

# Essentials of a 21<sup>st</sup> Century Transport Strategy

Presentation to “Save the Basin” AGM

6.15 pm Thursday 22 November 2018

GWRC Cr Roger Blakeley

The views expressed are my personal and professional views, not those of Greater Wellington Regional Council

Acknowledgements for contributions from Tim Jones, Russell Tregonning, Kerry Wood, Isabella Cawthorn, Ellen Blake, Paula Warren, Mike Mellor, Erik Zydervelt

The first question to ask is not “what transport system?” It is “what sort of City do we want?”

- Liveable
- Fair, safe and healthy
- Place of opportunity
- Green
- Well connected
- Beautiful
- Vibrant
- Culturally rich



# Why do we need a transport strategy?

## Current state:

- Cities' urban spaces dominated by motor vehicles
- Road-based transport system designed to cope for 2 hours a day, and hugely over-supplied for 22 hrs
- Land in urban areas large parking lot for 8 hours and asphalt desert at night
- Motorways cut a swathe through our urban environments



# Future Scenario 1: Business as usual

- Develop and expand road-based transport based on private ownership
- Limited uptake of AVs and low PT usage
- EVs grow in use to counter fuel cost increases
- People value their mobility 'independence' ahead of environmental or congestion costs
- Investment 'reactive' to increasing congestion and safety problems



# Future Scenario 2: Sustainable & People-Friendly Transport

- Shift to electric mass transit in urban centres
- Walking and cycling modes of choice in residential and CBD areas – health and lifestyle benefits
- EVs mainstream for private vehicle ownership and fleets
- AVs popular for PT, commercial road freight connecting to rail



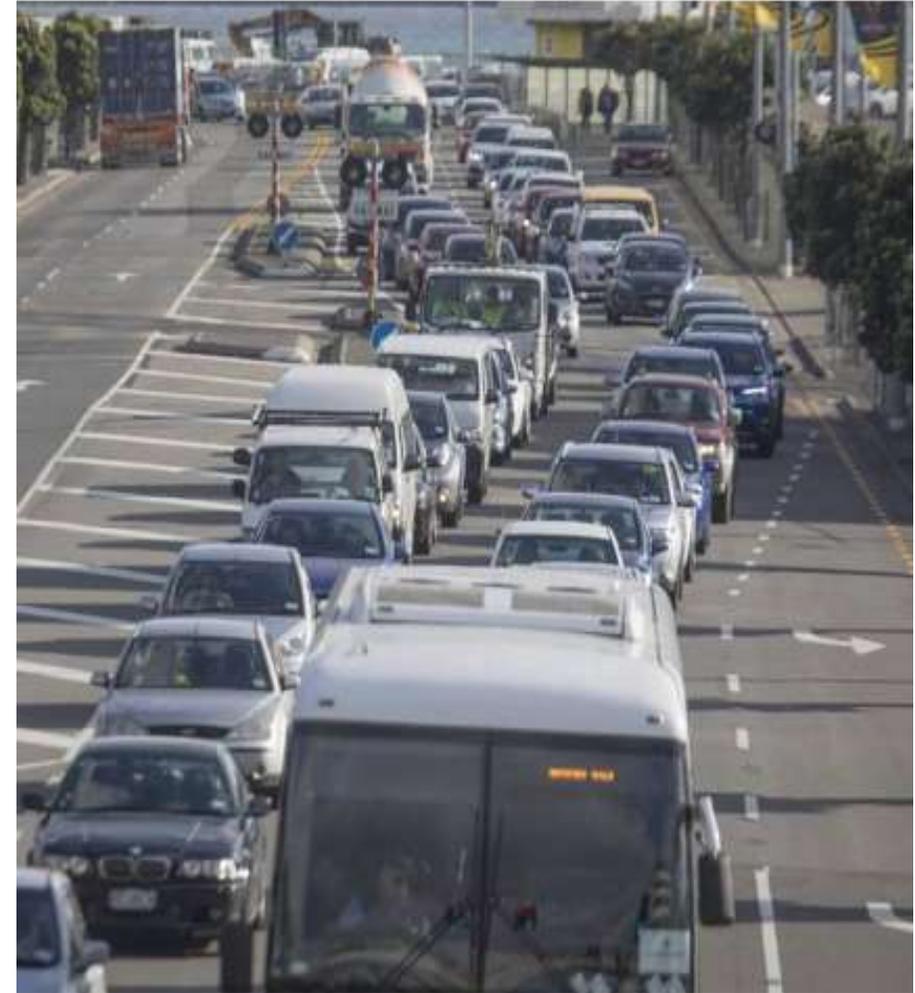
# Targets: Climate Change and Transport

- Paris Agreement 2015: limit global warming to 2°C and “intent to pursue” 1.5°C
- Govt target 2017 - net zero carbon emissions by 2050
- NZ’s net greenhouse gas emissions have increased by 54% since 1990
- Transport emissions are:
  - 18% of gross emissions for NZ
  - 40% of gross emissions for Wgtn Region
- IPCC Report Oct 2018: “limit climate change catastrophe” – net zero carbon by 2040?

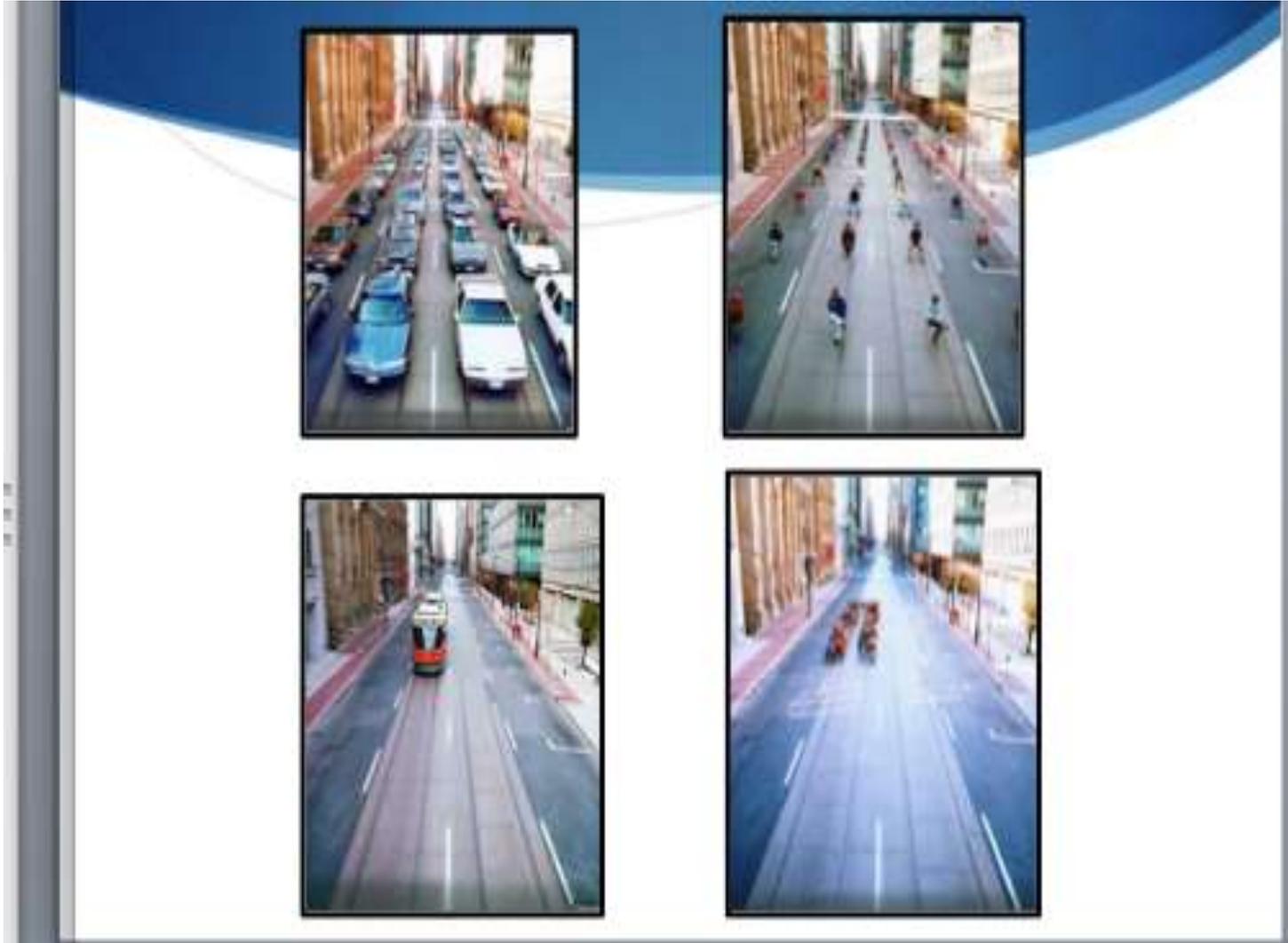


# Solving congestion: Principles

- More motorways or more lanes do not solve congestion - they just lead to more cars.
- ‘Solving’ congestion by building more lanes is equivalent to ‘solving’ obesity by giving a person a larger belt.
- The only solution to congestion is:
  - provide a superior public transport system;
  - provide pricing and service incentives for people to get out of their cars and onto PT.



Public mass transit is a much more efficient use of road space





## What happens next:

1. LGWM Governance Group working with Govt on Recommended Programme of Investment (RPI) - Minister said release early next year.
2. RPI intended approach for improving Wgtn's transport system over next 2 decades.
3. Preferred approach for integrating transport and urban development & expected outcomes against liveability, improved access, reduced reliance on private vehicles, safety, and resilience.
4. Detailed investigation, engagement, design and consenting work will start after the recommended programme is approved and released.

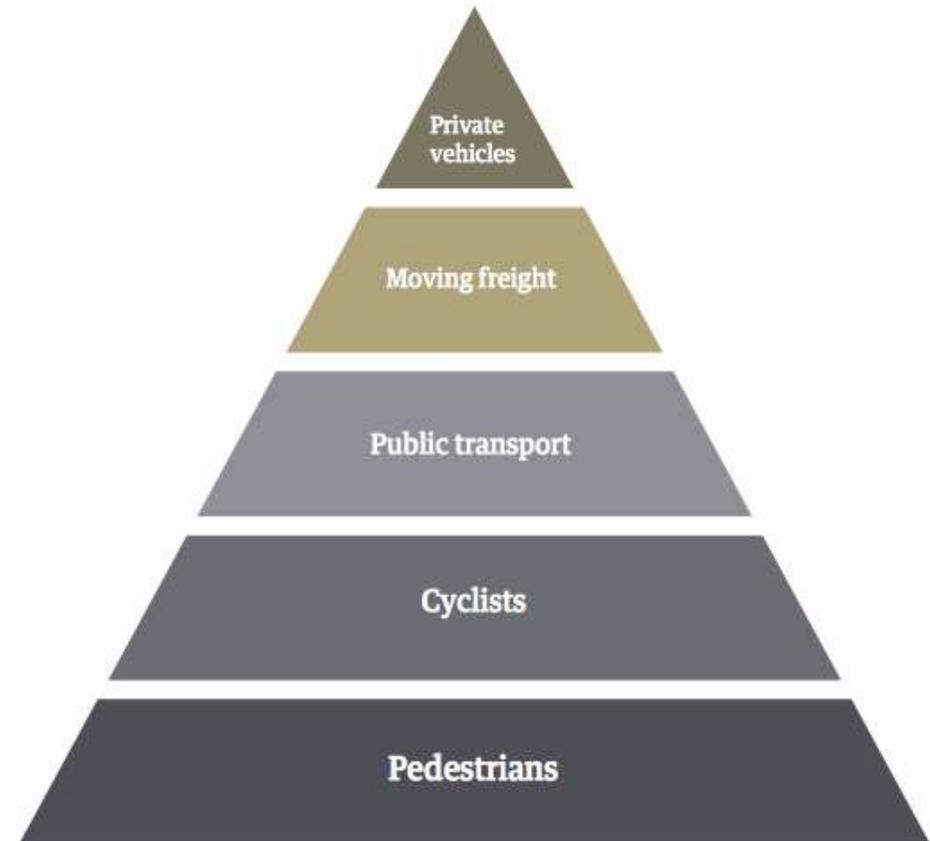


# Sustainable Transport Hierarchy

“Transport enables people to get where they need to go – home, work, education, business opportunities, and recreation areas, and to the services they need. Like other well-connected cities, we plan to support our sustainable transport hierarchy by encouraging walking, cycling and public transport over other modes of transport”

Wellington Urban Growth Plan  
2015 to 2043

*Sustainable transport hierarchy*



# My assessment and recommendations

- I started with Wellington City CBD Cordon Survey 3 June 2018
- It gives results of counts for GWRC and WCC of all modes crossing the CBD cordon from 2000 to 2018 including walking, cycling, public transport and motor vehicles.
- I have looked at trends over time of the data, uptake of new technologies applied to electric vehicles, and effect of current and likely future policy settings and developed a 'straw person' of possible mode share shifts between 2020 and 2040.
- This is my personal contribution to developing a Transport Strategy for Wellington.

Figure 7: An overview of all modes of transport, 2000 to 2018

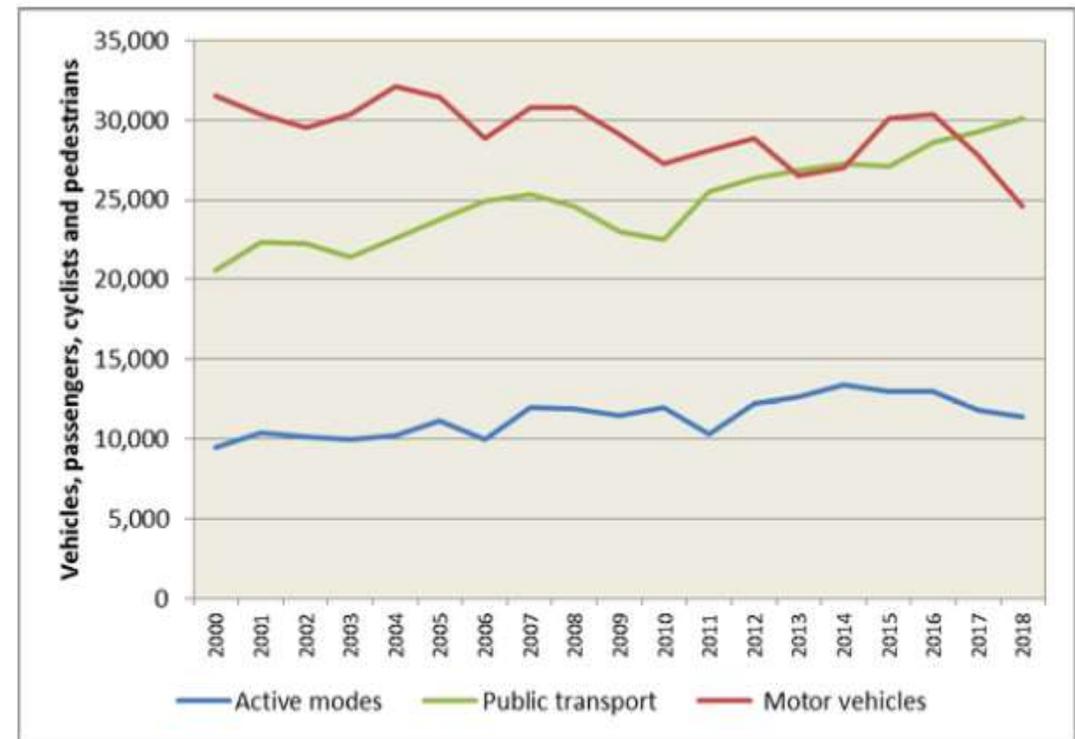
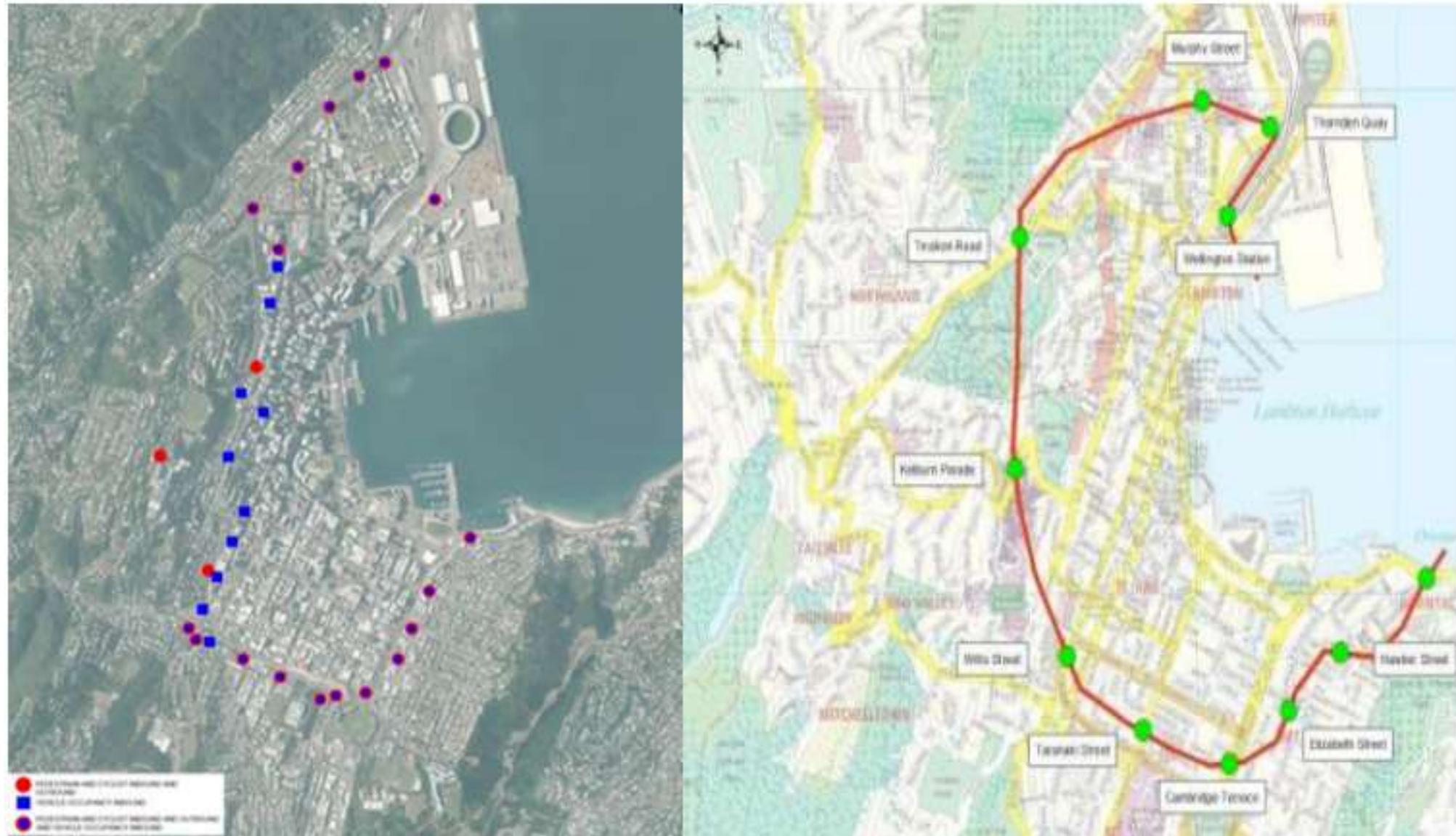
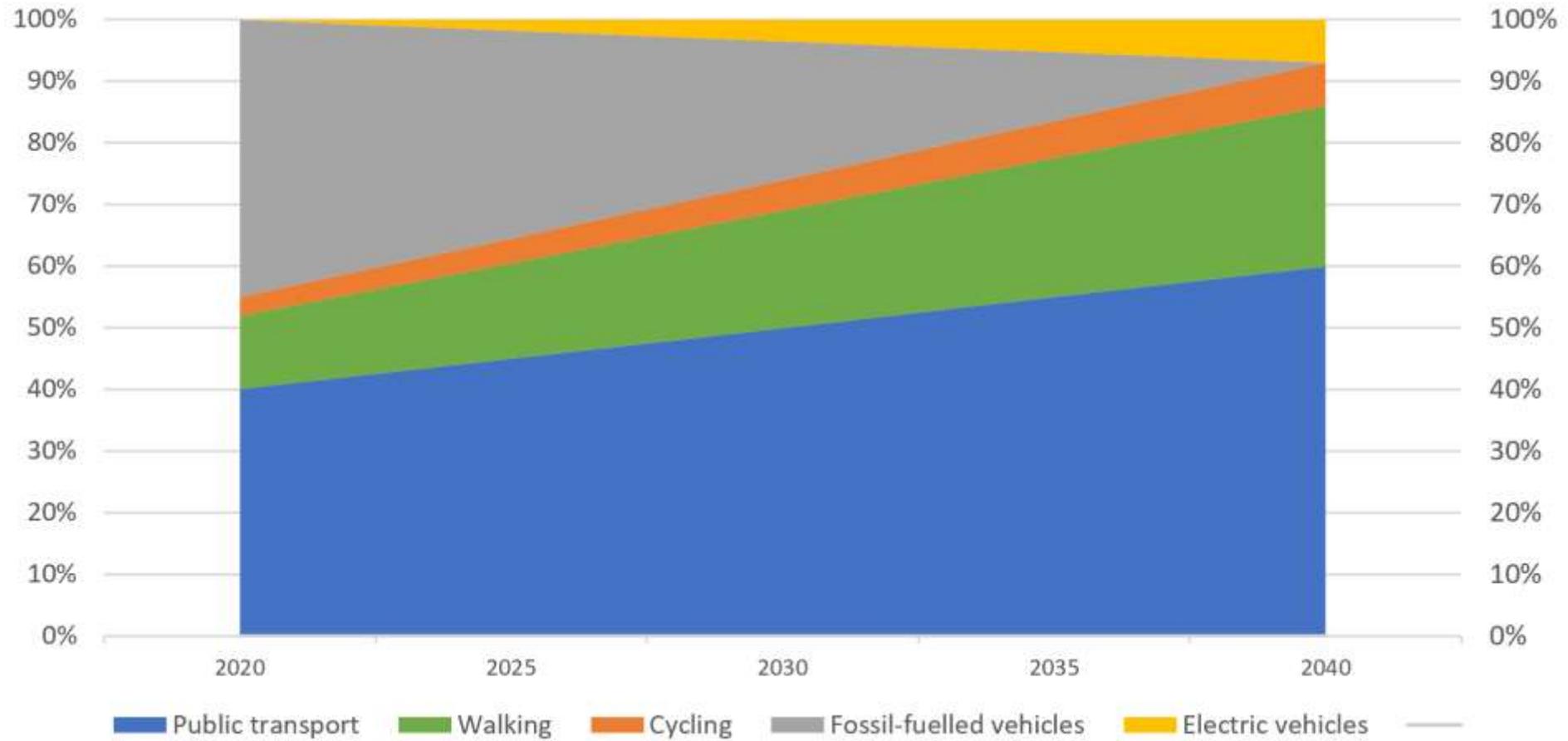


Figure 1 Wellington CBD Cordon survey crossing locations – motor vehicle occupants, pedestrians, cyclists (left), public transport passengers (right)



## Mode Share of Trips Crossing Wellington CBD Cordon



# Comparison with LGWM outcome measures

LGWM consultation document Dec 2017 "benefits and impacts" key measures of four scenarios included:

- **"Less traffic in the city centre:** For Scenario D Morning peak: **750-1000 (3-4%) fewer vehicles in the central city":**

**My proposal: 24,560 (100%) fewer fossil-fuel powered vehicles (and an additional 3,800 electric vehicles) by 2040**

- **"Emissions:** For Scenario D, **Minor Impact:** fewer emissions from less inner-city traffic; increased traffic on SH1 but less congested":

**My proposal: Reduction of all carbon dioxide emissions from transport to zero by 2040 (reduction of 113,000 tonnes of carbon dioxide emitted to the atmosphere per year)**

# Mode share shifts over time

- **PT mode share.....from 40% in 2020 to 60% in 2040**
- **Walking.....from 14% in 2020 to 26% in 2040**
- **Cycling.....from 2% in 2020 to 7% in 2040**
- **Fossil-fuel-powered vehicles:. from 44% in 2020 to zero% in 2040**
- **Electric vehicles.....from less than 1% in 2020 to 7% in 2040**

# Modal Summaries

- Reduce speed limits and...
- Prioritise walking, cycling and PT on key central city streets.
- Light rail on dedicated routes and priority lanes for buses.
- Create a safe and more attractive environment for people on foot and bikes.
- Recognise the role of PT in active travel.
- ‘Vision Zero’ road deaths to make safety bottom line in transport infrastructure *Julie Anne Genter*



# Modal summaries: Light Rail

As reported in DomPost 28 September 2018:

- Proposal for Light Rail spine from Railway Station through CBD to Newtown, Zoo, tunnel under Mt Albert to Kilbirnie, around north end of airport runway to Miramar and to airport terminal
- Estimated cost \$1- 1.5b
- Planning for light rail completed in 2-3 years, construction started in 5 years and operational by 2028
- International experience is up to 25% mode share shift from private cars to light rail
- Urban redevelopment of \$0.5b stimulated along light rail route



FIT WELLINGTON/SUPPLIED

# Modal summaries: Buses

## Outcomes:

- PT/bus service levels are more than competitive with private cars and attract modal shift to PT.
- Entire bus fleet electric by 2030.

## Outputs:

- Buses meet standards of 99.5% reliability and 95% punctuality.
- PT journey times, including wait times, no more than car journey times for same trip.
- PT is low cost transport mode compared with cars or ride share/taxi options, incentivised by integrated fare systems.



# Modal summaries: Walking

## Outcomes by 2040:

- Walking mode share is at least 60% for journeys under 15 mins walking time.

## Outputs:

- Golden Mile (GM) pedestrianised with service by PT – see sketch.
- All town centres and GM have very high levels of service for pedestrians eg crossing delays on main walking routes < 15 secs, public toilets, seating, wide footpaths or shared streets, traffic speeds 30kph or less.
- GWRC and WCC walk programme.



# Modal Summaries : Cycling

## Outcomes by 2040:

- Number of people classed as “nervous but willing to bike” has significantly increased.

## Outputs:

- 80% of people who live within a 30 min cycle trip of CBD have route that is ‘safe’ (NZTA guidelines).
- At least 20% of school children can cycle to school on route that is ‘safe’ for their age group.
- Cyclists are not using footpaths because they lack safe routes, shared paths are not the solution for cycling.



# Private and fleet vehicles

## Outcomes by 2040:

- Less than 5% of non-business kms are done in private vehicles
- 60% of households do not own a car.
- Less than 5% of school children travel to school by private car.
- Remaining private cars are EVs.

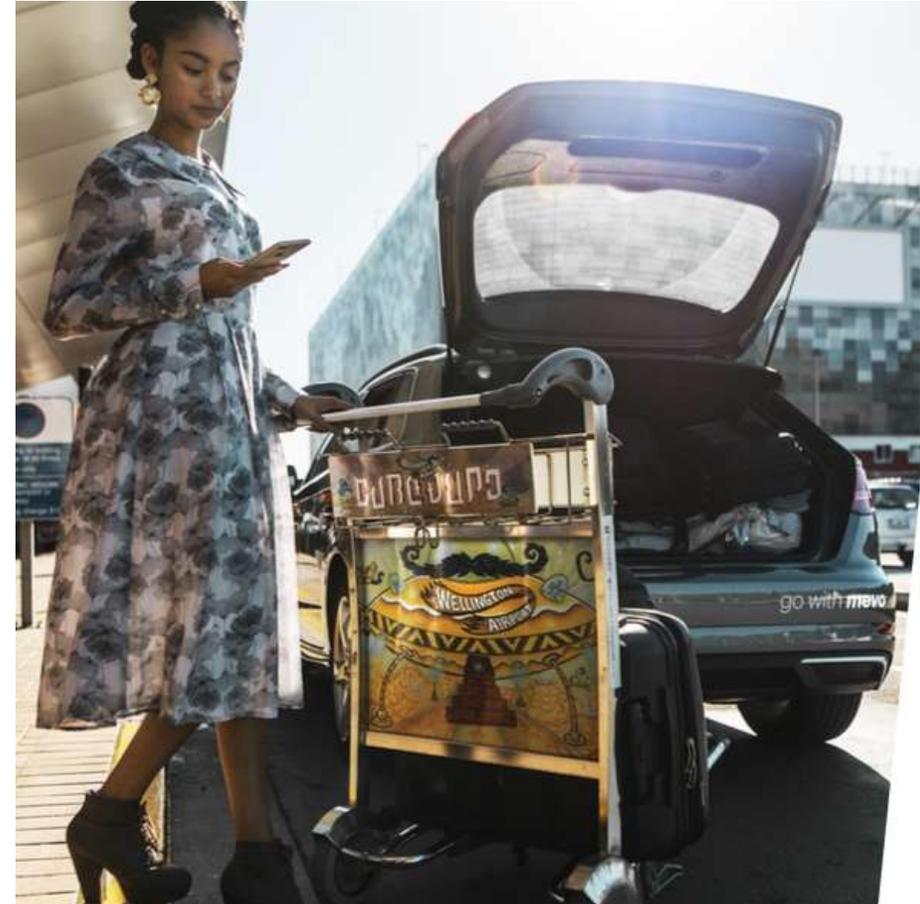
## Outputs:

- Govt and Councils convert entire fleets to EVs by 2025.
- Incentives to reduce car ownership through land use planning, local shops and recreation, goods delivery services, digital connectivity.
- Incentives to switch to EVs, eg fuel prices, tax changes, 'feebate' scheme.



# Modal summaries: Shared and Autonomous vehicles

- 5-15 private vehicles removed from fleet for each shared vehicle deployed.
- Access to digital urban mobility: mix of car-sharing, PT, walking and cycling including e-bikes.
- Mevo: Wellington trial launched in 2016 with Govt grant of \$0.5m. Will transition to 100% electric.
- Car sharing one quarter of cost of ownership of private car
- *“Owning a car will be a thing of the past in less than a decade”*- KPMG
- Roll-out of autonomous vehicles around 2030.



# Costs and Funding Sources

Projected cost of LGWM \$3-4b

Possible sources of funding:

- National Land Transport fund
- Private investment eg PPP
- Congestion charge or Electronic Variable Road Pricing (eg Singapore)
- Value Uplift Capture
- WCC and GWRC rates
- Farebox recovery

