

PUBLIC TRANSPORT 2045

Walking Summit, June 2019
Nick Potter



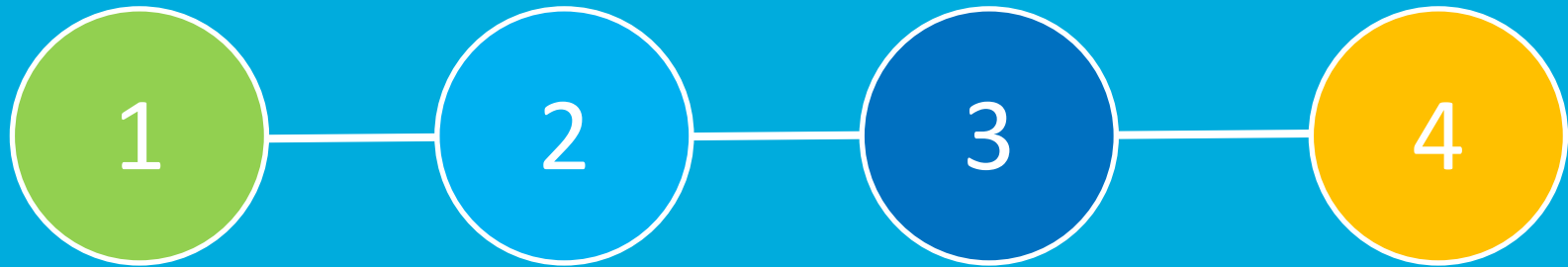
PUBLIC TRANSPORT 2045

A working paper on urban
transport in the shared
mobility era



- ▶ The PT2045 working paper
- ▶ Insights from 50+ interviews
- ▶ Four future scenarios
- ▶ Implications for urban transport

Today's talk



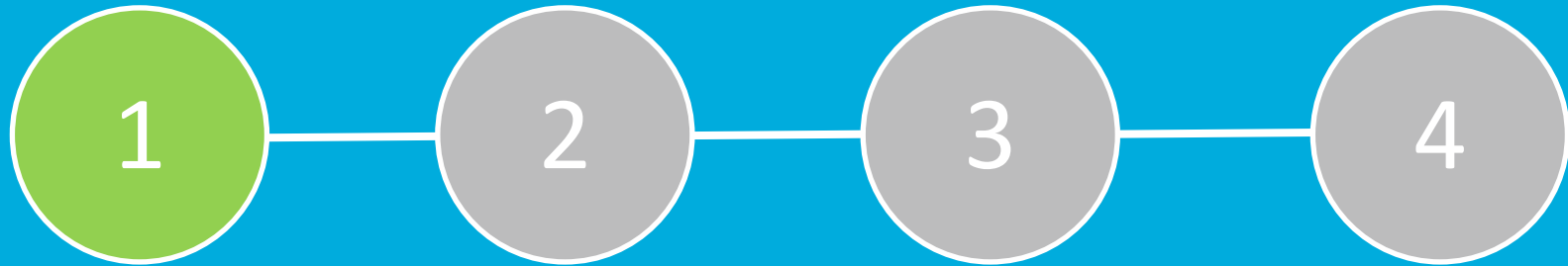
Why PT2045
A new era

**Value of public
transport**

**Opportunities
and challenges**

Key messages
from PT2045

Why this is important



Why PT2045
A new era

**Value of public
transport**

**Opportunities
and challenges**

Key messages

This is what we are aiming to deliver through transport

Transport Outcomes



To make sustainable improvements, we need to focus on what needs to change, as well as how our world is changing



For example...

- ▶ Making it safer and more enjoyable to walk through cities
- ▶ Making PT more accessible for people with disabilities
- ▶ Reducing carbon emissions and harmful air pollutants to zero



For example...

- ▶ Ageing population
- ▶ Increasing urbanisation
- ▶ Technological change

Transport is attracting intense innovation
in technologies and services





Smartphones have become
travel planners

+ payment systems

Ride hailing and sharing services have become common



Car sharing is becoming more popular

A photograph of two young women standing next to a blue car, smiling and laughing. The woman on the left has long brown hair and is wearing a denim shirt over a pink top. The woman on the right has curly hair and is wearing an orange shirt. They are standing in front of a blue car, which has a green Zipcar logo on the side. The background shows a clear blue sky and distant mountains.

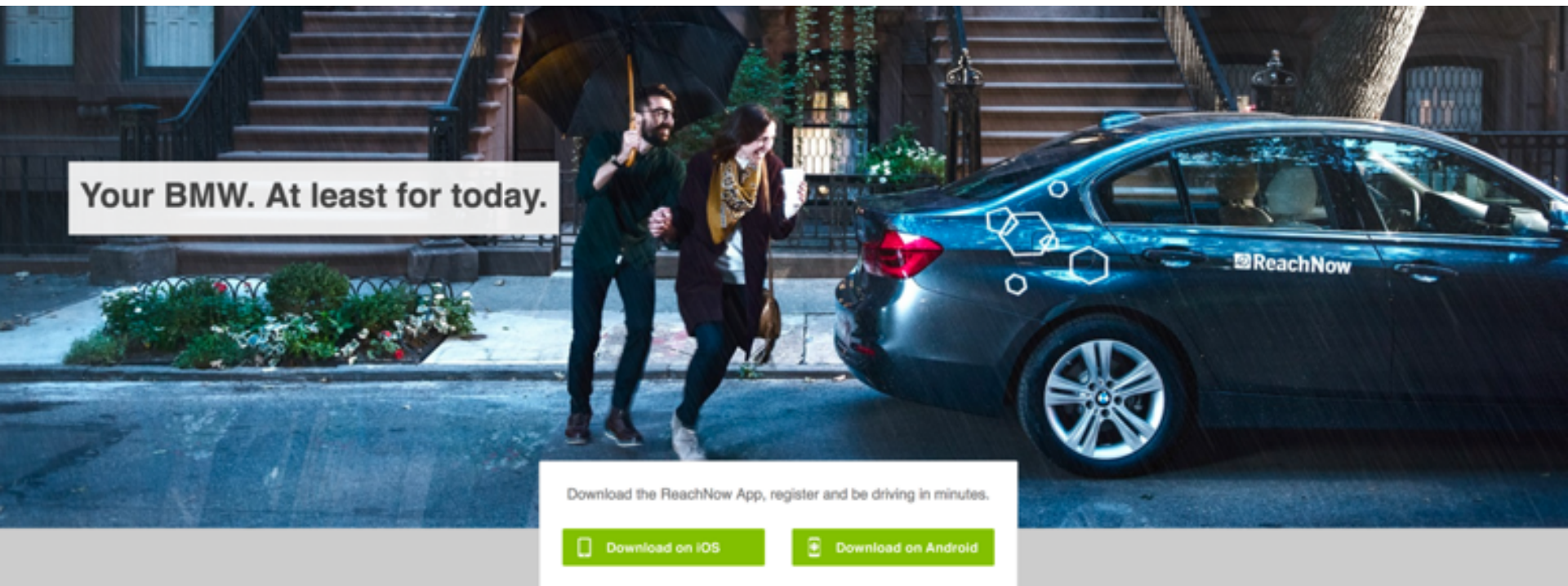
IT'S LIKE OWNING
A CAR *without all the*
SUCKY PARTS.

► Zipcar ad (2013)

Shared micro-mobility options are spreading, and igniting debate



Many companies, include big auto makers, are aiming to **sell mobility as a service**, rather than just vehicles



► Screenshot from BMW's ReachNow car-sharing service

Vehicles are also becoming increasingly automated



Dozens of companies are racing to offer the first shared automated taxi fleets



Public tests of **autonomous taxi services** started in Singapore and Pittsburgh in 2016 - with dozens of trials now underway globally

What could this all add up to?



We could be entering a new **shared mobility era** for urban transport

NZ TODAY



Private car era

- 90% households own a car
- Most own 2 or 3 (among highest rate globally)
- 83% of trips are by car
- <5% urban trips by public transport

2045?



Shared mobility era

- Access doesn't depend on ownership
- Sharing cars, bikes, vans, scooters etc
- Sharing rides in fully automated vehicles

What could this mean for public transport?

There are divergent views of the future....



or

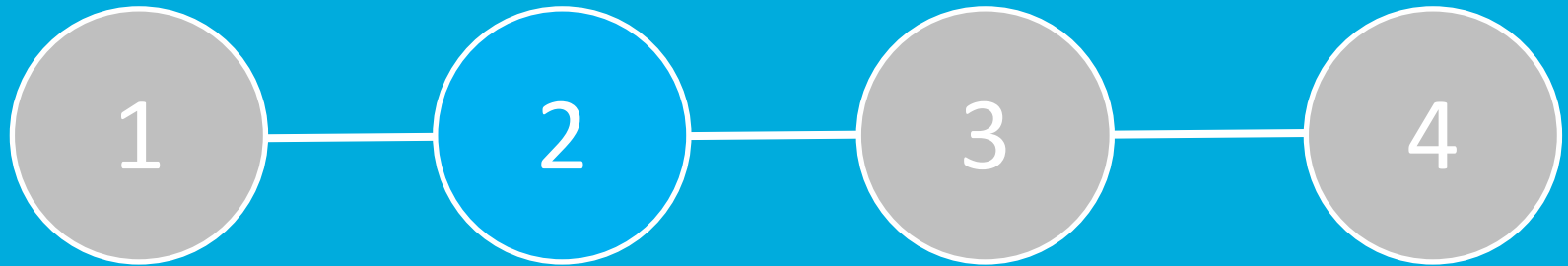


PT could play a **crucial role**

PT could **cease to exist**

That's why we did this project

The value of public transport



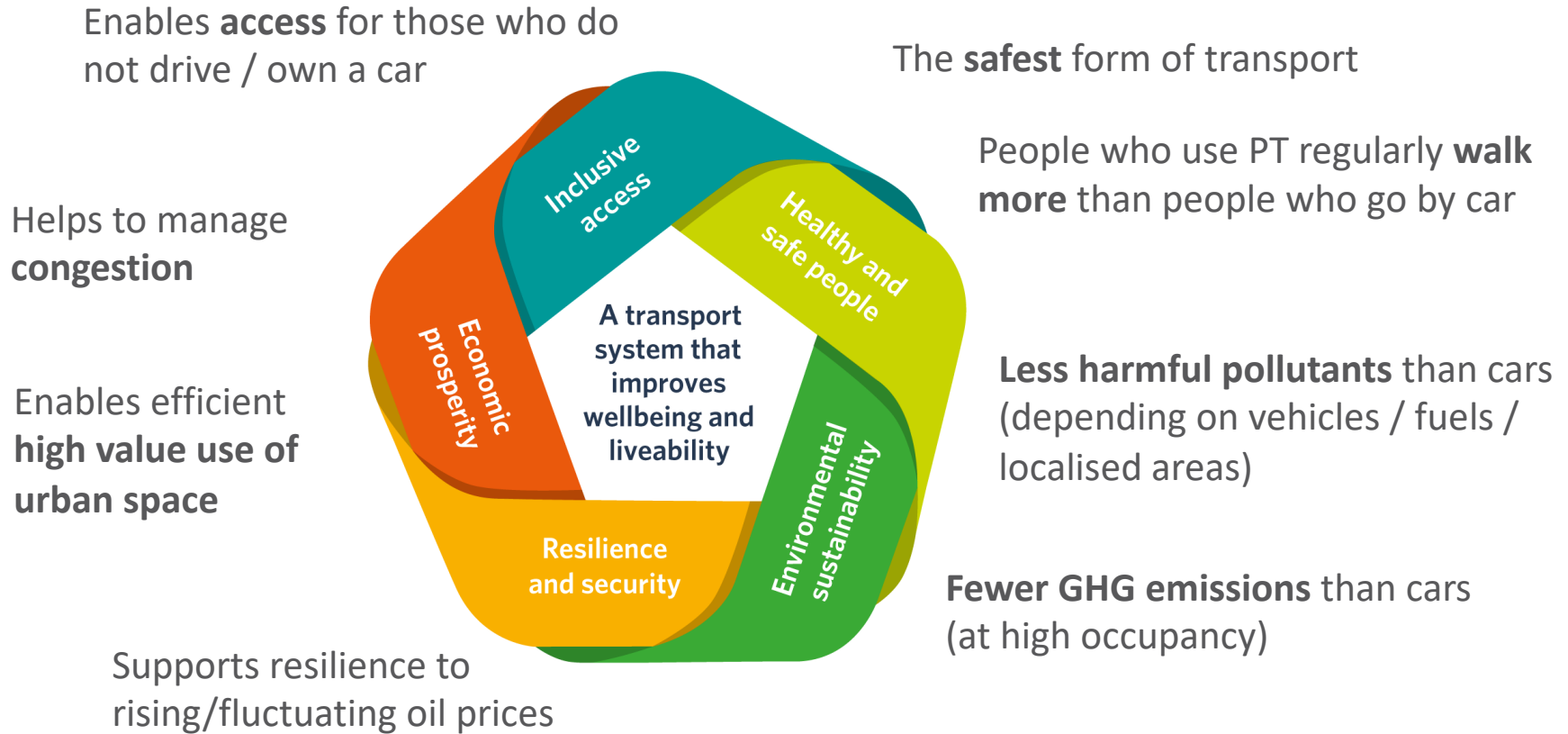
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How public transport benefits wellbeing and liveability



Public transport also enhances **liveability** as cities develop



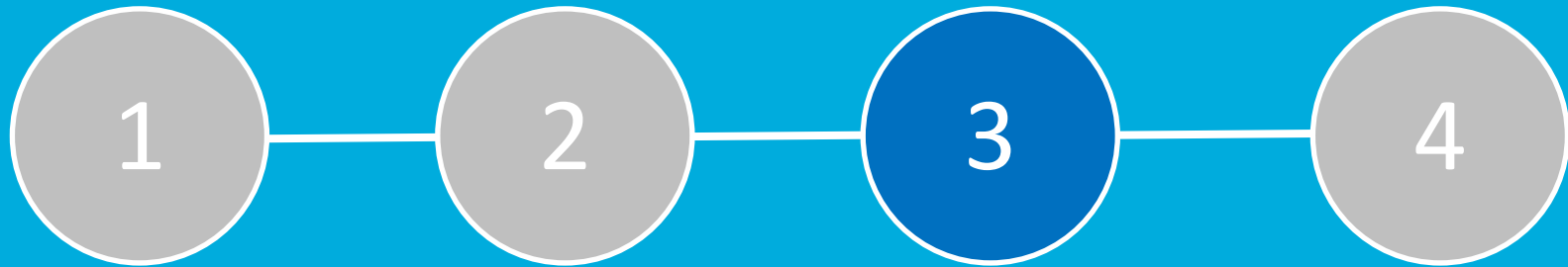
- ▶ Less space needed for vehicles
- ▶ Less space needed for car parking
- ▶ Freeing up urban space for higher value purposes
- ▶ More people-friendly streets for living, walking, resting, shopping

Public transport and walking are **natural partners**



- ▶ People who use PT walk more than those who travel by car
- ▶ People are more likely to use a PT service if it is safe, convenient, and enjoyable to walk to a stop/station
- ▶ By helping to reduce motorised traffic, PT can make cities more enjoyable for walking

Opportunities and challenges in the shared mobility era



Why PT2045
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Value of PT

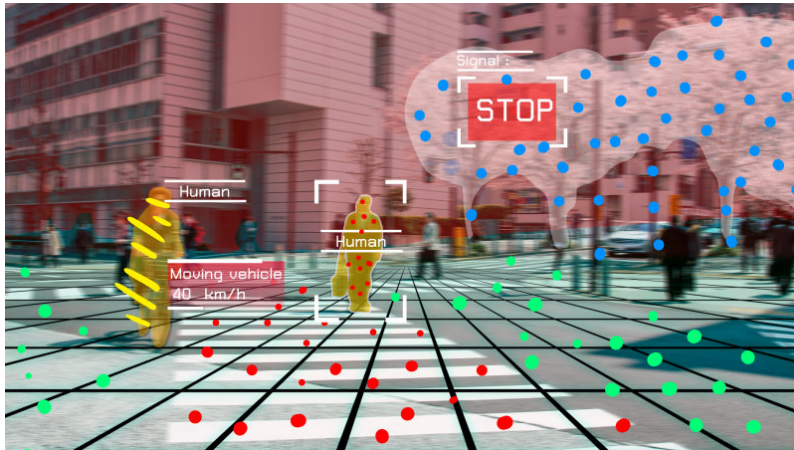
**Opportunities
and challenges**

Key messages



Fleets of **shared autonomous vehicles** could have profound impacts on our cities, and PT

Shared AV's will offer benefits



- ▶ Improving access for those who cannot drive or use PT
- ▶ Improving safety
- ▶ Reducing carbon emissions

But they will also create challenges...



Shared AVs will make it cheaper and more convenient to travel by car

Car travel
could be
~65 percent
cheaper
with fleets of
autonomous
vehicles

With zero parking costs

Avoiding these hassles...



AVs will **compete** with PT

What would most people choose?



VS



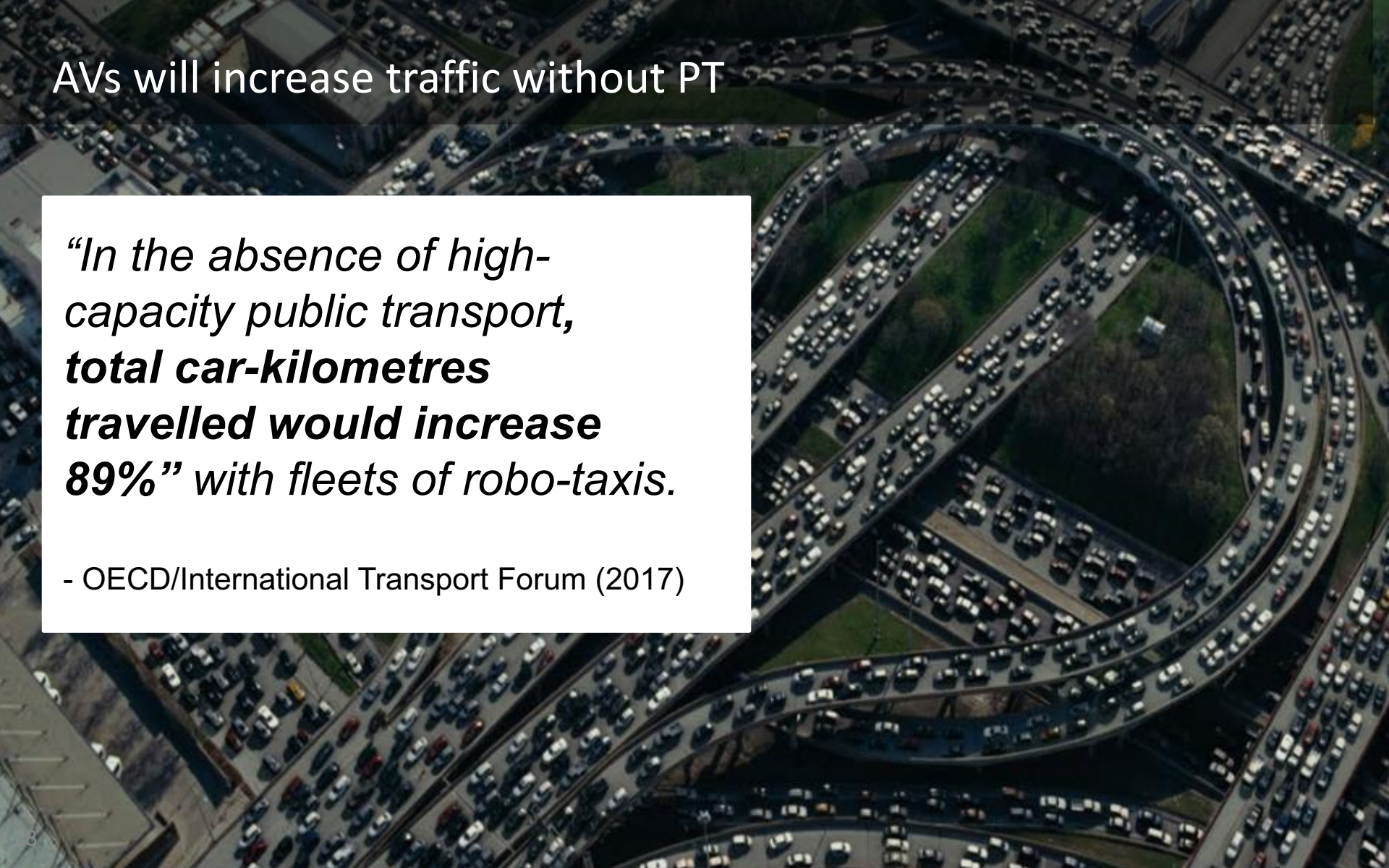
A car arriving on-demand outside your door, carrying you in comfort, and dropping you directly at your destination, with no parking worries or parking costs

Walking to the bus stop, waiting for a bus, standing if the bus is full, and walking at the other end

AVs will increase traffic without PT

*“In the absence of high-capacity public transport, **total car-kilometres travelled would increase 89%**” with fleets of robo-taxis.*

- OECD/International Transport Forum (2017)



We can already seen signs of this...

Lyft, Uber increase traffic 180 percent in major cities, says report

3

Riders are giving up public transit—not their cars—in favor of ride-hailing trips

By Adam Brinklow | Jul 27, 2018, 12:02pm PDT

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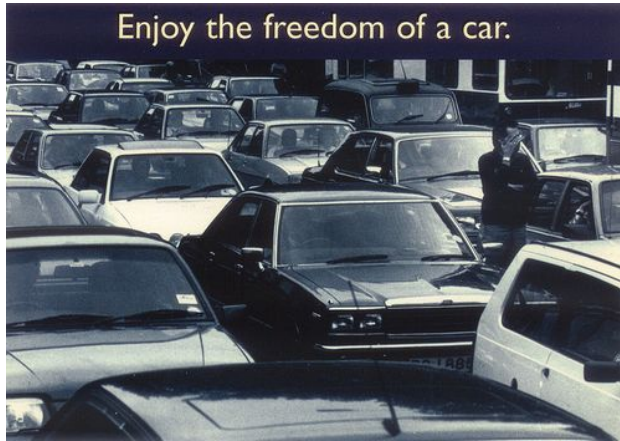


MOST READ



PT will need to be more attractive than AVs for people to use it

What would you choose?



VS



Paying more (in time/money) to travel at peak periods, when many other people want to travel in cars too

A quick journey on a dedicated rapid transit corridor

AVs are also likely to encourage urban sprawl

Cheaper travel

- + Better use of time
- + No parking costs
- + Cheaper/bigger housing on city edges

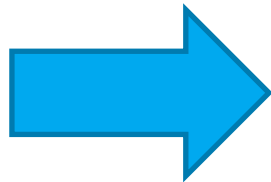
= More appealing to live on the outskirts of the city and commute longer distances

In low-density areas public transport is less viable – and it's harder to access many amenities by walking

But AVs also offer **opportunities for public transport...**



Some PT services could be automated



Infrequent bus services in low-density areas could be replaced by **more frequent and demand-responsive services** in **smaller vehicles**

We can already see signs of this...

...with humans driving for now



On-demand public transport research underway in Timaru

Date: 25 Oct 2018

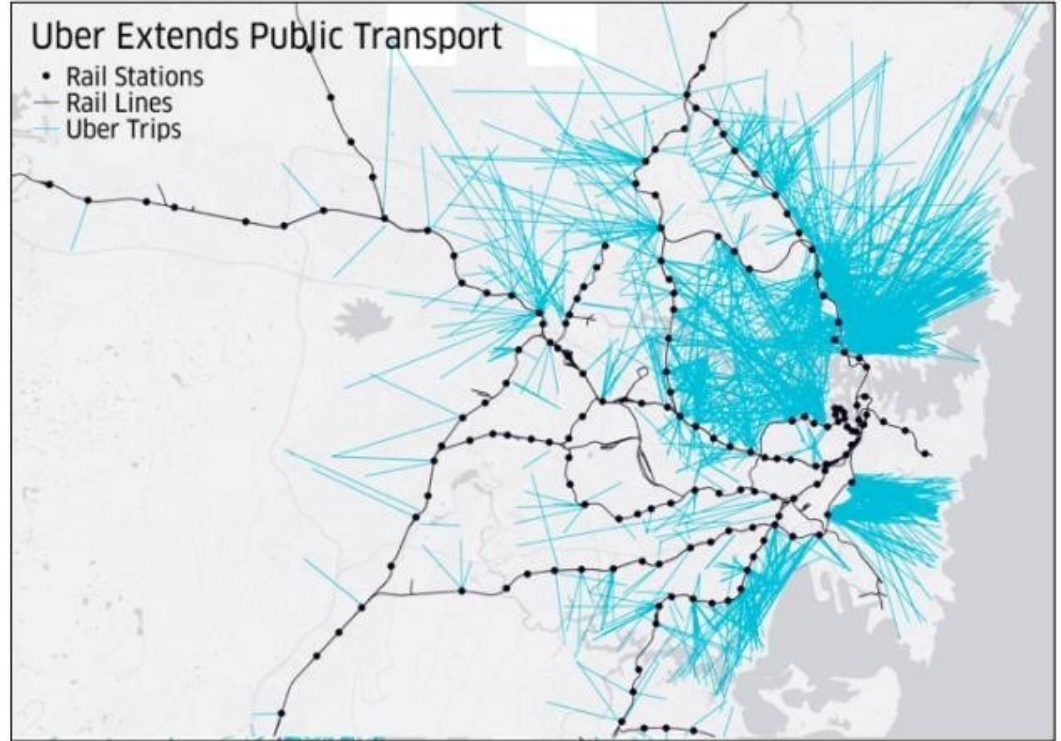
CATEGORY: [NEWS](#) | [Public Transport](#) | [Transport](#)

Environment Canterbury has engaged global mobility and technology expert Via to assist in a feasibility study for an on-demand public transport service in Timaru. The service would help residents and visitors get around the city by booking a shared ride.

Shared AVs could complement rapid transit

– ‘Park and Ride’ without the parking bit

This map shows people using Uber to travel to/from railway stations in Sydney



Shared micro-mobility options can be very useful for this too, if there is appropriate infrastructure

Shared AVs would require far less parking, creating **opportunities to reshape streets**



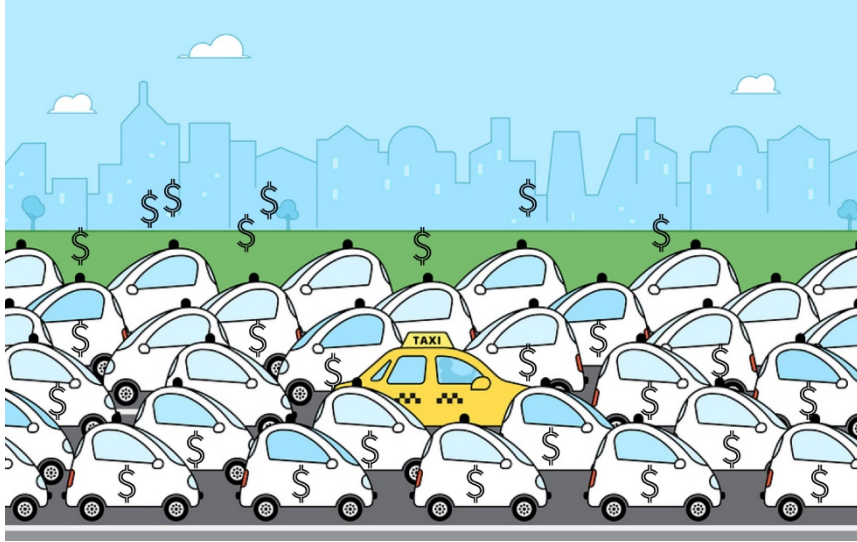
More space for other
transport modes?



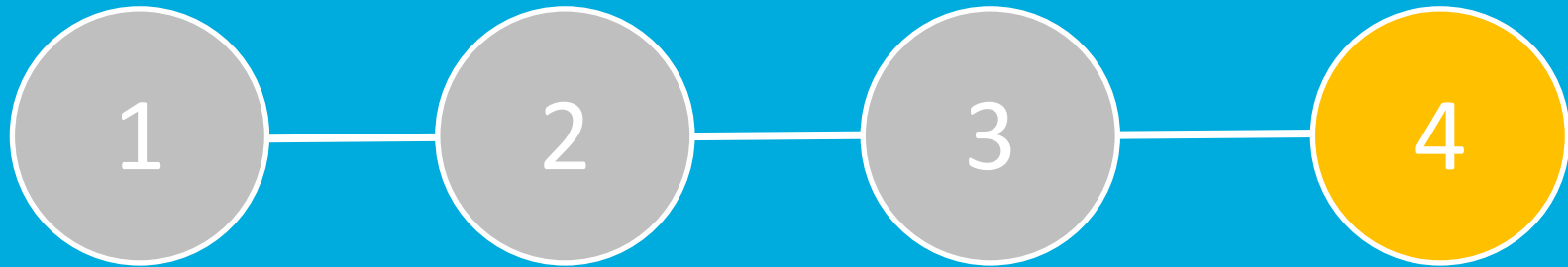
More lively streets?

*... although **we could do a lot of this now** if there is a willingness...*

Congestion pricing can readily be applied to AVs,
funding options like PT to avoid/manage congestion costs



Key messages



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If we are entering a new **shared mobility era** for urban transport

NZ TODAY



Private car era

2045?



Shared mobility era

We need to shape technologies and innovations to improve well-being and liveability (rather than just letting technologies shape us)

To enjoy and grow these benefits...



Public transport **and walking** need to be at the core of our shared mobility future

- More dedicated PT lanes and rapid transit in higher-density areas
- Opportunities for demand-responsive shuttles and buses in low-density suburban areas
- Connecting PT with other shared modes
- Improving walkability to and from PT stops/stations

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mobility era



- ▶ Much, much more in the working paper!
- ▶ Get a copy at
- ▶ www.transport.govt.nz