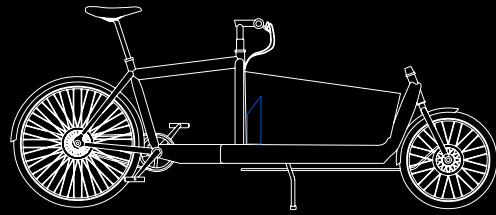
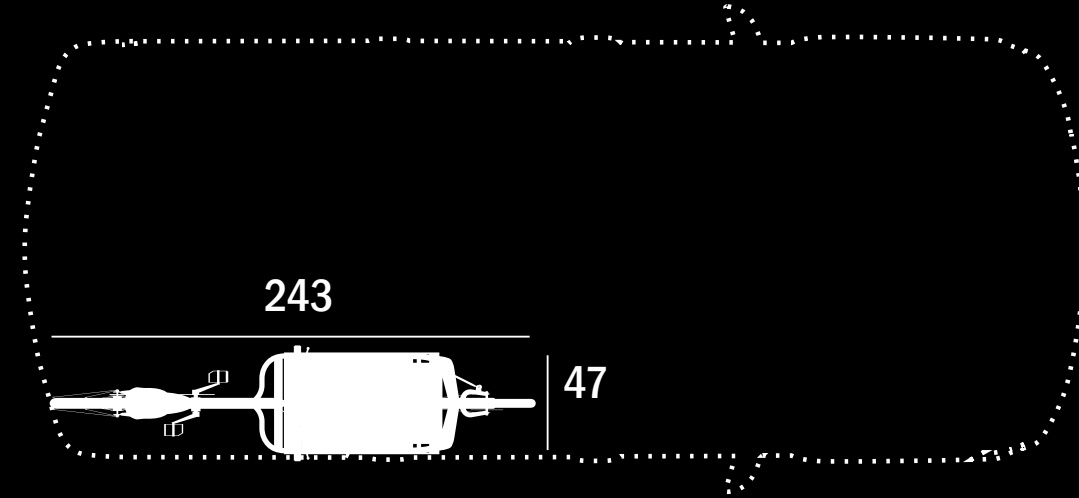
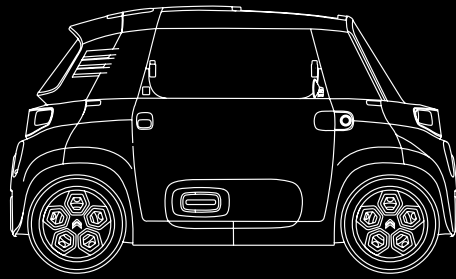
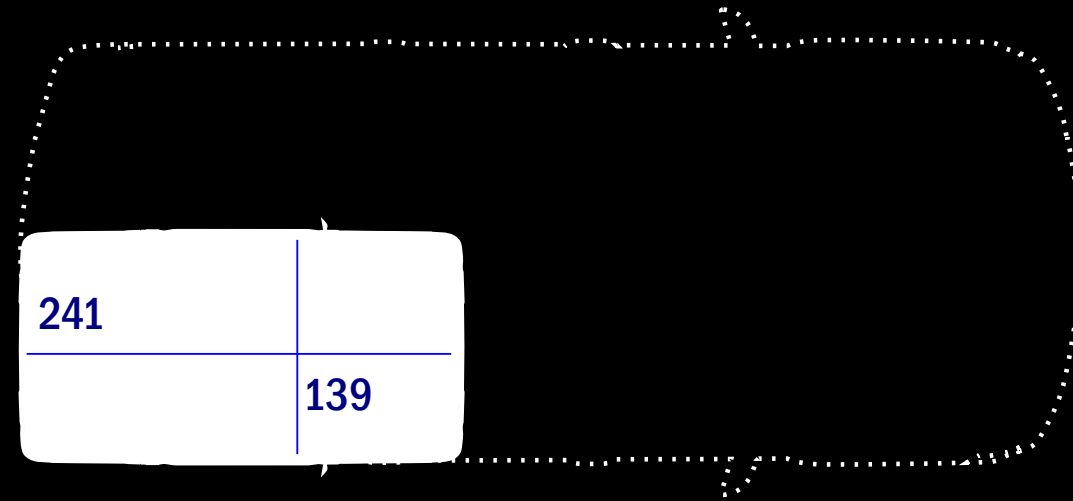


SPACE OPTIMISATION



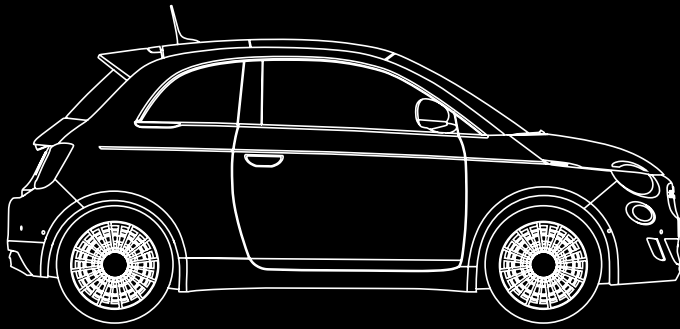
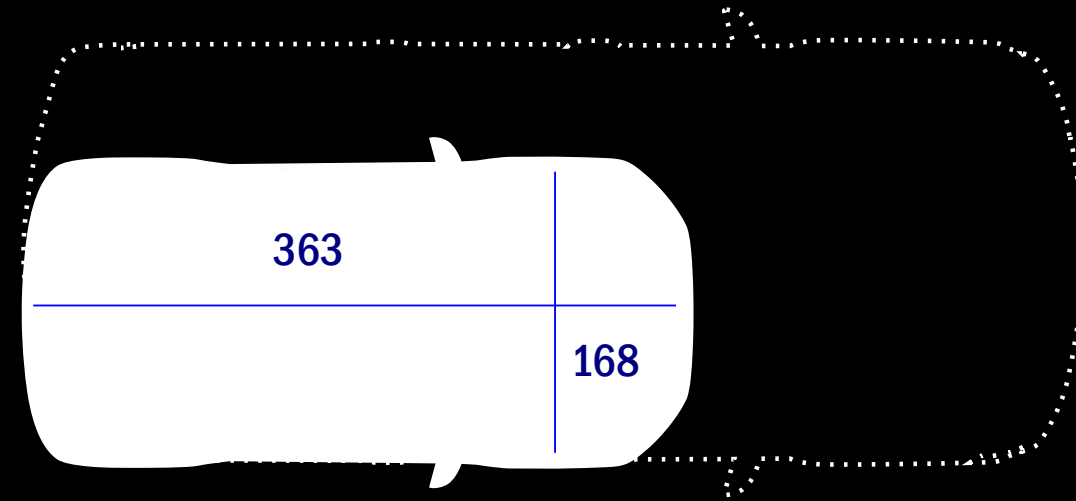
e-Cargo Bike (Larry vs. Harry Bullit)

SPACE OPTIMISATION



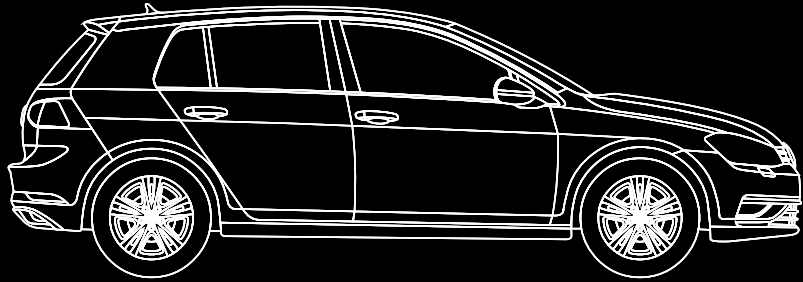
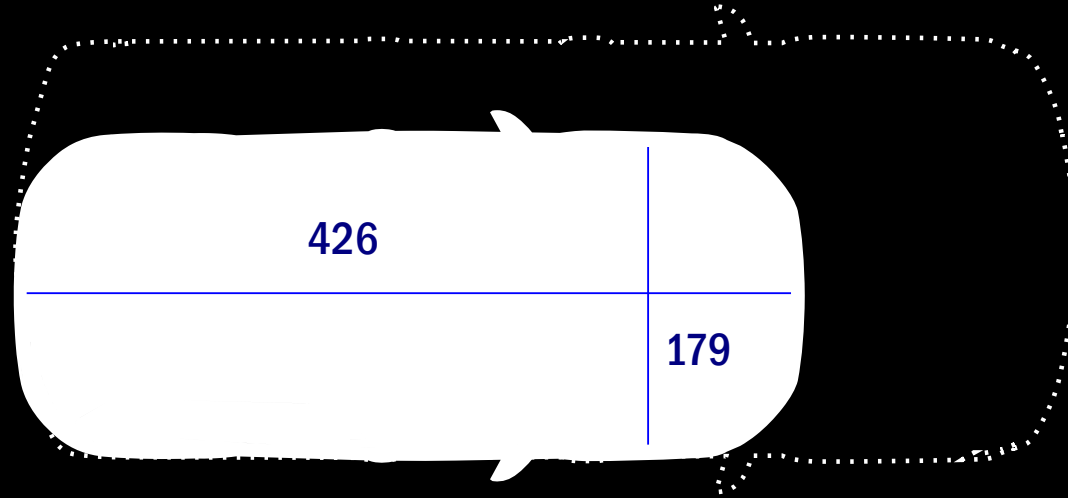
Micro Electric Vehicle (Citroen AMI)

SPACE OPTIMISATION



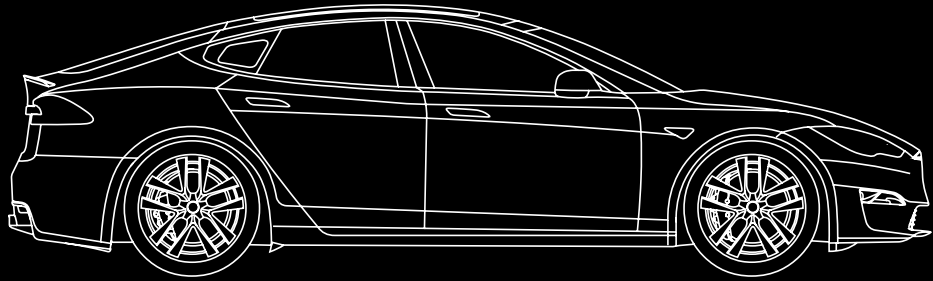
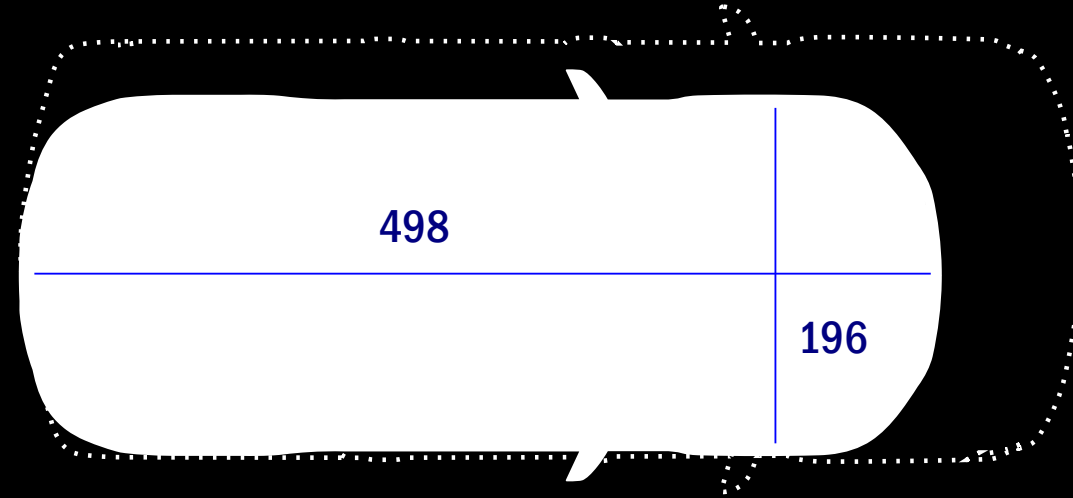
Small Car (Fiat 500e)

SPACE SAVING



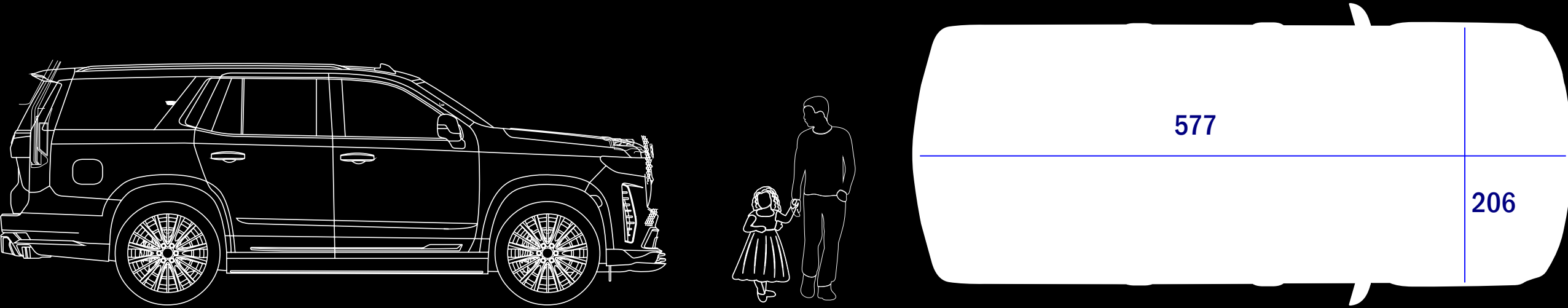
Medium Car (Volkswagon Golf VII)

SPACE SAVING



Large Car (Tesla Model S)

SPACE OPTIMISATION



Large Sports Utility Vehicle (Cadillac Escalade V)



SUV-FICATION -- HARDER, BIGGER, FASTER, WRONGER



SPACE OPTIMISATION



Public transport

$\text{m}^2\cdot\text{h}$ per person for a 10-km round trip, 8 hours on-street dwell time



Static



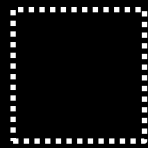
Dynamic



0.7 $\text{m}^2\cdot\text{h}$



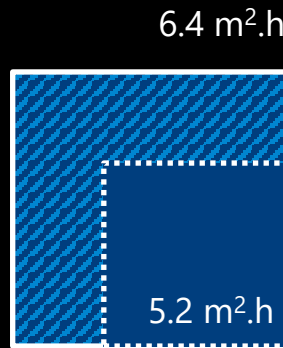
20 km/h



2.7 $\text{m}^2\cdot\text{h}$



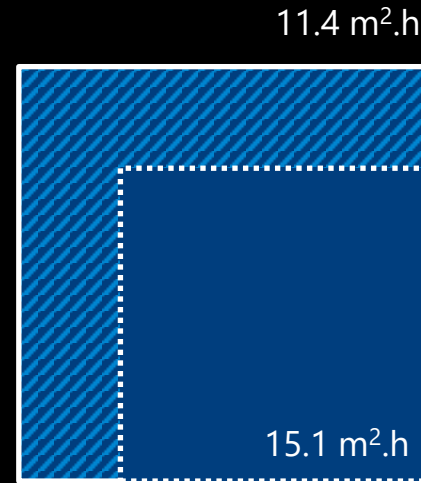
4 km/h



11.6 $\text{m}^2\cdot\text{h}$



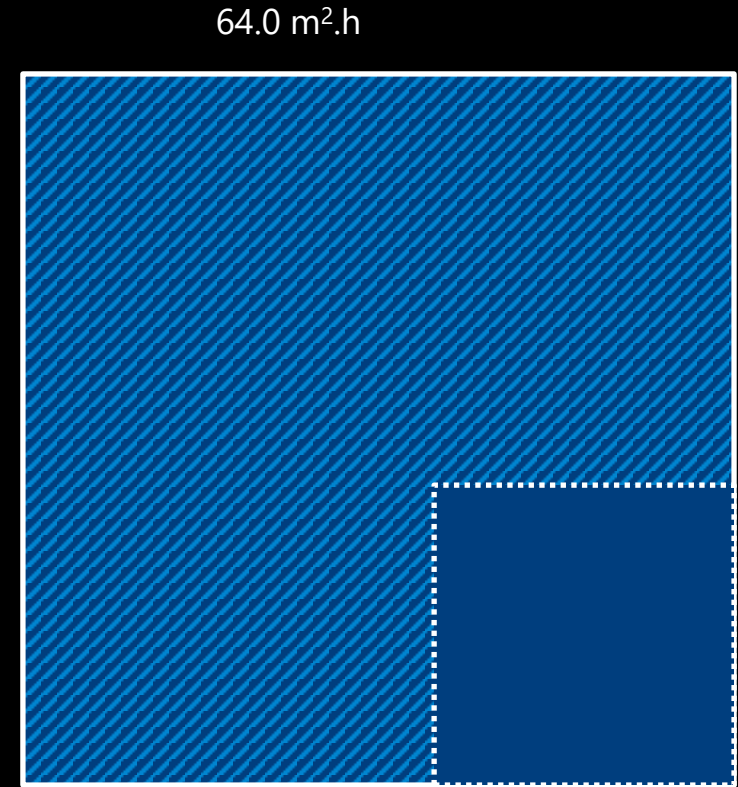
15 km/h



26.5 $\text{m}^2\cdot\text{h}$



40 km/h



64.0 $\text{m}^2\cdot\text{h}$

77.8 $\text{m}^2\cdot\text{h}$



35 km/h
on-street parking

WHAT MAXIMISES VEHICULAR LEVEL OF SERVICE?

?



~~WHAT MAXIMISES VEHICULAR LEVEL OF SERVICE?~~

WHAT MAXIMISES PEOPLE'S ACCESS TO
OPPORTUNITIES?



ACCESS TO

- ➡ to necessities
- ➡ to opportunities
- ➡ to people

proximity

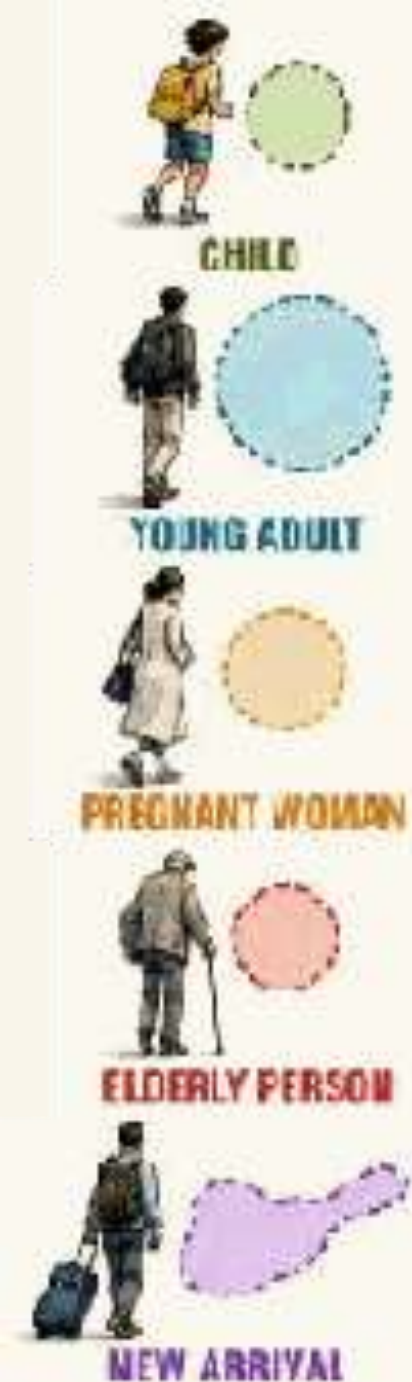
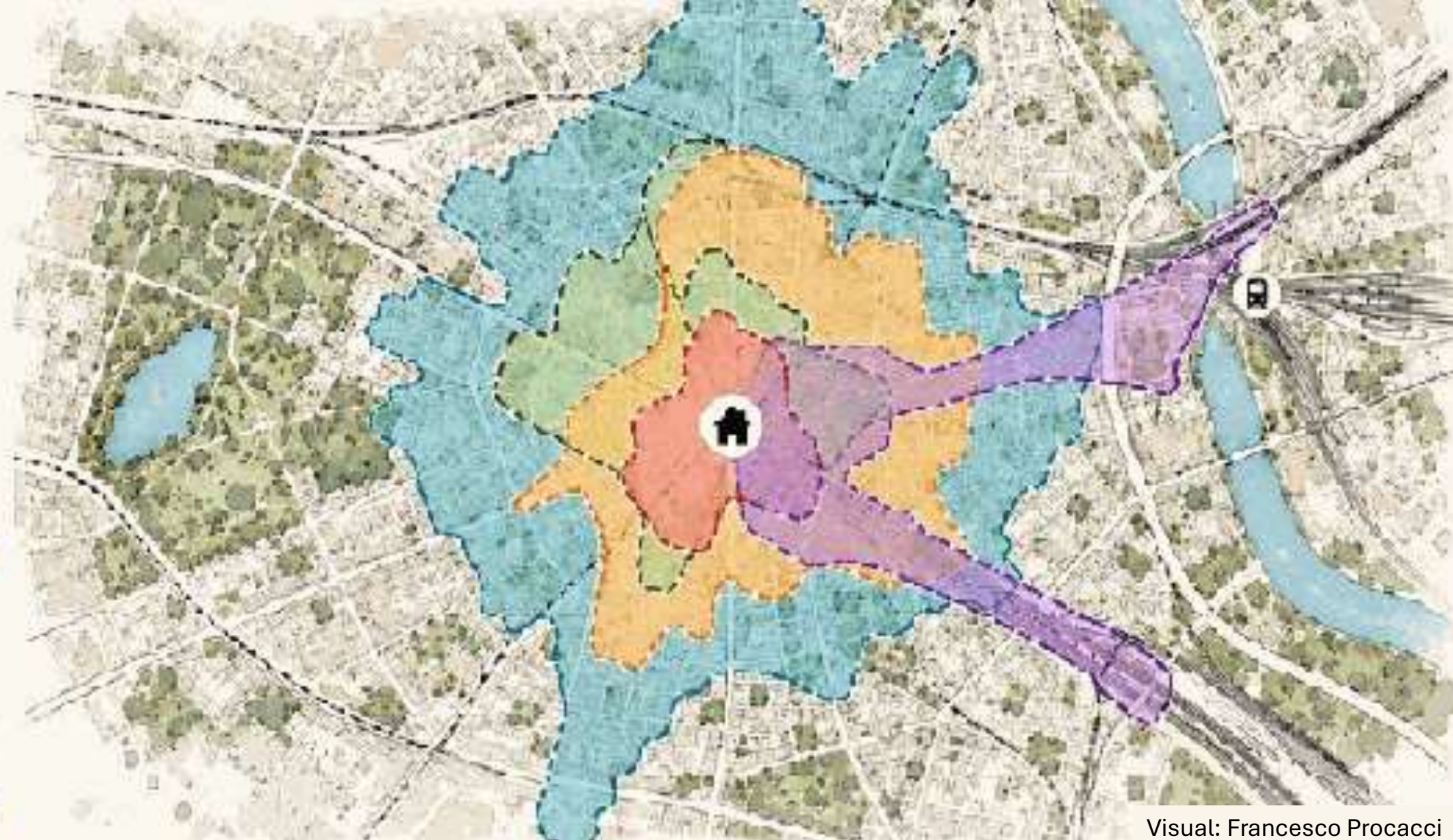
virtuality

ACCESS

mobility

ACCESS TO

- ➔ to necessities
- ➔ to opportunities
- ➔ to people



Visual: Francesco Procacci

ACCESS IS CONTINGENT ON CAPABILITIES



~~HOW?~~
FOR WHOM?
FOR WHAT OUTCOME?
IN WHAT WAY?

PLANNING

PLANNING IS ALL ABOUT THE FUTURE

PLANNING IS ALL ABOUT THE FUTURE

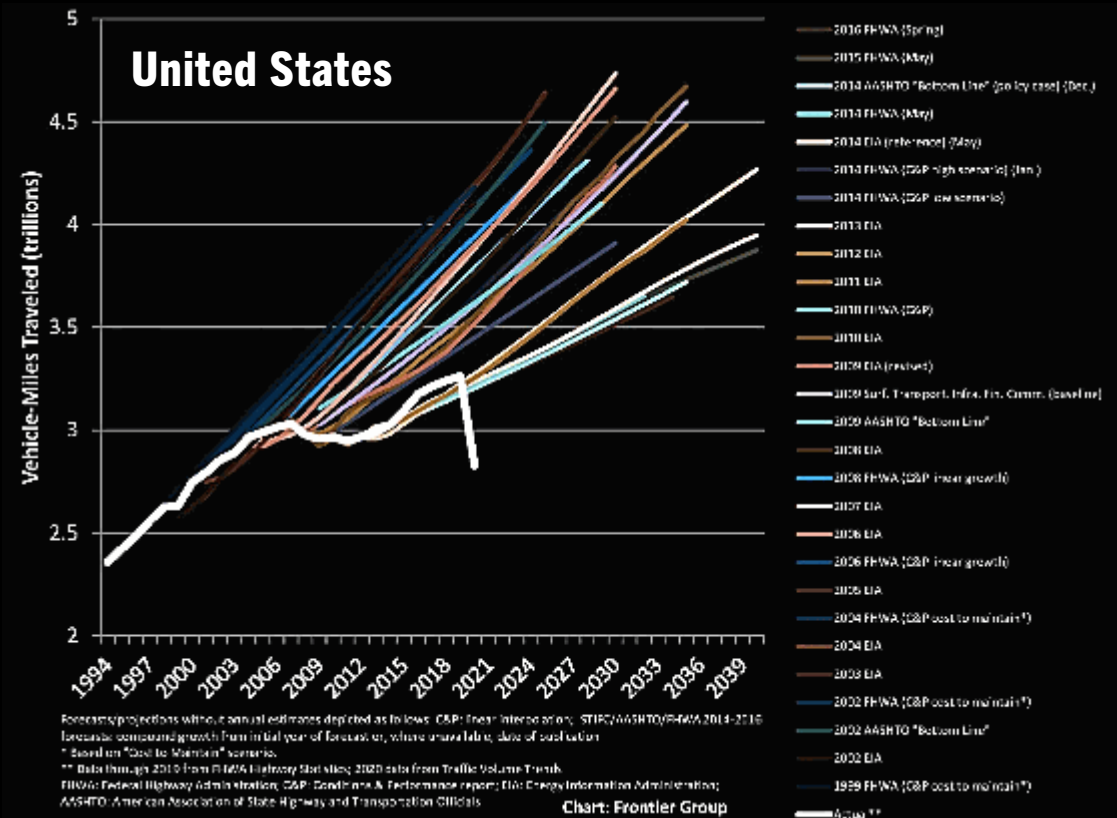
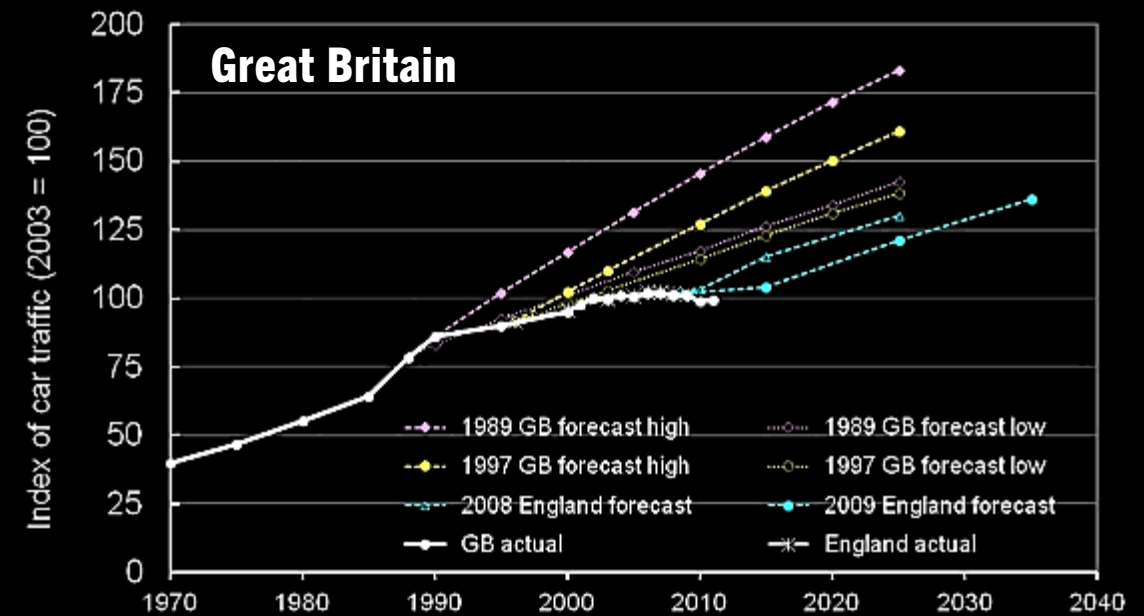
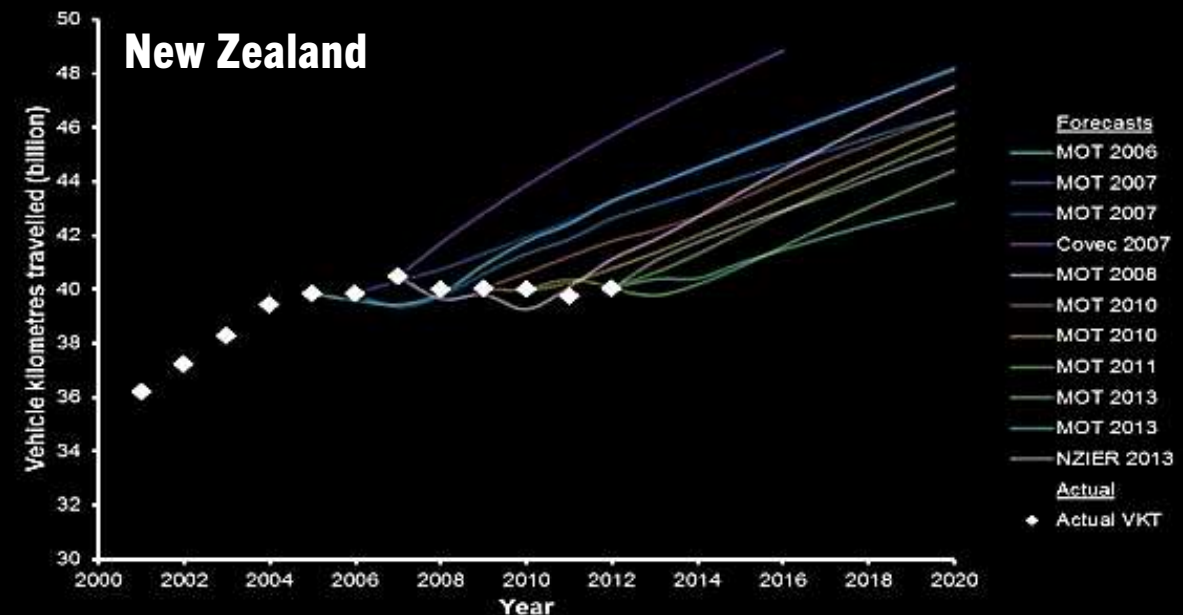
The future is strongly
informed by the past
and is knowable.

The future is less knowable
than has been assumed
and thus more difficult to
forecast precisely.

IT IS EASIER TO BE WRONG ABOUT
THE FUTURE THAN TO BE RIGHT

A SHORT HISTORY OF FAILED FORECASTS

Actual change in road traffic volumes compared to different forecasts in time in USA, GB and NZ

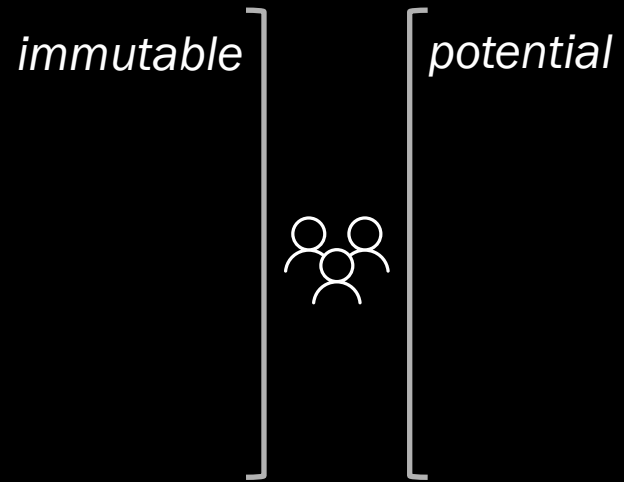


uncertainty

uncertainty

Certainty	Statistical uncertainty	Scenario uncertainty	Recognised ignorance	Total ignorance “deep” uncertainty
<p><i>The future is known</i></p> <p><i>e.g: Bridge steel beam load ductile response</i></p>	<p><i>The future can be described and will behave largely as the past.</i></p> <p><i>e.g. relationship between traffic flow and congestion</i></p>	<p><i>The future can be represented by a range of outcomes</i></p> <p><i>e.g. future driver licensing rates</i></p>	<p><i>The future cannot be described because the relationship between key factors is no longer known.</i></p> <p><i>e.g. the income elasticity of travel with large penetration of digital mobility services</i></p>	<p><i>The future cannot be described because we do not know what we do not know.</i></p> <p><i>e.g. “Black swan” events</i></p>

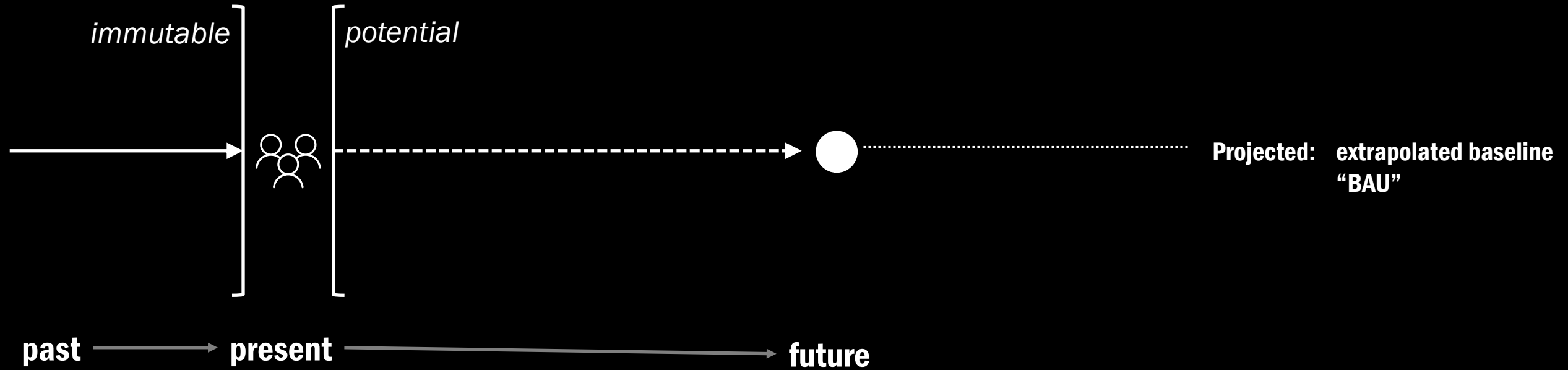
TRANSPORT FUTURE(S) IN PRACTICE



past → **present** → **future**

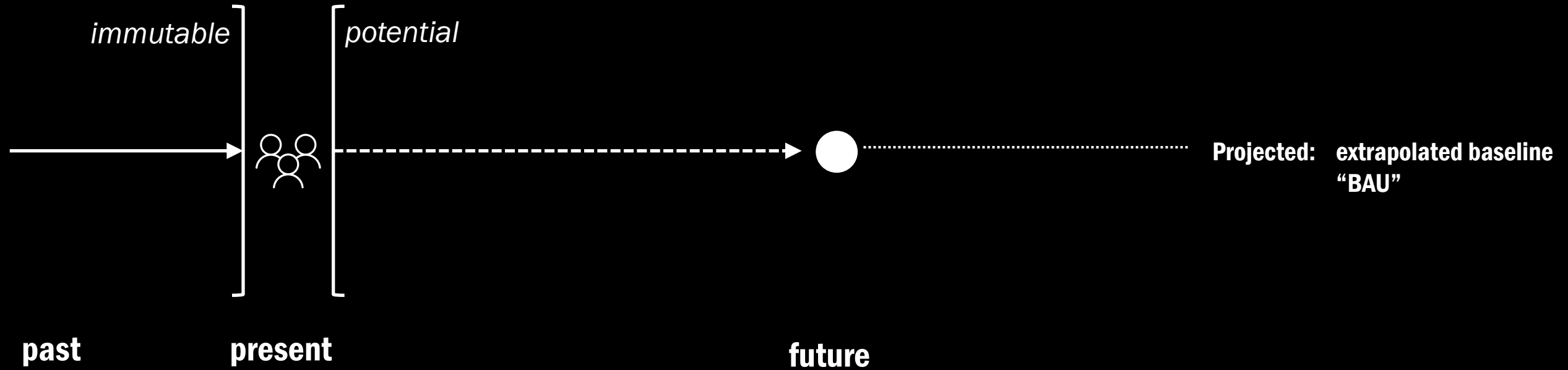
TRANSPORT FUTURE(S) IN PRACTICE

The past, projected



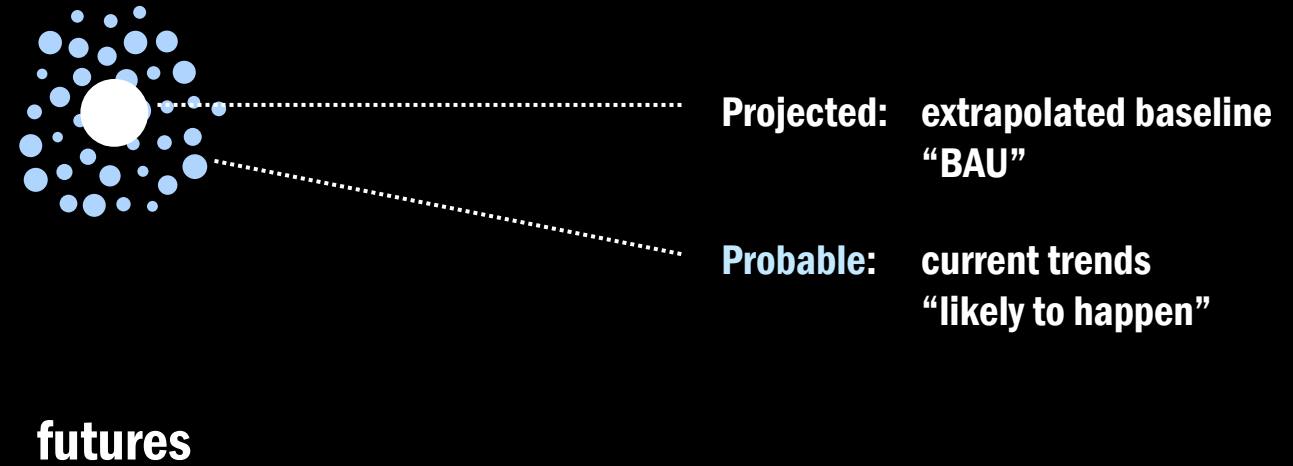
TRANSPORT FUTURE(S) IN PRACTICE

The past, projected



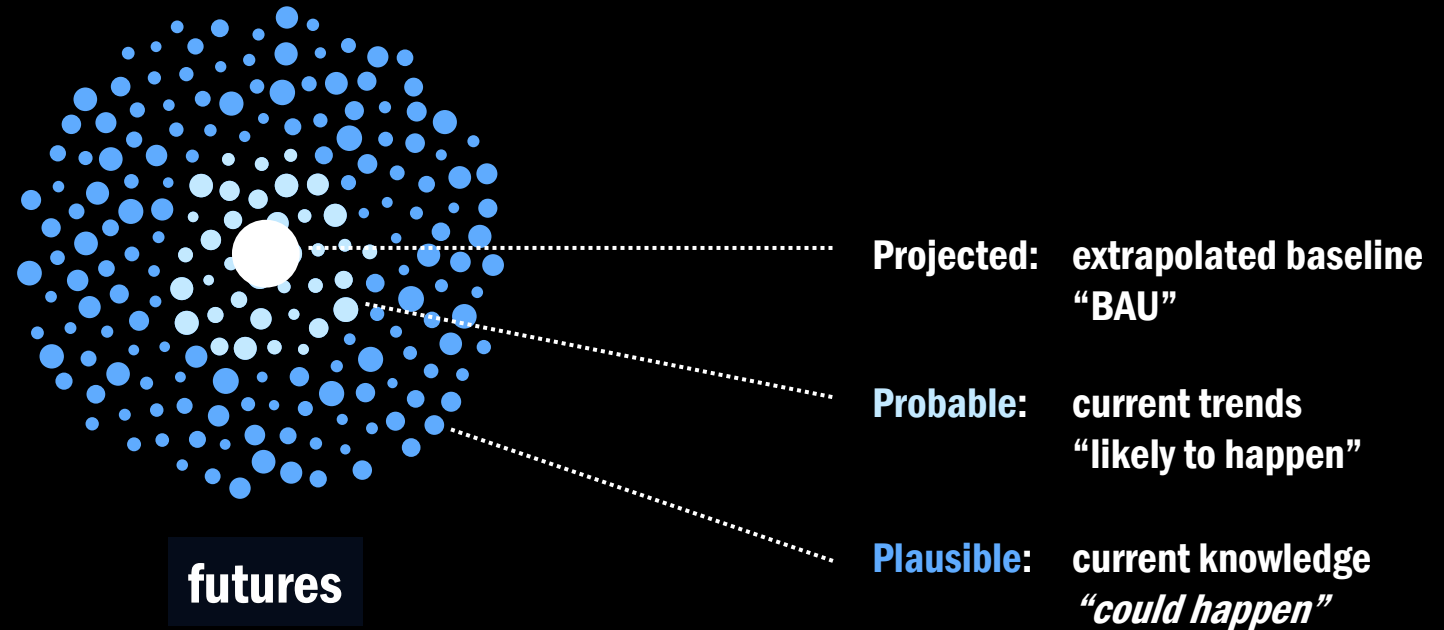
TRANSPORT FUTURE(S) IN PRACTICE

Widening the scope



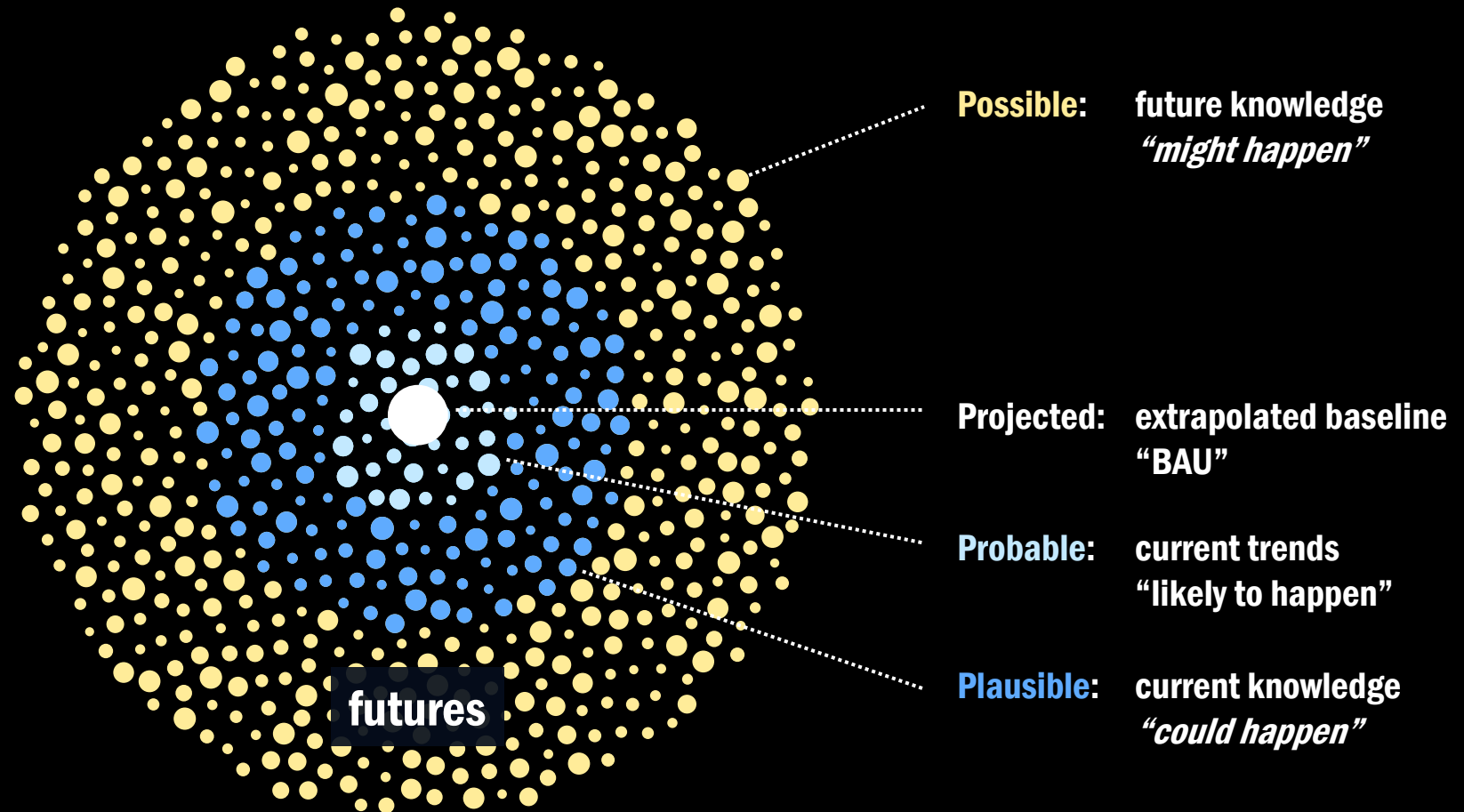
TRANSPORT FUTURE(S) IN PRACTICE

Rarely addressed



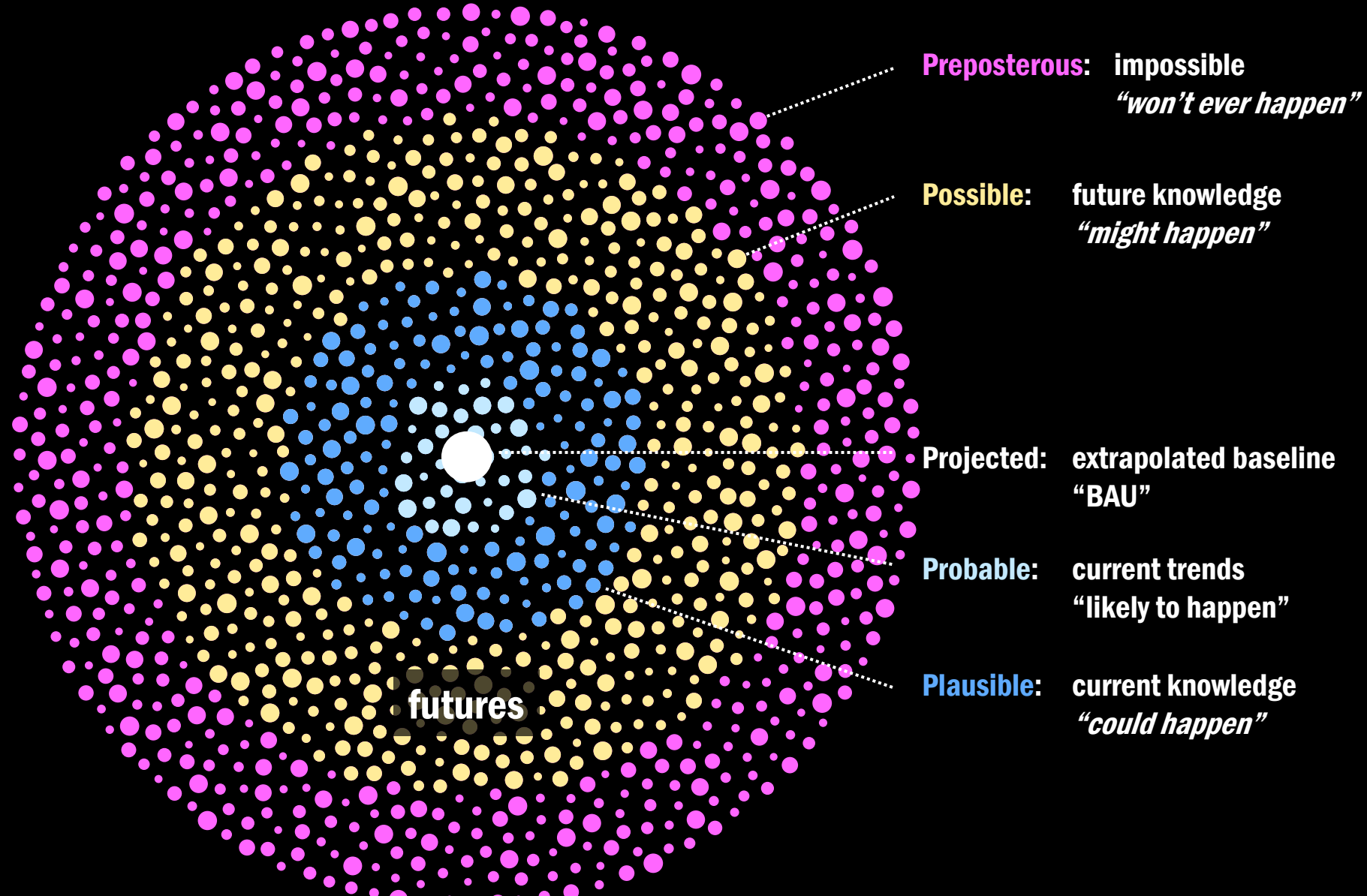
TRANSPORT FUTURE(S) IN PRACTICE

Largely ignored



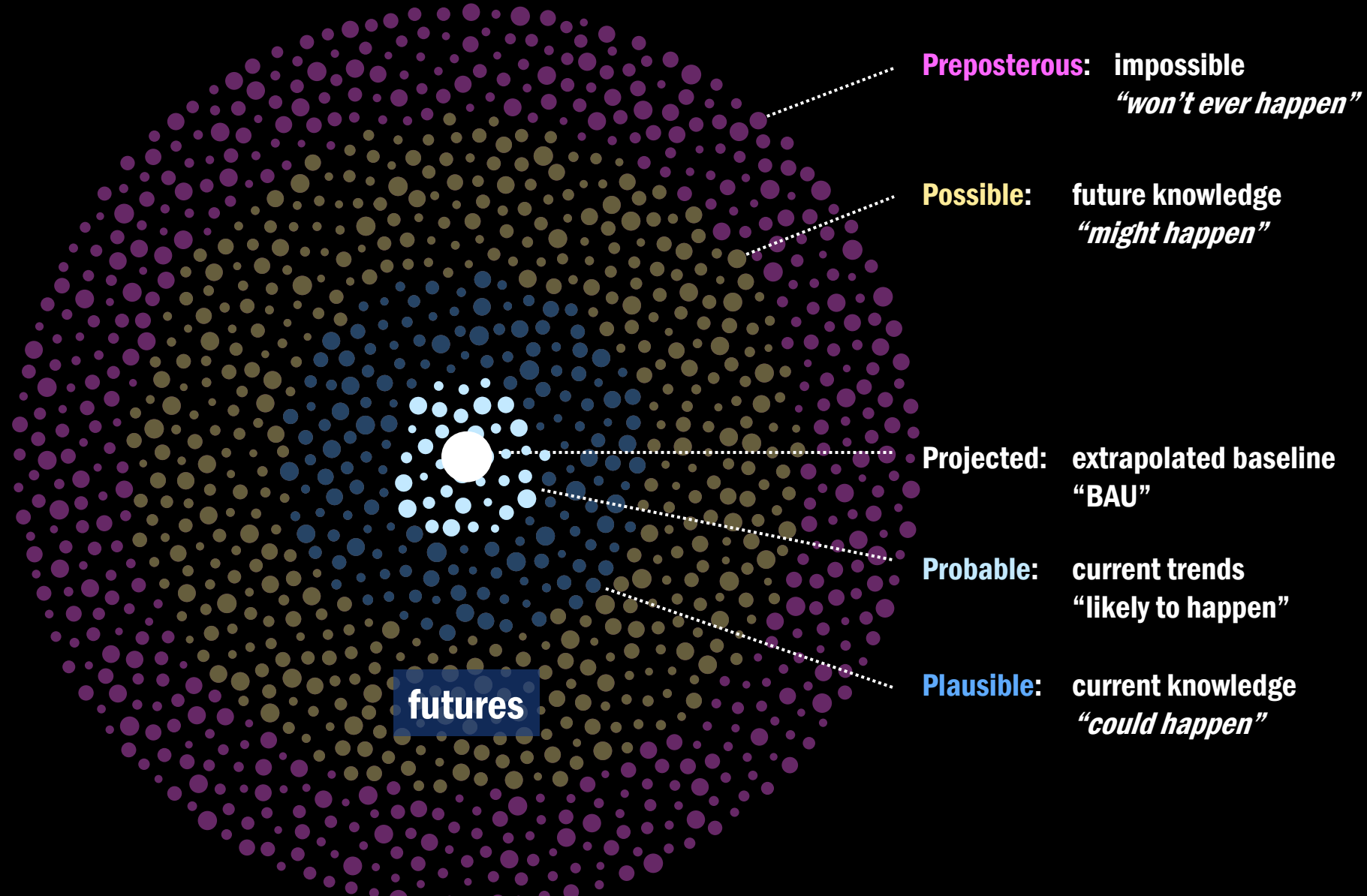
TRANSPORT FUTURE(S) IN PRACTICE

Not even considered



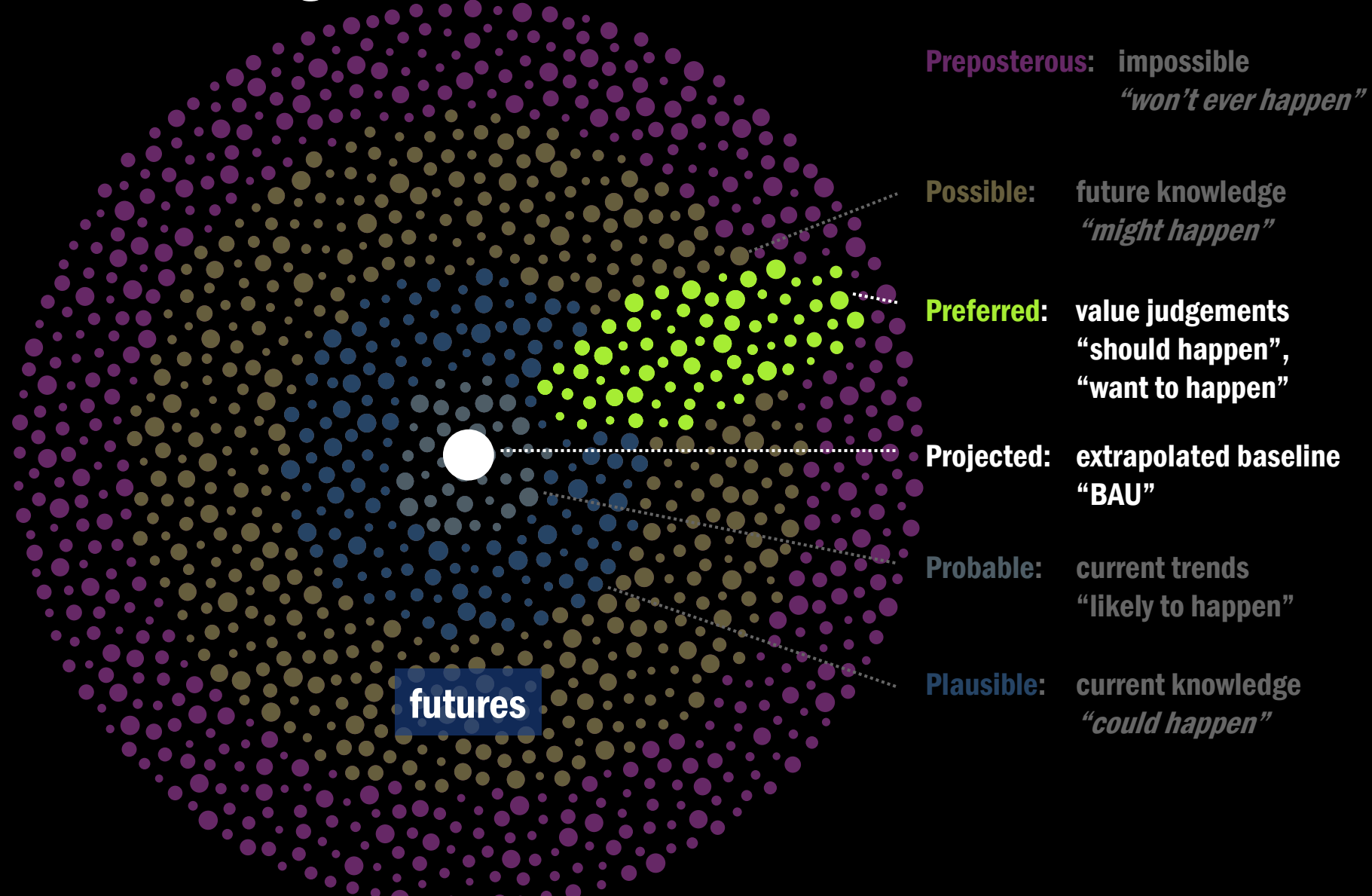
TRANSPORT FUTURE(S) IN PRACTICE

Uncertainties ignored or bounded



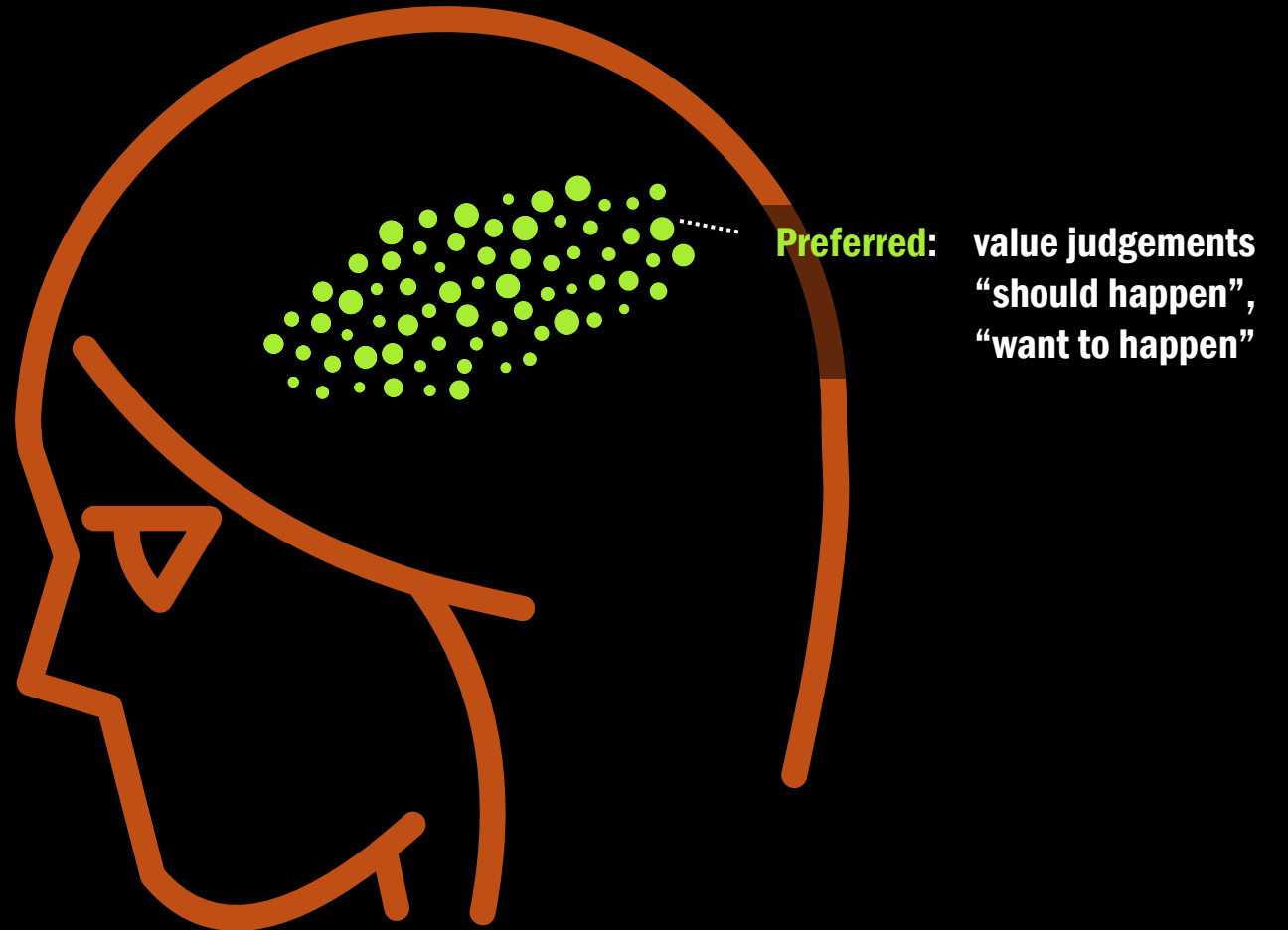
TRANSPORT FUTURE(S) IN PRACTICE

Steering, rather than accommodating, the future



TRANSPORT FUTURE(S) IN PRACTICE

We, in the present, shape the future



PREDICT

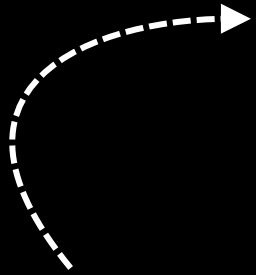
***say** that an event or action
will happen in the future*

vs.

ANTICIPATE

***imagine** what will happen*

FORECAST



Determine (calculate) what will happen in the future based on current information

PREDICT

say that an event or action will happen in the future

vs.

ANTICIPATE

imagine what will happen

Limitations of the «predict-and-provide», forecast-led approach

Favours traditional solutions

Poor adaptability to radical changes

Reliance on models and projections based on the status quo



Model outcomes are not facts about the future

A model used for prediction is assumed to be unbiased [...] Yet, so many technical assumptions are required to make any forecast that the process can ultimately be quite subjective, while the consequences have great significance

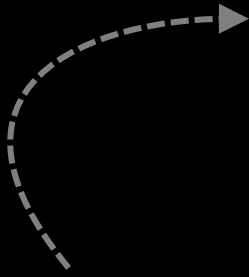
"Ethical Dilemmas in Forecasting for Public Policy", 1982

Martin Wachs

Professor Emeritus UCLA Urban Planning and
Institute of Transportation Studies and UC
Berkeley, Institute of Transportation Studies

FORECAST

*determine (calculate) what will happen in
the future based on current information*



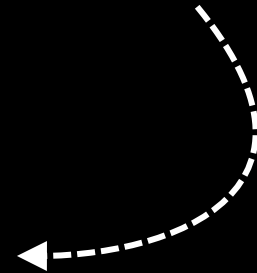
PREDICT

*say that an event or action
will happen in the future*

vs.

ANTICIPATE

imagine what will happen



FORESIGHT

*explore ideas about the future to better
prepare for, and guide, change*

VISION-LED PLANNING



What is the world we want to live in?

VISION-LED PLANNING

What is the world we want to live in?

This question is the starting point for vision-led transport planning, rather than as the outcome of the planning process.

The Vision-Led approach, also known as Decide-and-Provide, is a planning paradigm aimed at determining a preferred future (the vision) and providing a development pathway best suited to realising it.



Travel Transitions

How Transport Planners and
Policy Makers Can Respond
to Shifting Mobility Trends



2021



Developing Future Transport Scenarios

Insights and Best Practices
from National Authorities



Case-Specific Policy Analysis



2025

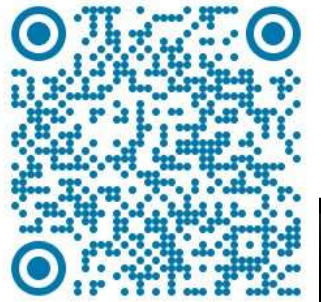


Vision-Led Transport Planning

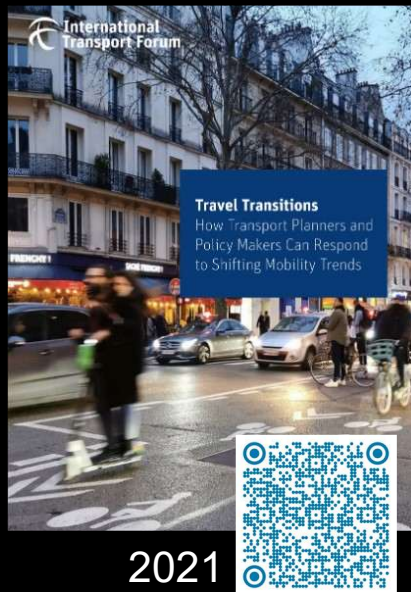
A Guide for Policymakers



Research Report



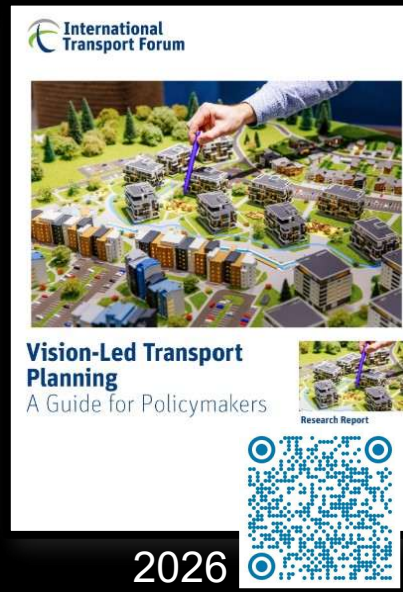
2026



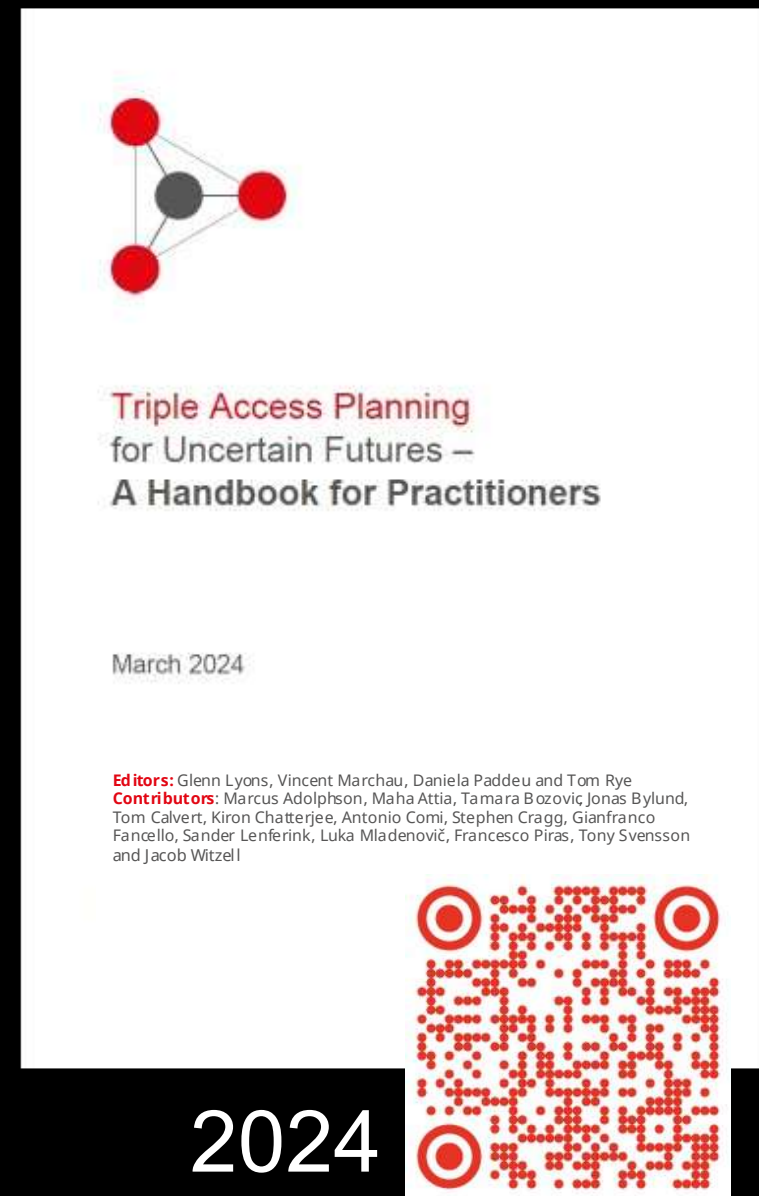
2021



2025



2026



2024

The main challenges in transport planning are not technological, but human, ethical, moral and political.

It is not so much about knowing “what” to do, but about knowing “what for”



**“Policy is not just about ‘intervening’.
It is about **shaping a different future** [...]
it must not be about levelling the playing
field but about **tilting it towards the kind
of economy we want.**”**

— Mariana Mazzucato, Economist



~~HOW?~~
FOR WHOM?
FOR WHAT OUTCOME?
IN WHAT WAY?

A wide-angle, high-angle photograph of a bustling city street at dusk. In the foreground, several modern light blue trams are moving along tracks. To their left, a red bus and a white van are visible. Pedestrians are walking on the sidewalks. The background features a mix of modern glass-fronted buildings and older European-style architecture. A tall, dark skyscraper stands out against the cloudy, twilight sky. The overall atmosphere is one of a vibrant, active urban environment.

FOR WHOM?
FOR WHAT OUTCOME?
IN WHAT WAY?
➔ HOW?

