PUBLIC TRANSPORT 2045

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Transport Knowledge Conference
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What’s in the working paper

- Insights from 50+ interviews
- 4 scenarios
- Implications for our future
What we’ll cover today

1. Why PT2045
   A new era

2. Value of public transport

3. Opportunities and challenges

4. Key messages from PT2045
Why this is important

1. Why PT2045
   A new era

2. Value of public transport

3. Opportunities and challenges

4. Key messages
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.

It's like owning a car without all the sucky parts.

Zipcar ad (2013)
Other **shared transport options** have become a focus of debate
Many companies, including big auto makers, are aiming to sell mobility, rather than just vehicles.

Screenshot from BMW’s ReachNow car-sharing service.
Vehicles are also becoming **increasingly automated**
Dozens of companies are competing to offer the first shared automated vehicle fleets

Public tests of autonomous taxi services started in Singapore and Pittsburgh in 2016

Waymo (Google) is about to launch a fully autonomous taxi service and has ordered 82,000 cars
We could be entering a new **shared mobility era** for urban transport

**NZ TODAY**

- 90% households own a car
- Most own 2 or 3 (among highest rate globally)
- 70%+ trips by car
- <5% urban trips by public transport

**2045?**

- Access doesn’t depend on ownership
- Sharing cars, bikes, vans, scooters etc
- Fleets of fully autonomous cars
- *Where could public transport fit?*
What could this mean for public transport?

There are divergent views of the future.

PT could play a crucial role

or

PT could cease to exist

That’s why we did this project
The value of public transport

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Public transport benefits wellbeing

- Enables access for those who do not drive / own a car
- Helps to manage congestion
- Enables efficient high value use of urban space
- Supports resilience to rising/fluctuating oil prices
- The safest form of transport
- People who use PT regularly walk more than people who go by car
- Less harmful emissions than cars (depending on vehicles / fuels / localised areas)
- Fewer GHG emissions than cars (at high occupancy)
Public transport also enhances liveability

- 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
Opportunities and challenges in the shared mobility era

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The innovation that could really accelerate shared mobility?

No
The innovation that could really accelerate shared mobility

Fleets of fully autonomous vehicles (AVs)
Shared AVs will make it cheaper and more convenient to travel by car

Avoiding these hassles...

Car travel costs could fall by 65+ percent with fleets of autonomous vehicles

+ Zero parking costs
AVs will **compete** with PT

**What would you choose?**

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

VS

Walking to the bus stop, waiting for a bus, standing if the bus is full, and walking at the other end
Unless PT is more convenient...

What would you choose?

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

VS

A quick journey on a dedicated rapid transit corridor
“In the absence of high-capacity public transport, total car-kilometres travelled would increase 89%” with fleets of robo-taxis.

We can already seen signs of this...

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

Riders are giving up public transit—not their cars—in favor of ride-hailing trips
By Adam Brinklew | Jul 27, 2018, 12:02pm PDT
AVs are also likely to encourage urban expansion

**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.

*Public transport is less viable in low-density areas*
Shared AVs will create opportunities too

Infrequent bus services in low-density areas could be replaced by more frequent and demand-responsive services on smaller vehicles
On-demand shuttles could replace large buses in low-density areas

We are already seeing examples of how this could work in New Zealand (with humans driving for now)
Shared AVs could complement PT (first/last legs)

Uber trips to/from rail connections in Sydney

Some States in the USA subsidise trips by Uber/Lyft to rapid transit hubs
Shared fleets could accelerate the transition to cleaner vehicles

Enabling a quicker turnover of our vehicle fleet, with far less cars needed overall to provide the same/more mobility
Shared AVs would require far less parking, creating opportunities to reshape streets

Making streets more lively?  Dedicated PT lanes?  More space for other transport modes?

... although we could do a lot of this now if communities were willing.
PT supports many positive outcomes that we need to keep growing

- Enabling **access** for those who do not drive / own a car
- Managing **congestion**
- Enabling efficient **high value use of urban space**
- **Safe travel**
- Encouraging **walking and cycling**
- Reducing **harmful emissions**
- Reducing **GHG emissions**

A transport system that improves wellbeing and liveability

**Resilience and security**

**Economic prosperity**

**Healthy and safe people**

**Environmental sustainability**
Key messages from PT2045

- PT needs to be at the core of our shared mobility future
- We need to shape new innovations to support positive transport outcomes
- Increasing need for rapid transit systems in higher-density areas
- Connect rapid transit with other parts of a shared mobility system and walking/cycling
- Demand-responsive buses and shuttles could replace many scheduled buses in low-density suburban areas
Much, much more in the working paper!
Get a copy at
www.transport.govt.nz