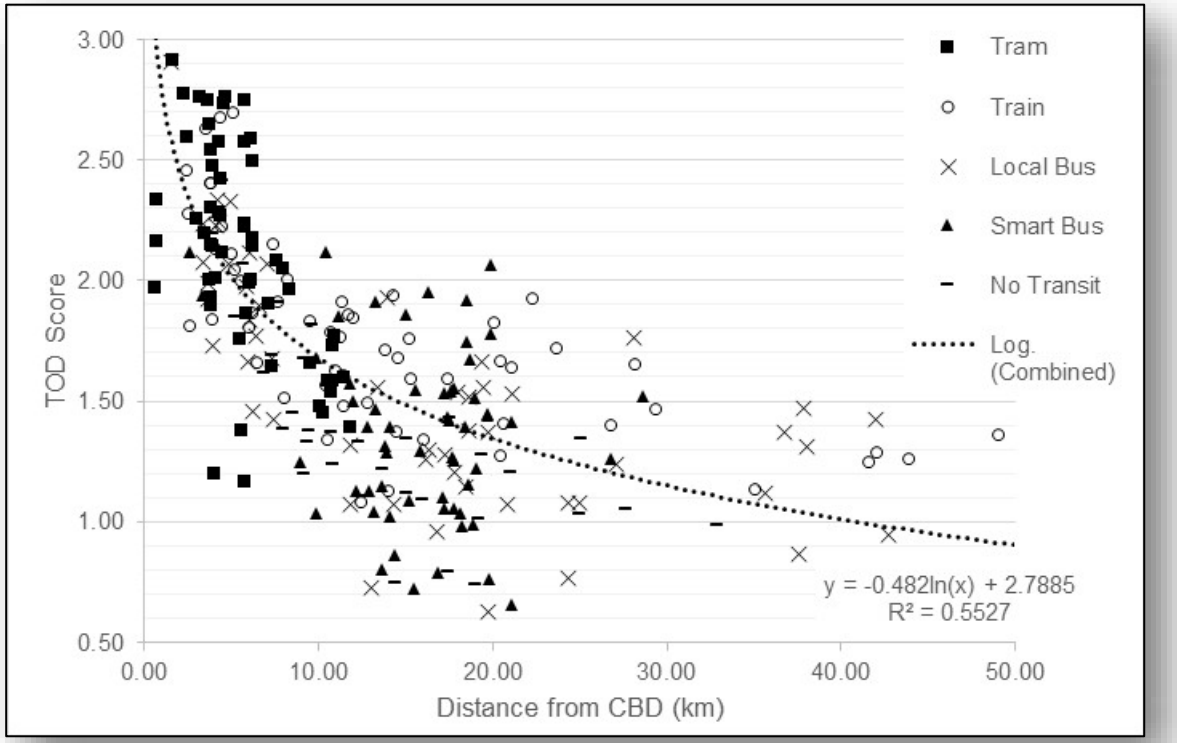

FIGURE 1 - Relationship Between TOD Score and Distance from the CBD

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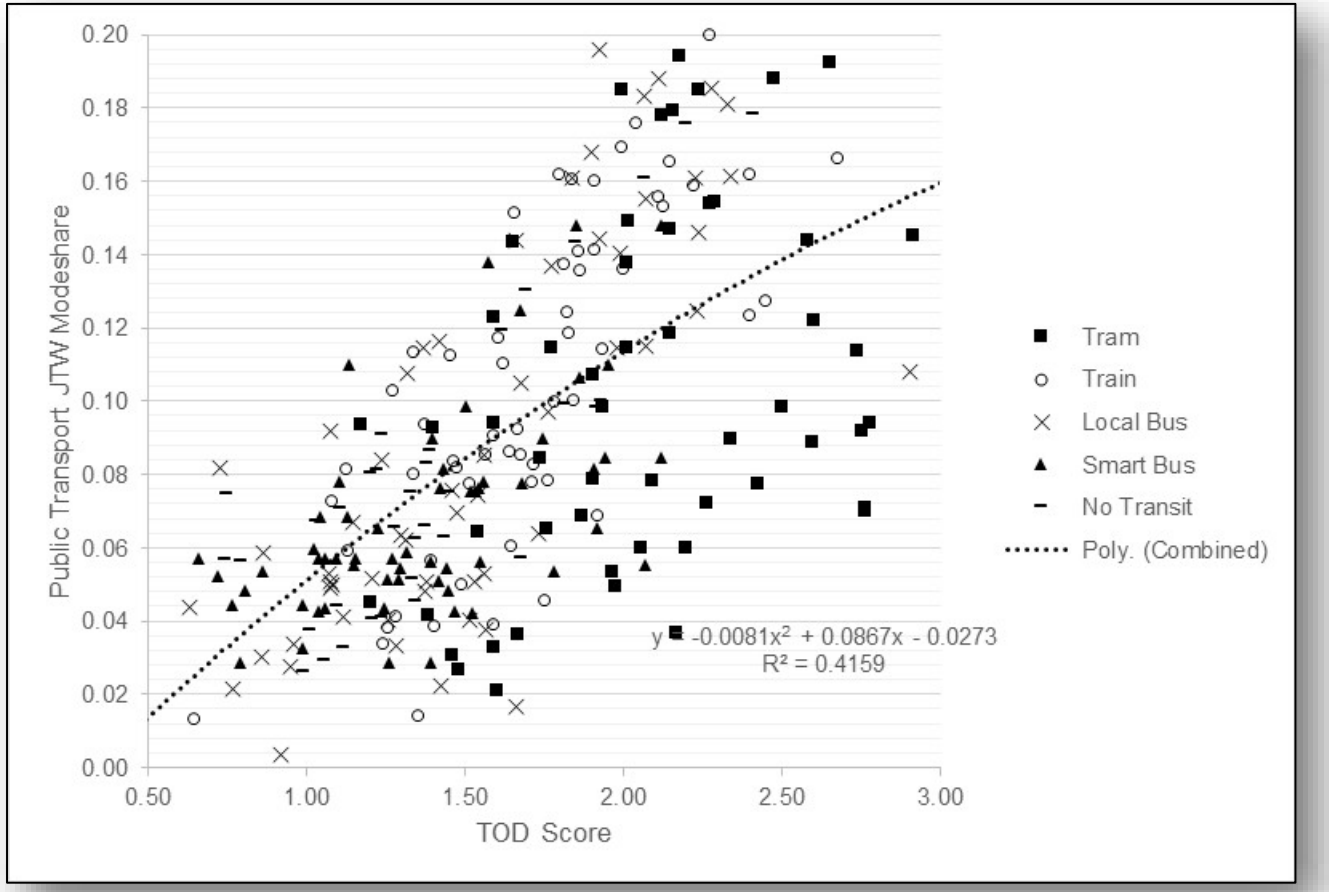
Source: Aston L, Currie G and Pavkova K (2016) 'Does Transit Mode Influence the Transit-Orientation of Urban Development? - An Empirical Study' JOURNAL OF TRANSPORT GEOGRAPHY Vol 55 (2016) pp83-91

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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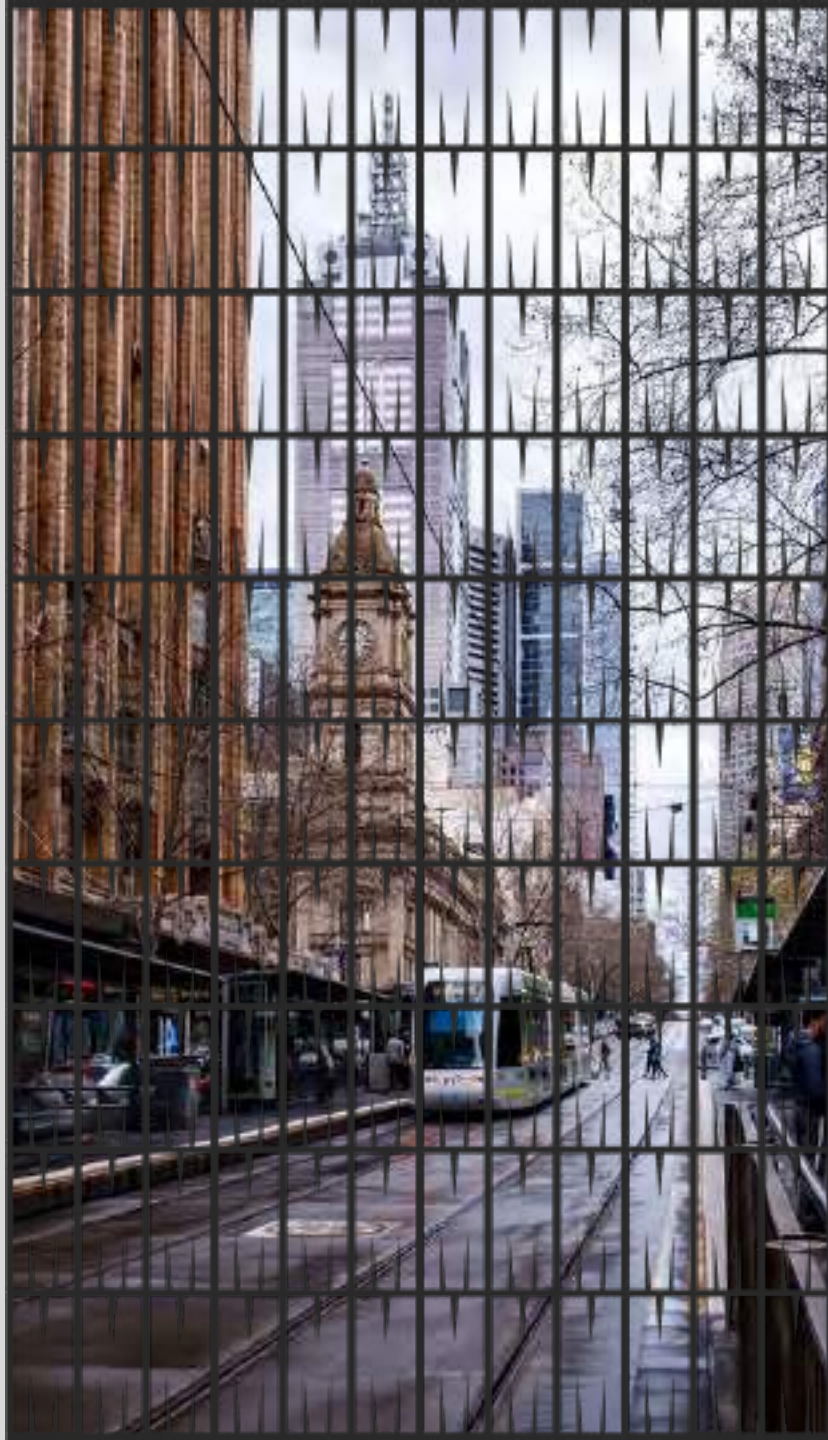

There is conflict in TOD/DOT planning between transport planners and urban designers over streetspace design notably over on-road transit

(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

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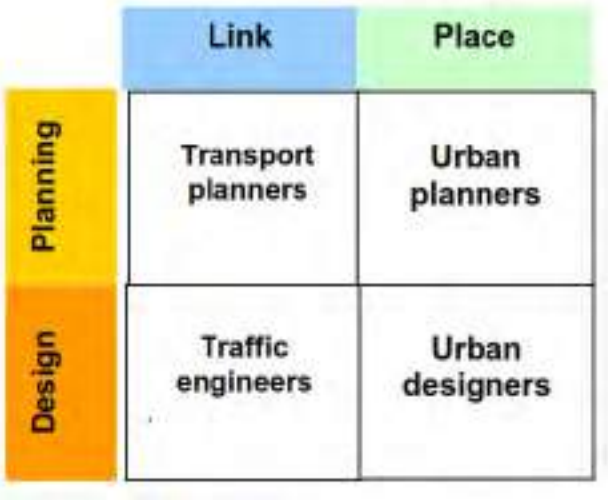
Link (Movement) and Place was developed to bring local planning of places and transport planning of roads/streets together; bringing transport/urban planners/designers together

- 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)



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

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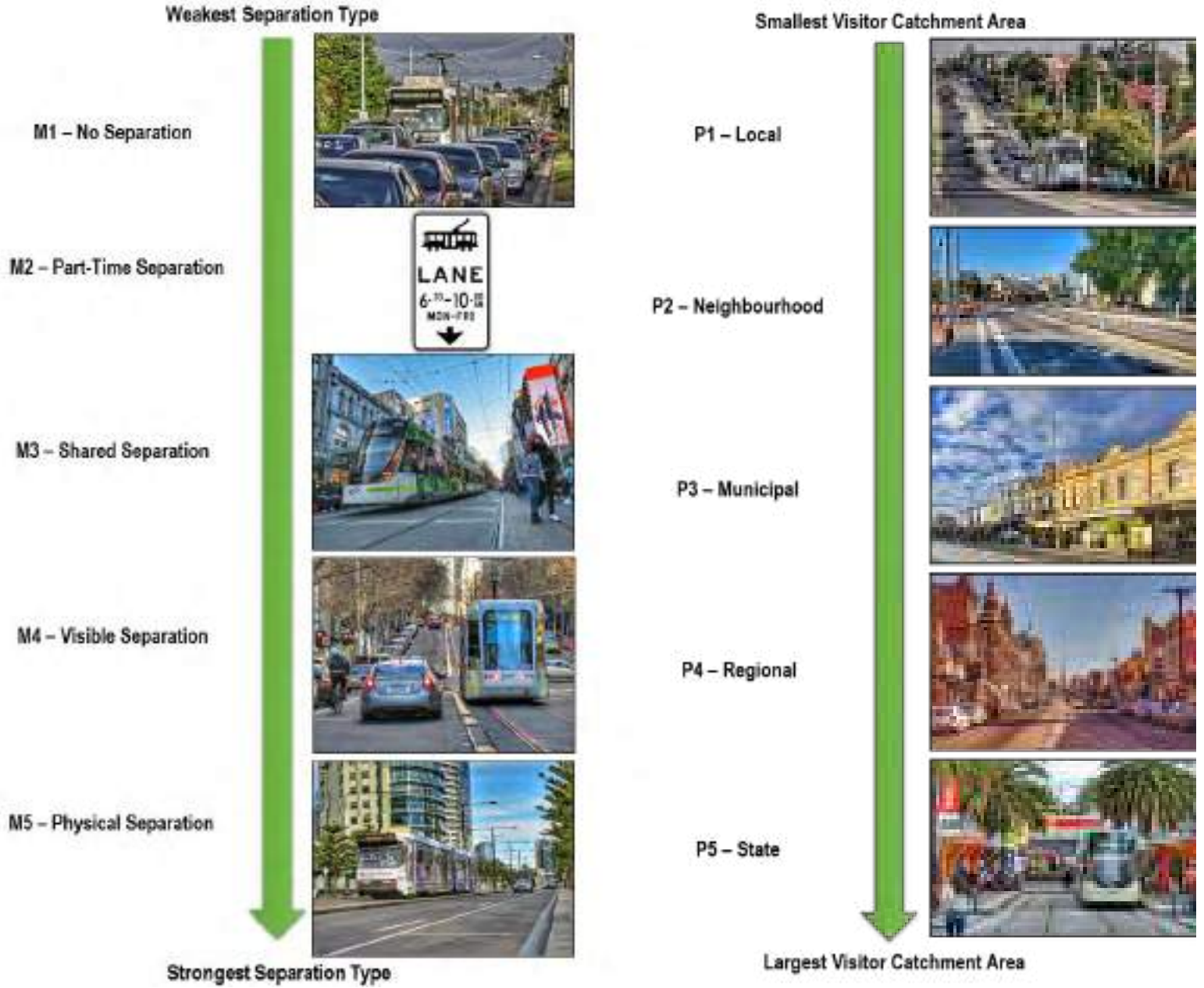
MOVEMENT based on tram right of way quality

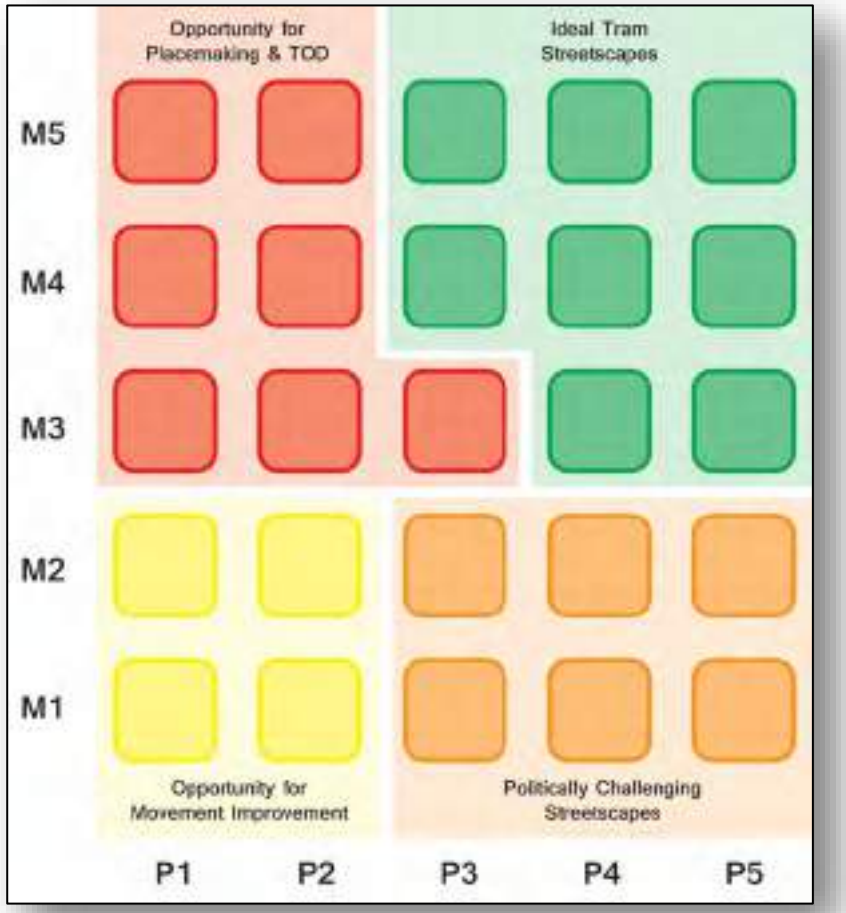
Movement Classification:	Yarra Trams Classification:	Vuchic (2005) Classification:
M1 – No Separation	• Shared Running	• ROW Type C
M2 – Part-Time Separation	• Part-Time Tram Lane	• ROW Type C
M3 – Shared Separation	• Shared Space	• ROW Type B
M4 – Visible Separation	• Full-Time Tram Lane • Mountable Separation Kerb	• ROW Type C • ROW Type B
M5 – Physical Separation	• Boulevard • Right of Way	• ROW Type B • ROW Type A

PLACE based on planning hierarchy

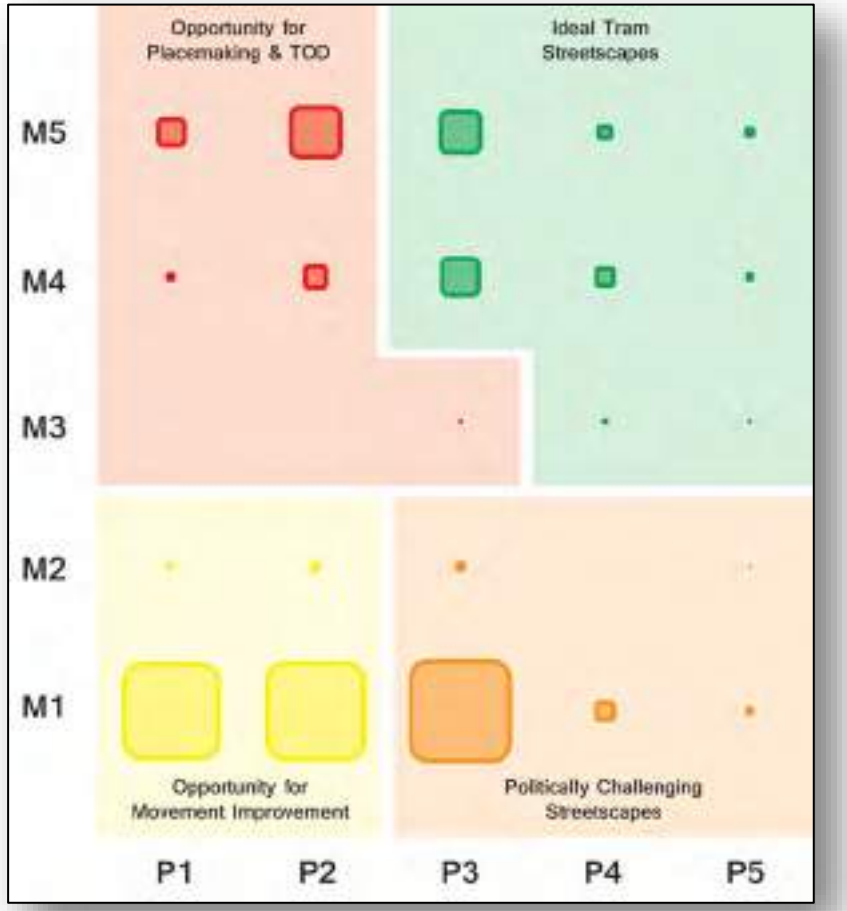


An innovation – define 4 quadrants in the M&P framework; highlighting opportunities for TOD/Placemaking / Movement improvements & those which are challenging politically

Framework Classification in 4 Planning Groups



Actual size of network in each cell



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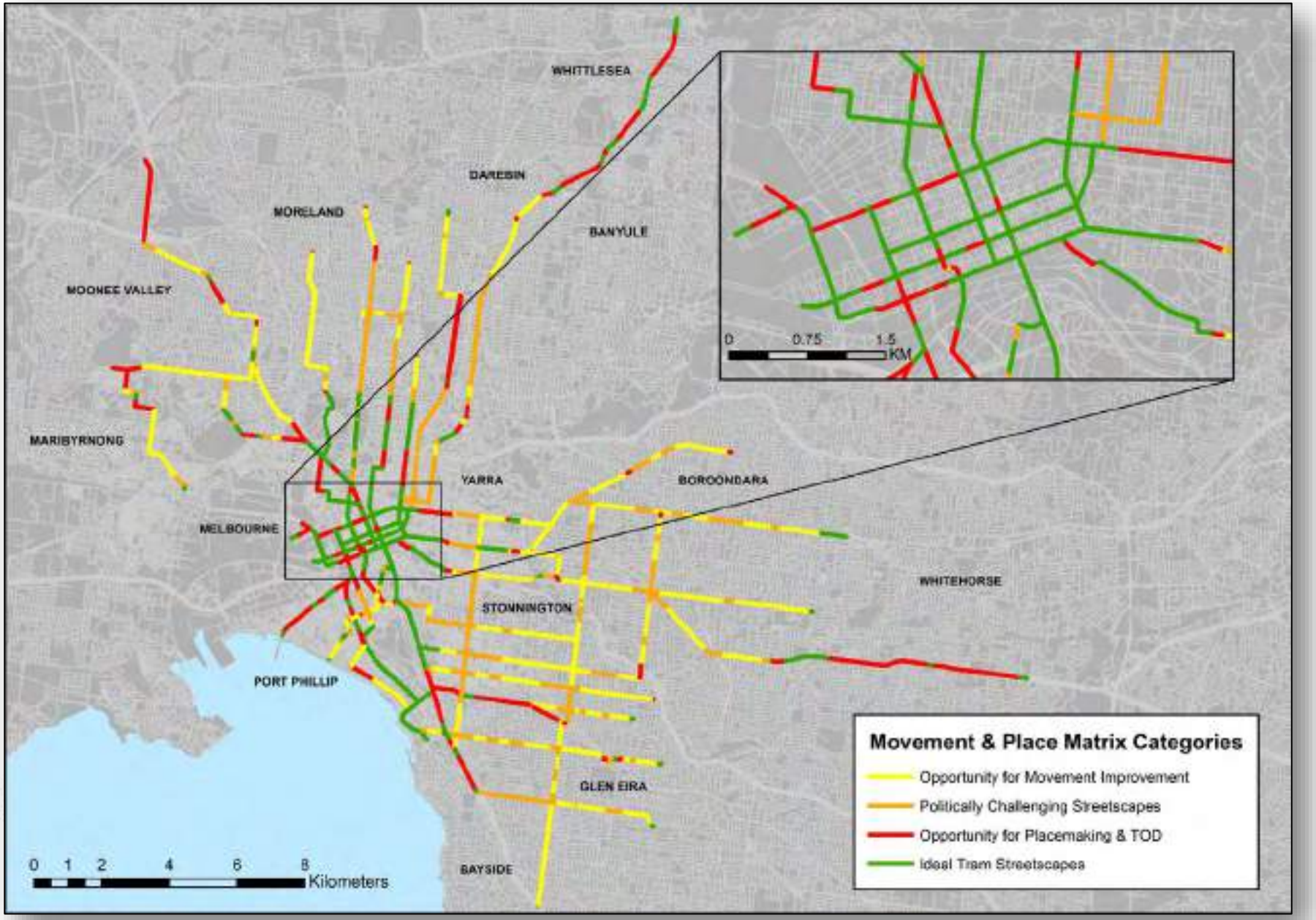
This where each group lies on the network – opportunities for improved TOD in red



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

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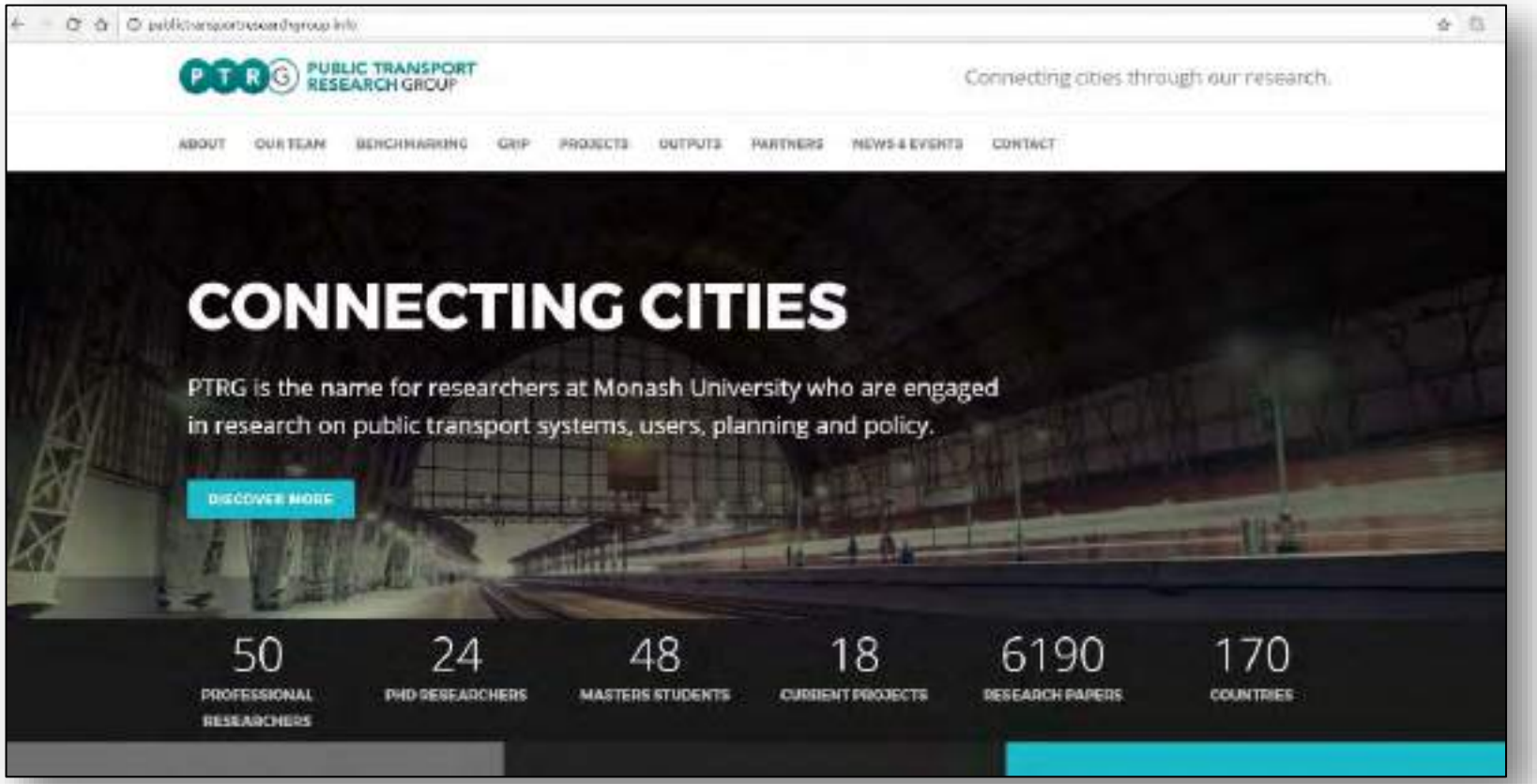
Professor Graham Currie FTSE
Director, PTRG



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How designing lines and networks boosts public mobility?

Presented by Corinne Mulley
Professor Emerita
ITLS, University of Sydney Business School

THE UNIVERSITY OF SYDNEY

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…

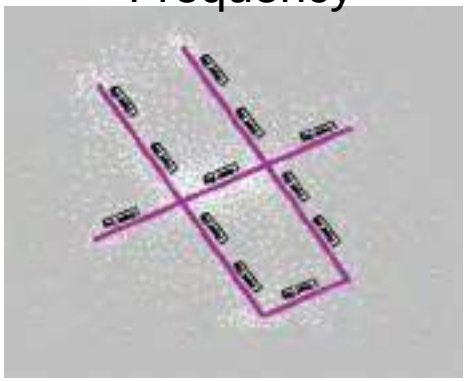
Source: https://jewpyter.com/machine-learning/2020-01-01-RL1-post/

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)

Coverage

Frequency



… 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

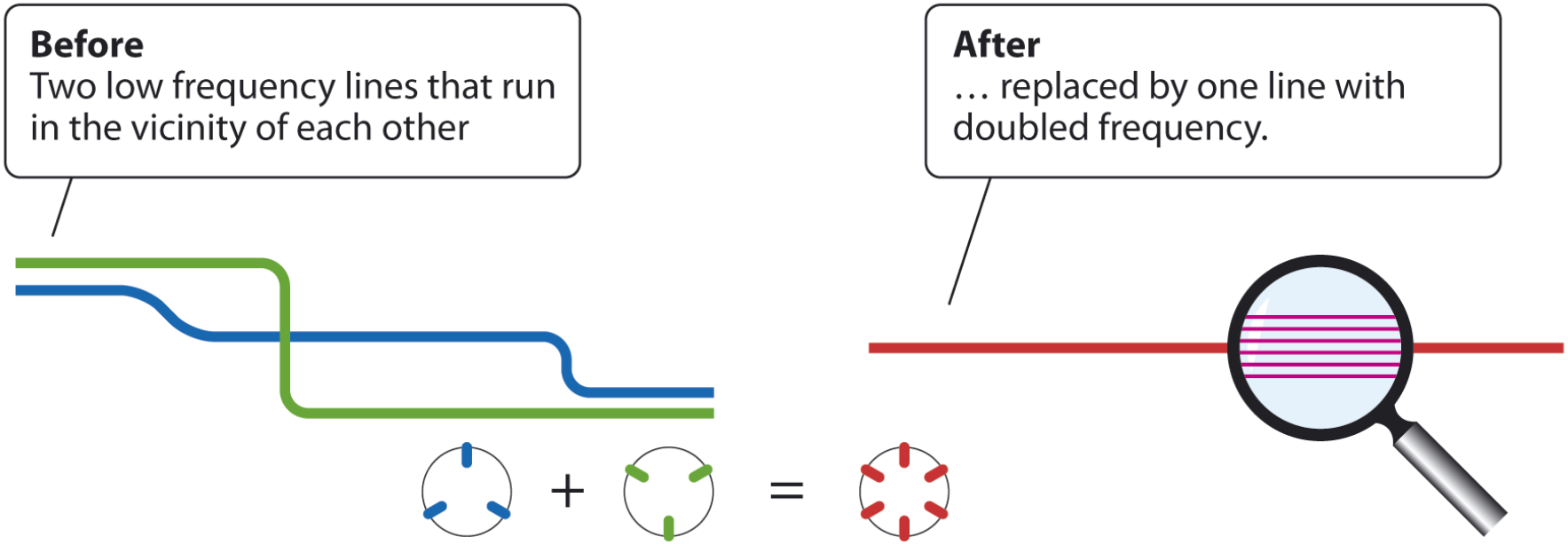
(Much more detail in Hitrans vol 2, available from https://www.transportformelbourne.org/transport-network-planning-best-practice/)

Simplicity

Brisbane, Australia (around 2010)

Kaohsiyng, Taiwan city bus

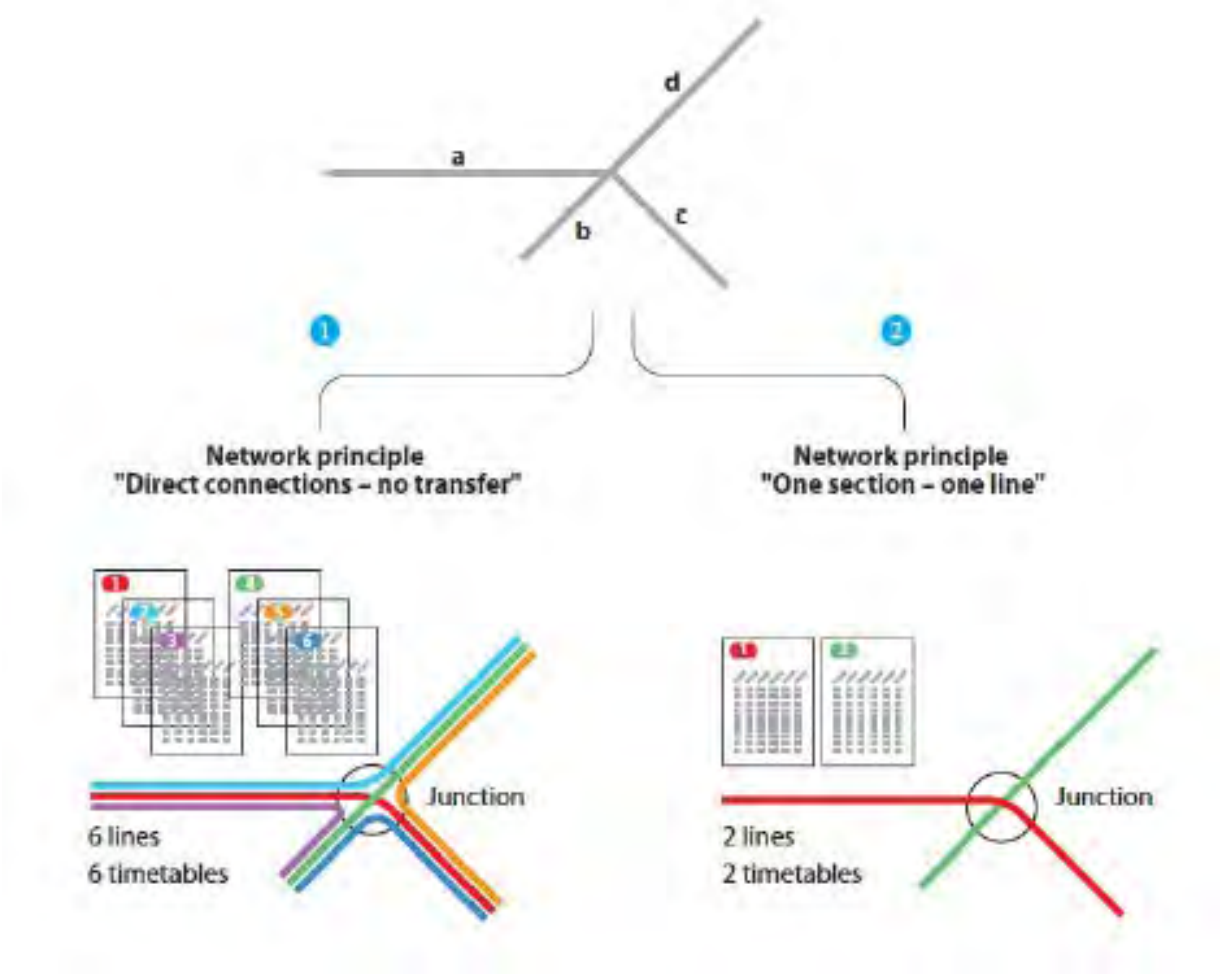
Corridors = Concentrating resources and increasing frequency



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

SIMPLICITY

– One section-one l

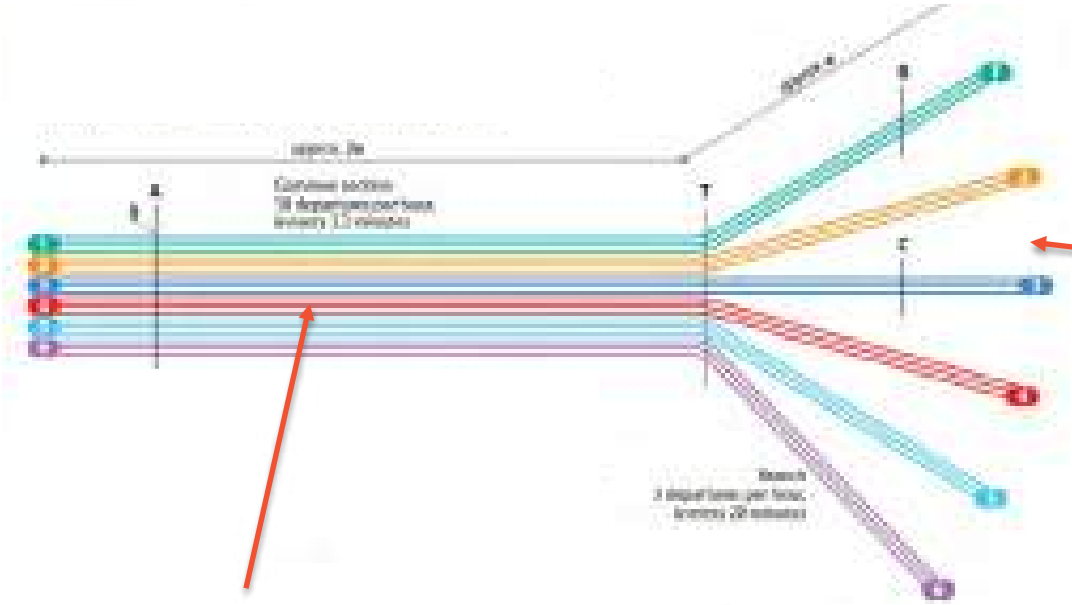


Source: Public Transport – planning the networks. Hitrans Best Practice Guide 2

Interchanges

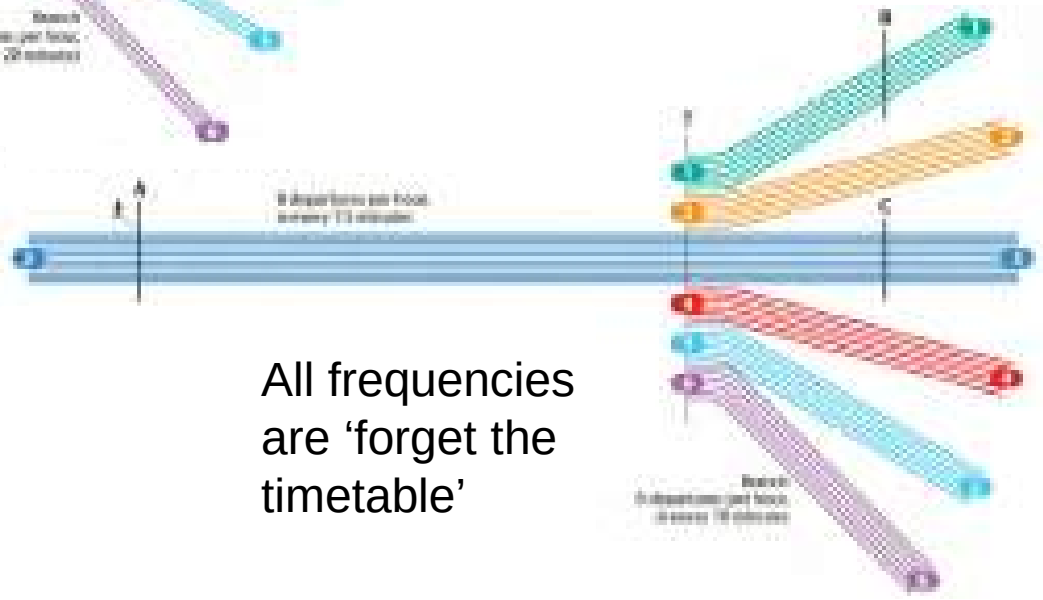
- If it is accepted that interchanges are needed, then design becomes one that focuses, for a given budget, on frequency
- Simple networks will need interchanges between
  - Lines operated by the same mode
  - Lines operated by different modes
- Interchange allows the best of the mode to be exploited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

Interchange can release resources



Frequency not high enough for ‘forget the timetable’

Super-high frequency giving vehicle on vehicle congestion even in dedicated lanes



All frequencies are ‘forget the timetable’

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*

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

Thank you for listening

Questions and discussion

corinne.mulley@sydney.edu.au

Public Transport Planning from a Stockholm Perspective

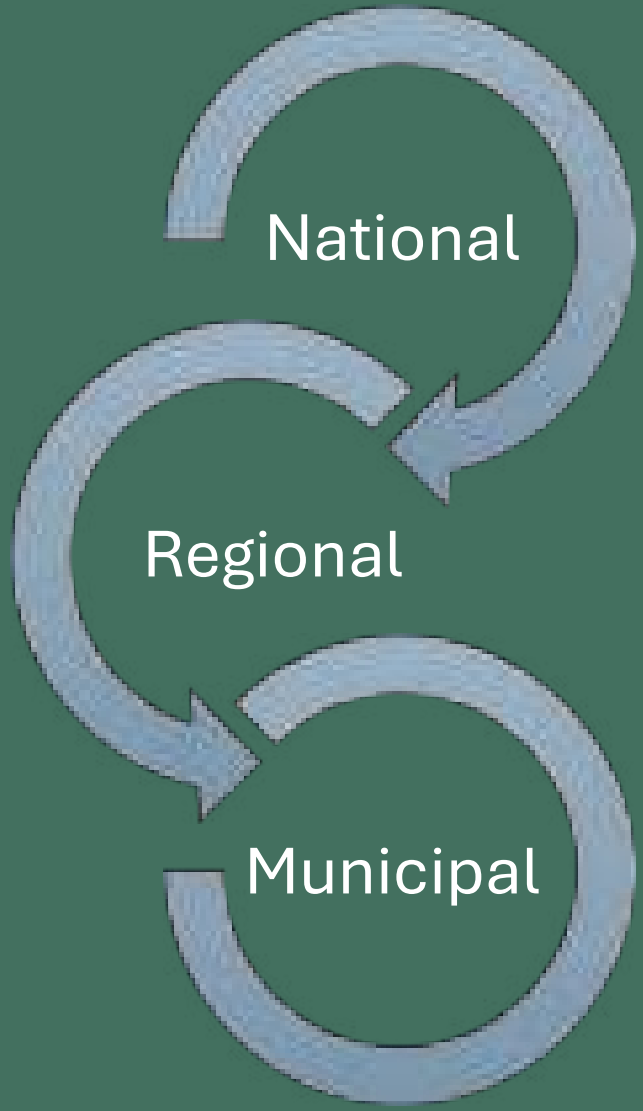
TOD2 Conference Copenhagen September 4th 2025

Maria Håkansson, Guidance to Zero

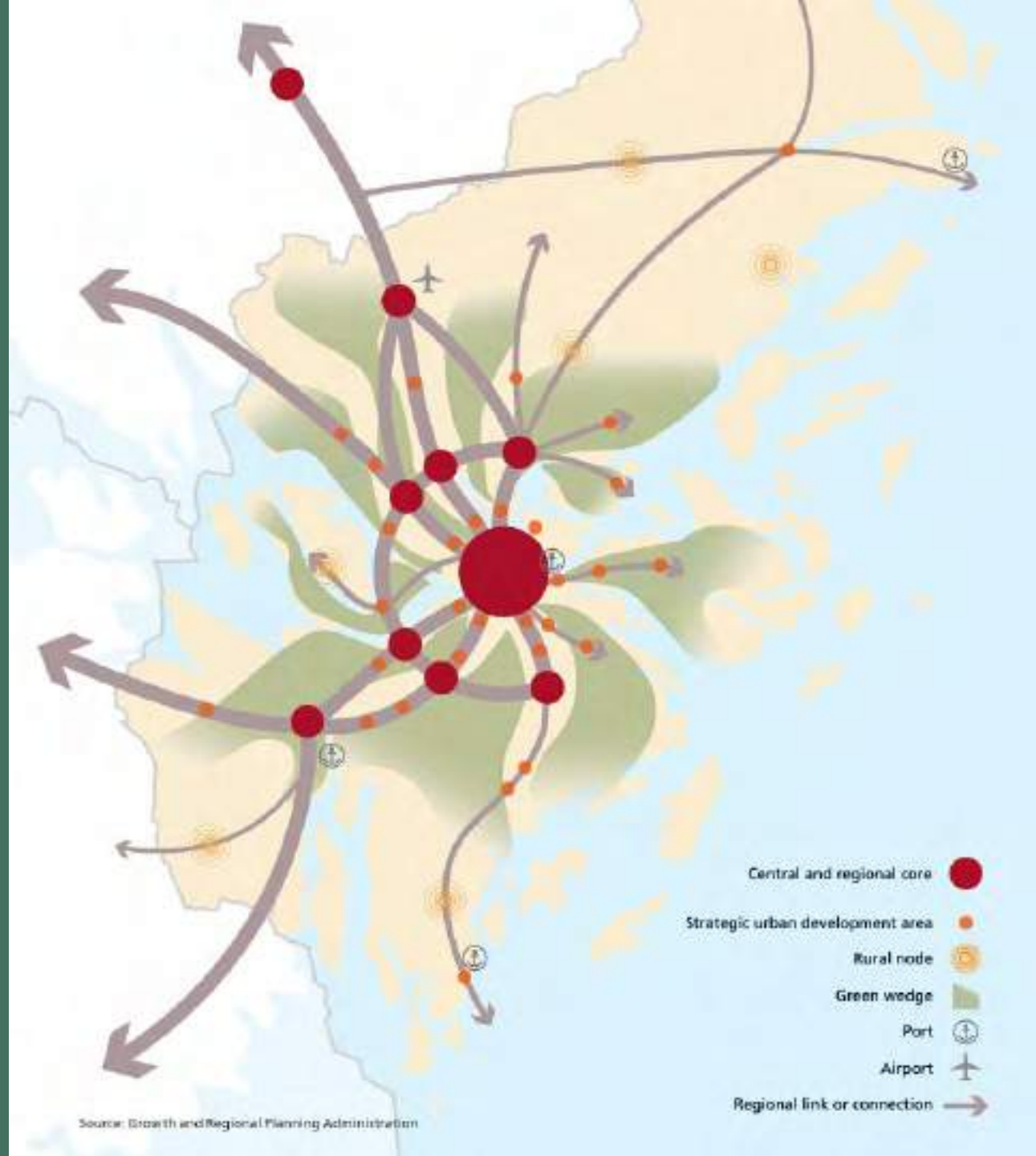
- The municipality of Norrköping
- The Region of Stockholm (SL)
- AFRY
- Guidance to Zero

G2Z
GUIDANCE TO ZERO

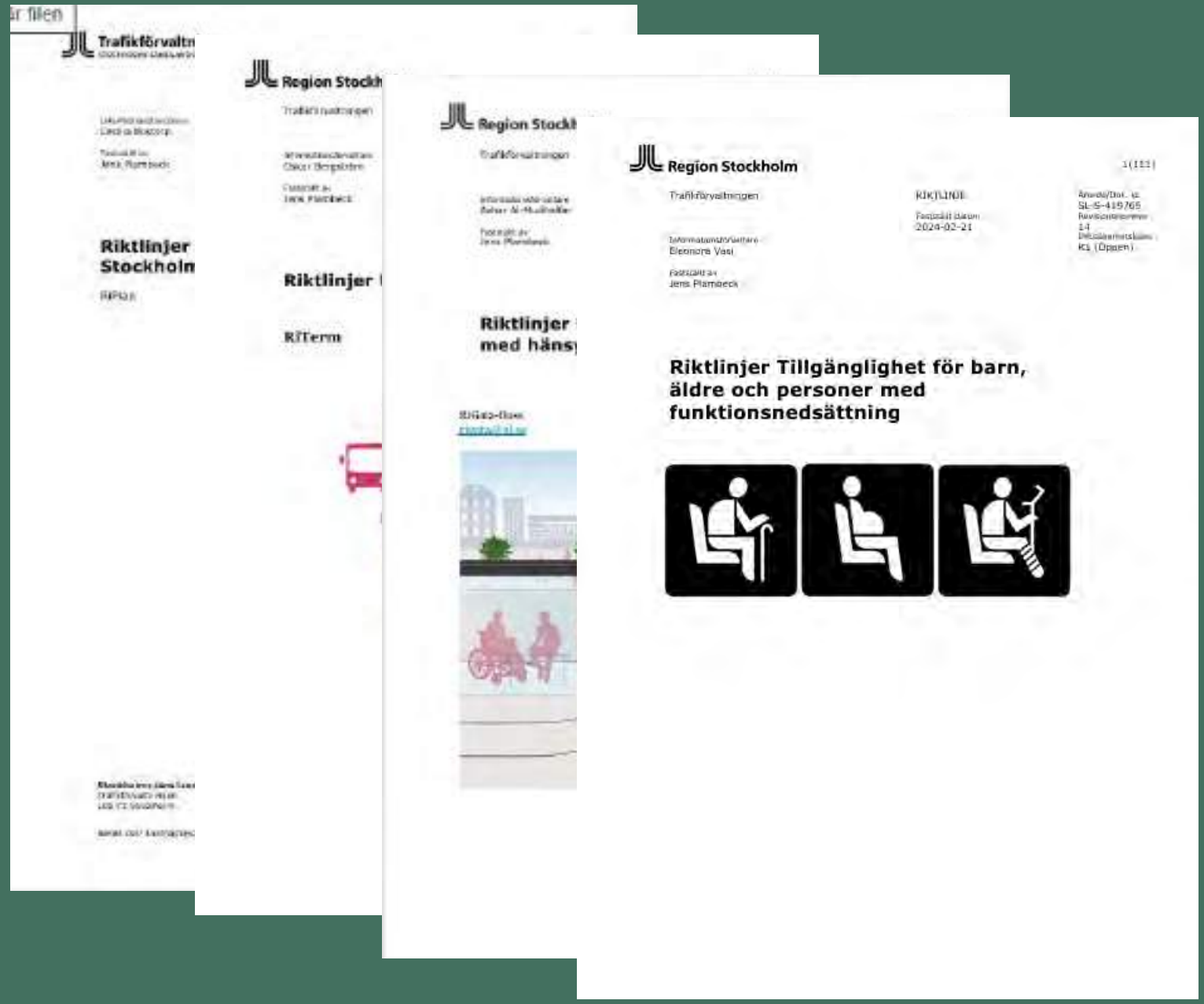
A divided responsibility



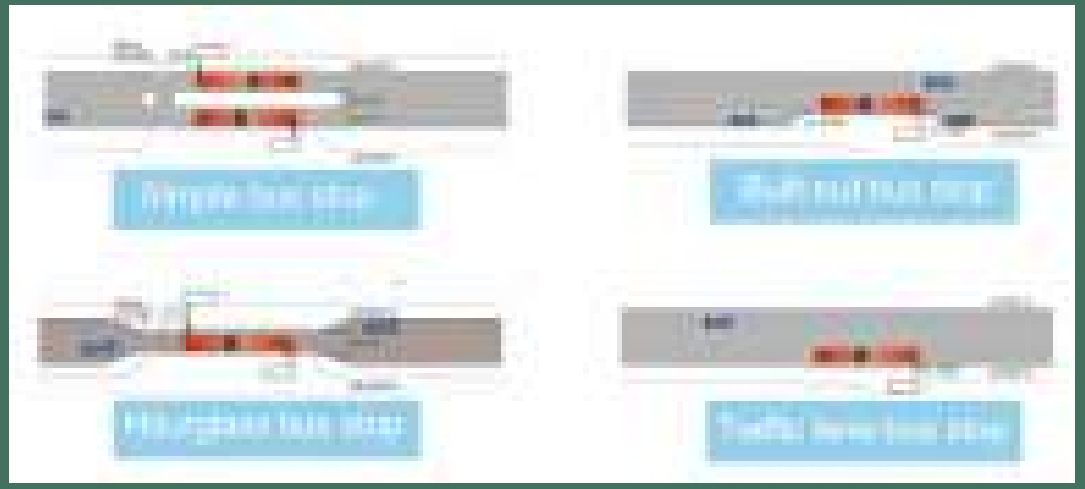
Regional Planning

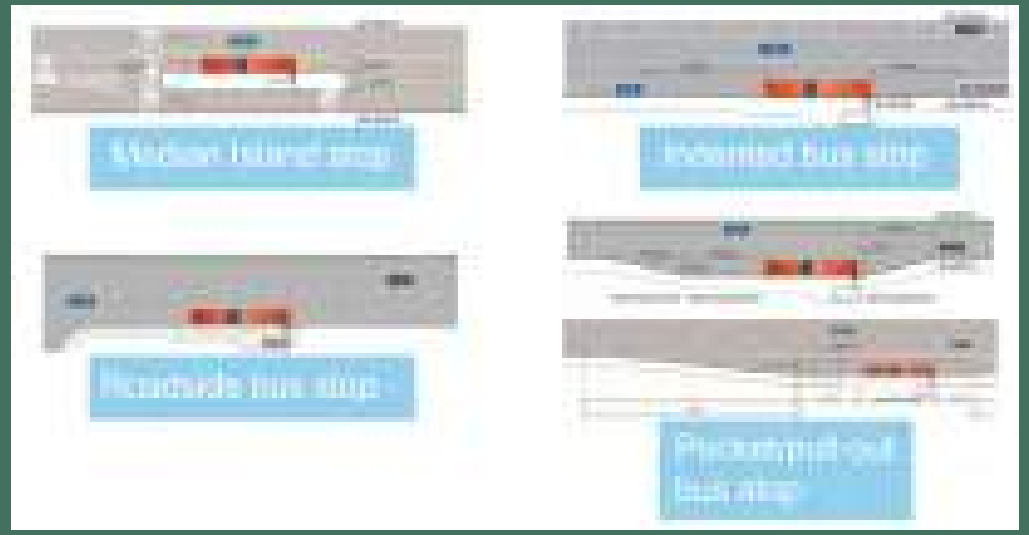


Stockholm PTA Guidelines



BEST PRACTICES IN DESIGN FOR BUS-TRAVELLED STREETS





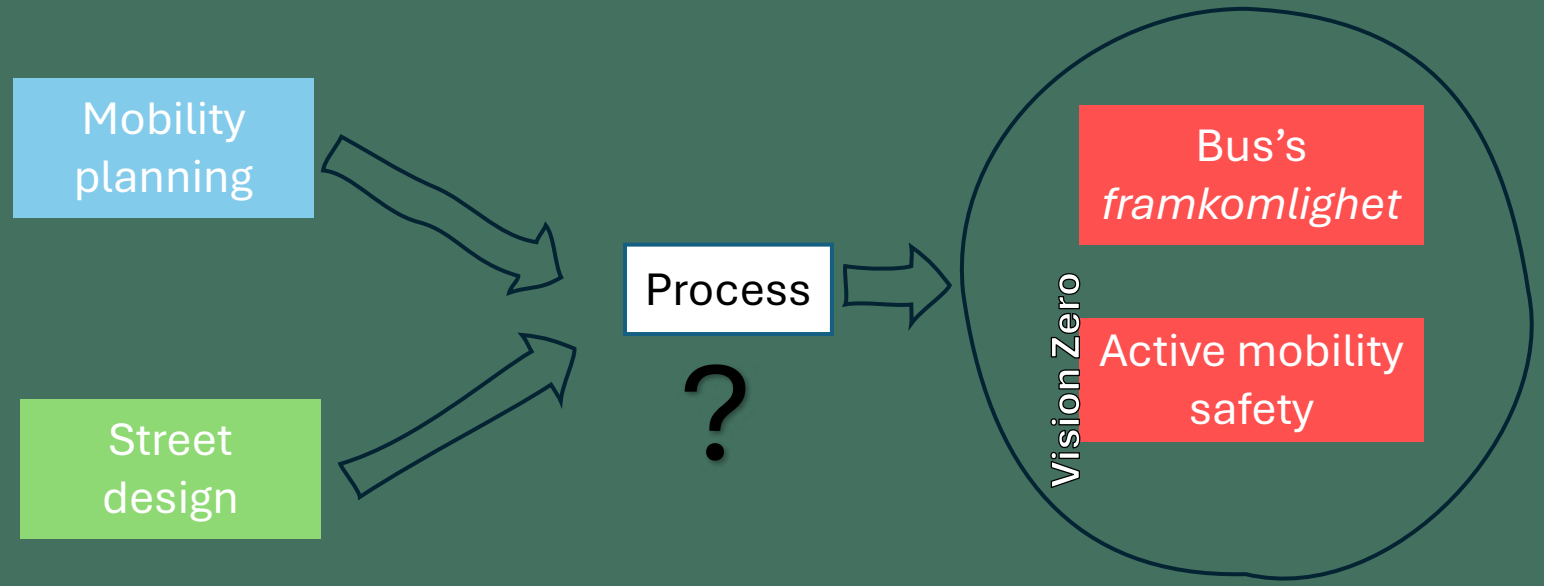
“Sustainable urban planning which promotes a modal shift towards safe walking and cycling and access to public transport can lead to health benefits from increased physical activity, reduced ambient air pollution and lower noise exposure” (WHO, 2023). +

G2Z
GUIDANCE TO ZERO

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

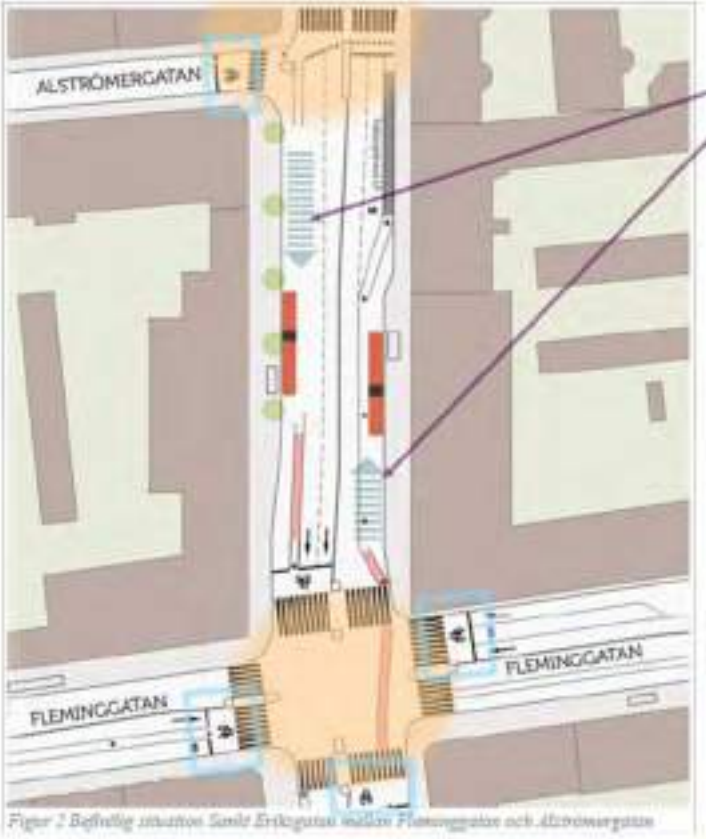
How can the mobility planning and street design processes be conducted in a holistic manner, to prevent conflict between bus's *framkomlighet*, and active mobility and its safety as prescribed by Vision Zero principles?



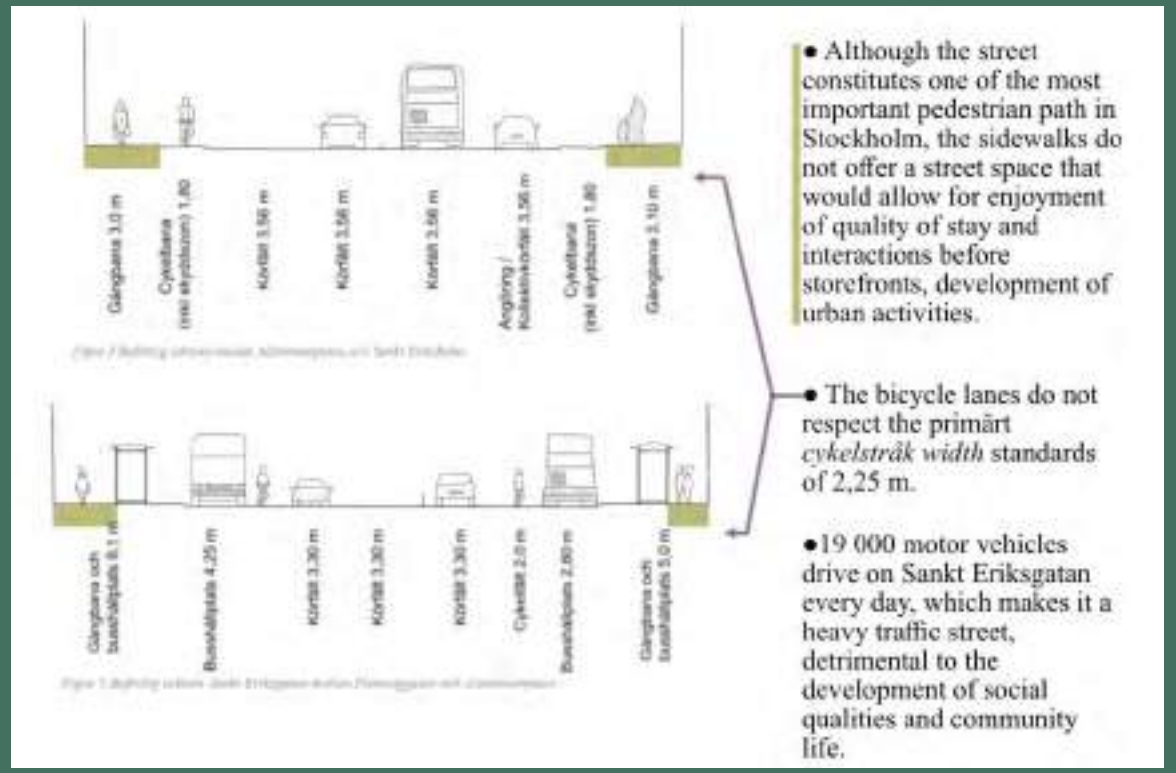
Anne-Hélène Mai, 2025

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.

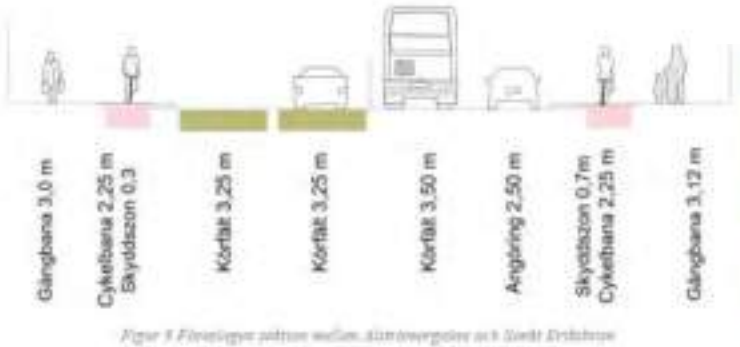


- Although the street constitutes one of the most important pedestrian path in Stockholm, the sidewalks do not offer a street space that would allow for enjoyment of quality of stay and interactions before storefronts, development of urban activities.
- The bicycle lanes do not respect the primärt *cykelstråk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

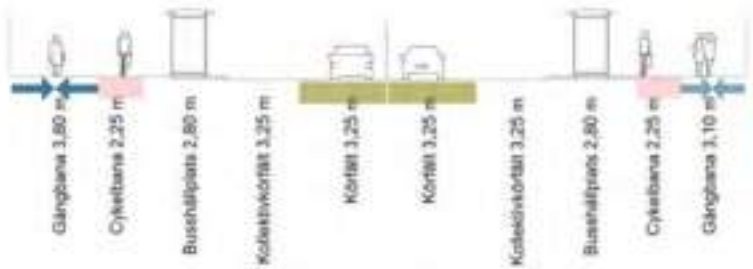
CASE STUDIES: DESCRIPTIVE ANALYSIS

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.



- 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.



- Reduction of the space available to pedestrian if the bus stop space is not counted.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HEALTH, SAFETY AND ACTIVE TRANSPORT

CONTACT

Maria Håkansson

CEO, Traffic Safety Expert

Guidance to Zero AB
maria@guidancetozero.com
+46 708 94 48 34

www.guidancetozero.com

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

After more than a century is it time to ditch the green belt ?

Ebenezer Howard

Oxford City and the Green Belt.

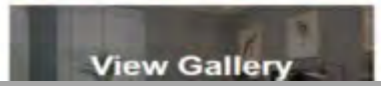
See CPRE Oxfordshire Interactive Map of Oxford Green Belt

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	569,600	37,800
2	Brighton	14.4	496,100	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	375,100	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	339,300	34,300

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

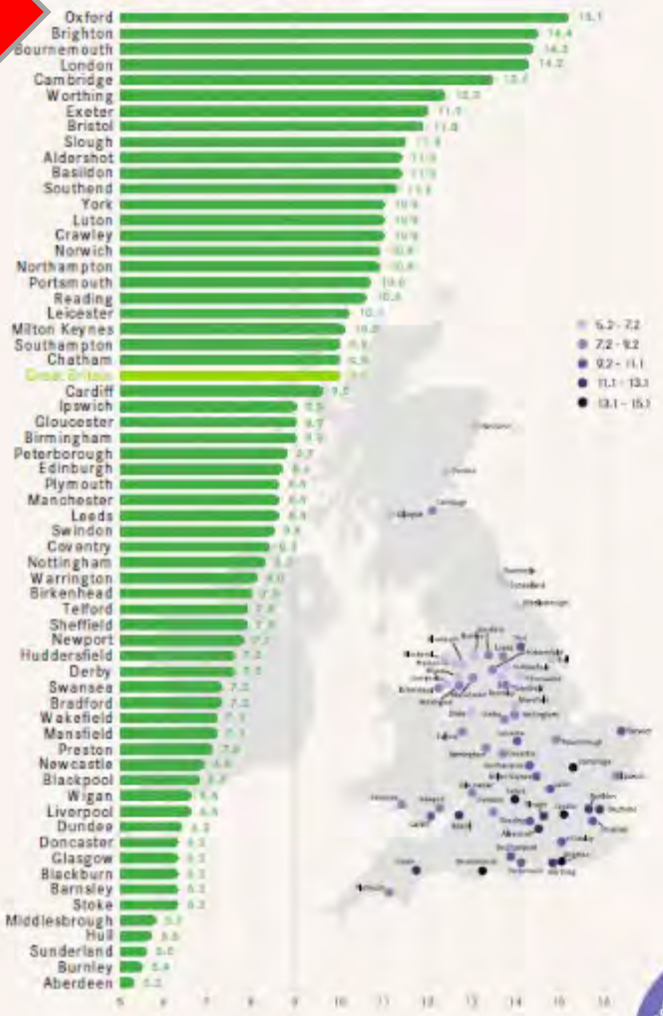
Note: Northern Ireland data not available so the figure for Great Britain is shown. ONS 2022, Earnings and employment from Pay As You Earn Real Time Information, seasonally adjusted, 2022 data. CPI inflation adjusted (2019=100). Earnings data is for employees only.

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



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The Oxford Times

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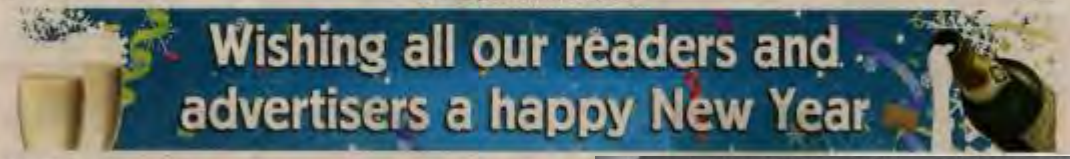

Outrage over 'hostile' rural housing plans

'Peeling away city's precious green border'

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

Nathan Briant

OPPONENTS 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 locals' 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, 2019.

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 us deliver the infrastructure our district and Oxfordshire badly need – it's a plan that will enable residents to continue enjoying living and working in South Oxfordshire."

Mr Bloomfield was the coun-

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-

oxfordtimes.co.uk

'Village full' say home objectors

Liam Walker, Marilyn Davies and Alex Al-Yousef previously opposed plans for a retirement village in Freeland

oxfordtimes.co.uk

Village is 'under attack' from developers

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

Miranda Norris

Freeland villagers are fighting development plans. Pictures by Ed Nix

TRAPPED BEHIND THE WHEEL

HOW ENGLAND'S NEW BUILDS LOCK US INTO CAR DEPENDENCY

NEW ECONOMICS FOUNDATION

Oxford traffic jam

Oxford traffic jam

What is being built in 2025?

In search of the station...

The Low Traffic Neighbourhood as solution to excessive car use

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. *Photographer: Martin Pope/Getty Images Europe*

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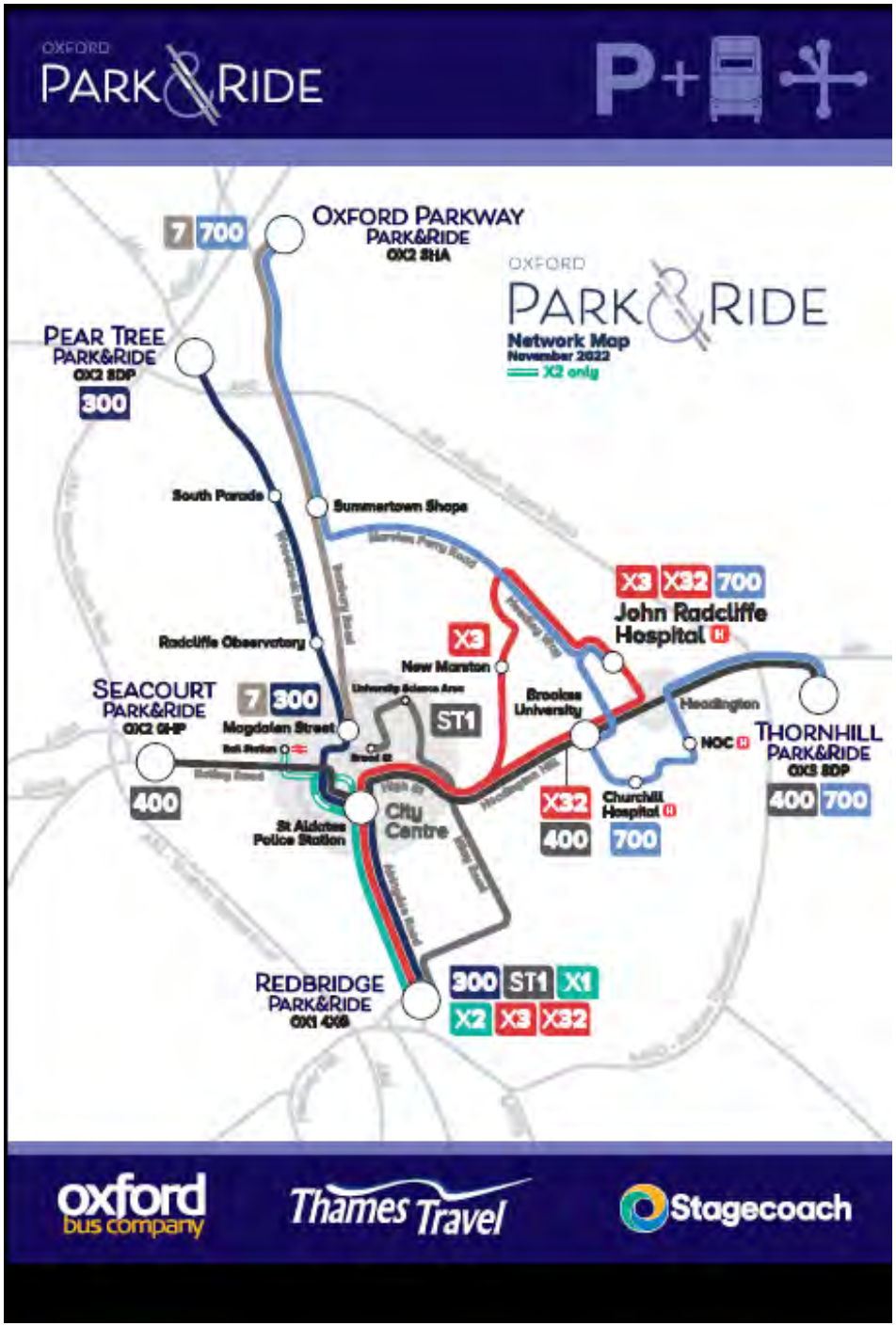
Oxford: Thousands join protest against traffic schemes

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.

Drive to

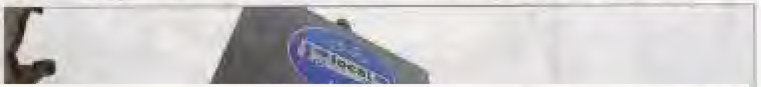

OXFORD
PARK & RIDE
OXFORD PARKWAY
PARK&RIDE
OX2 8HA
7 700
OXFORD
PARK & RIDE
Network Map
November 2022
X2 only
PEAR TREE
PARK&RIDE
OX2 8DP
300
South Parade
Summertown Shops
X3 X32 700
John Radcliffe Hospital
Radcliffe Observatory
X3
New Marston
SEACOURT
PARK&RIDE
OX2 0HP
7 300
Magdalen Street
ST1
Brookes University
Headington
THORNHILL
PARK&RIDE
OX3 8DP
NOC
400 700
400
St Aldates Police Station
City Centre
X32 400 700
Churchill Hospital
REDBRIDGE
PARK&RIDE
OX1 4XB
300 ST1 X1
X2 X3 X32
oxford bus company
Thames Travel
Stagecoach

30 OXFORD TIMES Thursday, March 23, 2023

FEATURE

'We need radical action on traffic for city to thrive'

Noel Newson of the group POETS (Planning Oxfordshire's Environment and Transport) says traffic filters could bring great benefit to the city's economy by tackling congestion



Oxford City Council ODS staff repair Oxfordshire County Council LTN barriers. Picture: Ed Nix

Petition demanding review of impact of LTNs across country

Frustration over disruption from LTNs upgrades

'Secret' study shows traffic filters will cause congestion

oxfordtimes.co.uk/news Thursday, March 30, 2023 OXFORD TIMES 19

oxfordtimes.co.uk

'A 20-minute trip now takes an hour'

Cowley decorator refuses to do local jobs because of difficulty getting aroun

Ed Halford

Elite school drawn into traffic fee row

Rich parents 'can afford' congestion charge

By Matthew Evans

'Scrap morally dubious traffic filter decision'

Ed Halford

Continued on Page 2

Staff exodus fears over roads charge

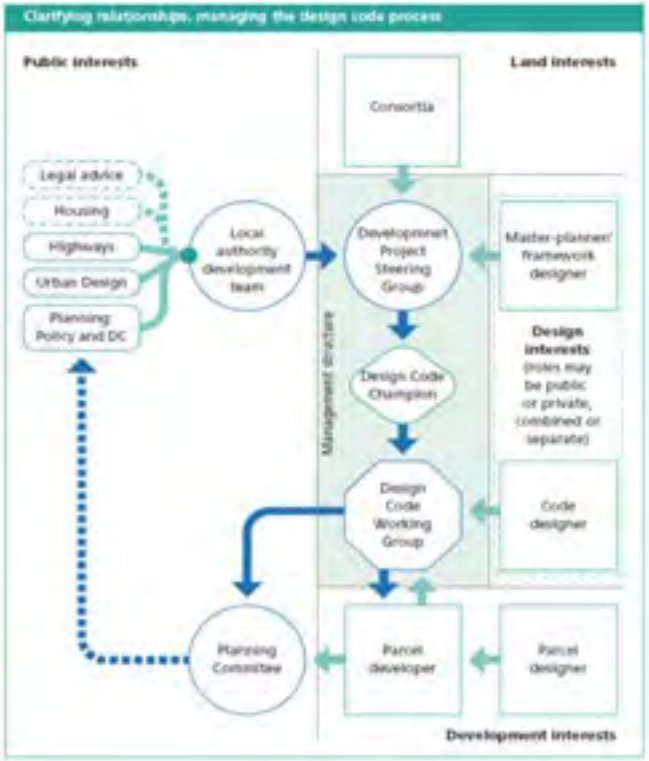
Opposition to daily £5 congestion fees

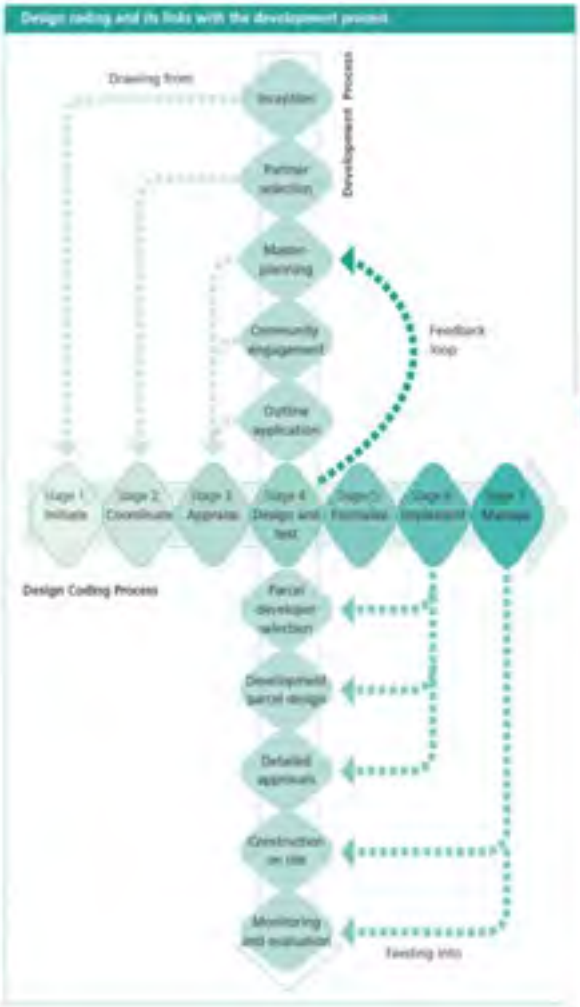
"The urge to be original at all costs is now a guiding force and compulsion of architecture"

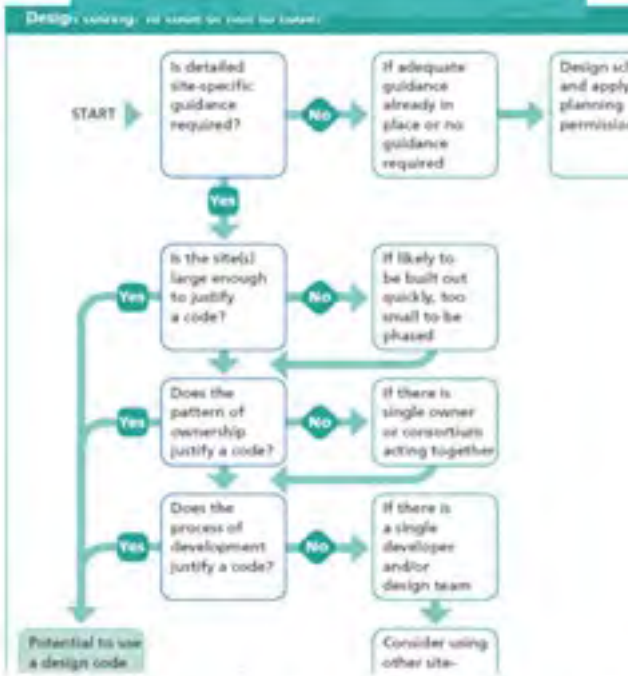
"The future of built environment had become a matter of brilliant all - encompassing vision rather than patient cultivation" (Habraken 2005)

Architectural aspirations

Planners obsessed with Process



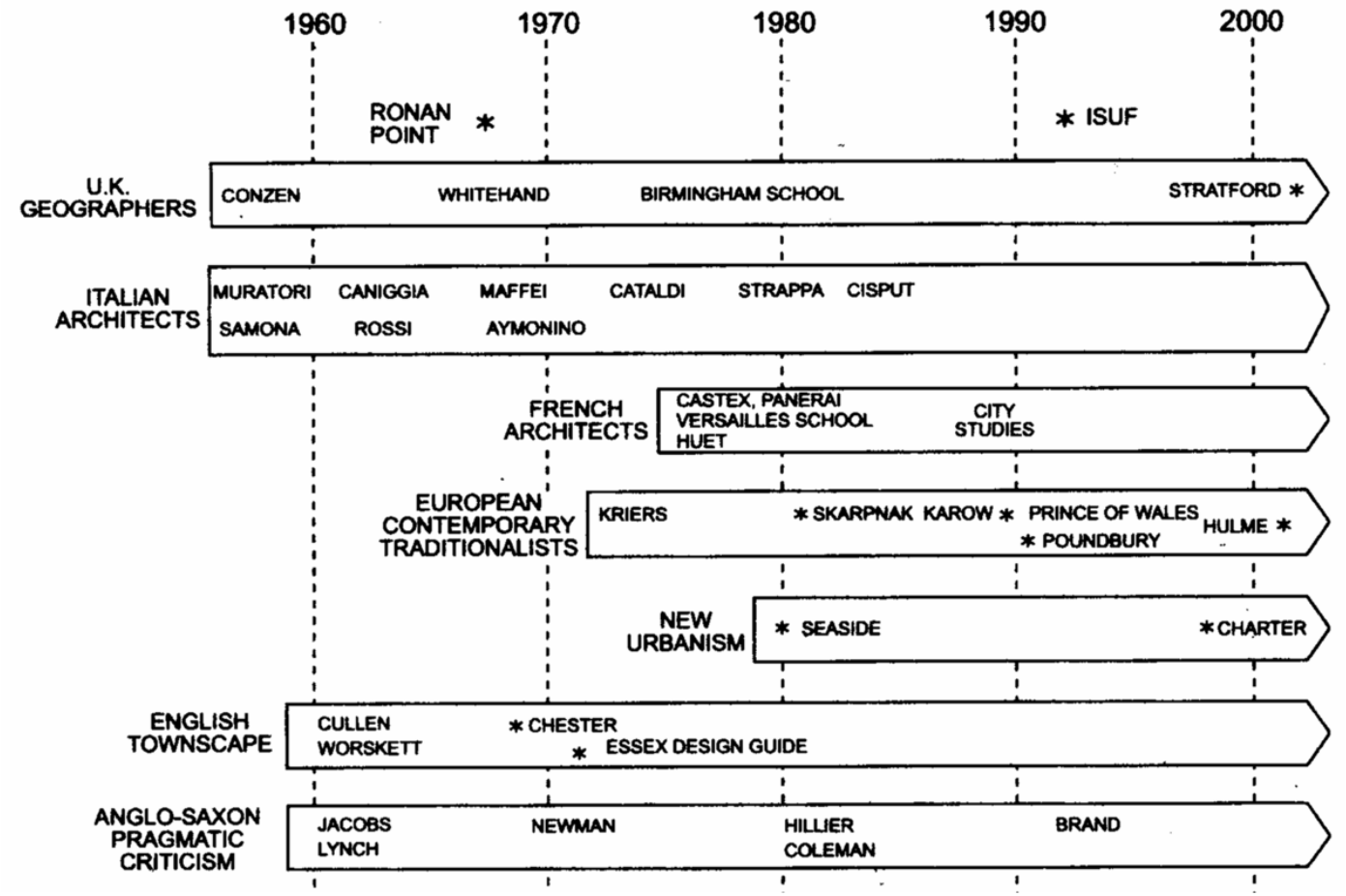




This publication has been approved by Ministers and has official status.

Planning & Development Briefs: A Guide to Better Practice (DETR, 1998)
Creating Successful Masterplans: A Guide for Clients (CABE, 2004)
Urban Design Guidance – Urban Design Frameworks, Development Briefs and Masterplans (Urban Design Group, 2002)

A genealogy of morphology



Prescription	Description
Architects, planners etc	Geographers, historians
Normative Theory	**Substantive Theory**
What cities should be	How cities are..and why

Verify normative by reference to substantive

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

After Moudon 2000 First president of International Seminar on Urban Form (ISUF)

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

BUILDING SYSTEMS

Materials

Bricks, tiles, beams

Structures

Walls, floors

Systems

Rooms, stairs

URBAN TISSUE

Building Type/forms

2 floor houses, 3 storey apartments

Plots

Land subdivision: Plots wide/narrow, shallow/deep

Streets

Streets, lanes, squares, connections

METROPOLITAN STRUCTURE

Districts

Neighbourhoods/districts

Cities

CBD, inner suburbs, peripheral estates, industrial zones

City regions

Landform, hydrology, settlement forms; Compact, Linear, patchwork

Peter J. Larkham

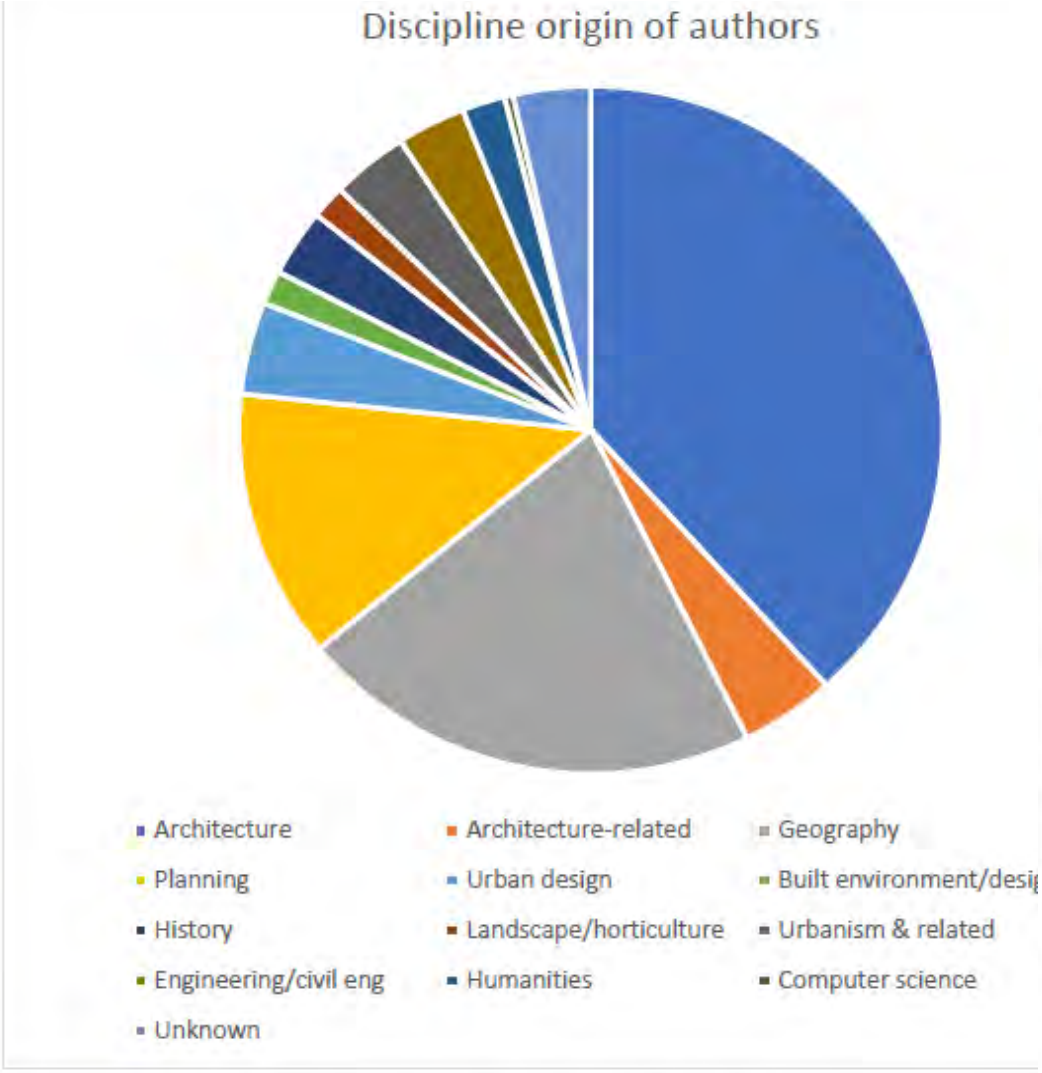


Figure 3. Disciplinary origin of authors of main papers.

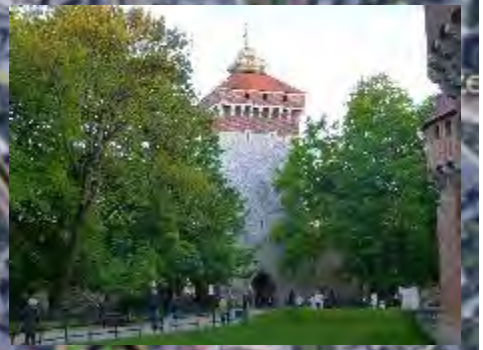
Table 1. Themes of published papers (excludes review articles etc)

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

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

Krakow 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

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
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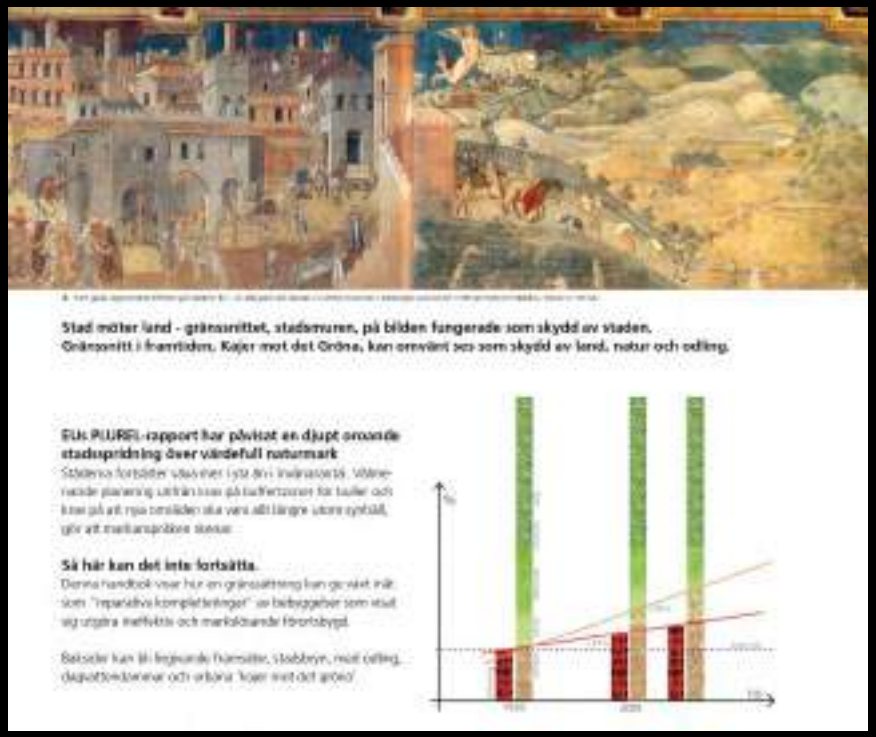


Stad möter land - gränsrittet, stadsmuren, på bilden fungerade som skydd av staden. Gränsnitt i framtiden. Kajor mot det Ordna, kan omvänt ses som skydd av land, natur och odling.

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

Städerna fortsätter växa mer i ytan än i invånarantal. Vilken planering utifrån kan på buffertzoner för tusler och krav på att nya områden ska vara att längre utom synhåll, gör att marklanspråken stiger.

Så här kan det inte fortsätta.

Denna handbok visar hur en gränsättning kan ge vaxt mål som "reparativa komplettering" av bebyggelse som visat sig utgöra mellvikts och markslösande förortsbygd.

Bakgrund kan bl.a. ingående framsätter, stadsbryn, mixat odling, deputtondomänar och ordnar "kajor mot det grona".

The threat remains:

Urban area growth

grows faster than

urban population growth

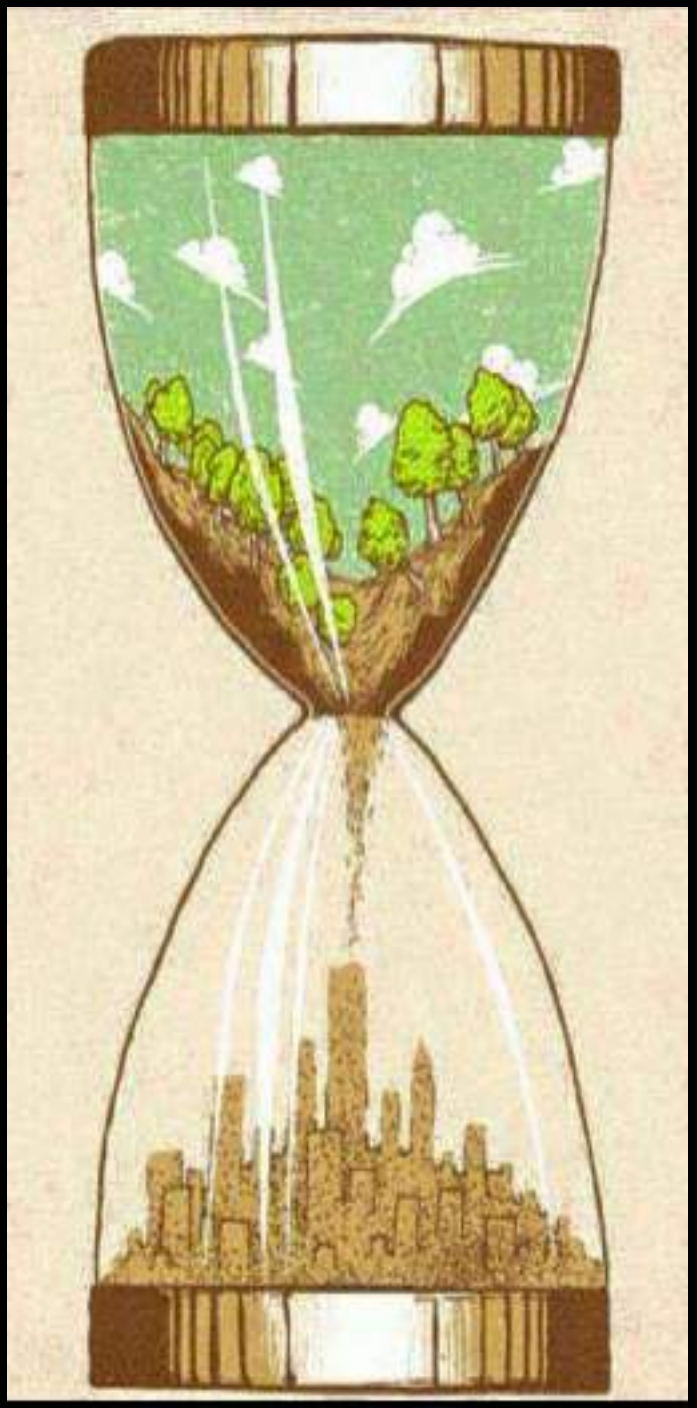
Proposal:

Reparatory growth

complementary growth

inner –”bouncing inwards”

outer – finger plans, linking fragments



Criteria for paradigm change

- humble enough

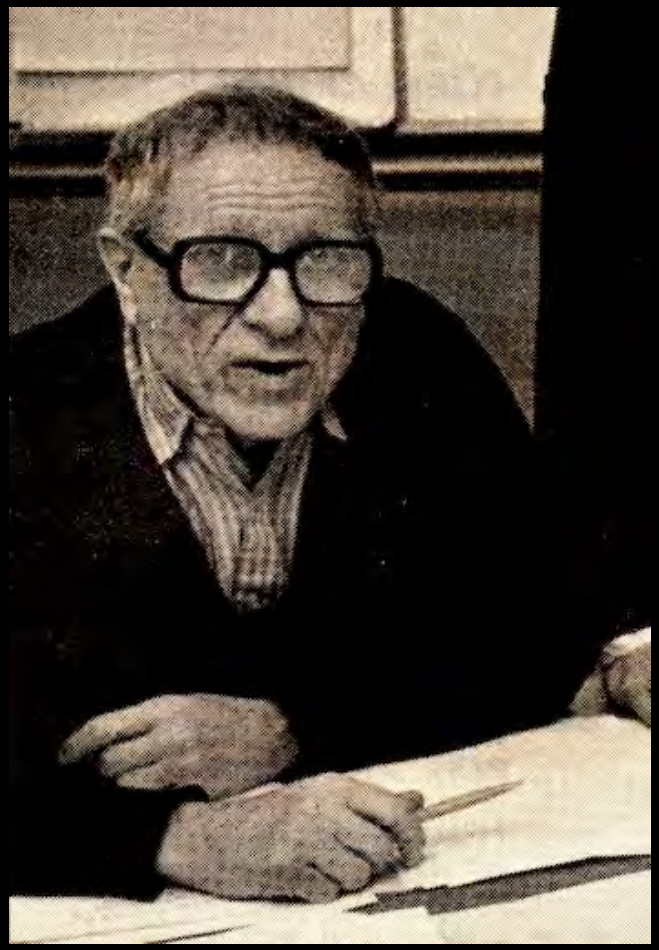
…flops

…coming from 2 earlier efficiency-noias:

land reform act destroying large parts of our villlage heritage
modernist zoning devestating 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
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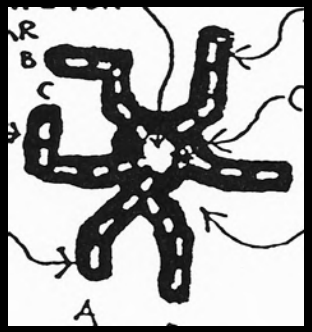

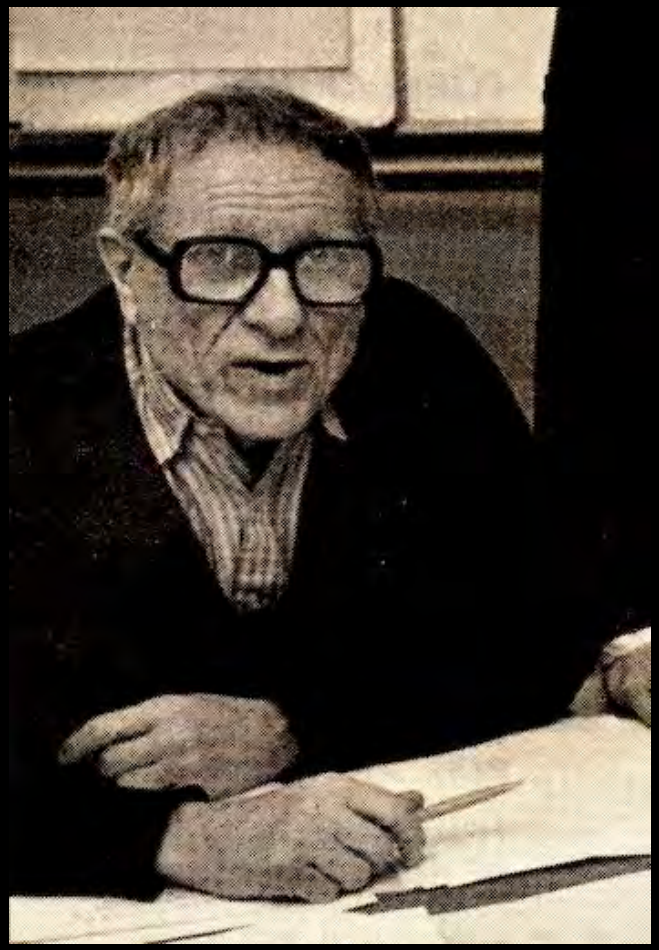

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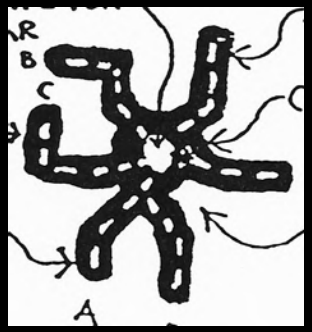
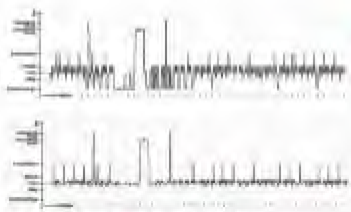


”I’m preparing for my next century”



Tidsgeografiska grafer tydliggör hur stadsform styr levernet. Över: ett års resemönster för en person i typisk bubbelstad. Nedre: ett års resemönster för en person i tingeplan med klassisk mixed stadsväv

Verktyg 27

Reskvot*, tidsgeografi*, resesekvenser*

- stadsmönster styr levnadsmönster, styr livspusslet

Ett effektivt sätt att kontrollera om en stadsdel eller stad är trafikaliskt hållbar är att testa reskvoten, dvs effektiviteten i bil- resp kollektivnätet.

I Storstockholm är reskvoten* ca 2,2, dvs medborgarna tar sig genomsnittligen fram 2,2 ggr så snabbt eller långt i bilnätet som i kollektivnätet. I övriga svenska städer gör bubbelstrukturen* att reskvoten ligger mellan 4 och 10, eller mer.
En slutsats är att det i stadsdelar med bubbelstruktur är mycket svårt att åstadkomma en rimlig och rättvis reskvot. Tvärtom, reskvoter gör där att människor tenderar att alltmer bli bilister. Familjer tenderar att skaffa en andrabil, räknar avstånd i biltid, bosätter sig därefter, och upplattar sig sedan tvungna att ha bil.

Motmedlen, piska och morot i form av trängselavgifter och subventioner till kollektivtrafikkostagen, är både kontroversiella och dyra. En god proaktiv slutsats är att befintliga bubbelplaner behöver växas till en rikare gatuväv, kollektivtrafiken behöver ges gena stråk, och hållplatser behöver bli värdiga fokuspunkter i stadsväven. Allt detta är en omständig men nödvändig reparativ fas av vår stora mängd icke-hållbara stadsbygder.
Det behövs kompletterande gatuväv som ger genare stråk, främst för de kollektiva färdmedlen, men också mer silning* för övriga trafikslag, för att gynna och generera lokala näringsidkanden.

Tidsgeografin* ger gott stöd för att förstå hur stadens gatunät, och mix* av arbets- och service-punkter kan ge bra respektive svårhanterliga livspussel, goda resesekvenser* avgör hur mycket tid och hur mycket ekobelastning individer hamnar i. Se mer under hållplatstorg*.

De två mest effektiva verktygen för att erbjuda en stadsbygd där "det är lätt att leva rätt" är att sätta ut kollektivtrafikmedlets linjedragningar, förädla hållplatser till en sekvens av hållplatstorg, och att som kommun se till att vid dessa torg lokalisera förskola, skola och andra kommunala servicepunkter. Och parallellt uppfordra och uppmuntra byggherrar att upplåta ett procenttal av sina byggnaders bottenvåningar för stadens gatuliv. Tyska nydanande planer i Tübingen* och

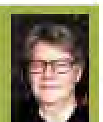
Reskvot, Restidskvot
För att åstadkomma en god restidskvot för de hållbara trafikslagen behöver gångnätet planeras mer gent än cykelvägnätet, vilket i sin tur måste vara mer finmaskigt än det övriga vägnätet. Från bostad till målpunkt bör närmaste gångstråk maximalt vara 30% längre än fågelvägen.

Följande målsättningar bör gälla:
Säkerställ att restidskvoten[2] mellan cykel och bil inte överstiger 1,5 i viktiga reserelationer

Säkerställ att restidskvoten mellan kollektivtrafik och bil inte överstiger 1,5 i viktiga reserelationer

Slutsats: Hållbar stadsplanering handlar om att göra oss fria från den bubbelplanering* och zonering* som gör rimliga reskvoter oupprnåeliga.
Malin Görand, Trivector Traffic AB

Ska konkurrensen fungera, kan de små byggarna inte hålla på med planer som tar åratal. Det behövs plan-beredskap! Potentialen hos de små byggarna måste fram.
Jan-Erik Bengtsson, senior rådgivare, tidigare projektledare SKANSKA



Referens för "kollektivtrafikbaserat stadsbyggnadsmönster" färdmedlets hållplatser bildar en sekvens av hållplatstorg - både "kajer mot det blå" och "kajer mot det gröna"

"Förändring medelst addition" eller "reparativa kompletteringar" skiss för Östeberga väckte mycket oro ett prickmarks-skifte kunde ändra rollfördelningen och incitamenten

"Städer är summan av visioner, egna och andras. Ligg därför före, planera i tid."

Thomas Arkitekt, LFV Halmstad, vid konferensen Kajer mot det gröna

Gräns- & kaj-strategi i olika städer

Beslut om att hindra sprawl kan ta olika former. Växtkycket kan ta olika vägar: 'stulna mål' som kompletteringar, växa uppåt eller 'jaysa utåt' i hållbara stråk. Rosa färg visar kajer och inre komplettering. Grå färg visar växt utåt som 'gjuter ut' om eller när det behövs.

Portland har bestämt en **fast gräns.** Liknande beslut finns i flera svenska kommuner, men få har stått fast eller getts någon tydligt gestaltande kraft

Københavns fingerplan med spejlande fingrar som gröna kilar. Gul färg indikerar möjlig framtida växt längs kollektivtrafikens axlar

Studie för att **Nyköpings** Dels inre kompletteringar, dels **fingrar** som länkar fragment av byggen för bättre sö system och kollektivtrafik (Arkon / Ekologigruppen)

Nynäshamn, 'Piläten'. Studie angående finger mellan Nynäshamn och Gnma. Länkar fragment av byggen, skolor, nedlagda stationer till ett bebyggelsestråk utifrån en serie hållplatslägg. Urbant längs stråket, natur- och odlingskära hela stråket. Kajer utåt och kajer inåt. In fiska av odling, bebyggelse och vatten.

Steg 1

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

Betrakta Din stad i ett historisk perspektiv, bakåt och framåt. Välj stadens/kommunens/ortens långsiktiga växtmönster. Visa var staden kan växa, och var den kan minskas. 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 balans och utbyte mellan bebyggelsestruktur och grönstruktur.

Vid tillväxtscenariet, Stad 2.0, fastlägg hur stor del av tillväxten som kan ske som inre reparativa kompletteringar* och hur mycket som behöver ske i form av utväxter av stadskroppen. Ett gott exempel på gränssättning är Portland*, ett gott exempel på smarta utväxter är fingerplaner* av t ex köpenhamnsk sort.

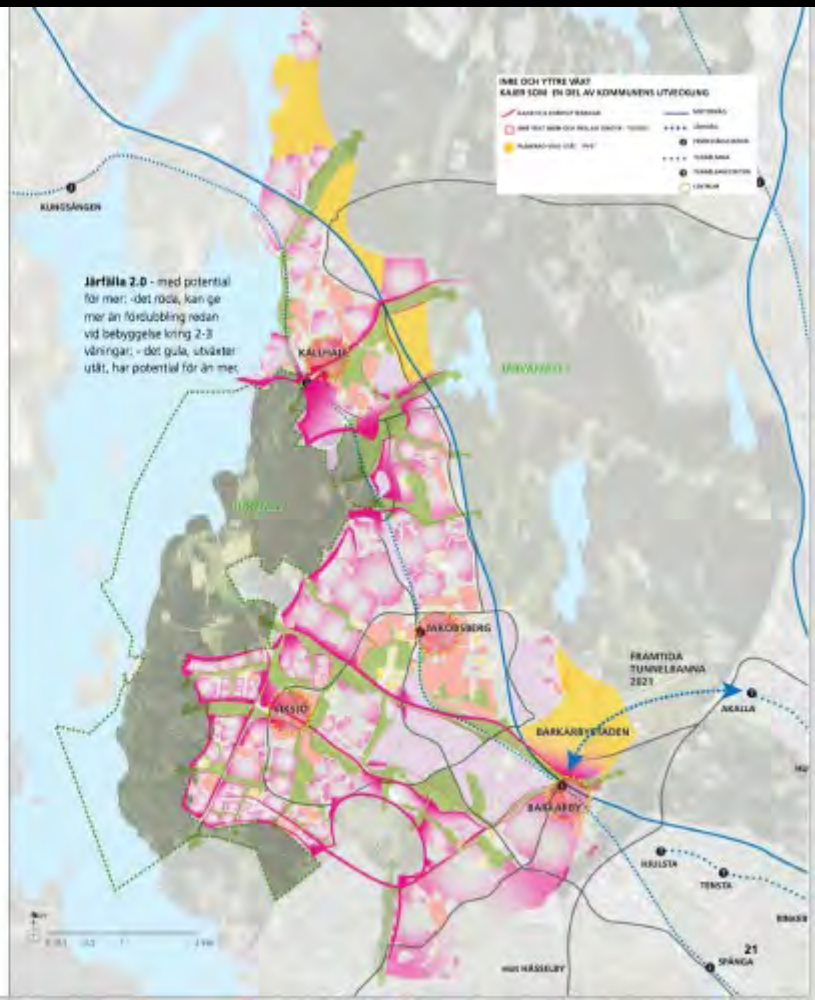
Vid minskningsscenariet, Stad 0.7, fastlägg vilka bebyggda delar som med fördel kan omvandlas till naturmark av olika karaktär, odling, beskogning, etc. Fastlägg parallellt var befintliga bebyggelsestråk och grönstrukturer kan behöva kompletteras.

Välj strategi för gatuväv och stadsstruktur, dvs en morfologi*, som innebär att stadens resivoir* stegvis kan förbättras. **Ta härmed ett beslut om ett slut på bubbel-planeringen*.**

Steg 2

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

Ta ett resolut beslut att planera utifrån val av stadstyper* med goda prestanda*. Utgå från t ex stadstypsmatrisen*. Modifiera den gärna för Din kommun. Komplettera med stadstyper som kommer fram 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 kynnen, dels för att profilera kommunen. Säkerställ en rik mix av stadstyper i olika stadsdelar.



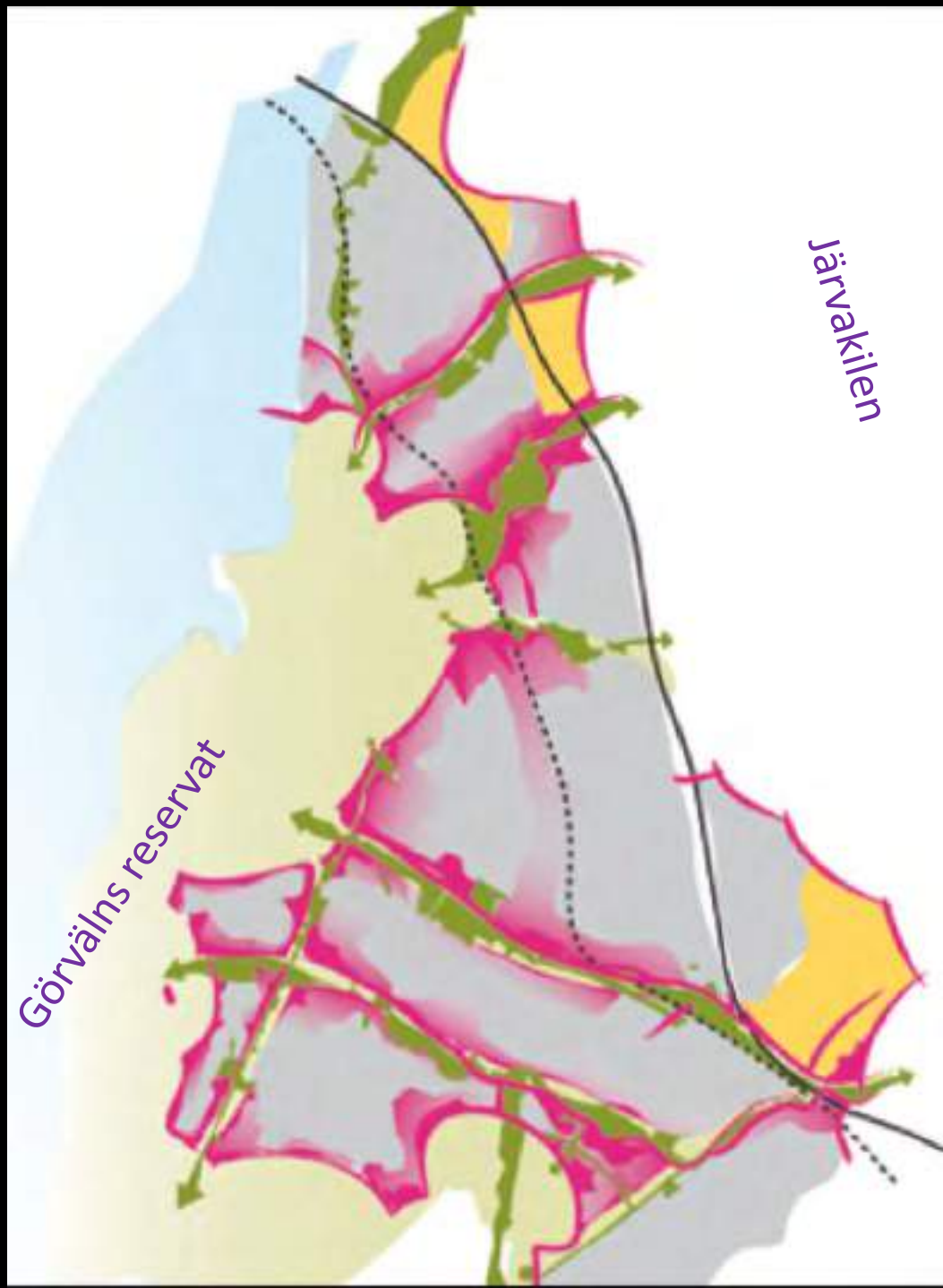
Järfälla 2.0 - med potential för mer: -det röda, kan ge mer än förtulbling redan vid bebyggelse kring 2-3 våningar; - det gula, utväxter utåt, har potential för än mer.

’studs inåt’
&
’pys utåt’

’bouncing back inwards’

&

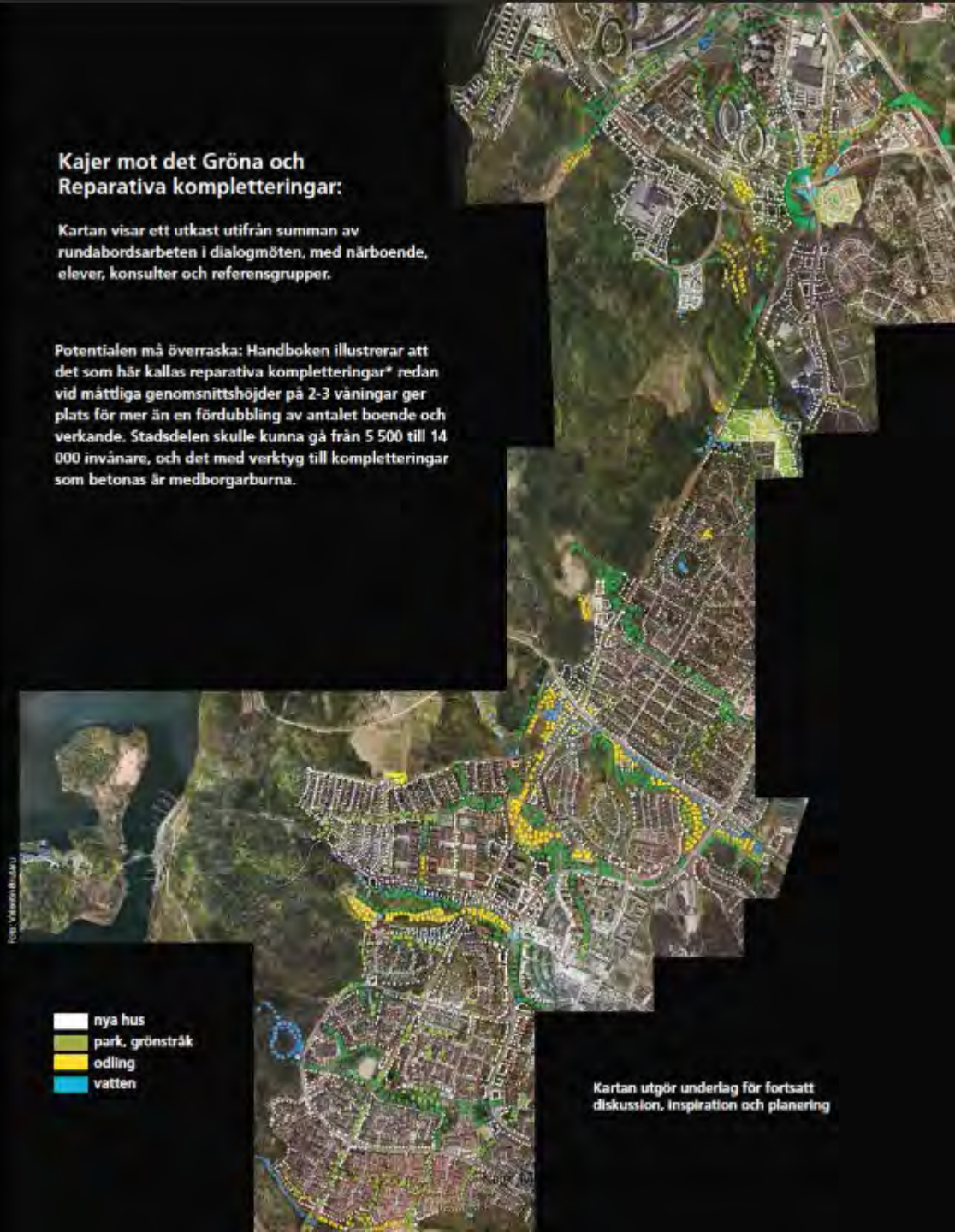
’trickling out outwards’



Kajer mot det Gröna och Reparativa kompletteringar:

Kartan visar ett utkast utifrån summan av rundabordsarbeten i dialogmöten, med närboende, elever, konsulter och referensgrupper.

Potentialen må överraska: Handboken illustrerar att det som här kallas reparativa kompletteringar* redan vid måttliga genomsnittshöjder på 2-3 våningar ger plats för mer än en fördubbling av antalet boende och verkande. Stadsdelen skulle kunna gå från 5 500 till 14 000 invånare, och det med verktyg till kompletteringar som betonas är medborgarburna.



Kartan utgör underlag för fortsatt diskussion, inspiration och planering

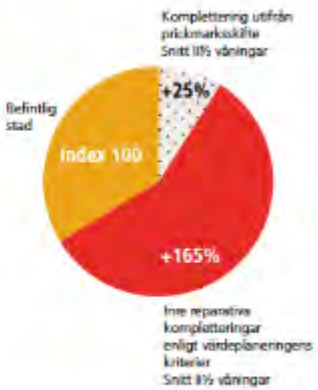
Strategin med inre "reparativa kompletteringar" enligt verktygen i Handboken...

KAJER MOT DET GRÖNA

...ger potential till mer än en fördubbling av ytor för bostäder och verksamheter:

+190%

redan vid bebyggelse med i snitt 2-3 våningar



Kaj-projektet har en metodologi som:

- betonar vikten av en gräns för stadsutspridningen,
- vänder växttrycket inåt som "inre reparativa kompletteringar"
- formar baksidor till framsidor, som "kajer", vilket:
- genererar värden för både stad och natur, och synergier dem emellan
- utifrån värdeplaneringens kriterier kräver att nya bebyggelser bara tillkommer där de gör nyttor för sin omgivning
- ser grönstrukturens kilar och stråk inte som hinder utan som vitala komplement till bebyggelsestrukturen
- utifrån ett prickmarks-skifte erbjuder byggrätter generellt mot gata och i övrigt längs tomtgränser där grannarna är överens
- betonar medborgarburna dialoger som bas för stadens inre komplettering och långsiktiga växt
- betonar begreppet reparativa kompletteringar i kontrast till begreppet förtätning
- betonar attraktionsplanering framför restriktionsplanering

Utifrån pilotstudierna i Järfälla, ger en omräkning till regional skala en remarkabel potential:

+1.800.000

enheter[4] i Storstockholm utöver dagens 940 000 befintliga bostäder[3]

+54.000

enheter[4] i Järfälla kommun utöver dagens 29 000 bef bostäder[3]

+9.500

enheter[4] i kaj-projektet utöver dagens 5 000 bef bostäder[3]

[1] "Kajer mot det Gröna" är en projekt finansierat av Delegation av Hållbara Städer och Järfälla kommun. Det undersöker hur vi mellan sted och land kan bygga hållbara gränssnitt som ökar kvaliteterna för bägge

[2] Som beräknat i projektet "Kajer mot det gröna" intill Görälns naturreservat i Järfälla kommun.

[3] Data / SCB 2013, avrundade tal.

[4] Enheter à 100 kvm BTA, där en viss procent kan utgöra verksamhetsytor, service etc.

Kajer mot det gröna:
forma gränsen så att den uppstår en serie landskapsrum.
Bebyggelse har blivit en serie framsidor.

Verktyg 36

Kajformer/landskapsrum

- stadsbrynets* form formar också landskapsrummets form

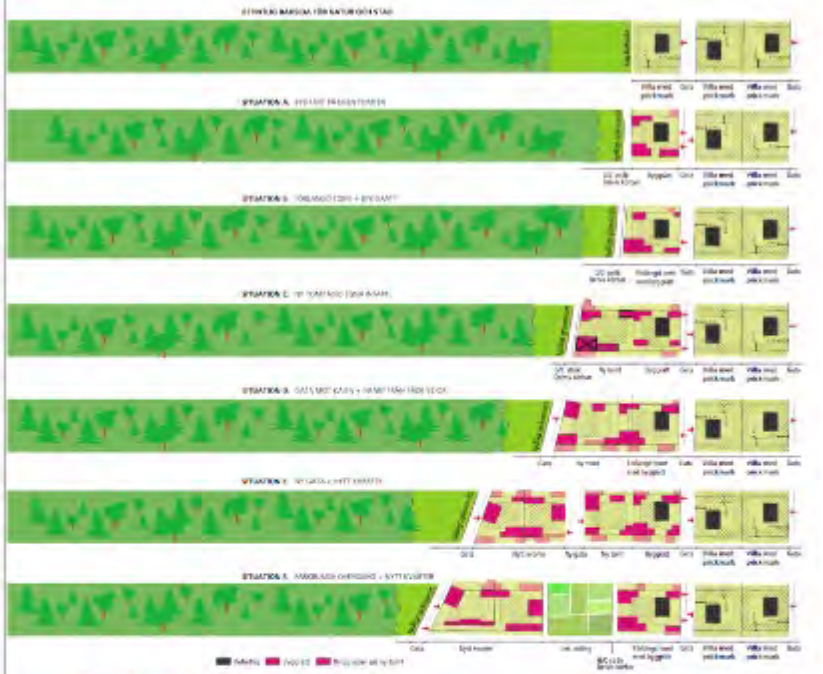
Vi bygger inte bara hus och stadsrum, vi bygger också landskapsrum. Jordbruk och skogsbruk har redan berört de mesta av våra landskaps kvadratmetrar, vi har satt spår både av värd och varvård.
Så fortsätter vi att göra: när det gäller landskap påverkar vi både genom att göra saker och genom att låta bli att göra saker. Natur växer. Arter sprids om utrymmet, tar över eller reträterar.

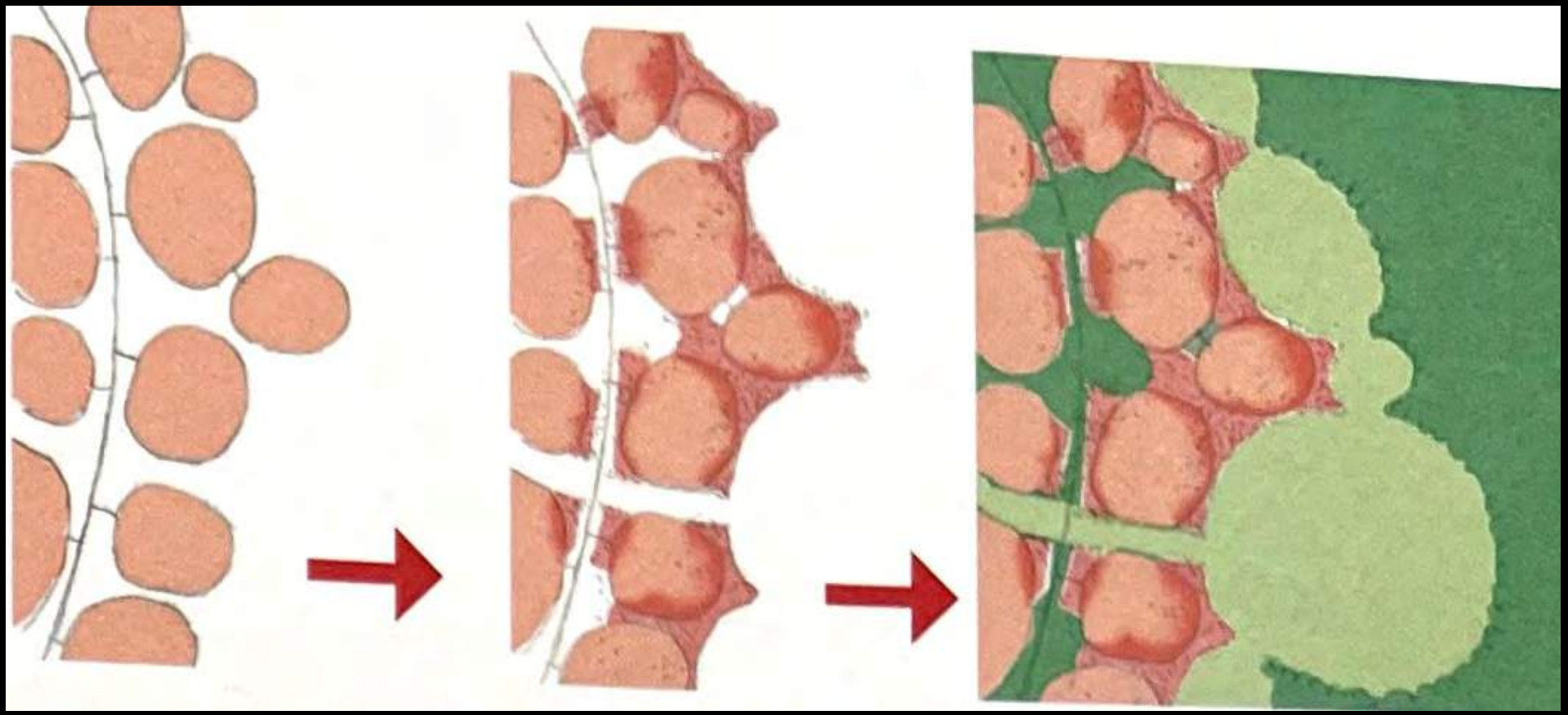
Att sätta gränser för städers utbredning ska utifrån detta perspektiv ses som en aktiverande handling. Gränser gränsar ter bryneffekter, på både bebyggelsesidan och den gröna sidan. Gränser öppnar. Både till gröna lokaliseringar och till byggande. Metaforen Kajer mot det gröna avses styra våra tankar till att se hur baksidor kan bli aktiva framsidor. "Som vore det fråga om kajer mot det blå, mot en bukt eller ett hav".
En genomtänkt gränsdragning gör "kajen" omvälvande. Handboken illustrerar hur kajen på bebyggelsesidan kan ha allt från villastad till stor stad, och på den gröna sidan allt från ren skogsnatur till ängar, odling och dagvattendammar.
En serie "bukter" illustreras som en möjlighet att längs gränssnittet dela in en lång vy till delvyer av olikstora fantasifulla landskapsrum med olika karaktärer och olika hemhörigheter.

Med en sådan linjeföring kan den som rör sig längs kajen dessutom erbjudas en serie fonder och accentuerade vändpunkter med profilfågen för service: som naturum, förskolor eller andra funktioner av allmänt intresse.

Ett annat exempel, med kajer både utåt och inåt: Långsgående "kajer mot det gröna" kan som i illustrationen för stråket Nynäshamn-Osmo formas till en fältande form av bebyggelse, vatten, skog och odling, både odling inåt och odling utåt. Formen av "fästa" ger, med sin serie av hållplatstorg, urbana kvaliteter i längsled och samtidigt, i tvärled, naturnära, skogsnära och odlingsnära, kvaliteer. "Urbant i längsled, ruralt i tvärled". Illustrationen på denna "fästen"* kan ses som ett exempel på de fingerplaner* som rekommenderas om en kommun vill eller behöver växa utåt. Jfr verktyget Reparativa kompletteringar*.

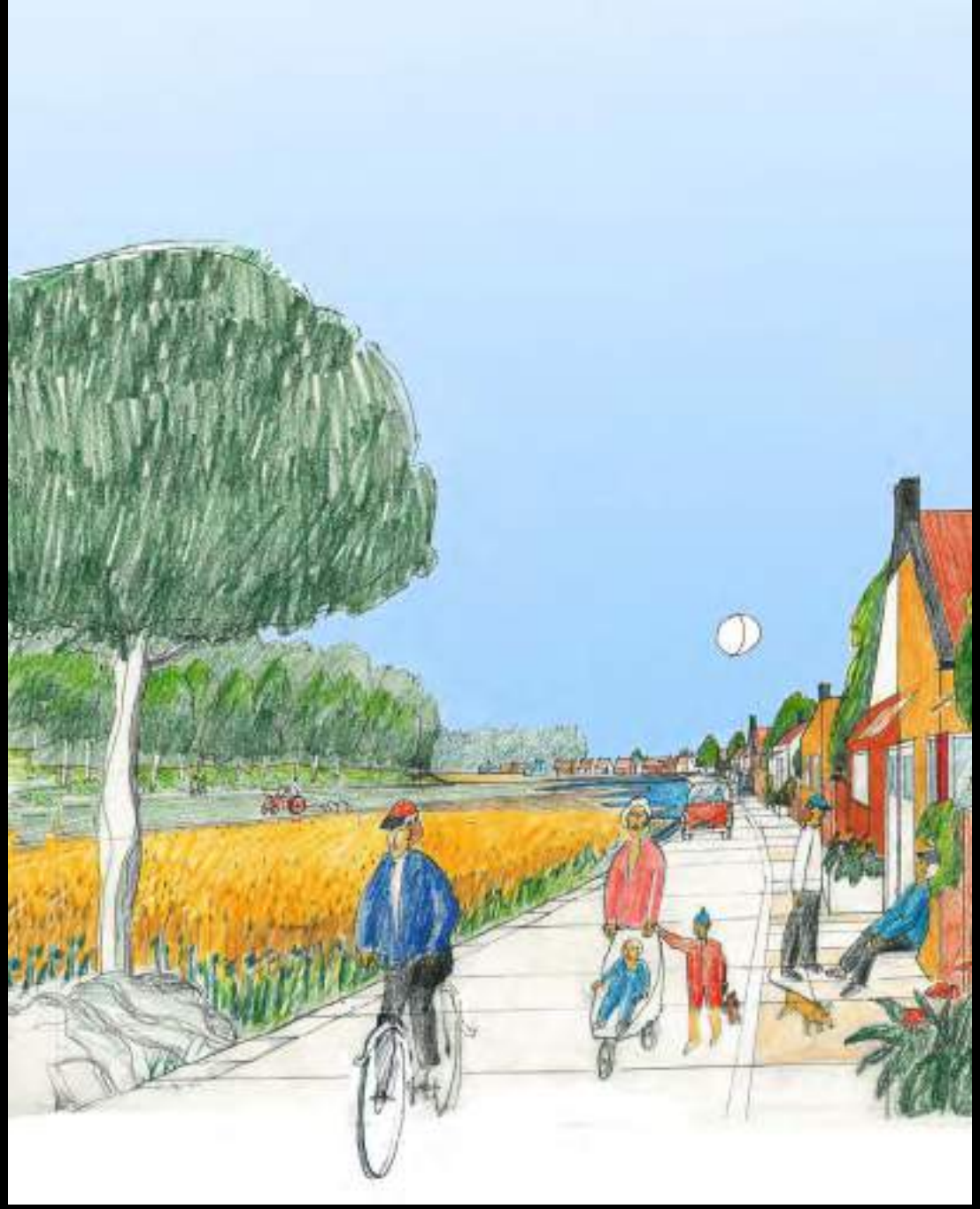
Slutsats: Kajformens geometri kan ge artikulerade lägen för gröna etableringar för olika målgrupper, från lokala intima platser till paradlägen för regionala eller nationella etableringar. Allt från stugor vid en kolonilottgård, till naturrum, eller en arena för kultur eller idrott.





As by-product
creating or improving
the 4 rooms:

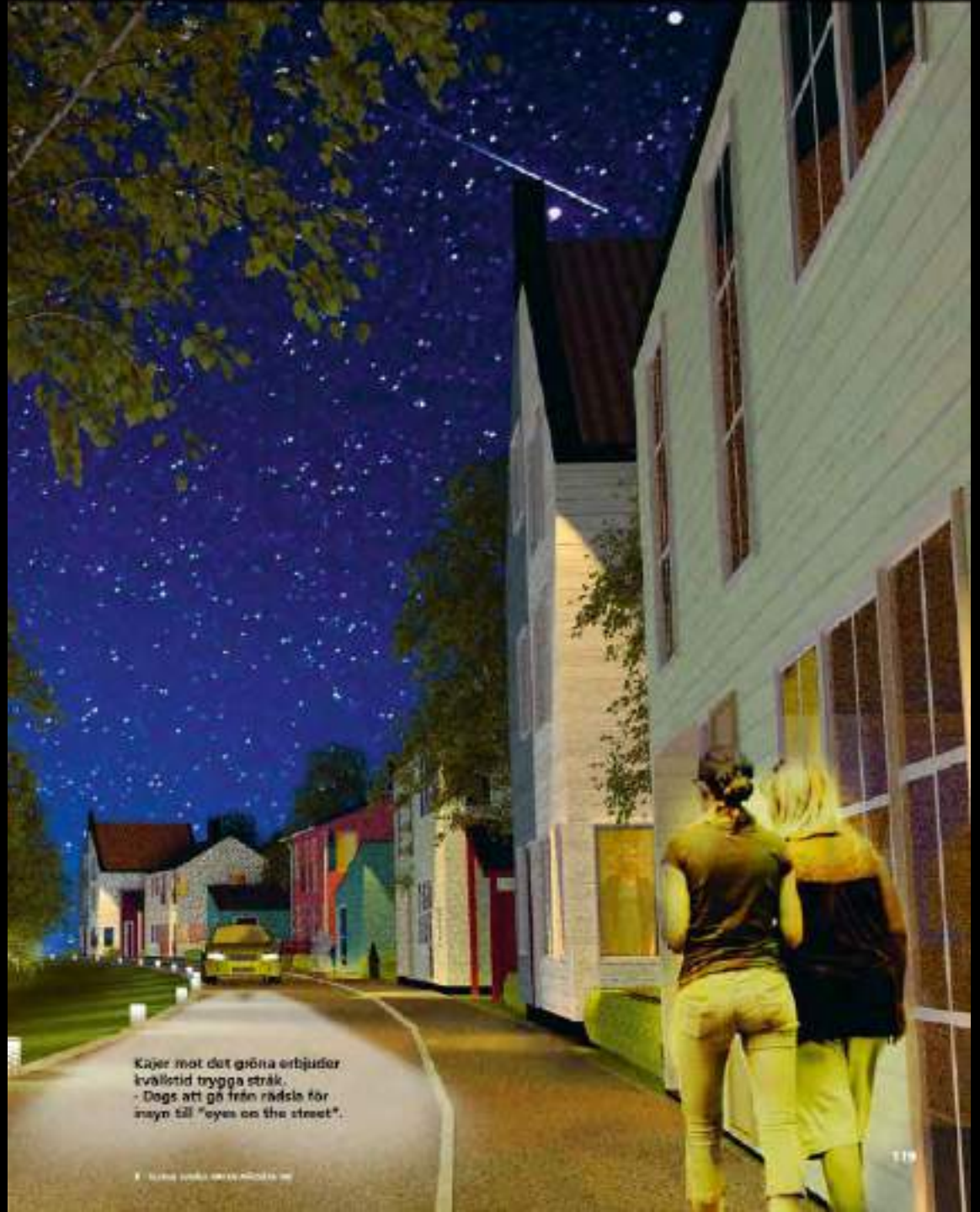
Street scapes
square spaces
park spaces
landscape spaces




Kaj mot det gröna
- här i trädgårdsstadens skala

Kajer mot det gröna

-Järfälla Kommun



Verktyg 37

Grönstruktur längs och tvärs kajen

• Passa på att komplettera de stora grönkilarna med tvärande grönkilar in i stadsdelarna

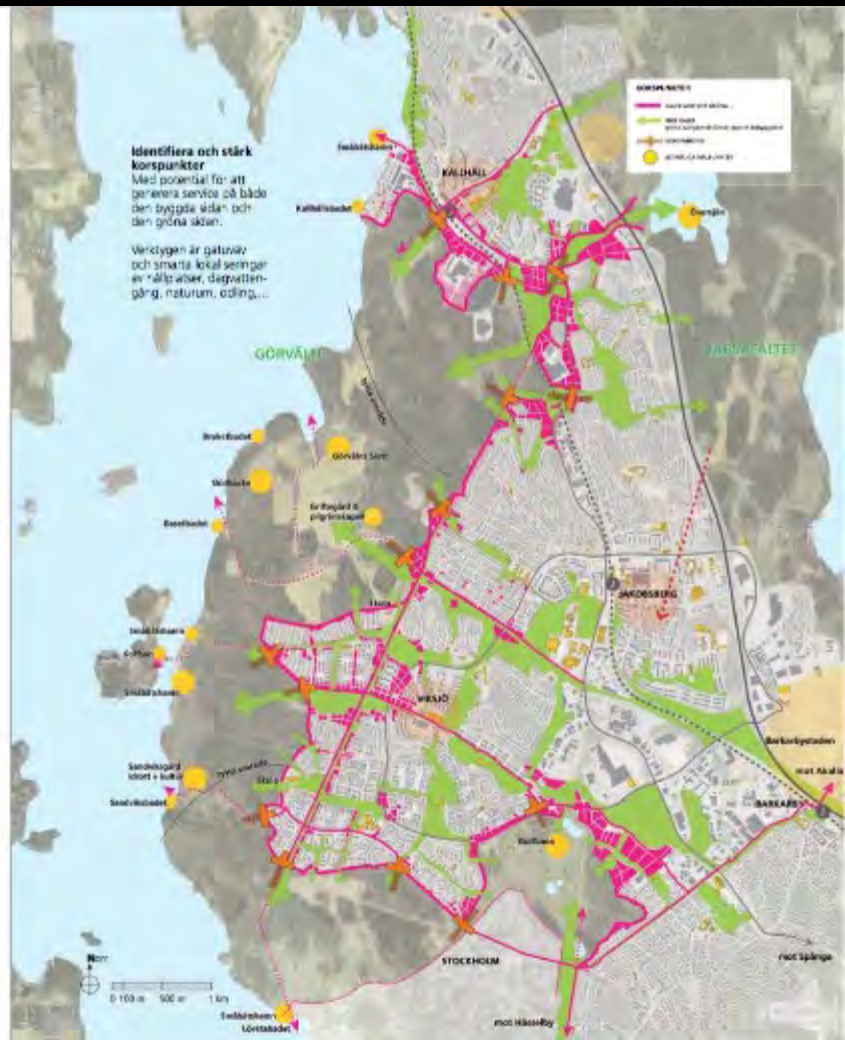
Handbokens betoning av Kajer mot det gröna har två sidor: betoningen av att både bebyggelsestrukturen och grönstrukturen mår bra av ett gränsnitt med en karaktär av framsida och offentlighet. I samband med medborgardialoger kom två tydliga reaktioner: de boende vid reservatets kant vill ha fortsatt nära till naturen och tycker att västtrycket också borde ta plats längre in i stadsdelen, "studsa mål". De som bor längre in tycker att de också vill avnjuta de begivenheter som finns och beräknas växa längs reservatet/grönkilen.

Slutsats: Illustrera mer byggande in mot stadsdelens inre delar, och samla och stärk tvärande gc-stråk och glipor så att de blir gröna länkar mellan stadsdelens centra och lockelserna ute vid reservatet/grönkilen. Utforma även gärna dessa länkar med "inre kajer", dagvattenhantering, lek, odling, djurhållning och service. Naturligen i mindre skala, men så formade att de bildar korridorer både för människor, fauna och flora.

Kajerna, både de yttre och inre, ges potential genom att:

- läggas nära befintliga strukturer och befintliga rörelsemönster
- formas som eftertraktade länkar mellan önskvärda bostads- och arbetsområden
- formas som nya länkar mellan intressanta begivenheter och blickfång
- utnyttja befintliga eller önskade begivenheter, både längs gränssnittet och in mot stadsdelens centra
- skapa korspunkter med stigar och stråk in mot reservatet och dess lockelser
- programmera ögon för service och andra etableringar,
- komplettera befintliga målpunkter med ytterligare program
- ansluta kajen mot inre kajer

Jfr verktygen urbana etableringar* och gröna etableringar*



Arkan Arkitekter
Kjell Forshed & Erika Worman för UCR, Urban City Research och kommunen.

Verktyg 37

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- ansluta kajen mot inre kajer

Jfr verktygen urbana etableringar* och gröna etableringar*

Plan 2.0 för Nykvarns kommun, - inför en ny ÖP undrade kommunen: "hur ser vi ut när vi är dubbelt så stora?".
Skiss via STEP-dialog.

Kollektivtrafikbaserat planmönster - utifrån serie av spårvagnsstationer i kvartersformad struktur - kajer mot odling, golf och dagvattensjö. Stråket länkar befintliga småstäder sinsemellan och fram till två stora radiella järnvägslinjer mot Paris" centrum.

WHAT do we want to do

WHAT ought we do?

WHAT can we do?

vad vill vi?
vad bör vi, vad kan vi?

Sigtuna 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 förpliktigar, dess lägesbeskrivning* och maning till snabbare omställning likaså.

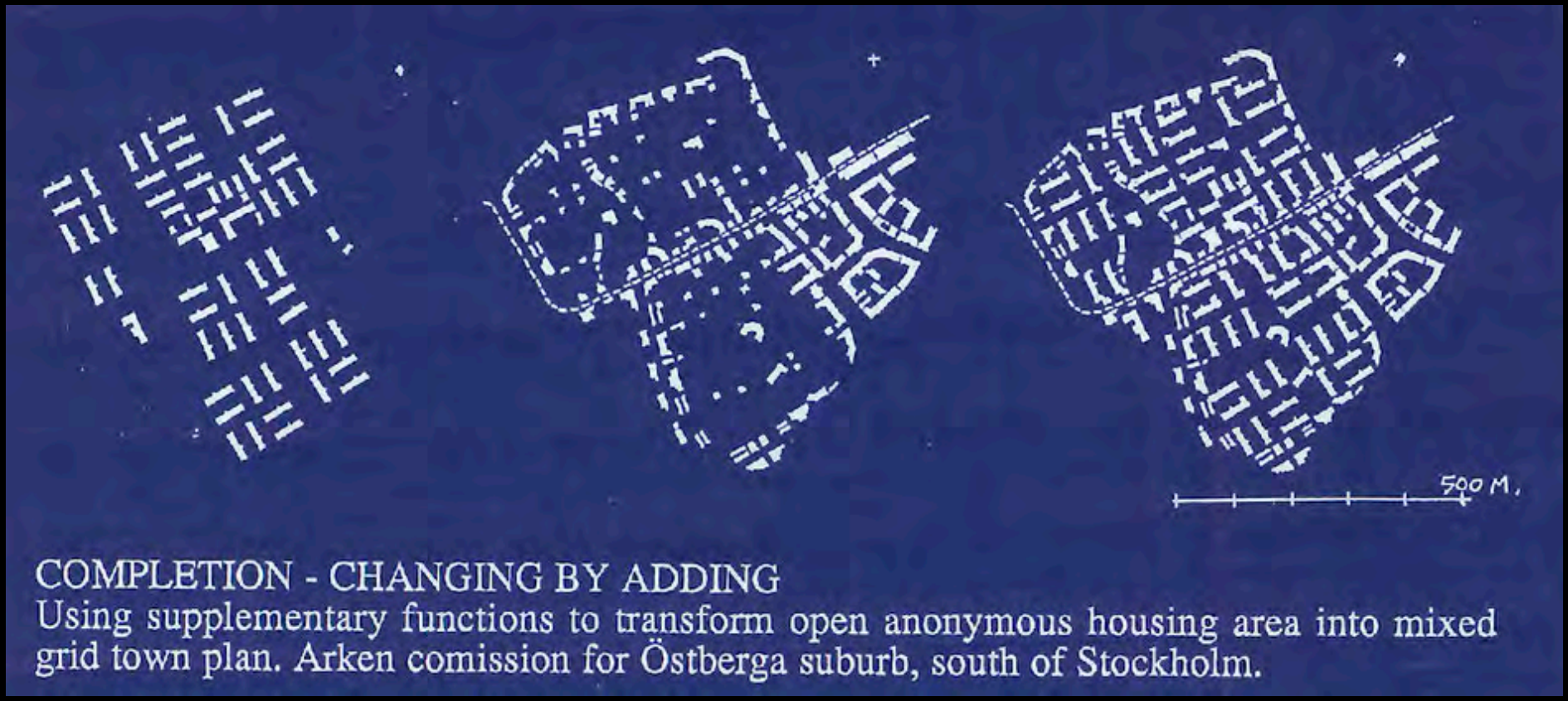
Uppgiften "att realisera ett hållbart stadsbyggande" kan synas bred. Ja, till och med mycket bred, eftersom vårt pågående stadsbyggande enligt Delegationens slutrapport* har visat sig vara problematiskt över ett så brett spektrum. Det gäller, som man skriver, inte bara markslöseri, energislöseri, påtvingat resande, ohälsa eller CO_2-utsläpp, utan lika påtagligt brister i stadbygdens roll att utgöra motor för lokalt näringsidkande och lokalt framväxande stadsliv.

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

Botton up:
Citizen-based planning
mitigates nimby

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

medborgarburen planering
för
P + P
= Planberedskap
& Planrepertoar



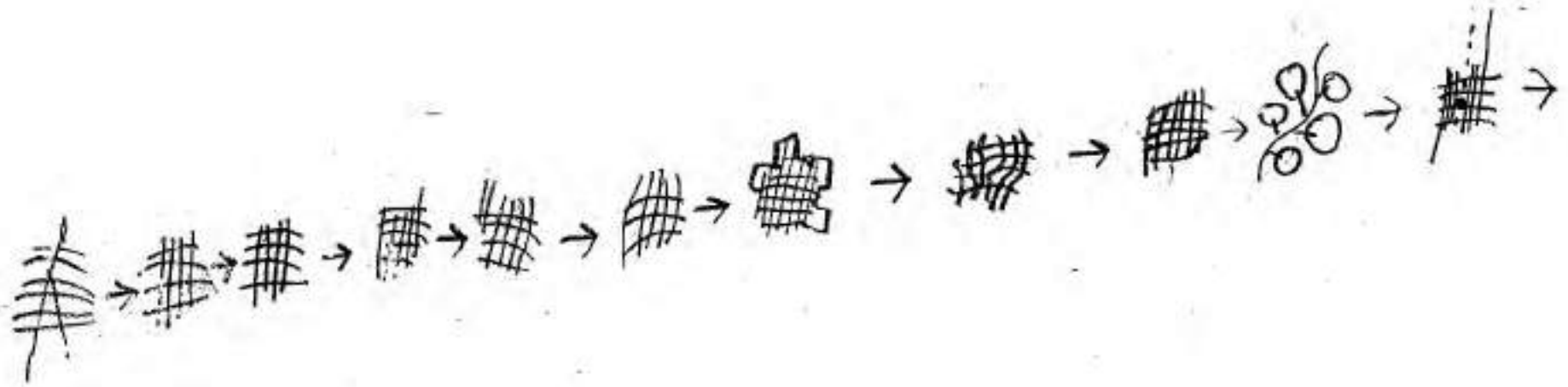
COMPLETION - CHANGING BY ADDING
Using supplementary functions to transform open anonymous housing area into mixed grid town plan. Arken comission for Östberga suburb, south of Stockholm.

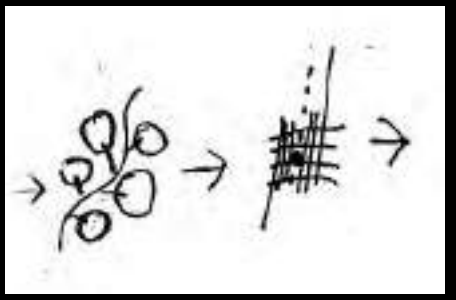
Completion

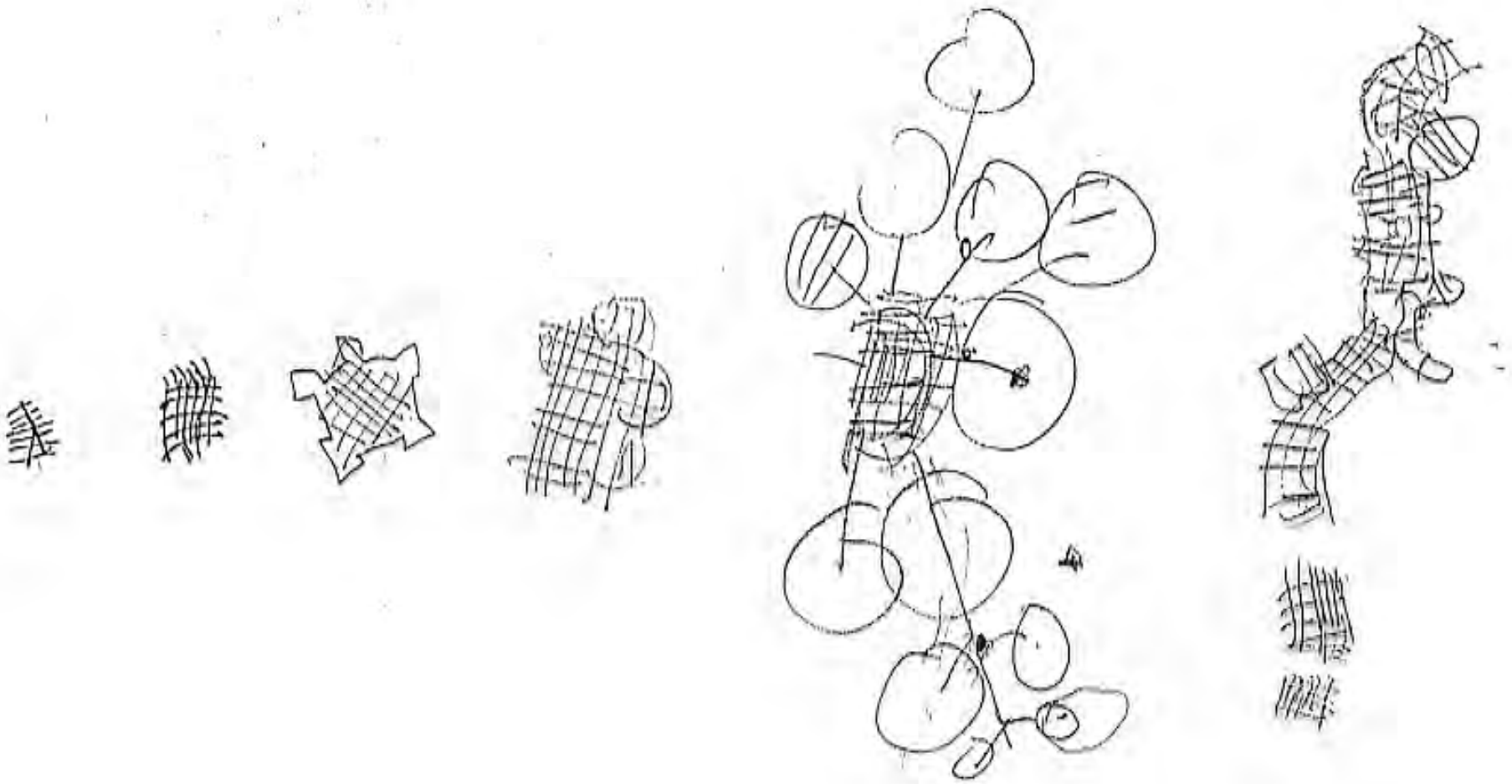
- or should we say Complementation!

…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’ Hugc
(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 …

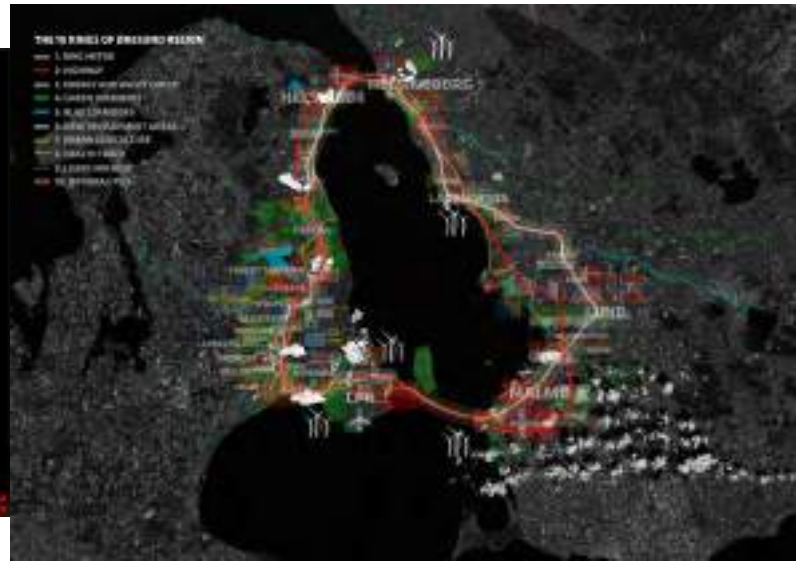
all everyday needs could be accessed by walking or cycling?

Paris 15-minute city (Paris en Commun)

What if …

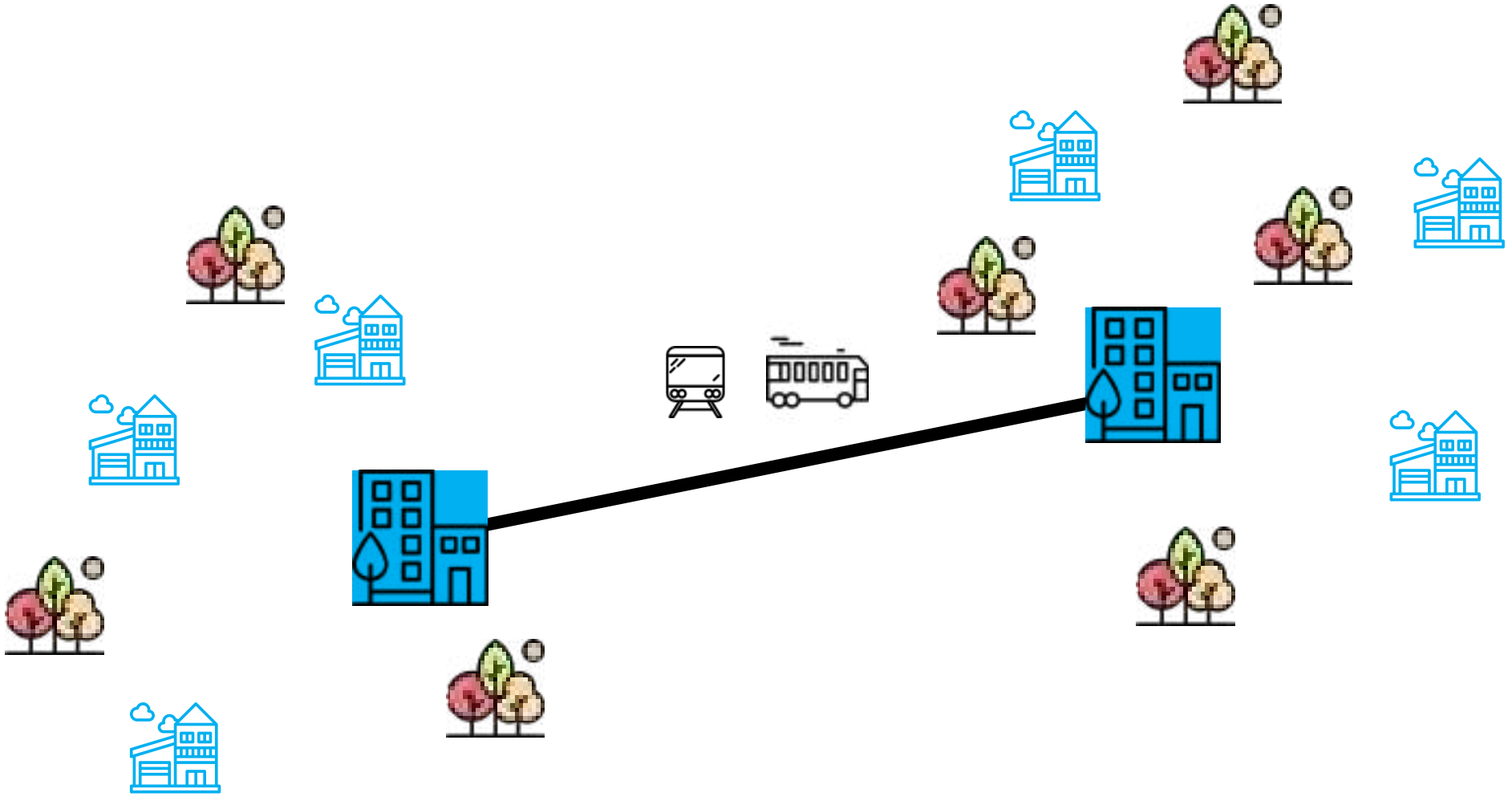
public transport could take us anywhere else?

Transit Oriented Development (TOD): Copenhagen 1947-2078



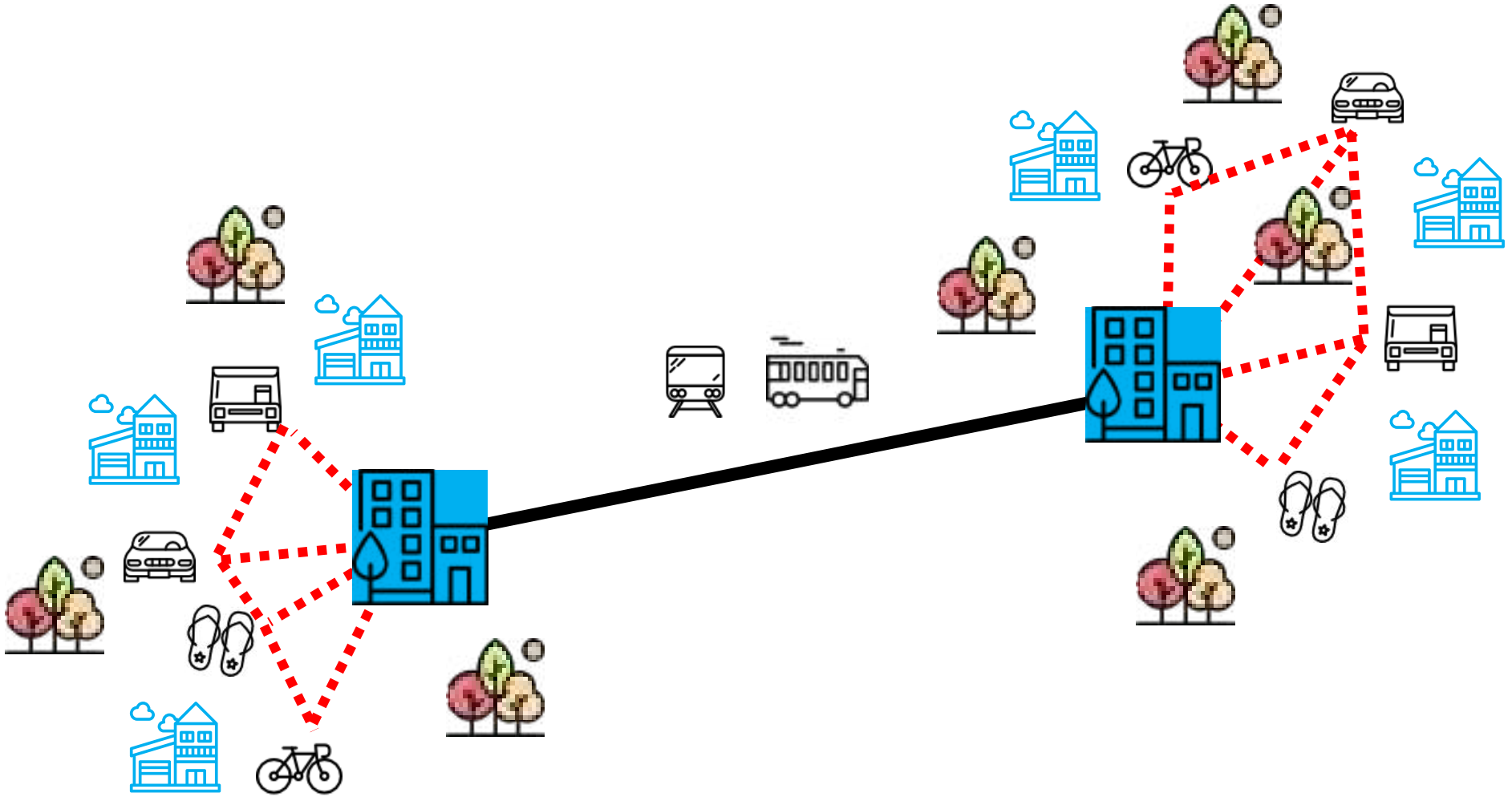
(Municipality of Copenhagen)

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



(icons by dariusdan on www.flaticon.com)

Getting there, ***diffused*** TOD:
trip chaining



(icons by dariusdan on www.flaticon.com)

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

(www.ovbsp.nl)

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

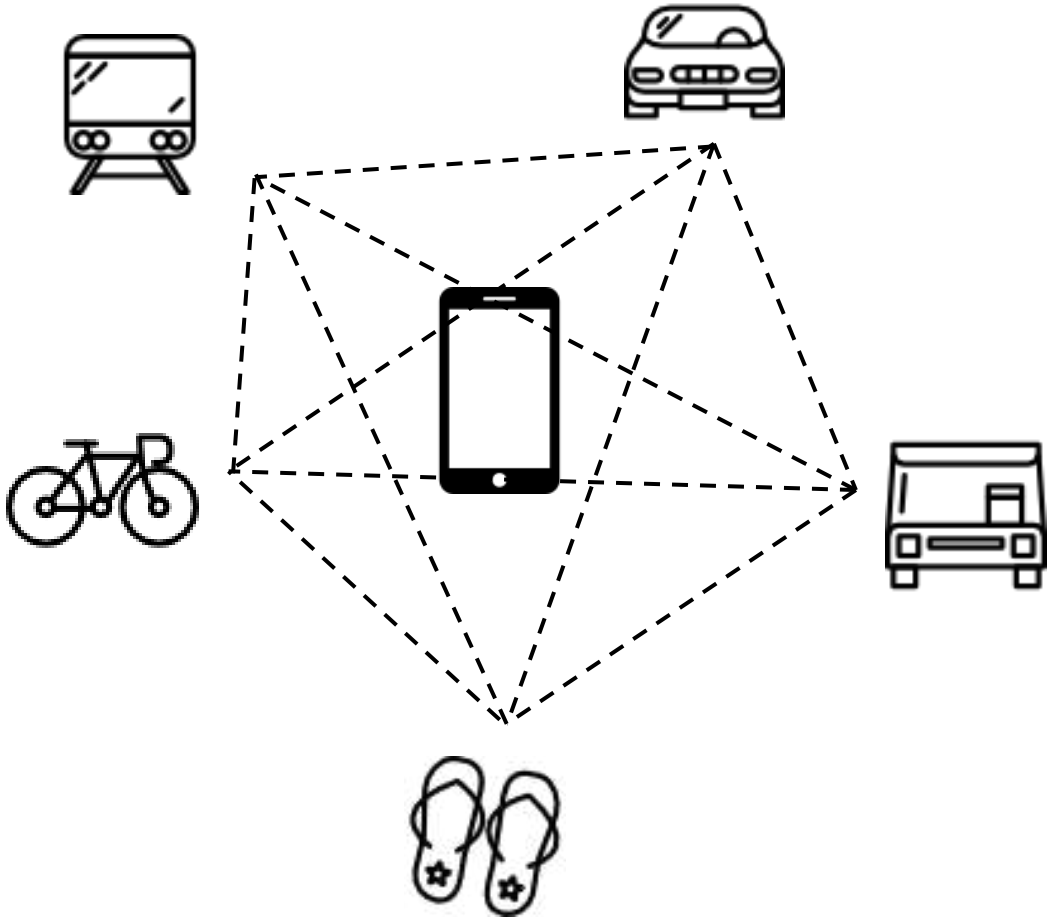
Over £420k raised for our charities since 2006

(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)

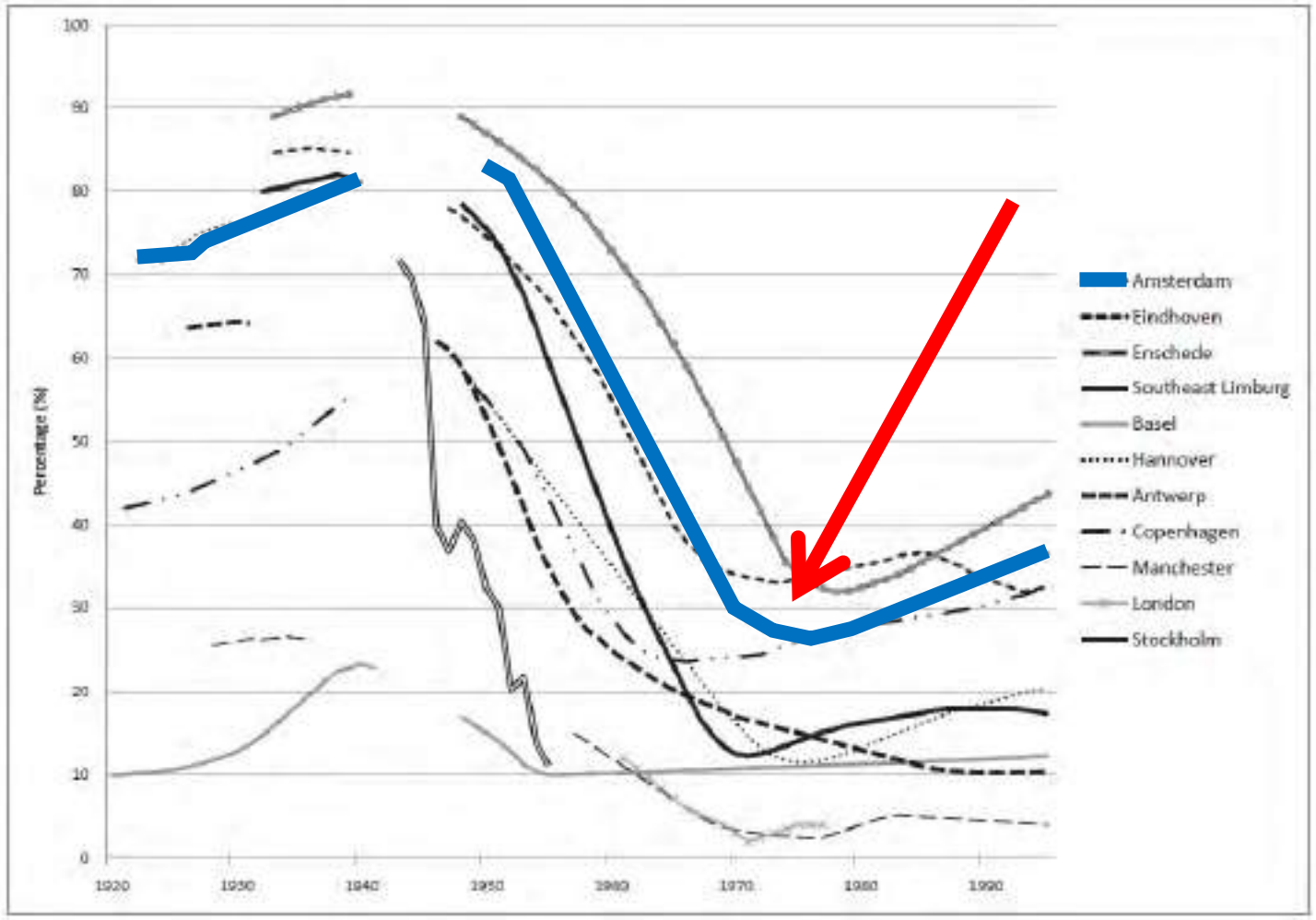
Also constraining car use (parking policy, Amsterdam)

https://www.leprogres.fr

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 Bruhèze, 2011)

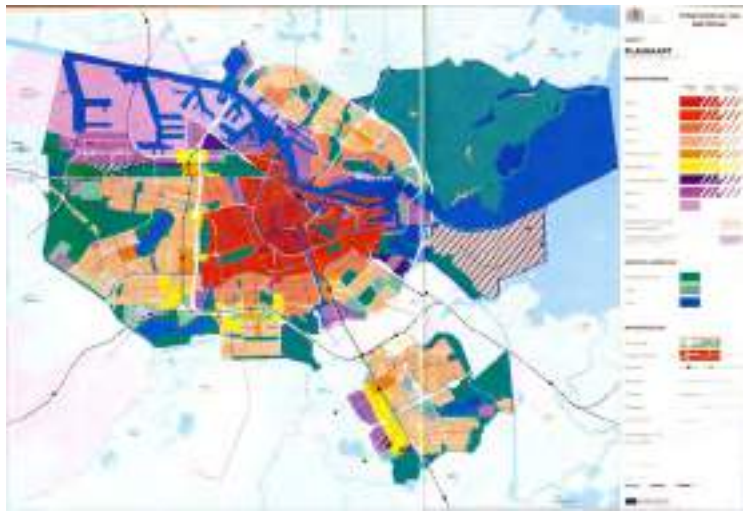
Prefigurative politics

organizing between …

organizing between …

Contentious politics

Institutional politics

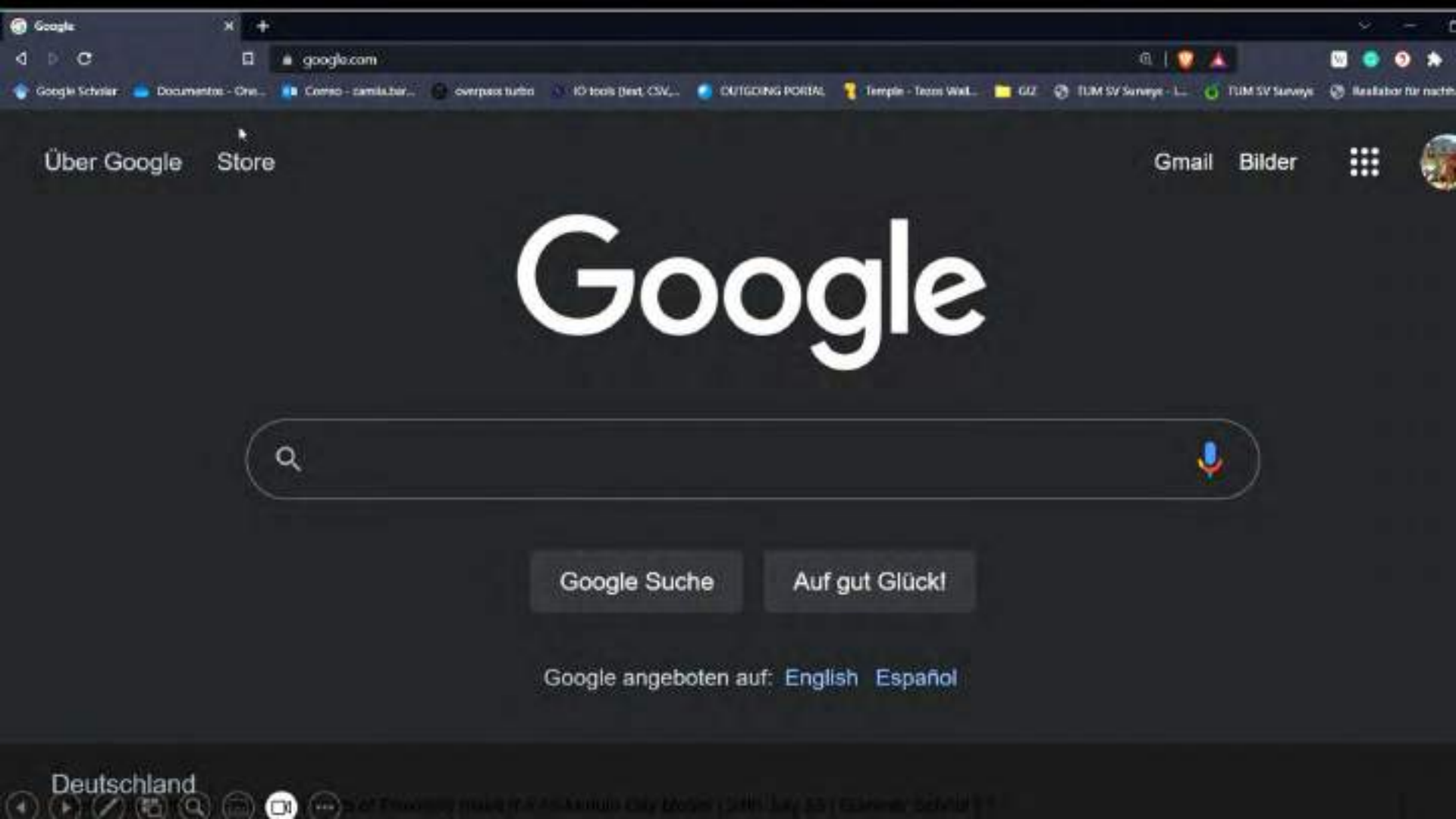


organizing between …


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.


Google
google.com
Über Google
Store
Gmail
Bilder
Google
Google Suche
Auf gut Glück!
Google angeboten auf: English Español
Deutschland

Picture: Stuttgarter Zeitung

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.

https://www.freepik.com/premium-photo/horizontal-shot-beautiful-cherry-blossoms-kirsebaeralleen-located-copenhagen-denmark_24910115.htm
https://www.1800flowers.com/articles/flower-facts/national-flowers-by-country-and-province

A place to stay.
From parking to placemaking

TOD2 Conference
Copenhagen, 04.09.2025

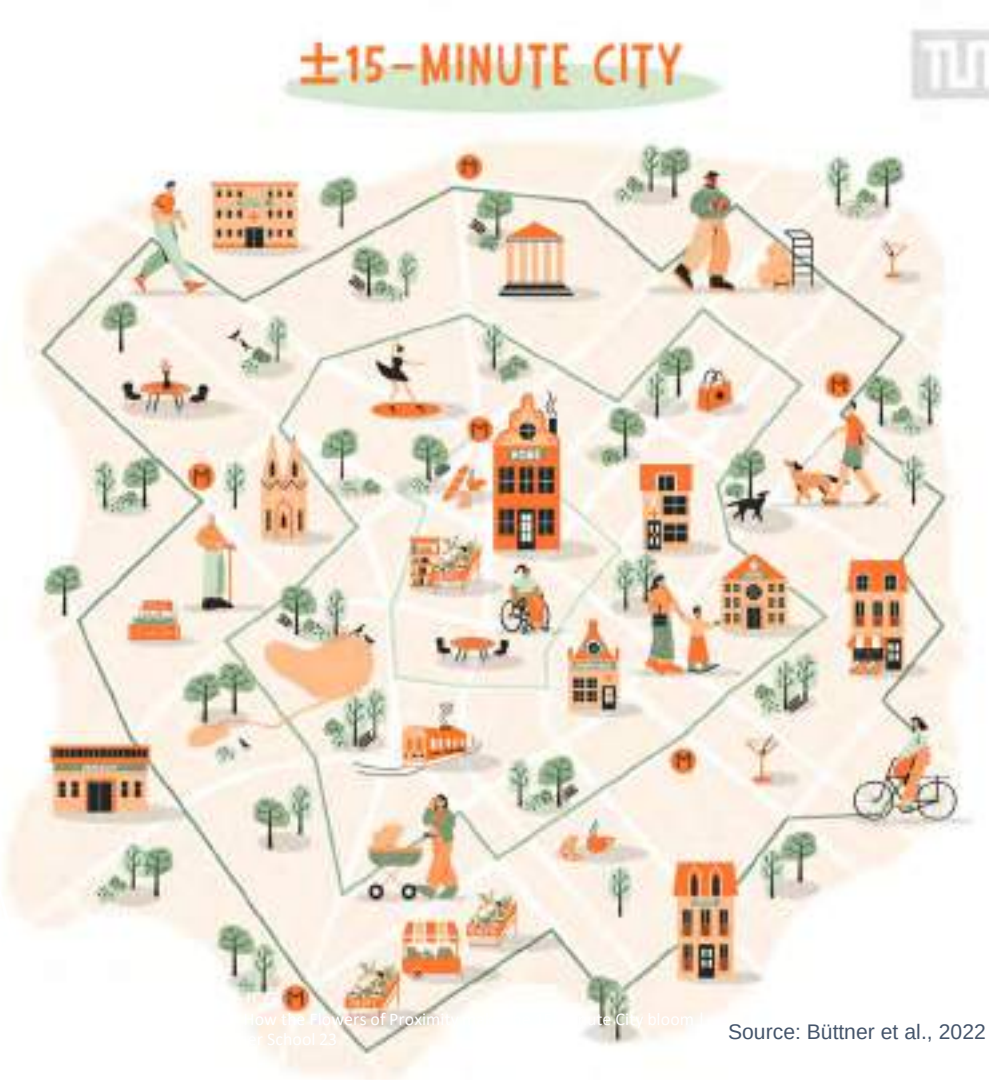
Dr.-Ing. Benjamin Büttner

Head of Research Group Accessibility Planning

Technical University Munich &

Editor-in-Chief at the Journal of Urban Mobility

Let’s begin with some self-criticism



Source: Büttner et al., 2022

Including universal accessibility and affordability?

What are the essentials? To whom are they essential?

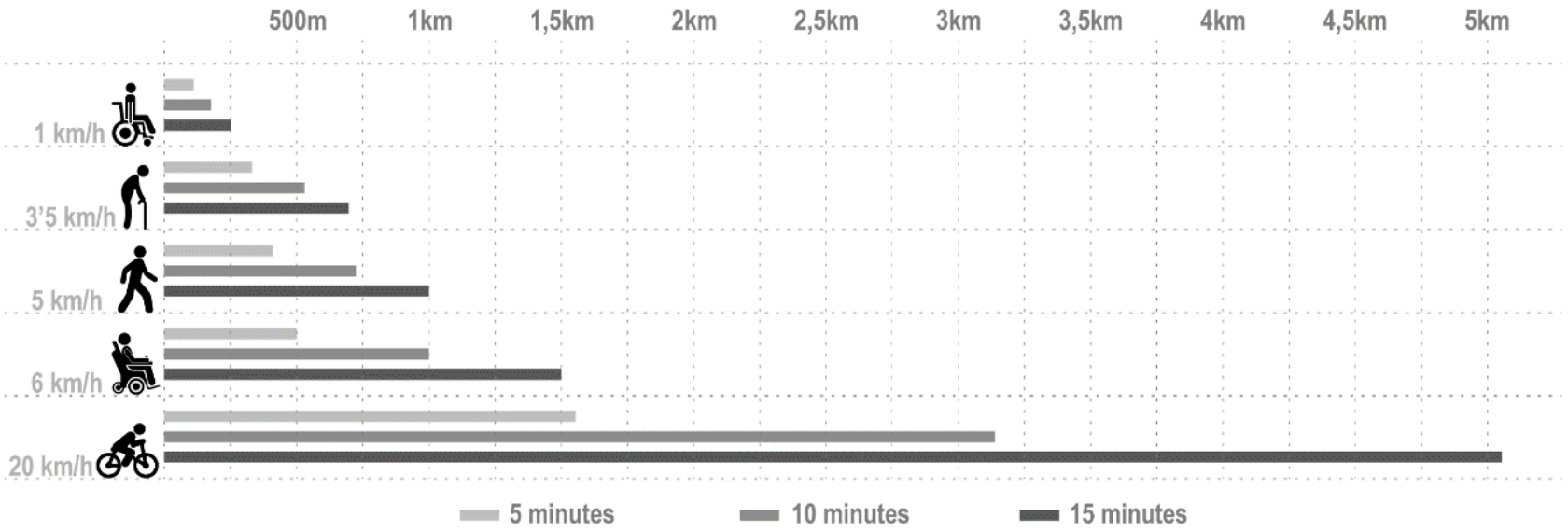
"an urban set-up where locals are able to **access** all of their **basic essentials** at distances that would not take them more than **15 min by foot or by bicycle**"

Why 15 minutes? And for whom?

What about other modes of transport?

Moreno, C., Allam, Z., Chabaud, D., Gall, C., Pratlong, F. (2021). Introducing the "15-Minute City": Sustainability, Resilience and Place Identity in Future Post-Pandemic Cities. Smart Cities, 4, 93–111.

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		
Edinburgh (UK)	X	X	X	X
Eugene (USA)	X	X		
Hailsham (UK)	X	X		X
Kirkland (USA)	X	X	X	
Melbourne (Australia)	X	X		X
Ottawa (Canada)	X	X		
Paris (France)	X	X		
Portland (USA)	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
- Cafe
- Pub
- Restaurant
- Swimming Pool
- Place of worship

WORKING

- Office/workplace
- Co-working space

COMMERCE

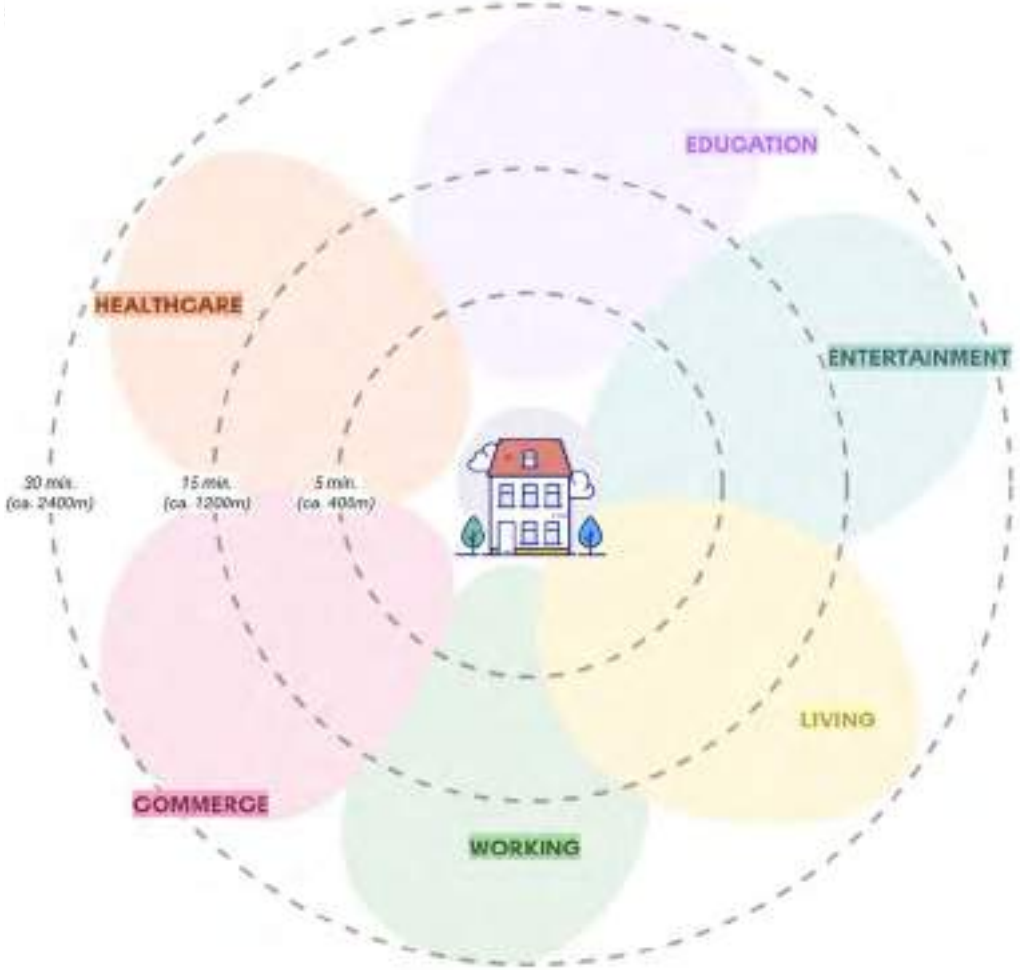
- Post office
- Bakery
- Bank/ ATM
- Supermarket
- Hairdresser
- Butcher

LIVING

- Park
- Public transport stop
- Playground
- Friends house
- Family house
- Public meeting place

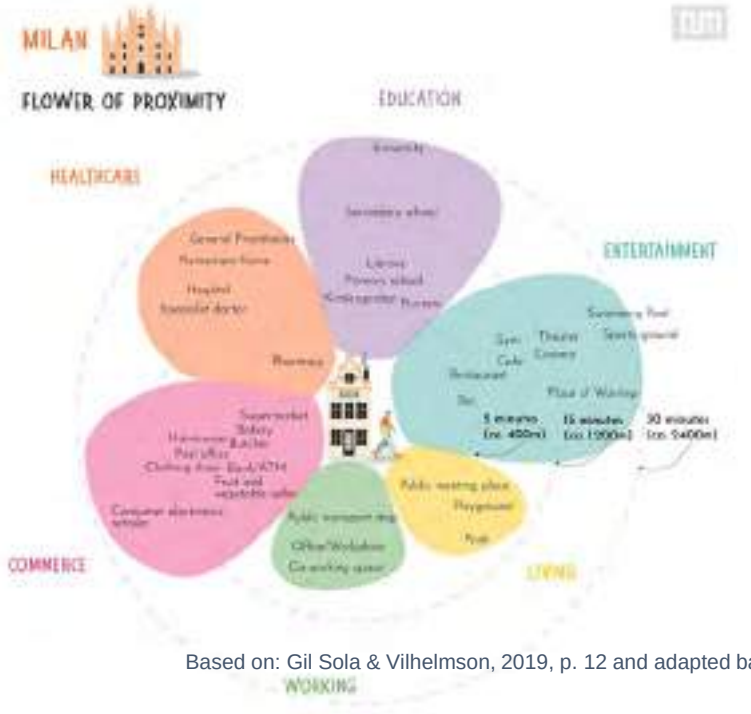
HEALTHCARE

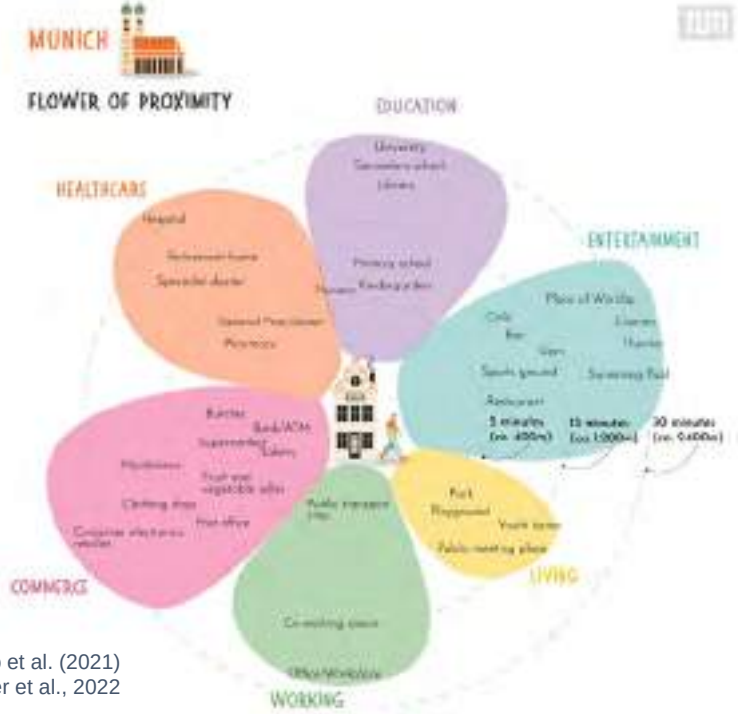
- Hospital
- Retirement home
- Specialist doctor
- General Practitioner
- Pharmacy



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

Customize your ideal +/- 15-Minute City?

Check out our newest app!

Steps to build a good Garden

From a Seed to a Garden

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 micromobilty

Delivery vehicles blocking streets

Steinhuber Miniblock

Parking Spot
(Parklet)

Street
(Summer Streets)

Neighbourhood
(Superblocks)

City
(Human-centred cities)

Steinhuber Miniblock

Parking Spot
(Parklet)

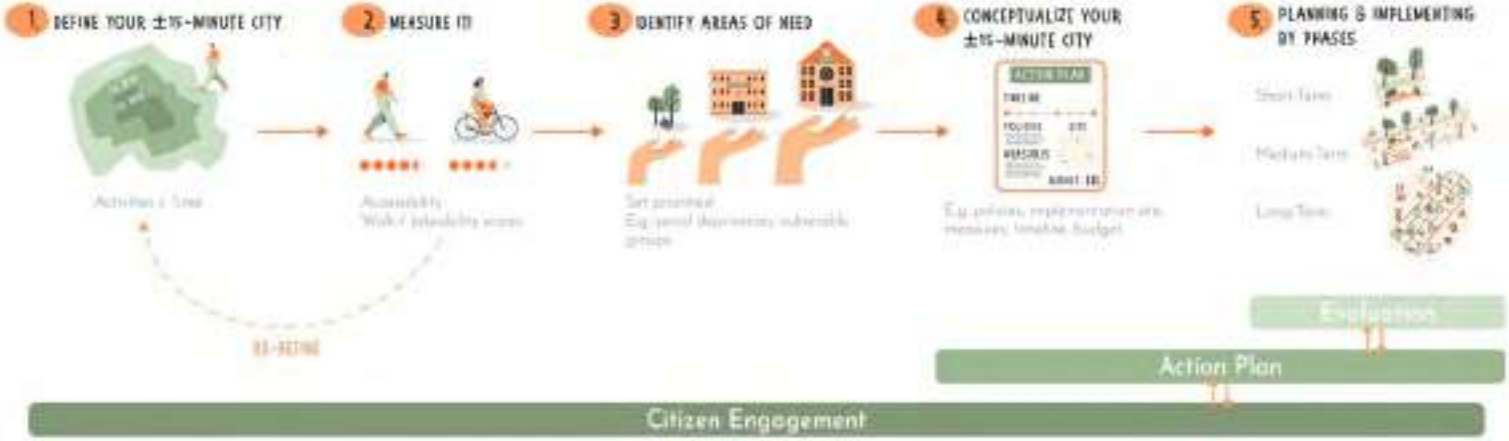
Street
(Summer Streets)

ood
locks)

City
(Human-centred cities)

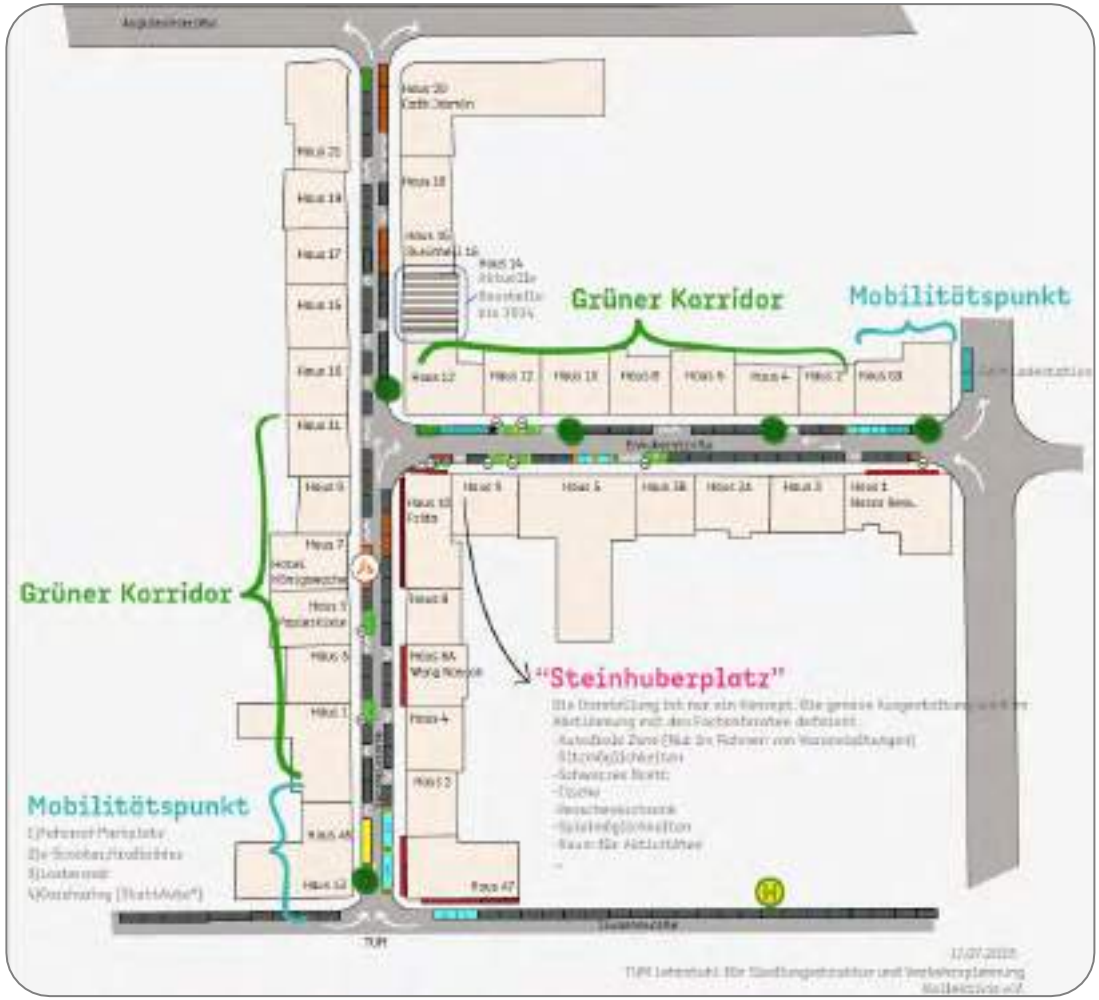
Source: Büttner et al., 2022

±15-MINUTE CITY ROADMAP



Communication, Public Participation & Co-creation

Steinhuber Miniblock



mini BLOCK PARTY

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 MAXVORSTADT/ALTSTADT - ELIAS PAJARES & ULRIKE JEHLE (PLANABETTER)
- 16:30 SPAZIERGANG DURCH DEN STEINHUBER MINIBLOCK - TUM, WOWT URBANE UTOPIEN
- 17:00 BÜRGERDIALOG AM PAVILLET - TUM, PLANABETTER, MVV, PSU
- 17:00 WANDERBAUMALLEE - BARIS TOLGAY (GREEN CITY E.V.)
- 17:30 HAUSPLOTTE - BERNHARD KALKBRENNER & MAXIMILIAN RITZ (UNTERNEHMERTUM)
- 18:00 OFFENER 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

Participatory tool

In Munich, Germany and Cairo, Egypt (2024) – Students

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

How would your ideal neighborhood look like?
flowersofproximity.com

Thank you!
Looking forward to the discussion!

Contact:

Dr.-Ing. Benjamin Büttner

benjamin.buettner@tum.de

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

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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

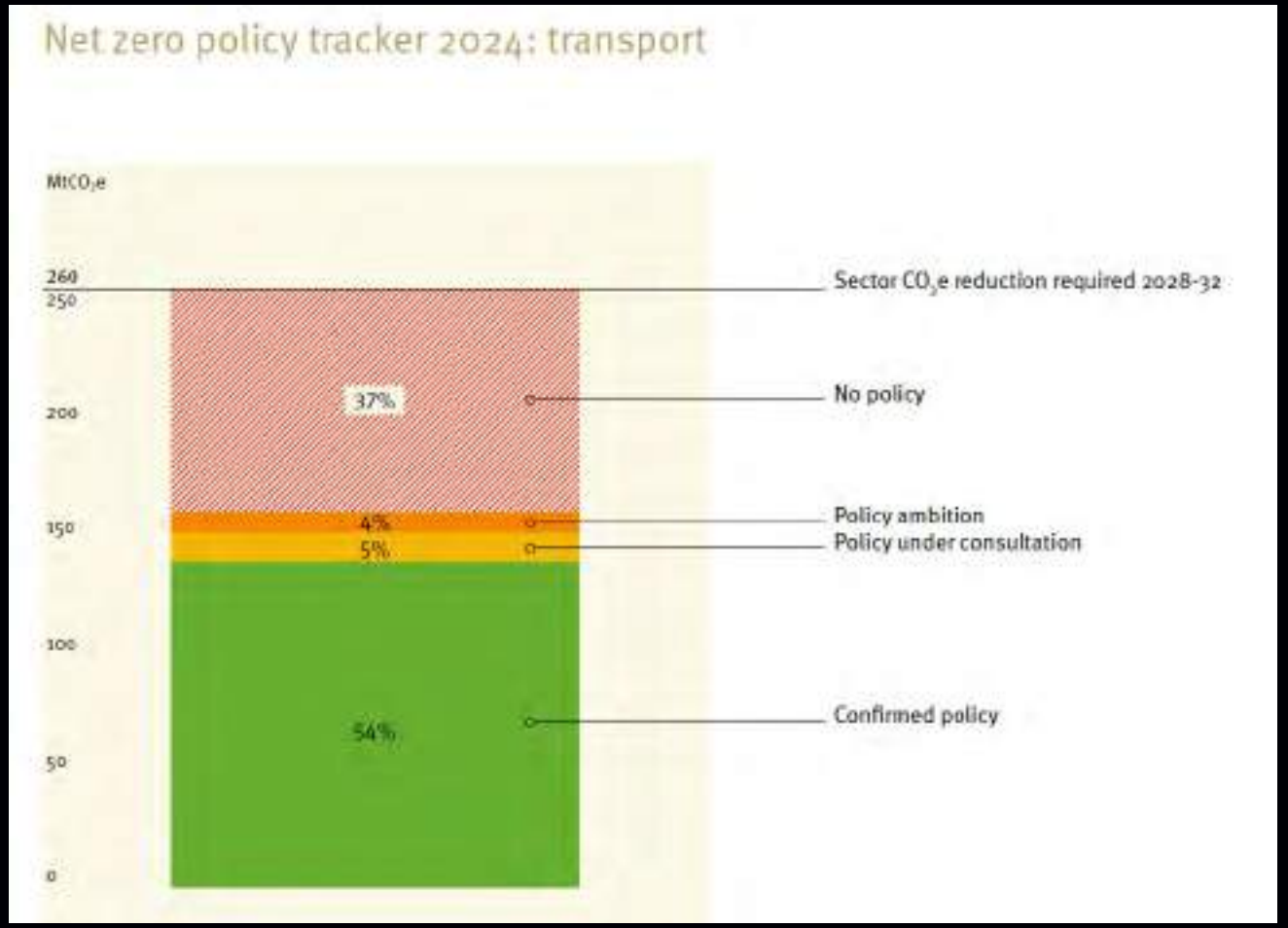
www.linkedin.com/in/jillianable

@jillianable.bsky.social

ITS

The policy gap to 2032

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



Green Alliance Net zero policy tracker (UK) March 2024

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

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

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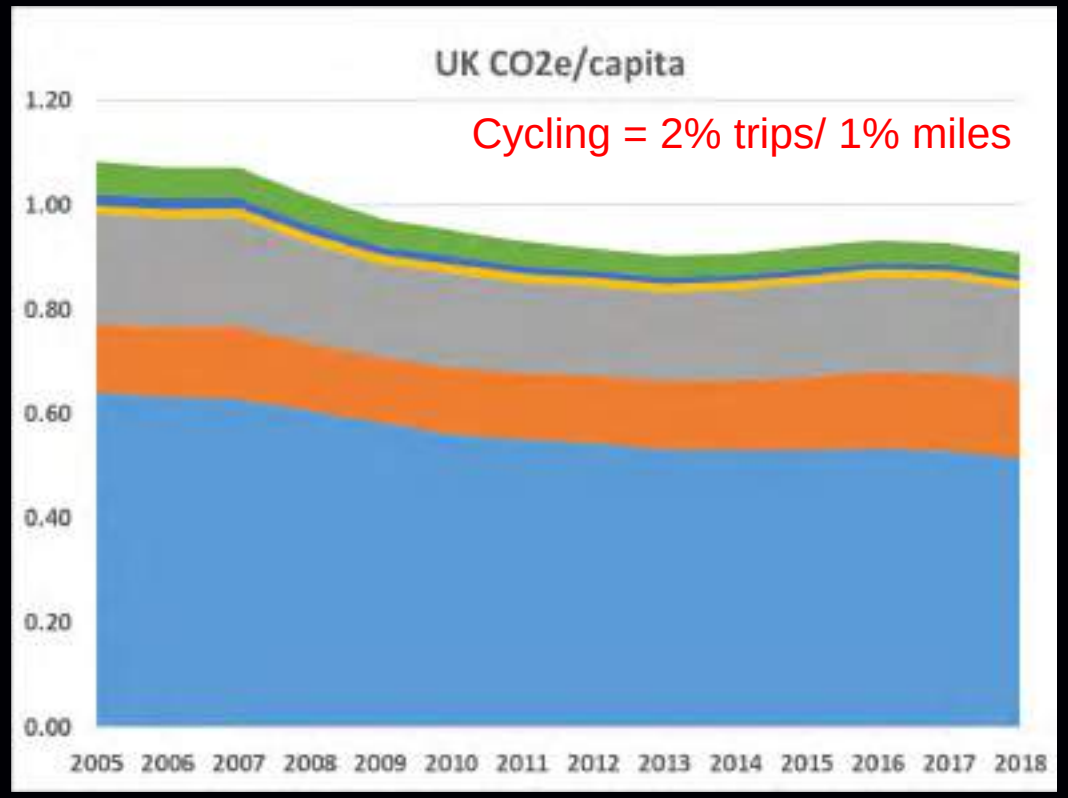
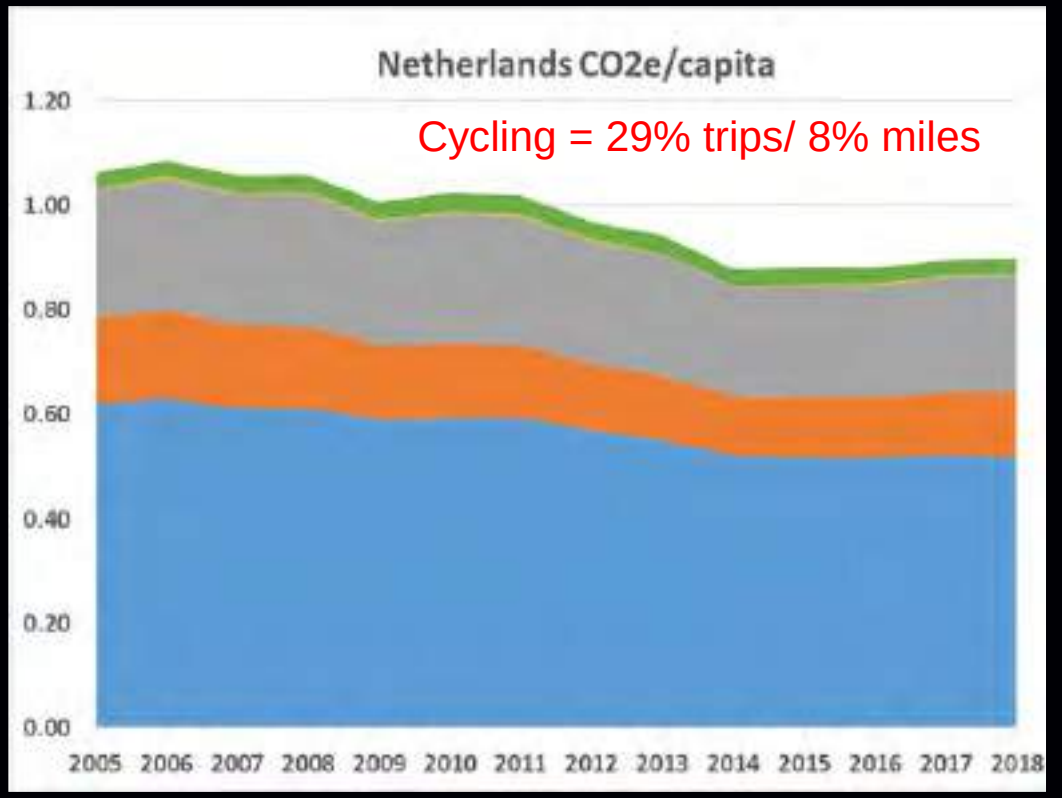
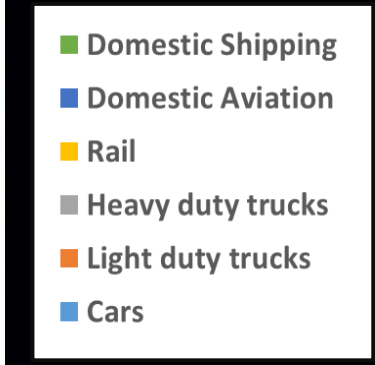
Per capita CO_2 from transport in the Netherlands is as high as in the UK despite huge levels of cycling.

UNIVERSITY OF LEEDS

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



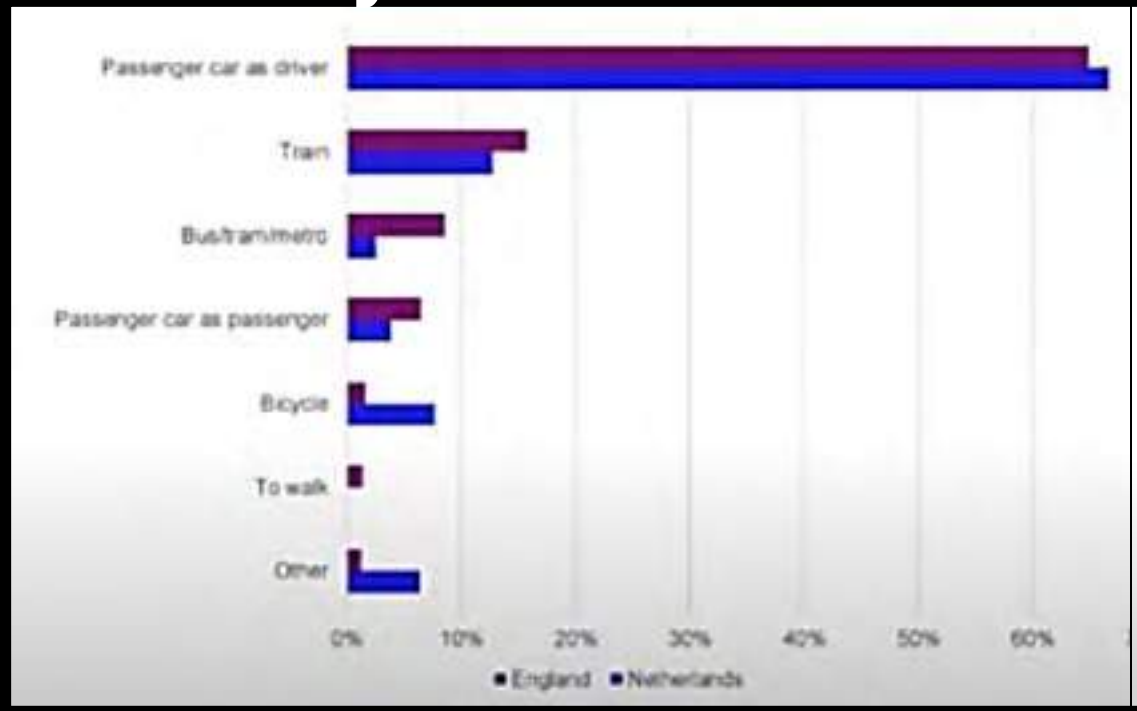




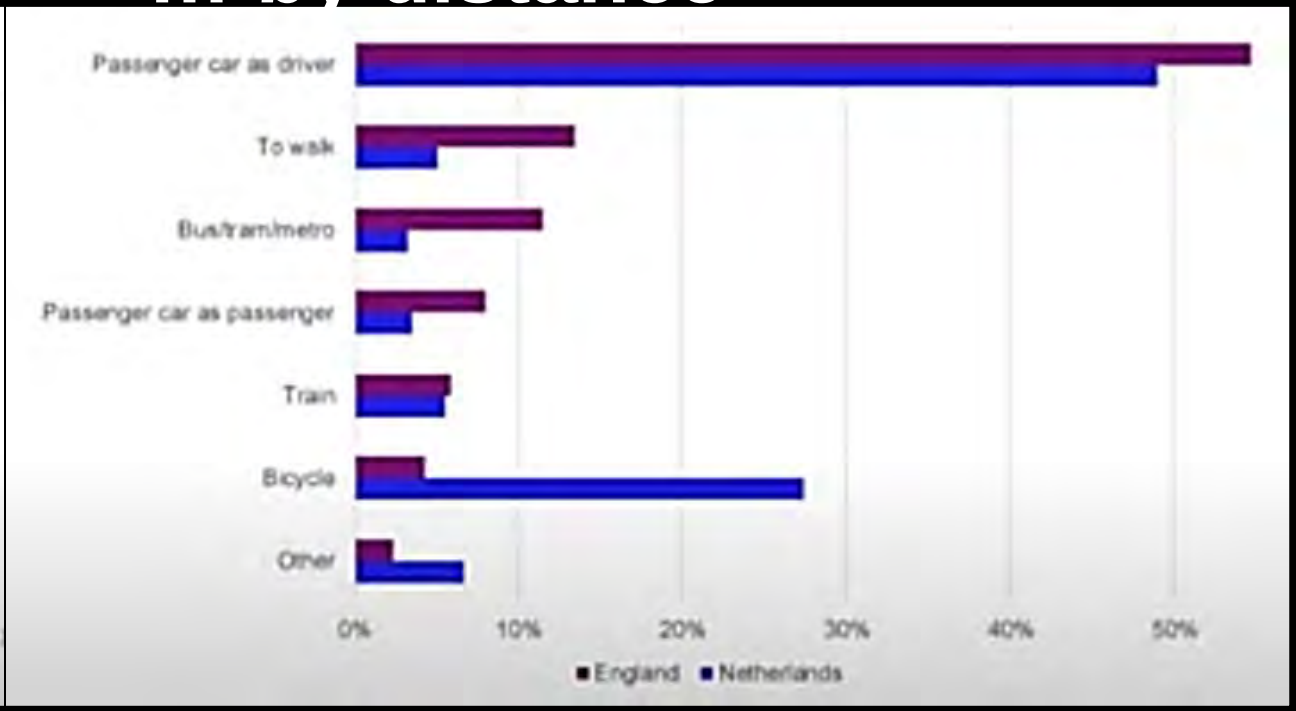
Derived from: EEA greenhouse gases - data viewer https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer

England v Netherlands: Proportion of commuting …

… by mode



… by distance



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

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Urban area	Inhabitants	Journeys per day in the area	% of Public Transport	% of Motorized vehicles	% of Walking	% of Cycling	Cars per 1000 inhabitants
Belgrade	1.7M	3M	50%	24%	24%	1%	425
Krakow	1.2M	2M	44%	41%	10%	4%	613
Budapest	1.7M	5M	41%	35%	19%	5%	423
London	8.9M	26M	40%	33%	23%	4%	291
Warsaw	2.9M	5M	40%	35%	21%	4%	
Sofia	1.2M		38%	37%	24%	1%	
Prague	3.3M		38%	26%	35%	1%	679
Bucharest	2.3M		38%	42%	14%	5%	
Stockholm	2.5M		36%	41%	13%	8%	266
Helsinki	1.4M	3M	32%	40%	23%	5%	496
Vilnius	607.4K	2M	31%	48%	15%	5%	403
Brussels	1.3M	1M	26%	35%	30%	7%	
Oslo	1.5M	4M	25%	45%	24%	5%	452
Madrid	7.0M	16M	24%	40%	34%	1%	585
Paris	12.3M	40M	22%	35%	41%	2%	368
Lisbon	2.8M	5M	21%	53%	24%	1%	
Lyon	1.5M	4M	20%	44%	34%	2%	
Berlin	6.1M	19M	19%	44%	24%	13%	430
Barcelona	5.8M	20M	16%	33%	49%	2%	453
Thessaloniki	1.1M	2M	15%	51%	25%	9%	528
Toulouse	1.1M	4M	14%	50%	29%	5%	609
Stuttgart	2.8M	9M	12%	52%	27%	8%	609
Frankfurt	5.1M	2M	12%	55%	24%	9%	
Amsterdam	1.6M		10%	33%	25%	32%	
Palma de Mallorca	957.7K	10M	10%	55%	33%	2%	
Copenhagen	2.7M	7M	9%	52%	22%	17%	419
Rotterdam	2.4M	6M	7%	41%	26%	26%	428
Birmingham	3.0M	7M	7%	53%	39%	2%	391
Turin	4.2M	8M	6%	63%	28%	3%	705

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

UNIVERSITY OF LEEDS

Urban area	Inhabitants	Journeys per day in the area	% of Public Transport	% of Motorized vehicles	% of Walking	% of Cycling	Cars per 1000 inhabitants
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Lyon	1.5M	4M	20%	44%	34%	2%	
Birmingham	3.0M	7M	7%	53%	39%	2%	391
Lisbon	2.8M	5M	21%	53%	24%	1%	
Sofia	1.2M		38%	37%	24%	1%	
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Belgrade	1.7M	3M	50%	24%	24%	1%	425
Madrid	7.0M	16M	24%	40%	34%	1%	585

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

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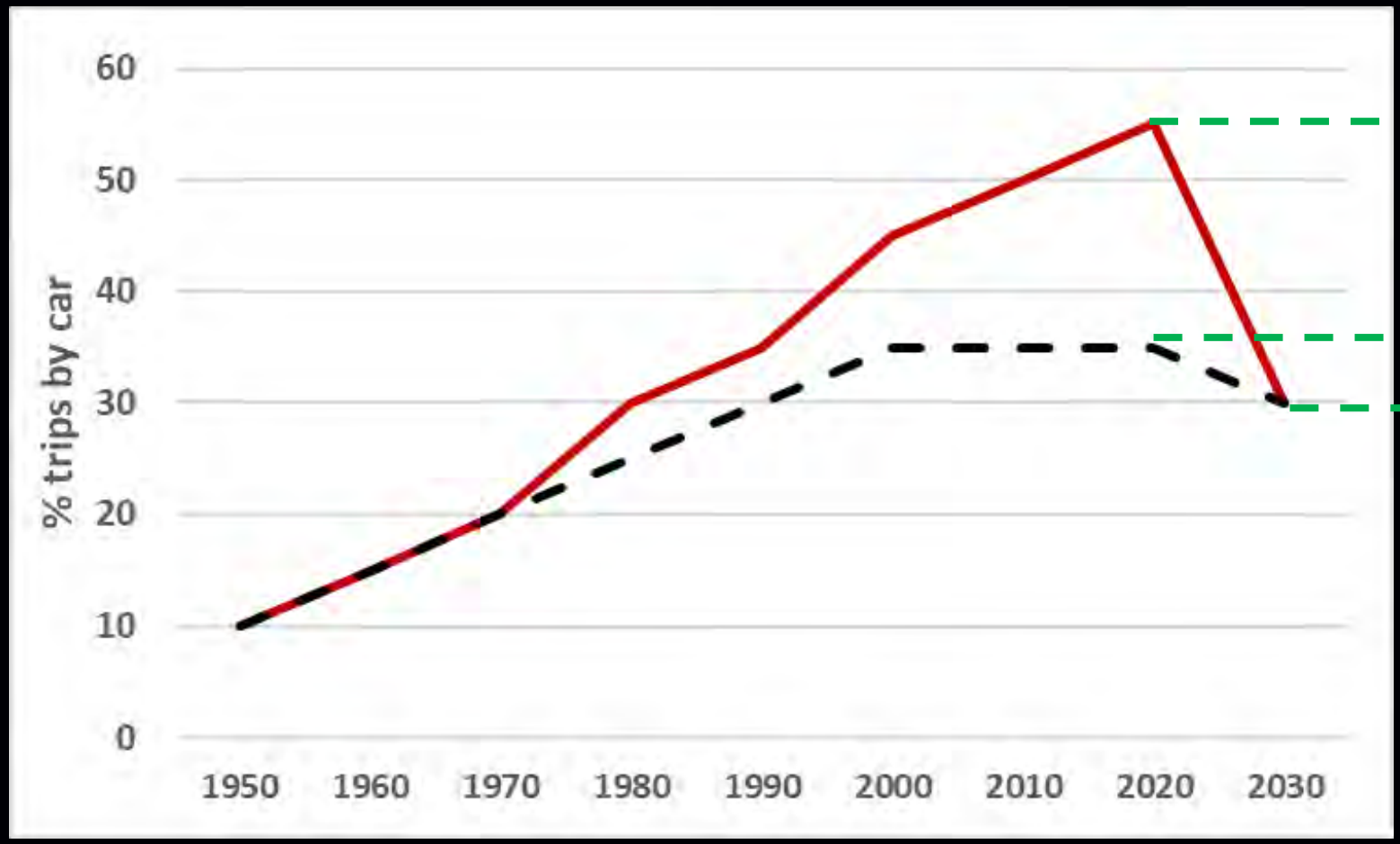

Scenarios A and B require very different policy packages and political mandates

ITS

Which journeys should we be focusing on?

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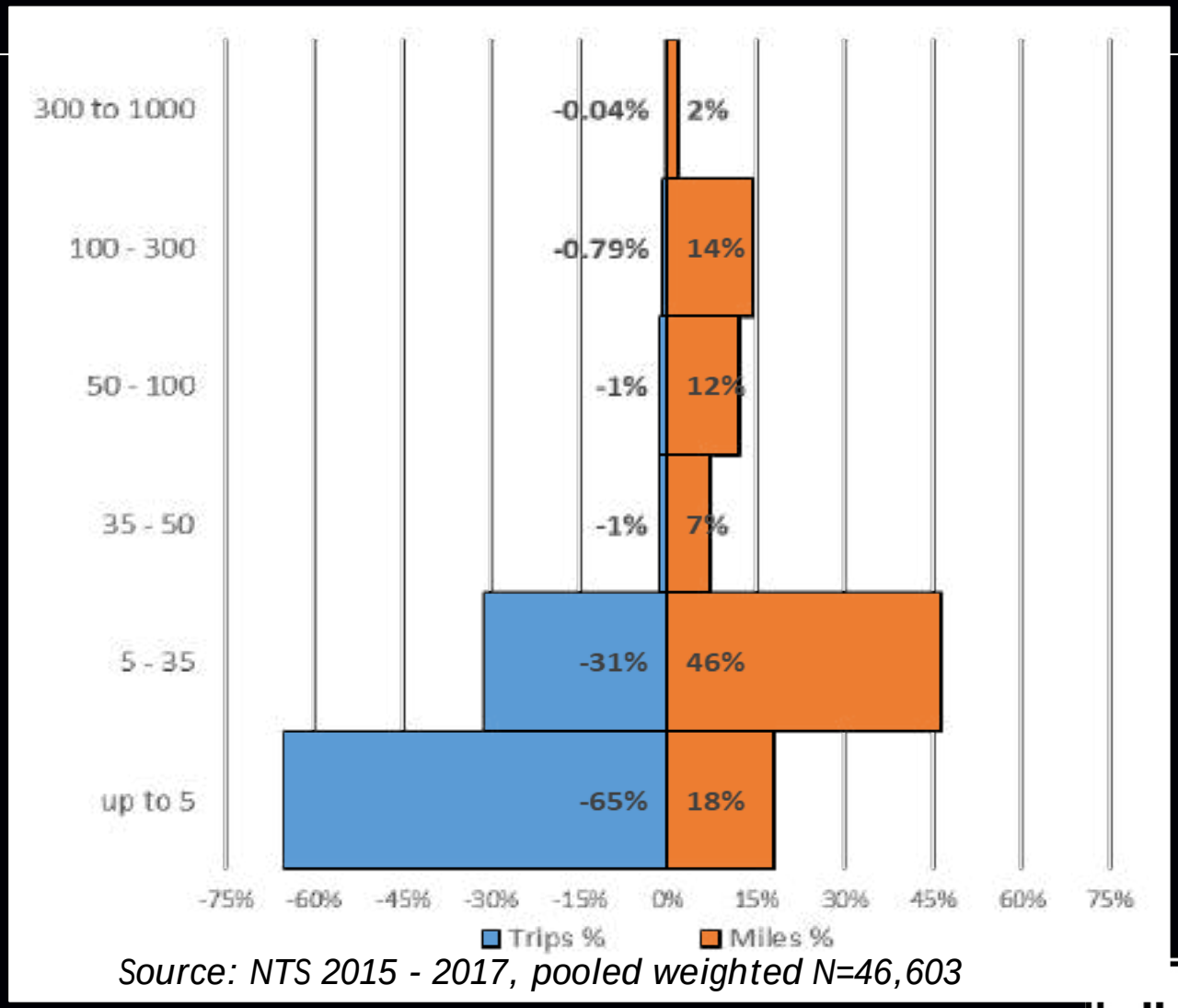
- UK: 65% of all journeys are less than 5 miles, but = only 18% miles
- But 2.5% of trips (those >50 miles) = 30%
- TOD ‘Sweetspot’: 10-35 mile journeys



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

Wadud, Z., Adeel, M., **Anable, J**. and Lucas, K. (2022) A disaggregate analysis of ‘excess’ car travel and its role in decarbonisation. *Transportation Research Part D*.

- 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

infuze

Why a focus on car owning/ car shedding?

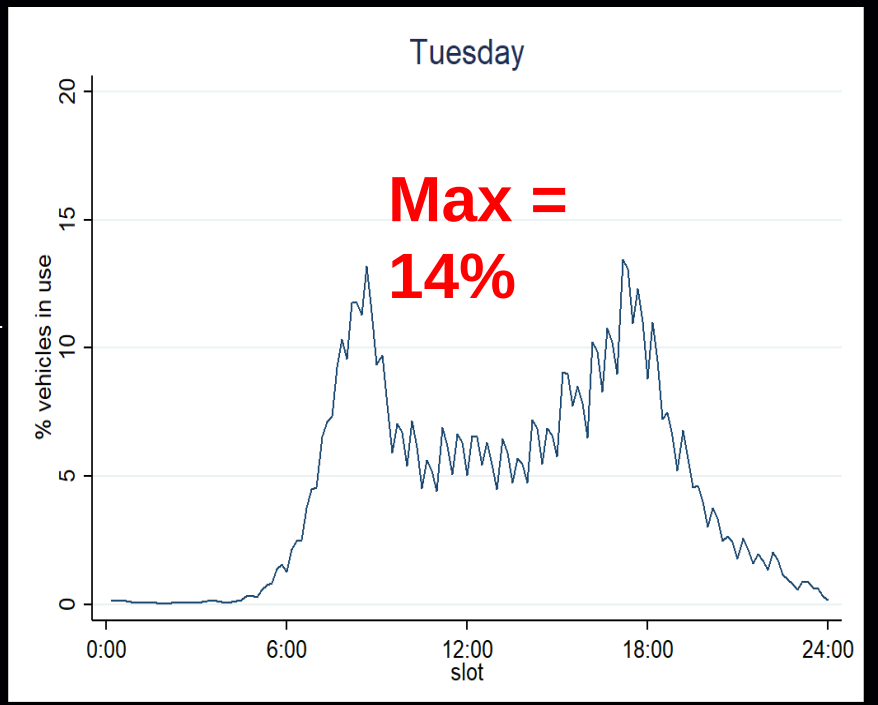
- **Evidence shows: *‘have car, will use it’***
- (In the UK) car ownership is still growing, but utilisation of each individual car is reducing

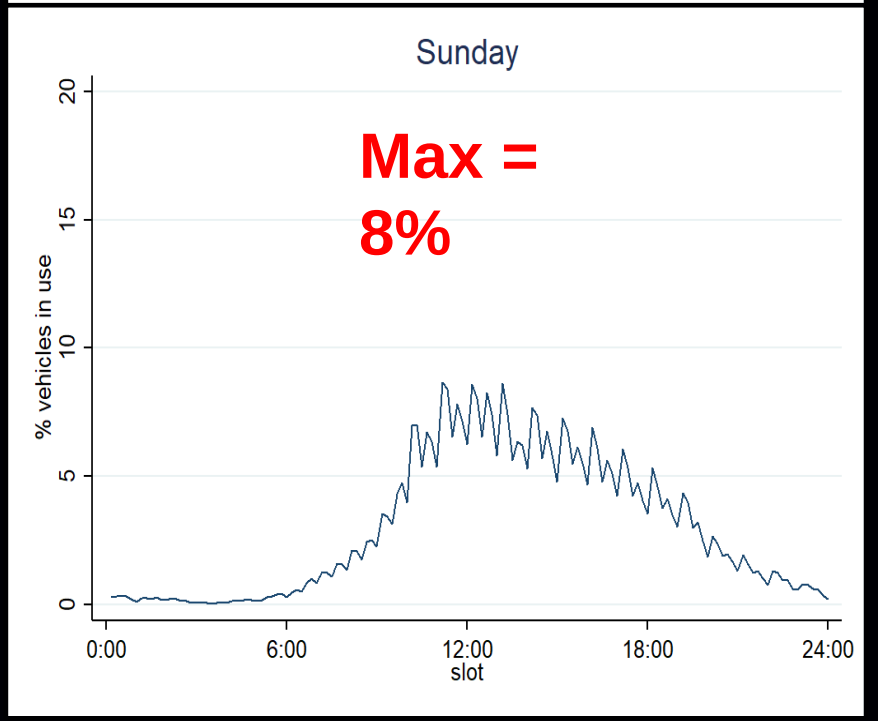
  = greater embodied energy and sunk cost per mile travelled
- 33% of cars do not move on a given day

  = 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

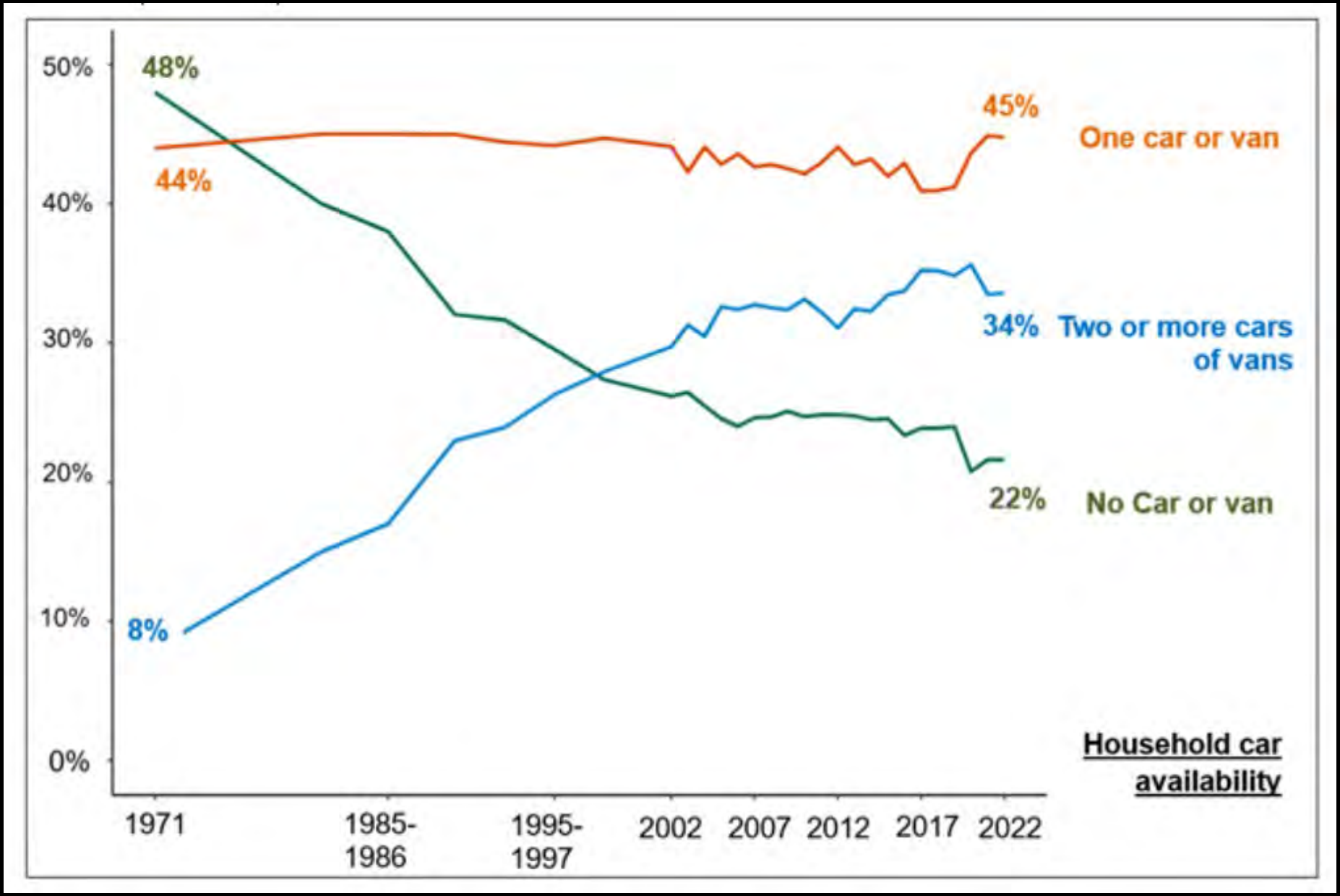
- Maximum 14% of the car fleet on the road at any one time
- Pre-covid, 1/3 of cars did not go out in any one day (8% p/wk)
- Average car occupancy falling
- 621bn empty vehicle seat-miles per annum in the morning commute



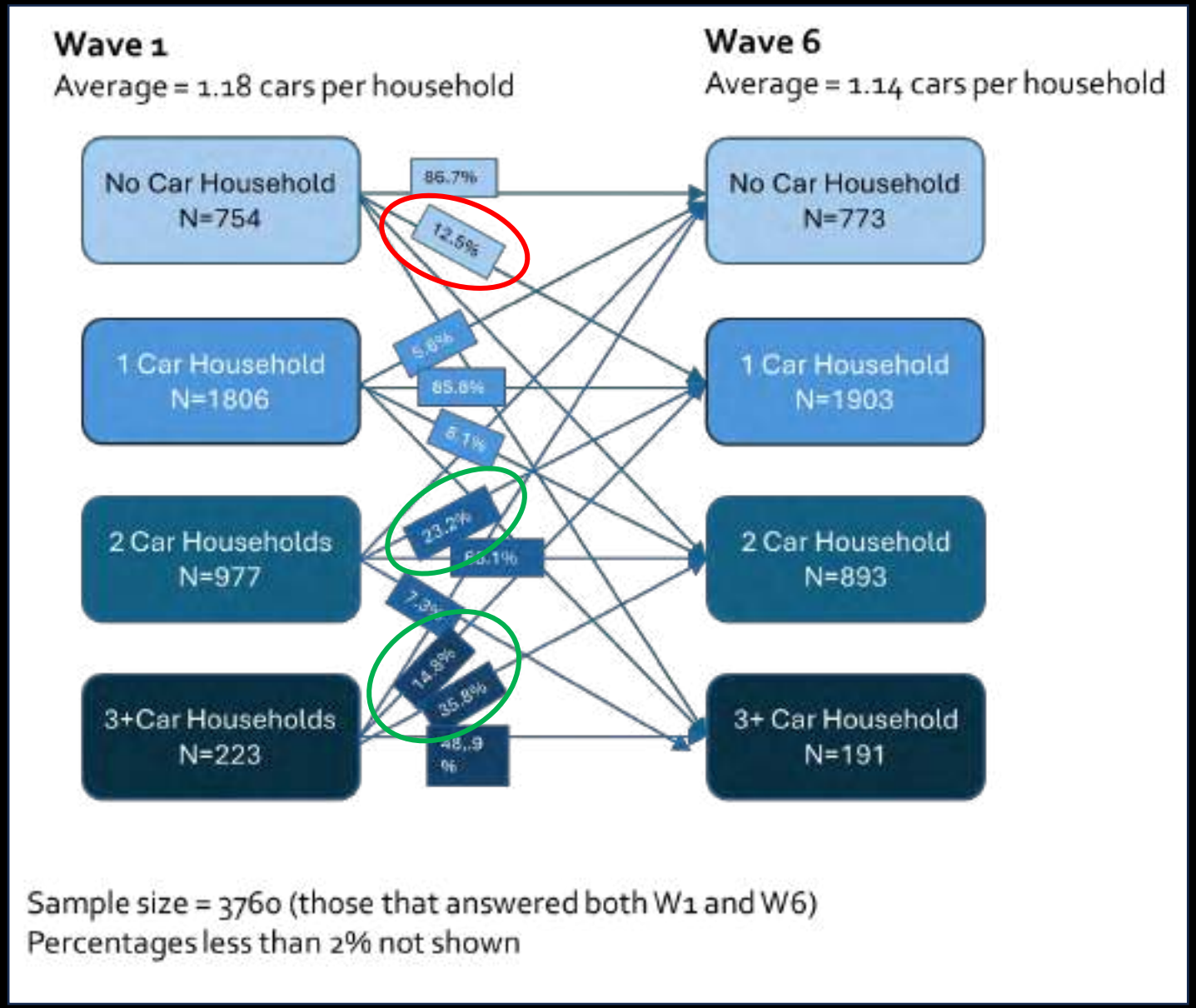


Ramirez-Mendiola, J.L., Mattioli, G., **Anable, J.** and Torriti, J., 2022. I'm coming home (to charge): The relation between commuting practices and peak energy demand in the United Kingdom. *Energy Research & Social Science*, *88*, p.102502. https://doi.org/10.1016/j.erss.2022.102502

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



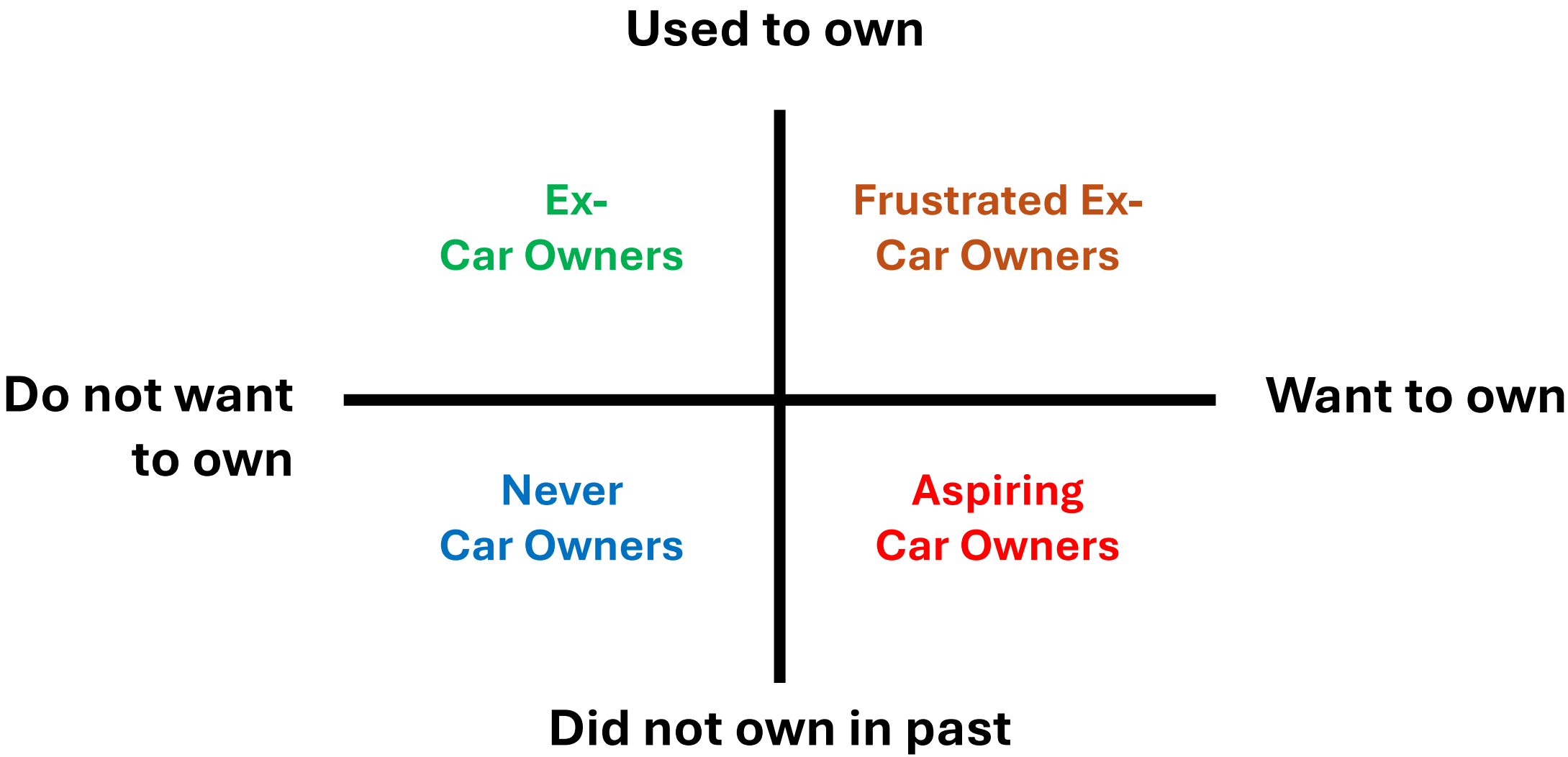
Churn in car ownership between W1 (Feb/March '20) & W6 (July '23)



- 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

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

Categories of Non-car owning



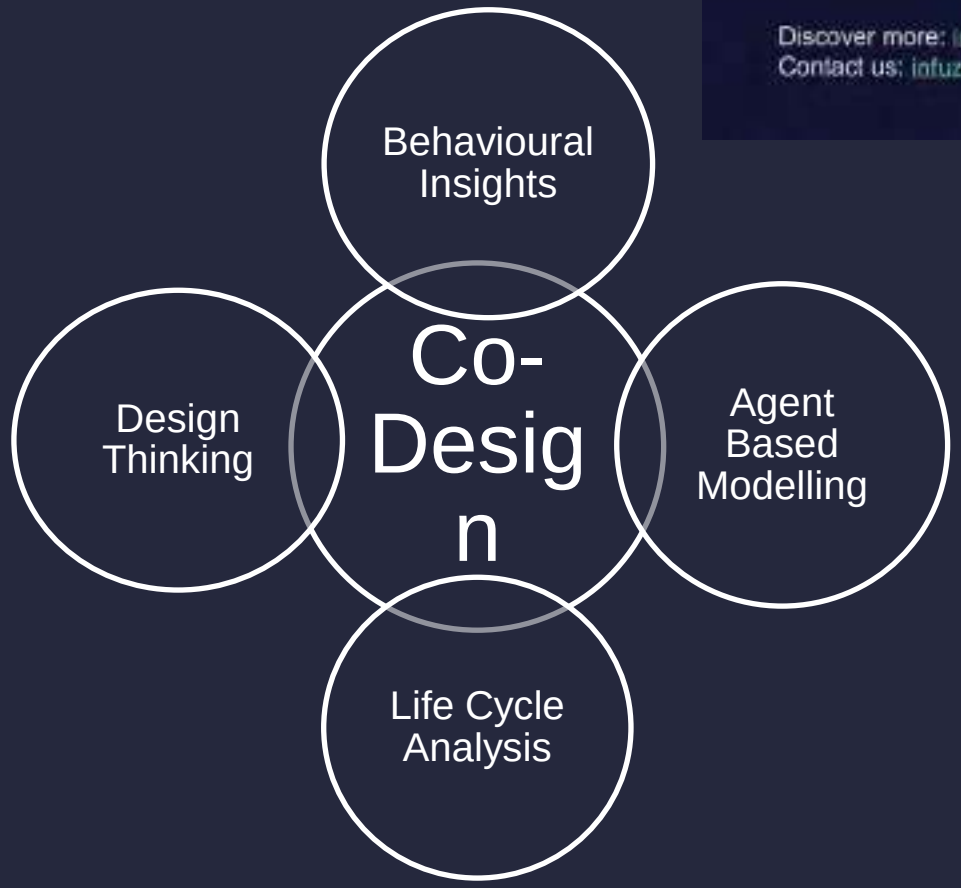
INFUZE – Inspiring Futures for Zero Carbon Mobility

INFUZE

Discover more: in-fuze.org.uk
Contact us: infuze@leeds.ac.uk

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?'



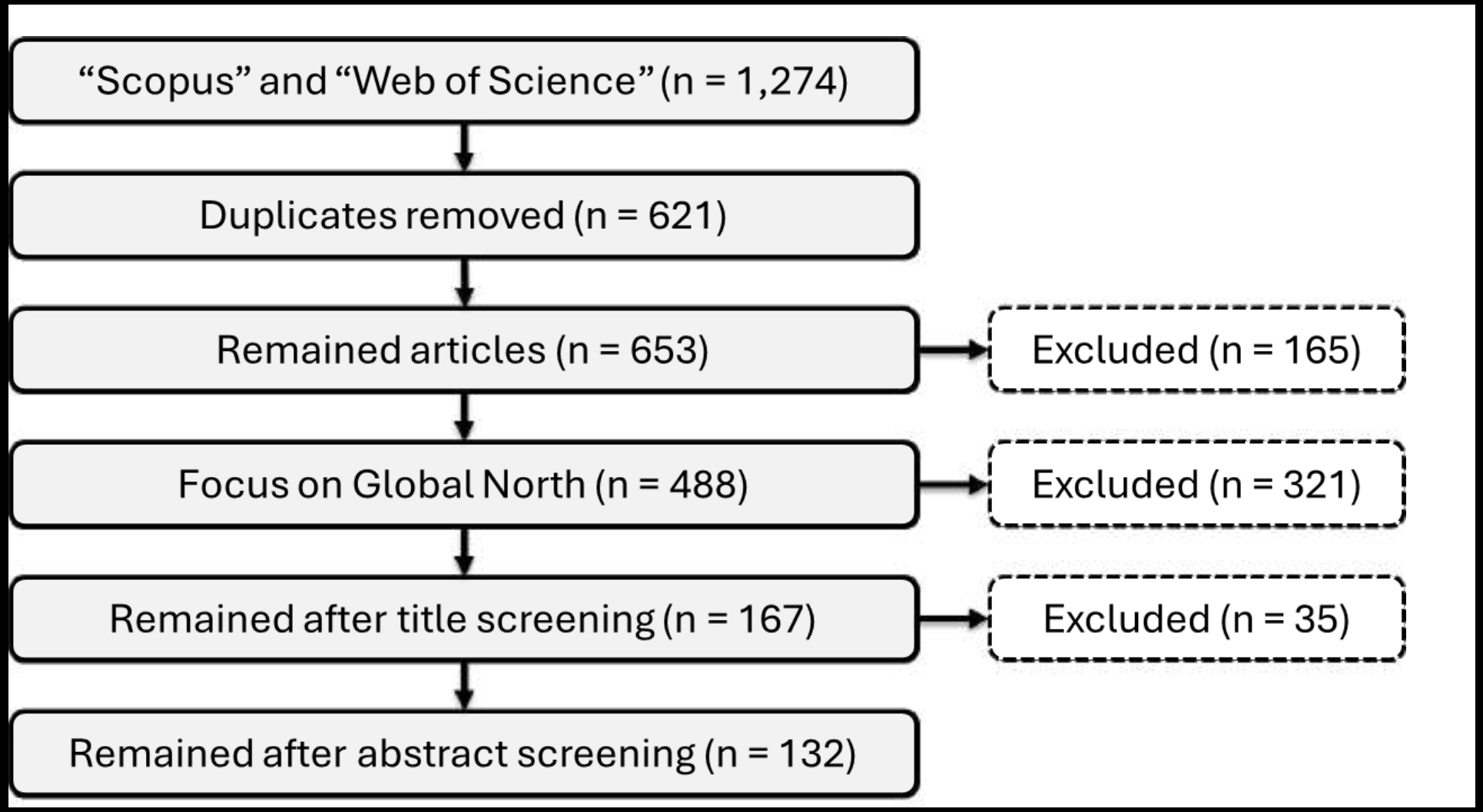
Scoping review on ‘car shedding’ – aim and method

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

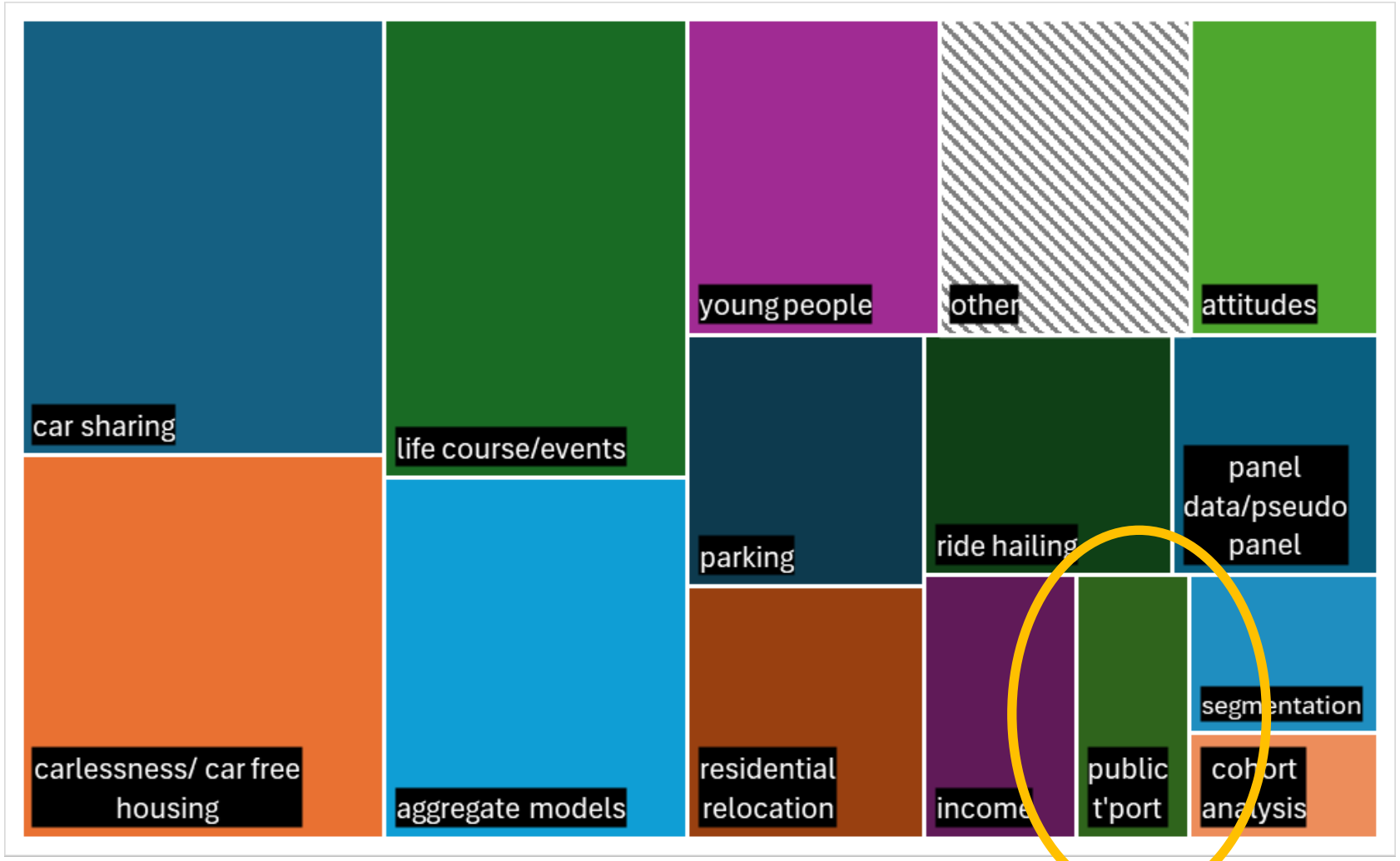
Web of Science + Scopus
Published journal papers & chapters (2000-2024)

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*"

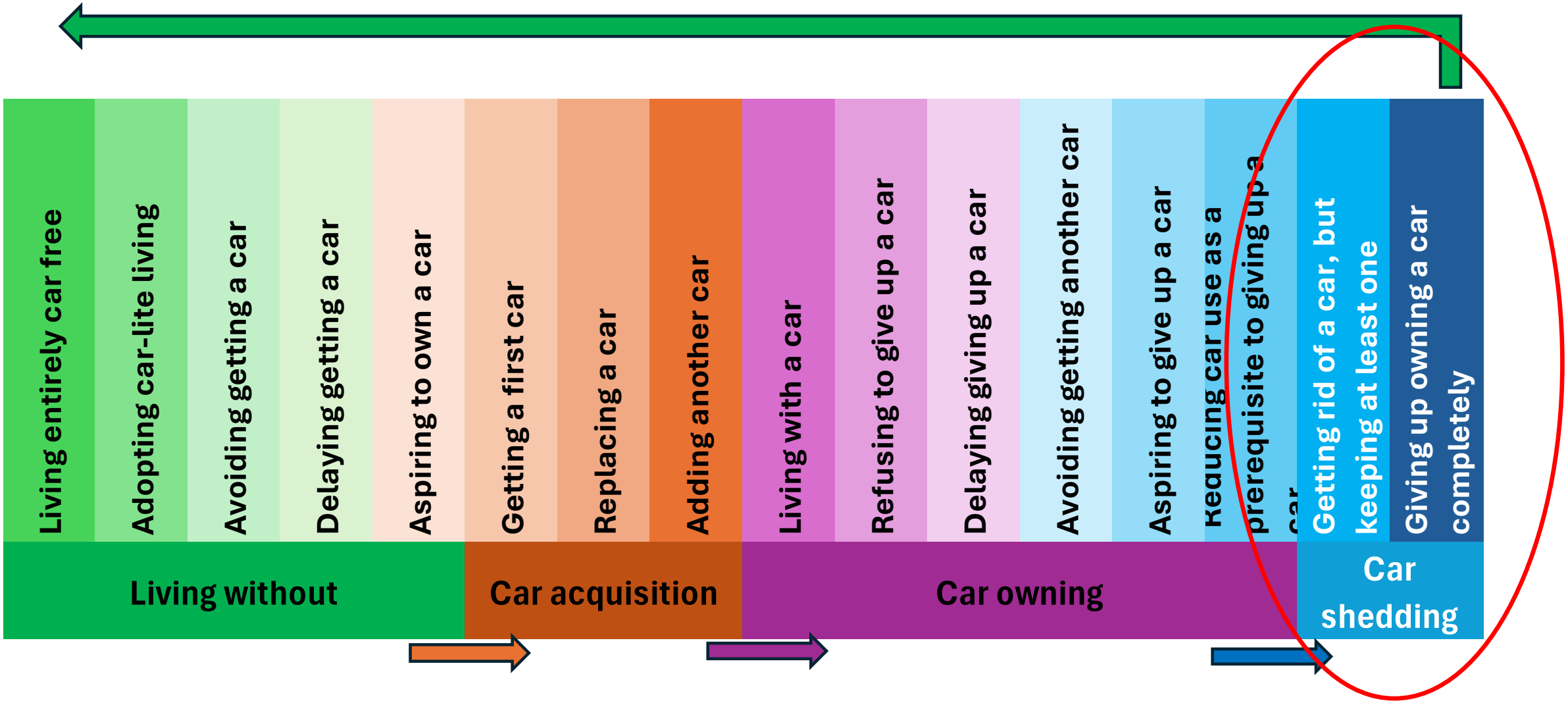
Scoping review filtering process



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…

- … 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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ITS

Now – the mobesity 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

World view

Confronting mobesity is vital for the global electrification of transport

https://doi.org/10.1038/s41560-024-01559-x

By Christian Brand

The proliferation of large electric vehicles risks undermining the environmental and economic benefits of the green transport transition, argues Christian Brand.

been shown to drive the demand for e-SUVs. The relationship between SUVs and electrification is also mutually reinforcing: bigger and heavier cars allow for bigger batteries to be used, which extends range and reduces range anxiety. It is therefore not surprising that in

density and reduce material use are crucial. This would allow smaller EVs to achieve ranges that meet consumer expectations without large, resource-intensive batteries. Supporting R&D in this area, along with stronger recycling mandates, would alleviate raw material

Check for updates

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

ITS

Key messages

- 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

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Contact us: infuze@leeds.ac.uk

UKRI Engineering and Physical Sciences Research Council
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Prezi
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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

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.

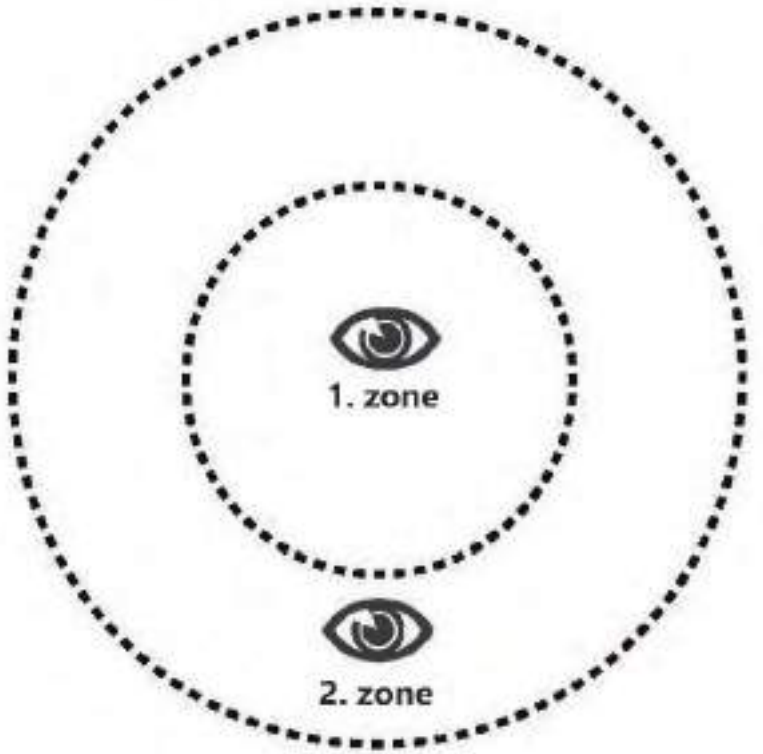
It aims to support the integration of mobility hubs as vibrant urban spaces by enhancing the sense of place and their connection to the surrounding environment.

Biggest upportunity: 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

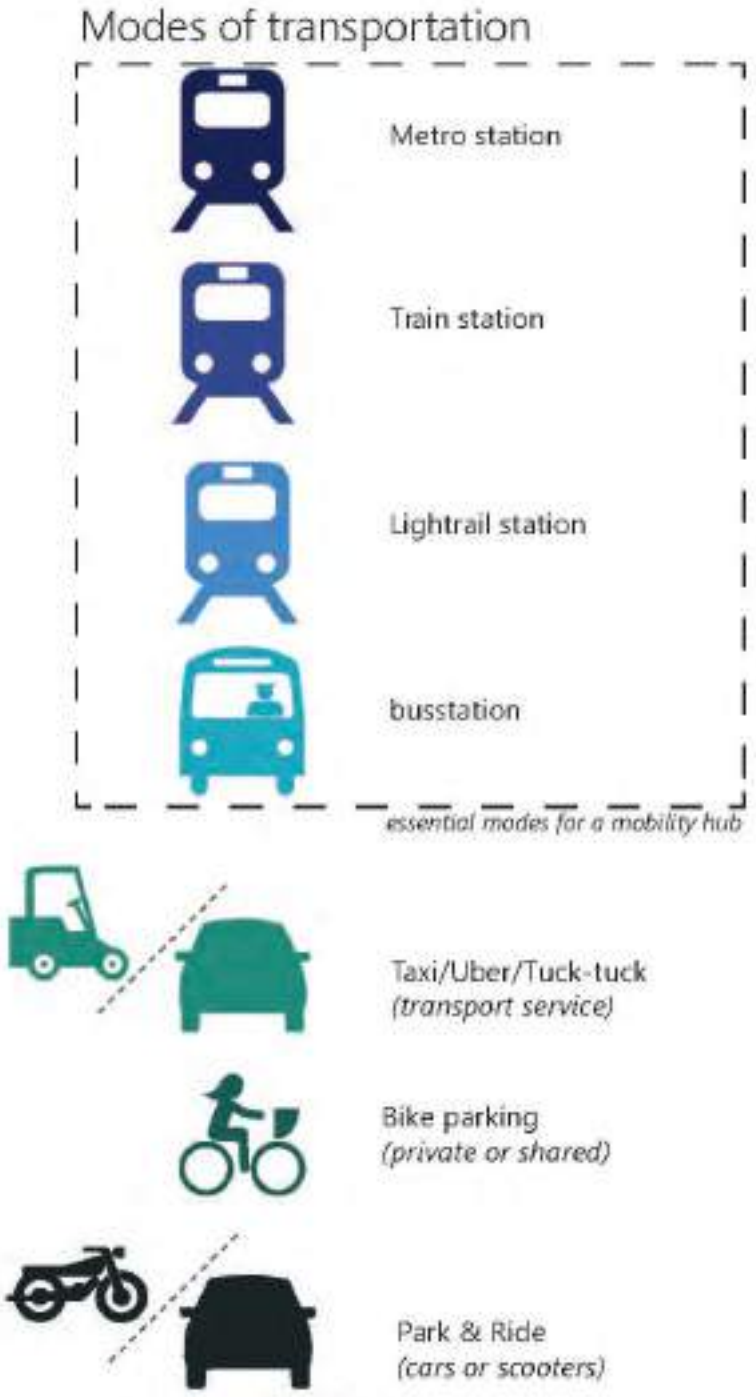
- Key modes of transportation
- Supportive modes of transportation

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?

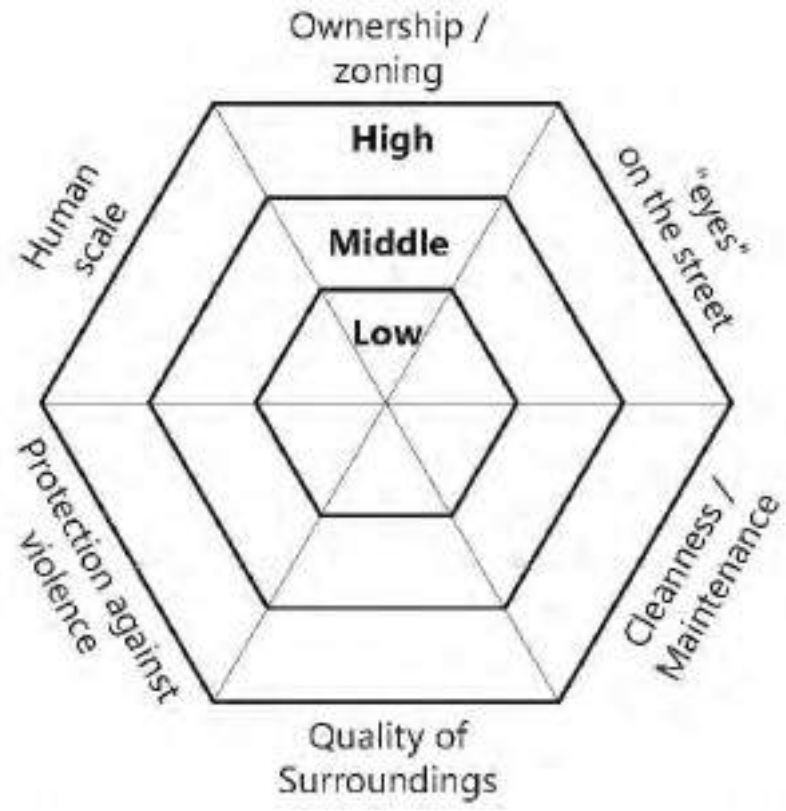


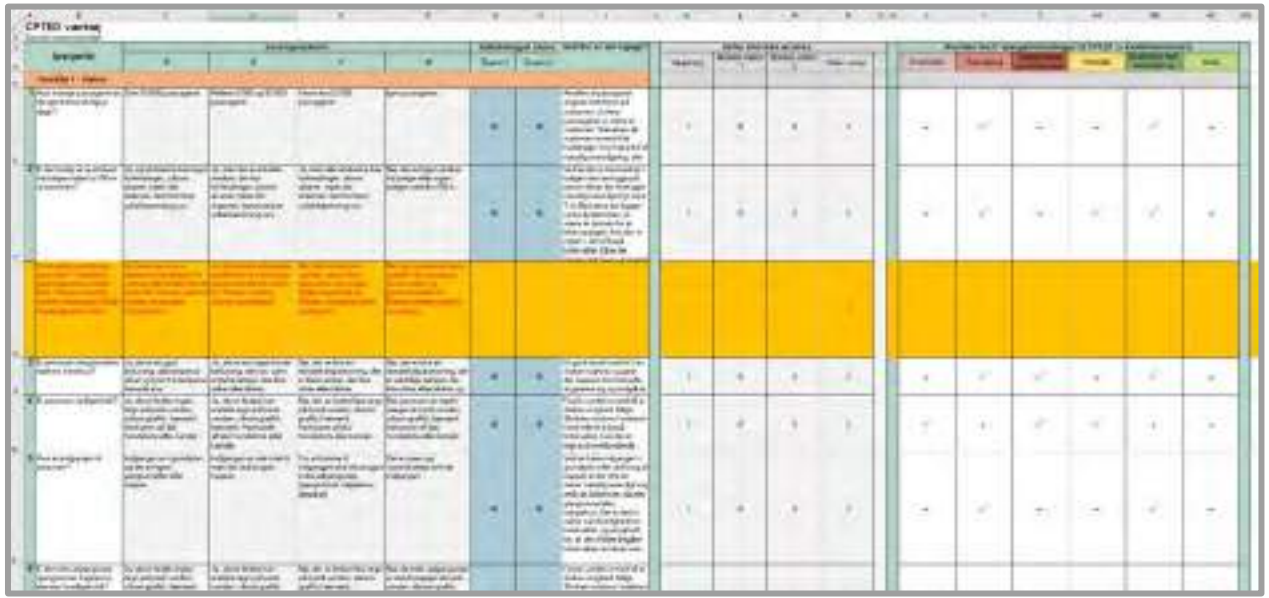
Safety analysis simplified

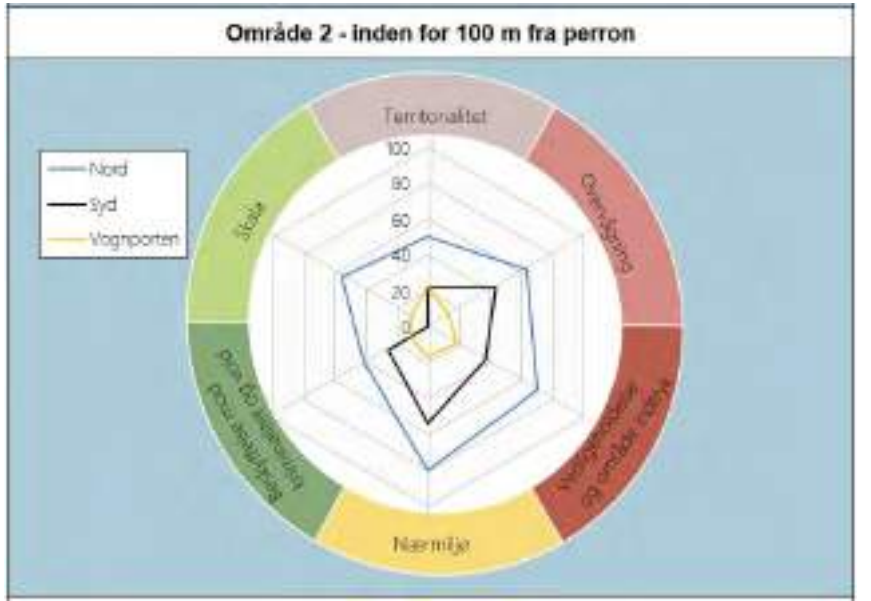
Same categories as for a thorough safety analysis of urban space.

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.







ROSKILDE STATION

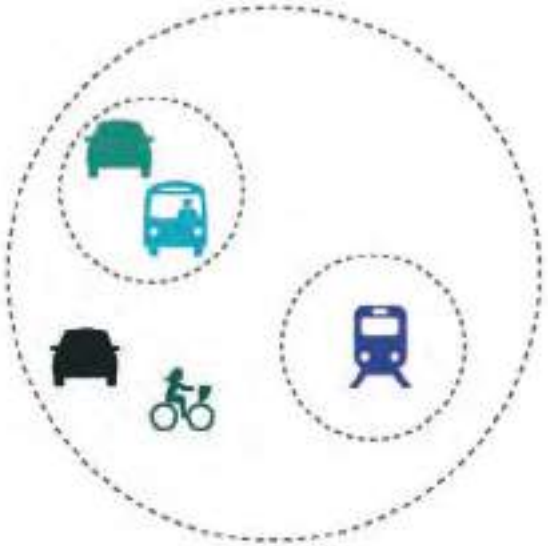
Roskilde Station is located at the edge of the historic city center.

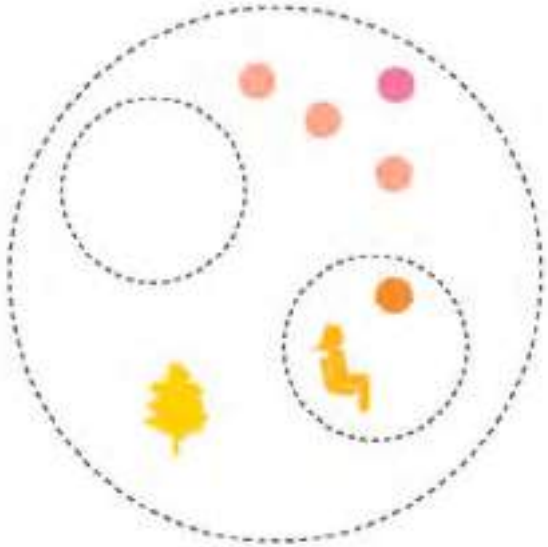
Established in 1847 as Denmark's first railway connection to Copenhagen, the station remains a major regional transit hub, as well as a central bus terminal.

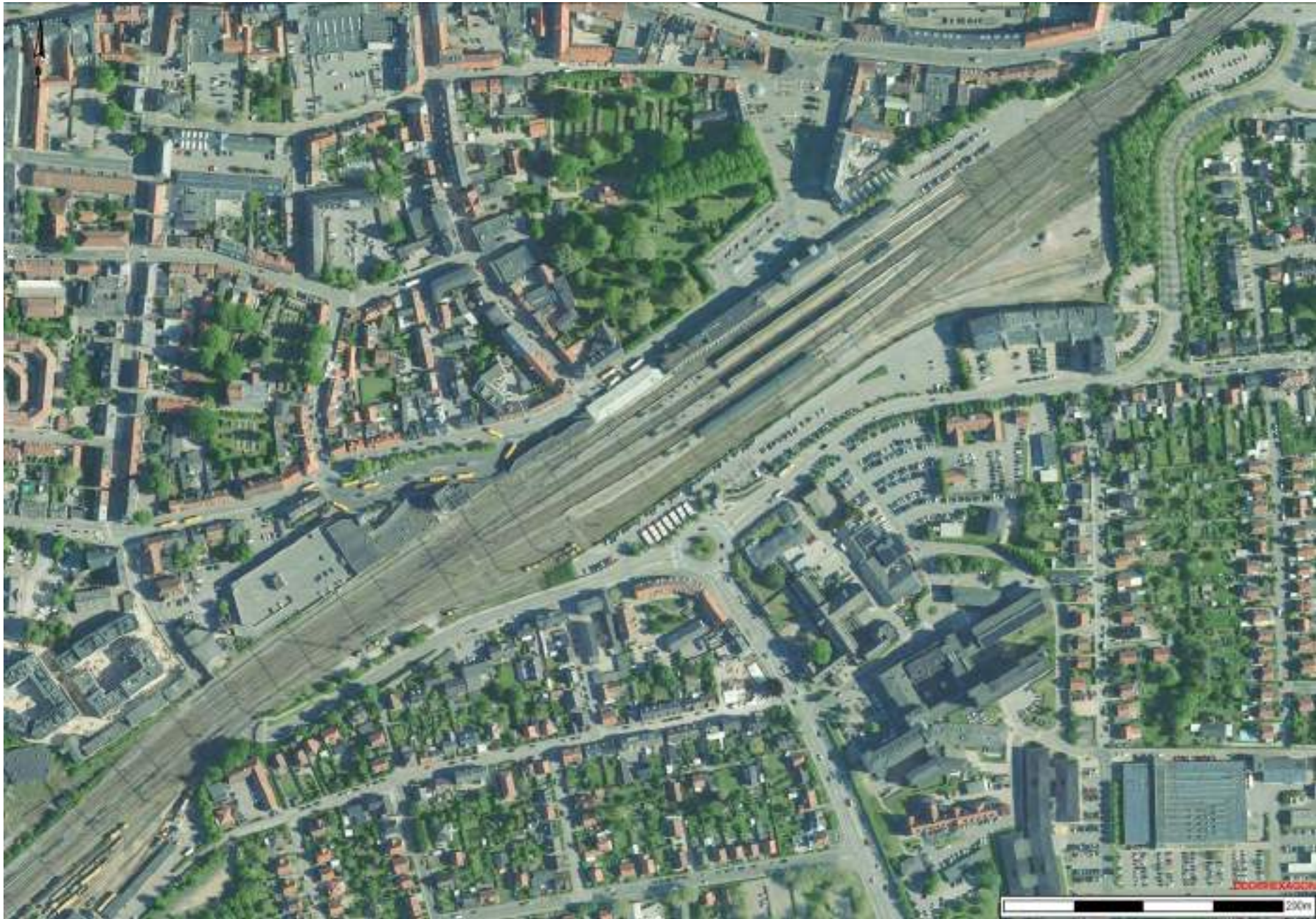
The surrounding area is characterized by **2–4 story buildings** with brick facades and pitched roofs.

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

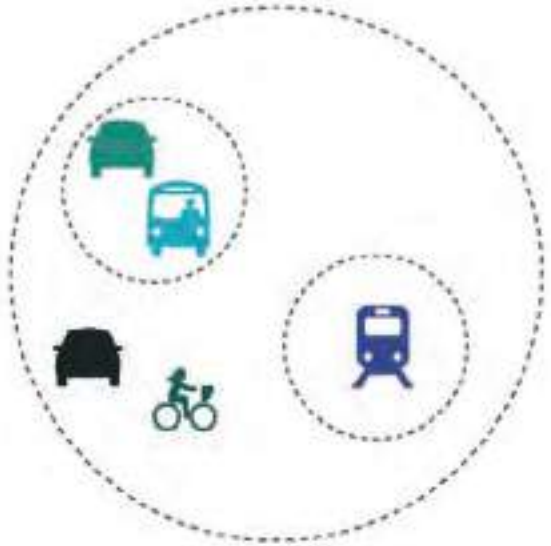
The station square connects directly to the main shopping street. South of the station is a mix of residential neighbourhoods and institutions like the hospital, city hall, and multiple schools.

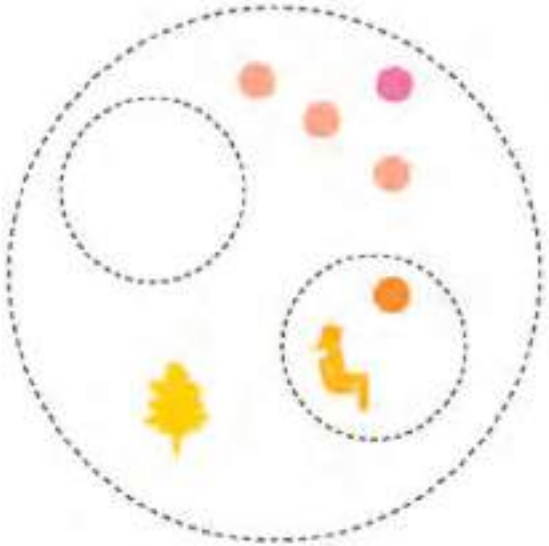


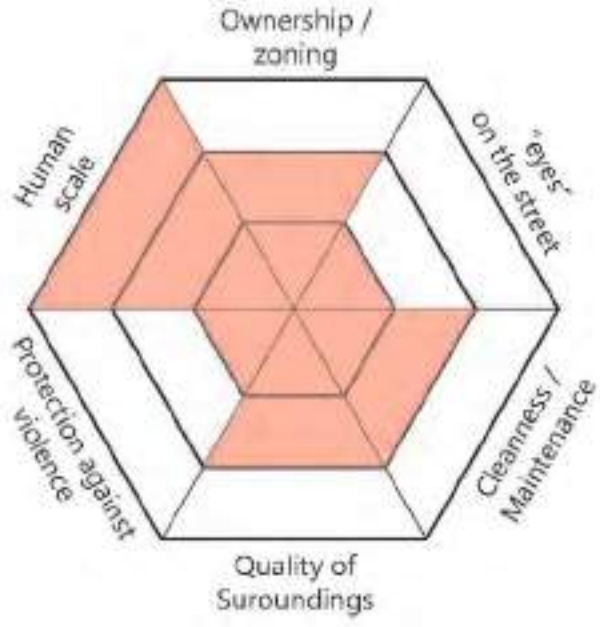




TOD2 Design guide DK







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

Ishøj station (DK)

Lyngby station (DK)

Cph Central Station (DK)

Nanxiang station (Shanghai)

West Jiading station (Shanghai)

Dapuqiao (Shanghai)

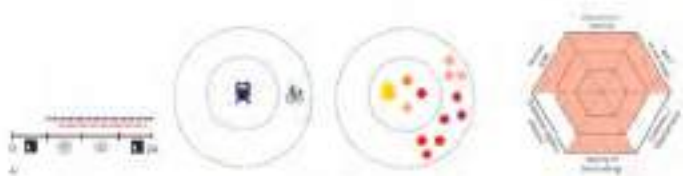
Longxi Road (Shanghai)

Songijang Xicheng (Shanghai)

Linchan (Nanjing)

Fochenxi Lu (Nanjing)

Wudingmen (Nanjing)



Zhangfuyuan (Nanjing)