Transport challenges in a linear city

Cynthia Gillespie, Chief Strategy Officer

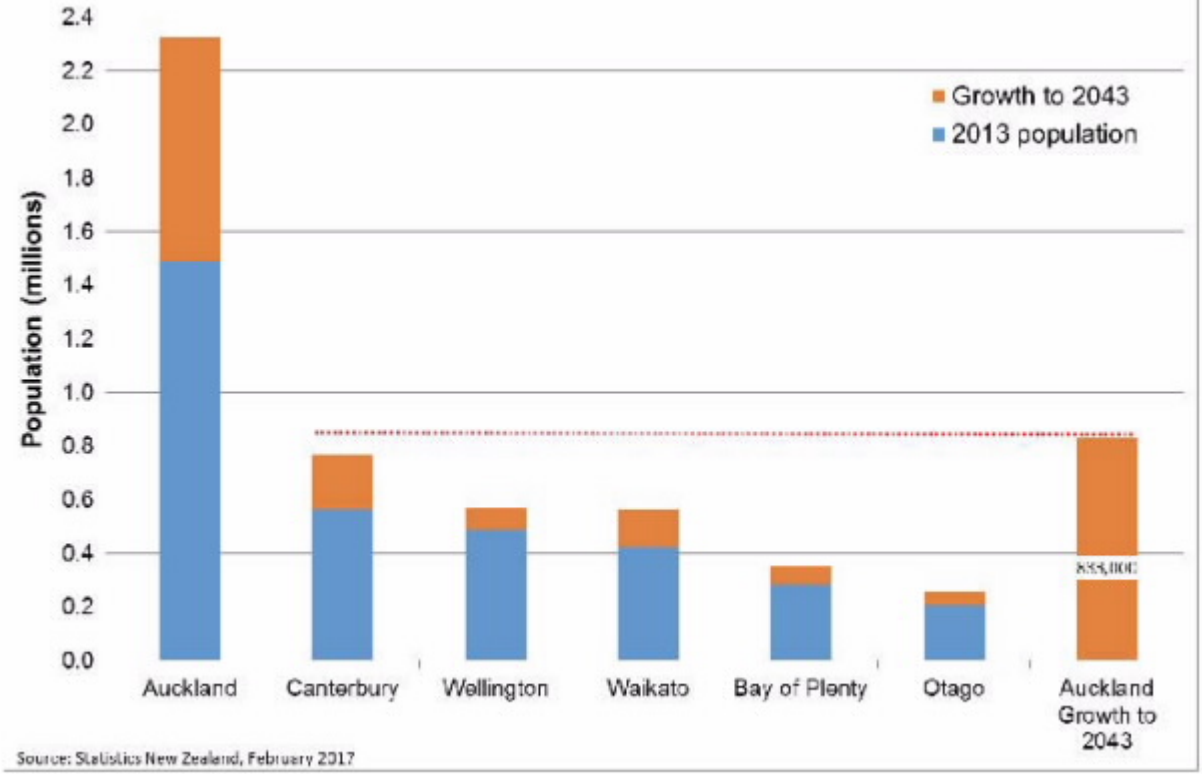
Working to shape our city

- Working to support faster rate of housing growth
- Working to prevent a decline in access to jobs (west and south)
- Working to slow the increase in congestion on the motorway (peak and other times)
- Working to increasing public transport mode share, particularly along high volume, congested corridors.

Auckland Transport
An Auckland Council Organisation

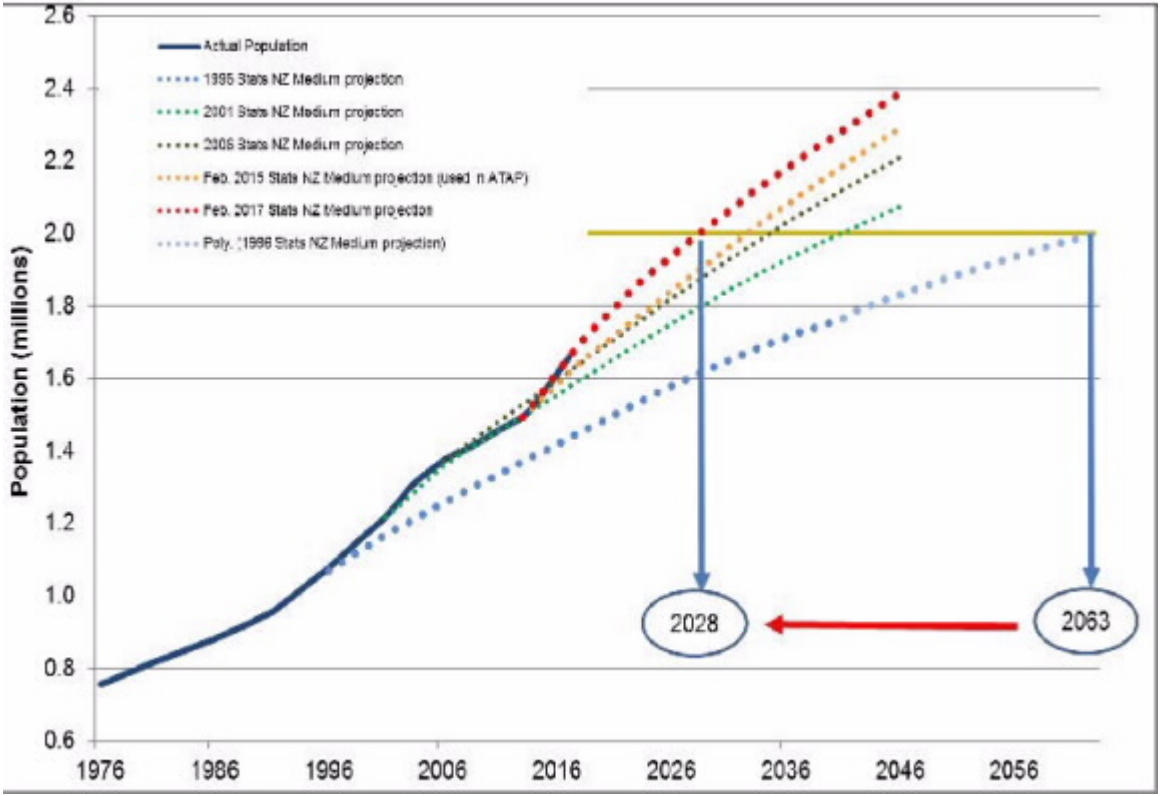

1.6m 2016
2.4m 2043
121k
last 3 years
Auckland’s population growth

Regional Growth



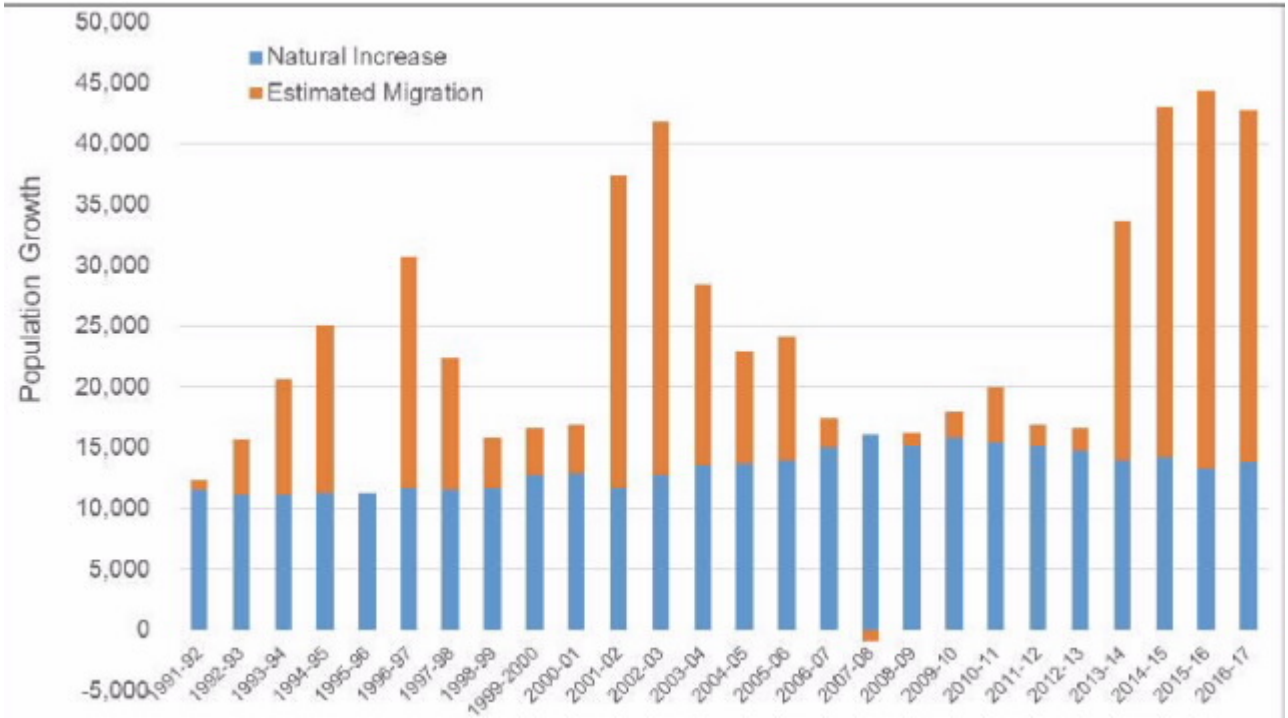
Auckland Transport
An Auckland Council Organisation

Auckland Population 1976-2056



Auckland Transport
An Auckland Council Organisation

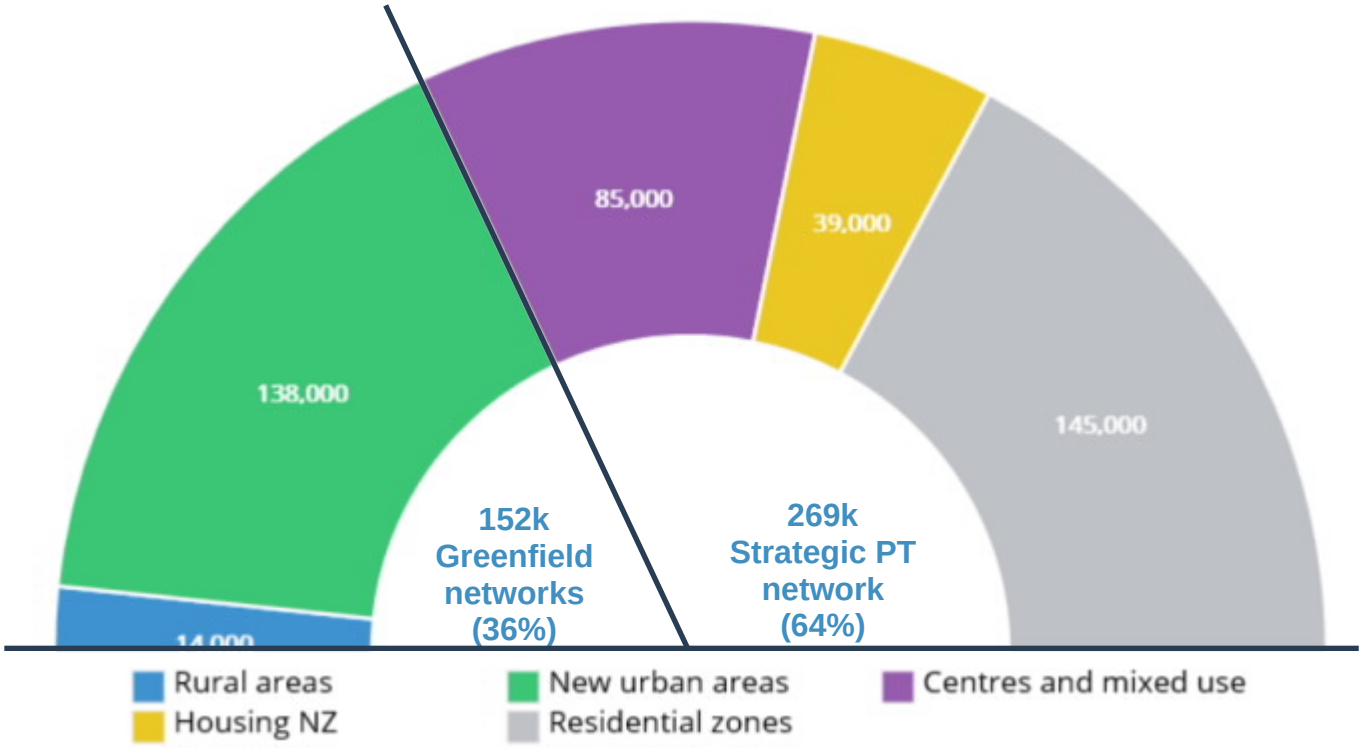
Auckland Population-1991-2017



Auckland Transport
An Auckland Council Organisation

Auckland's growth

Feasible enabled residential capacity (421,000)



Auckland Transport
An Auckland Council Organisation


Auckland Transport
An Auckland Council Organisation

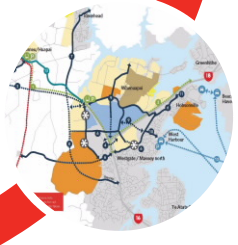
Moving Auckland forward

Growth

Auckland with 2.4 million people

Council and Government agreed strategic direction

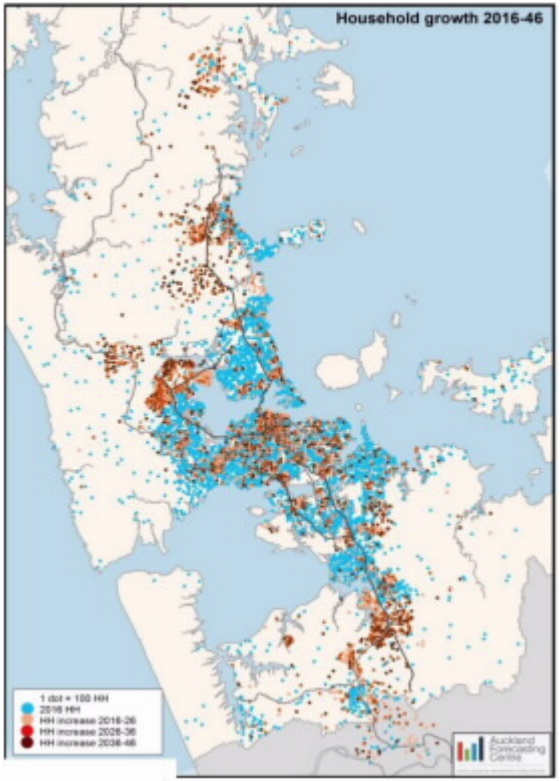
Development and strengthening of strategic transport networks



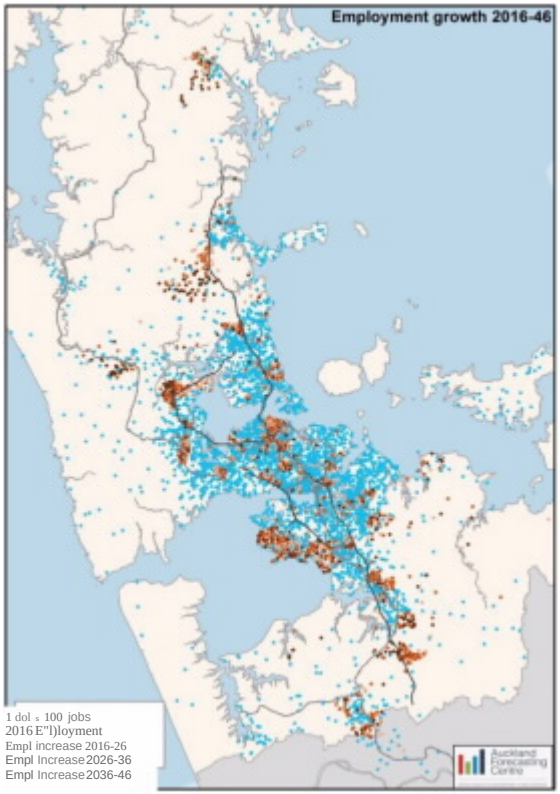
Enable and support greenfield growth

Auckland Transport
An Auckland Council Organisation

Household and Employment Growth



(ART3 .2A Seen IMod11.4)



(ART3.2A Seen I Mod11.4)

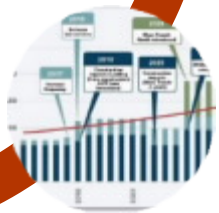
Auckland Transport
An Auckland Council Organisation

Rolling out the RTN

Significant expansion of RTN network

Expect significant uptake over time

Capacity issues for system during lengthy construction



Trigger considerations

Auckland's challenge

Staging

- Right mode for the right time – demand, capacity and corridor
- No definitive trigger when transition between modes to occur – multiple variables and interdependencies
- Mode transition and hierarchy shift in Auckland context dependent on customer service levels – high bus volumes an hour detrimental to customer experience
- Key corridors already hitting these levels in Auckland

Network Resilience

- Network integration planning to ensure all modes function together – PT, vehicles, active
- Providing viable PT options to increase capacity and ensure network is future proofed for potential introduction of congestion charging

Key challenge

How do we transition between the modes and progress towards implementation of LRT?

Auckland Transport
An Auckland Council Organisation

Addressing the challenge

Stage 1: Optimise existing assets

- Network changes, Public Transport Operating Model, schedules, routes

Stage 2: Extend existing facilities

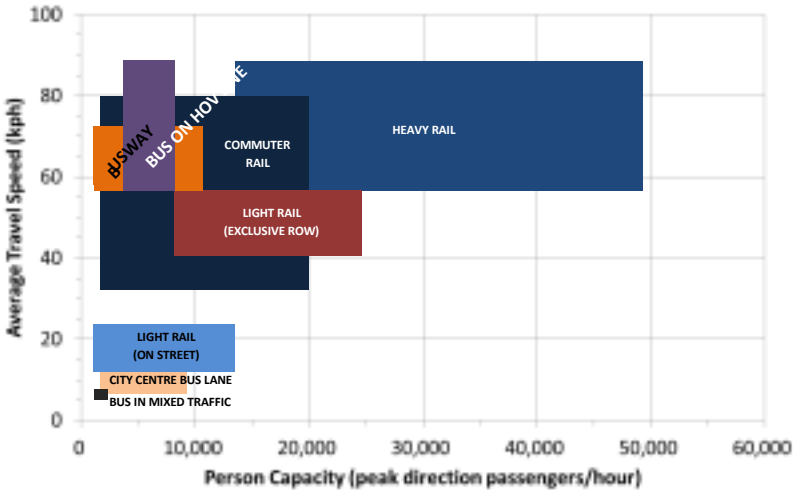
- Dedicated lanes/routes
- Double deckers
- Electric buses
- Fast ferries
- CRL – network efficiency
- Increasing active modes

Stage 3: Introduce new technology

- Bus automation/ platooning
- LRT

Stage 4: Driverless vehicles

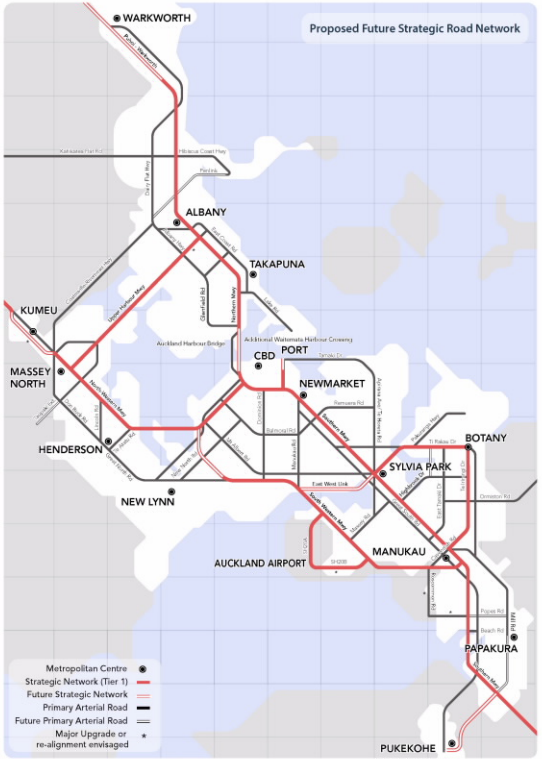
- First and last mile autonomous flexible routing

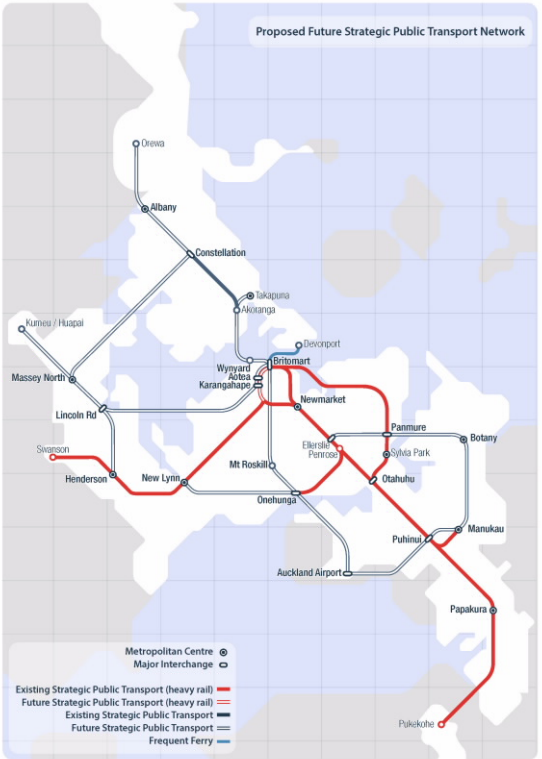


Source: Adapted from Transit Capacity and Quality of Service Manual 2nd Edition

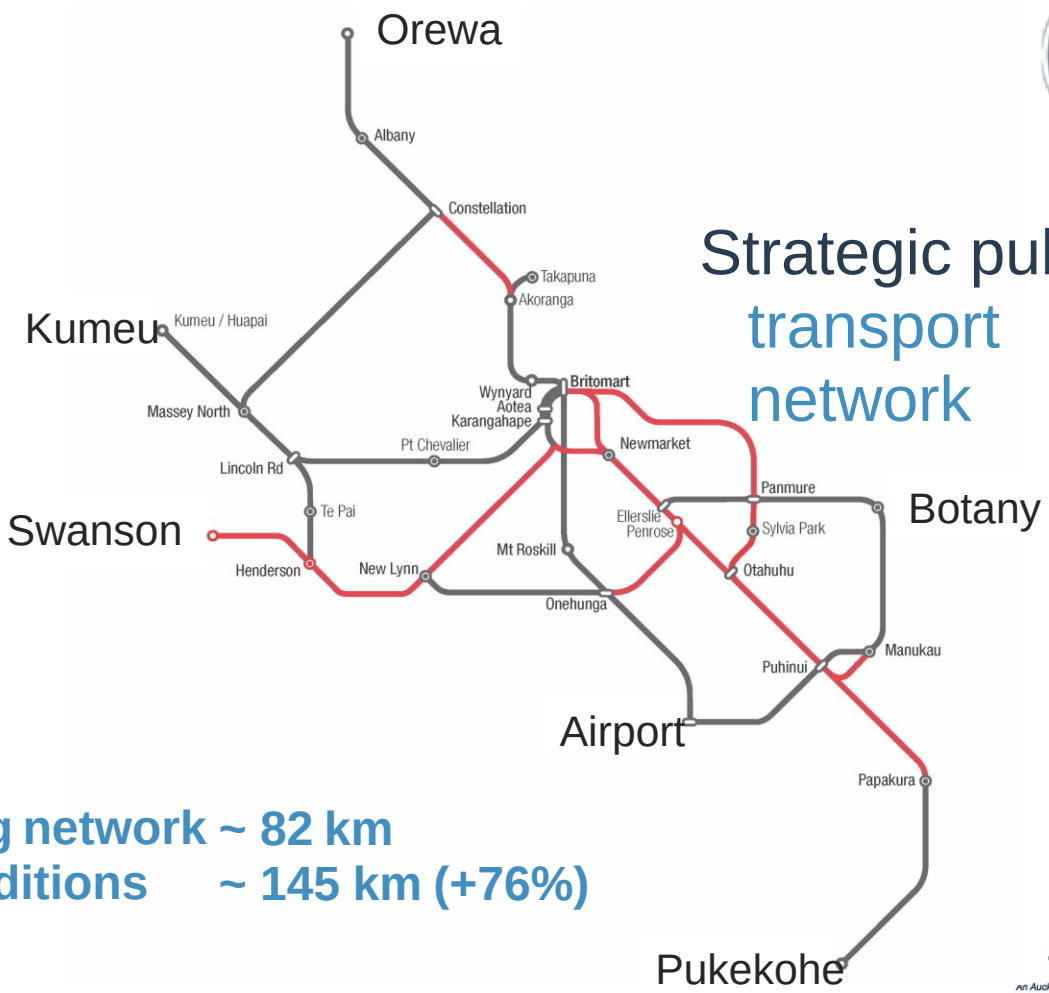
Auckland Transport
An Auckland Council Organisation

Strengthen strategic transport networks





Auckland Transport
n Auckland Council Organisation

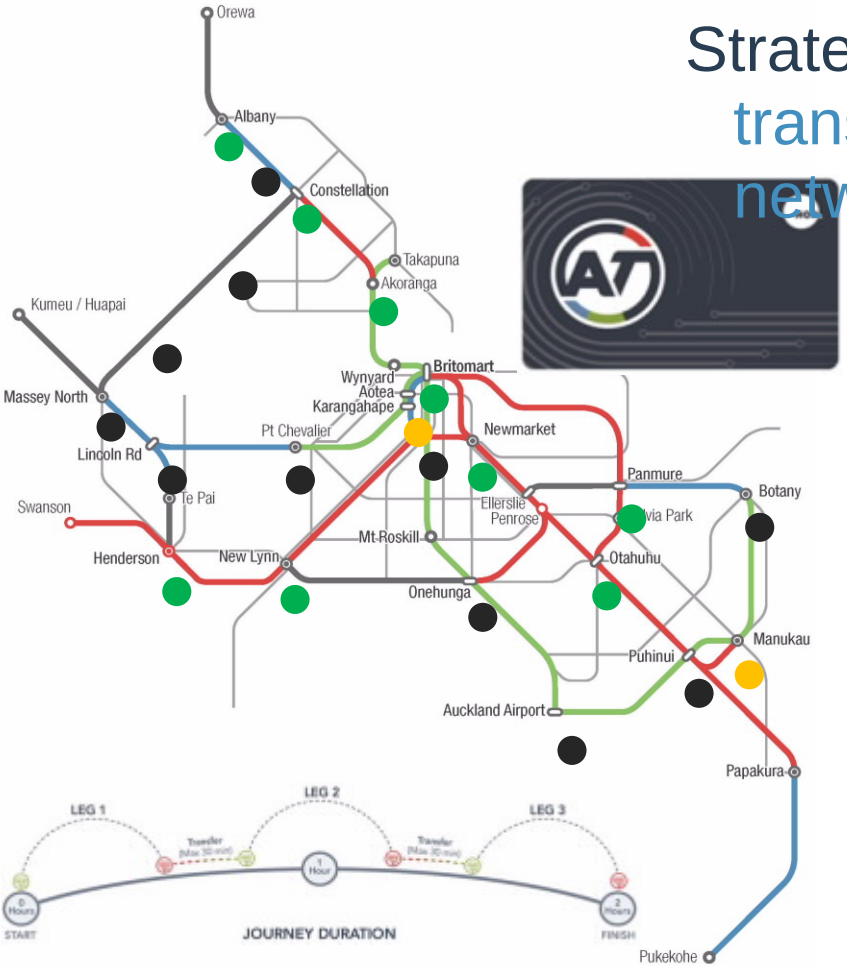


Strategic public transport network

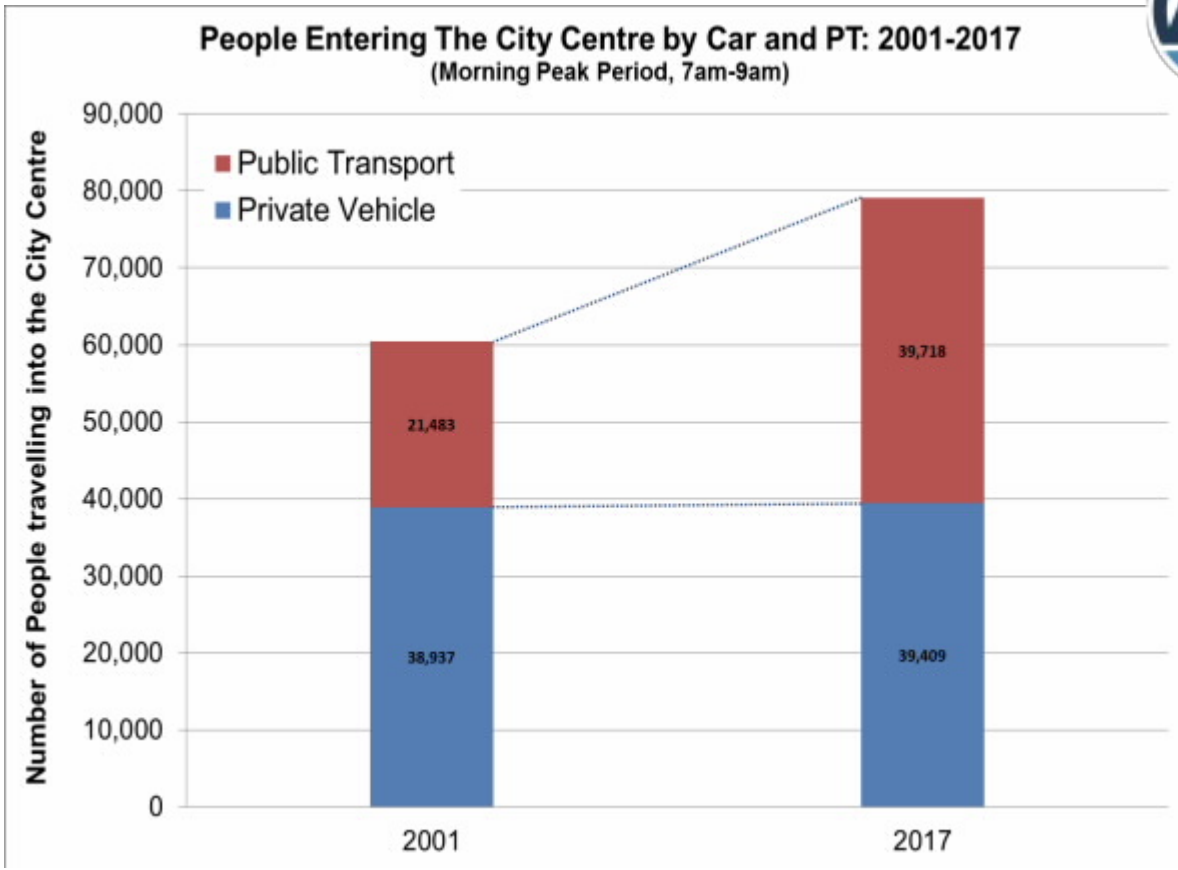
Existing network ~ 82 km
New additions ~ 145 km (+76%)

Auckland Transport
An Auckland Council Organisation

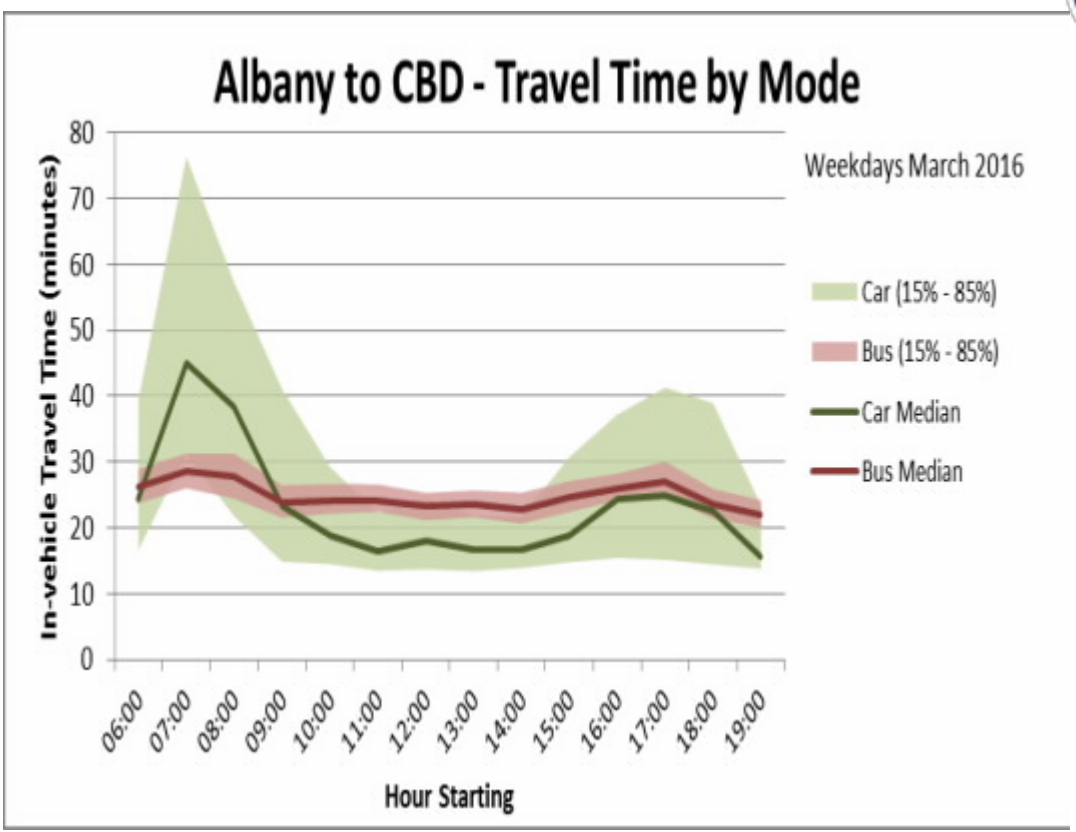
Strategic public transport network



Auckland Transport
An Auckland Council Organisation



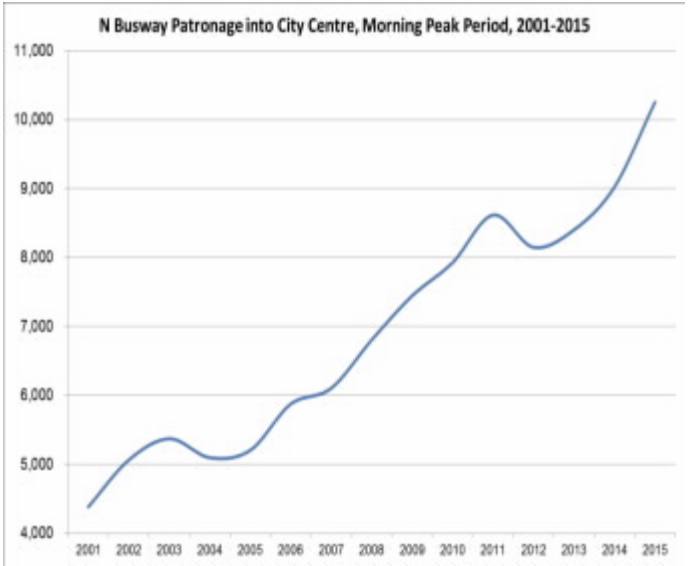
Auckland Transport
An Auckland Council Organisation



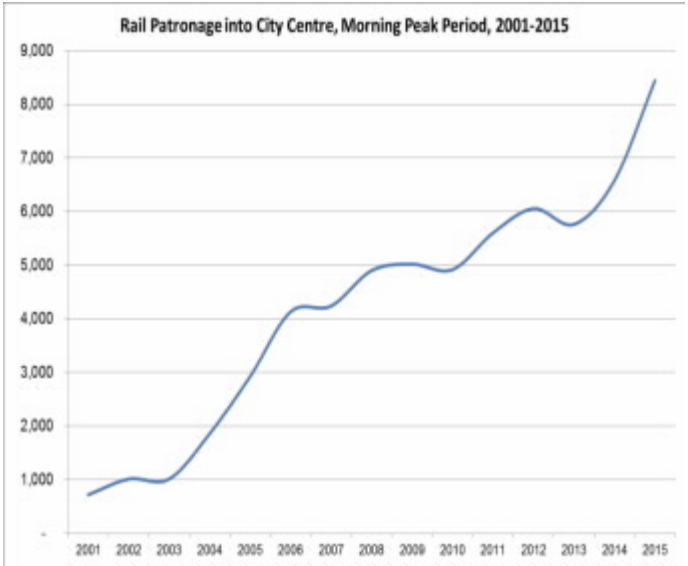
Auckland Transport
An Auckland Council Organisation

Significant growth on existing RTN

Northern busway



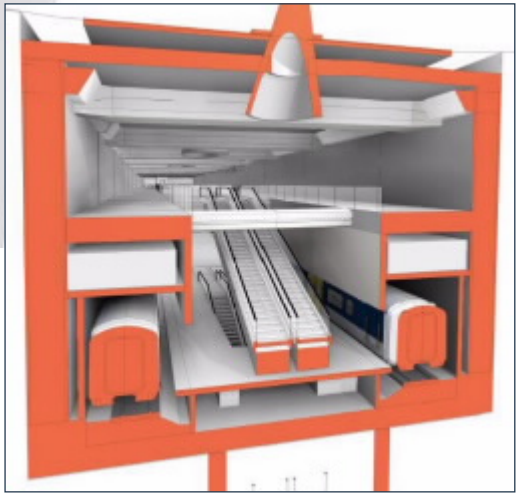
Rail patronage in city centre



Auckland Transport
An Auckland Council Organisation

Auckland Transport
An Auckland Council Organisation

Aotea station



aurecon Mott MacDonald Jasmax GRIMSHAW ARUP

Auckland Transport
An Auckland Council Organisation

Aotea station

Aotea station

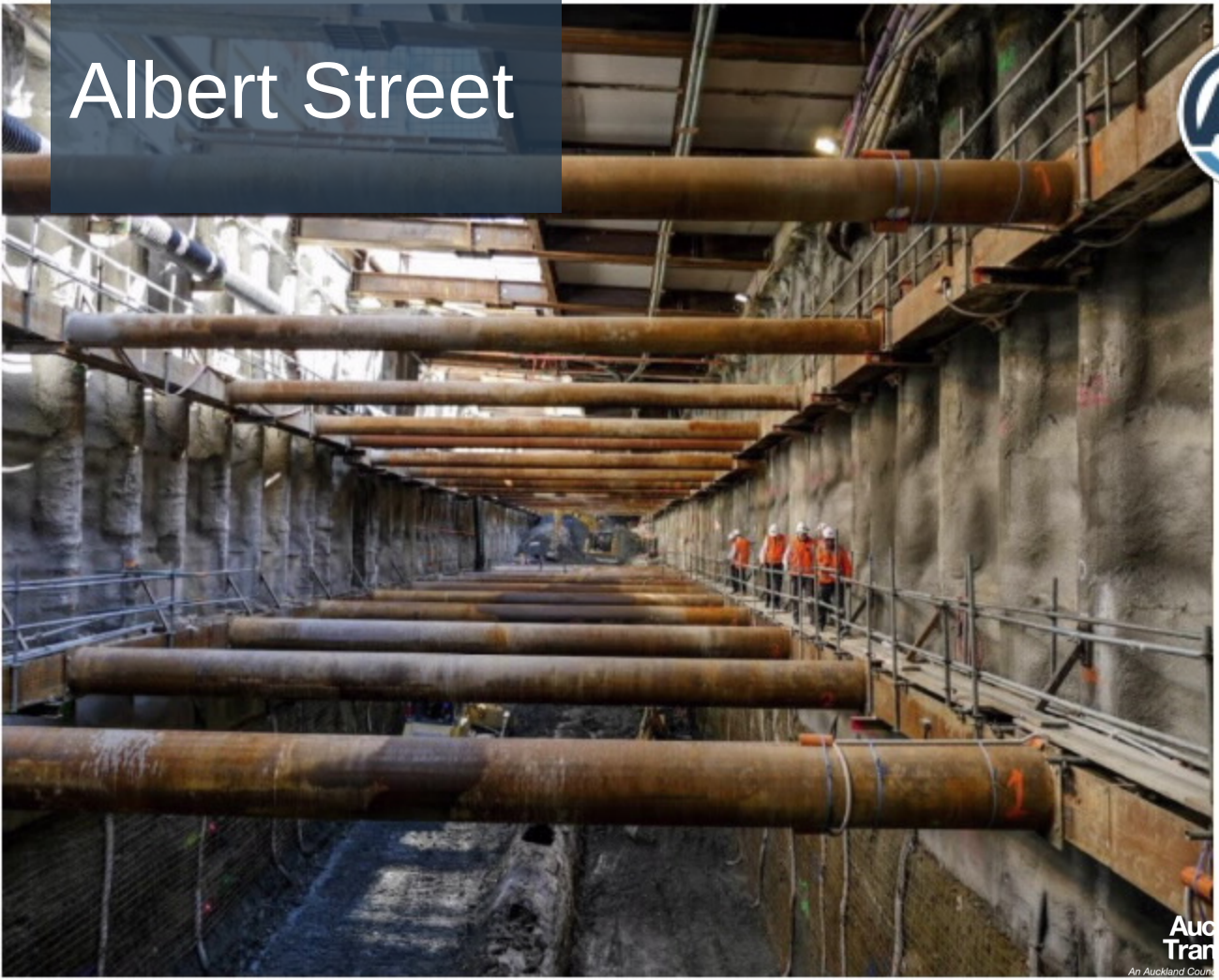
Auckland Transport
An Auckland Council Organisation

Commercial Bay

CRL tunnel entrance under construction through 'Commercial Bay'

Auckland Transport
An Auckland Council Organisation

Albert Street



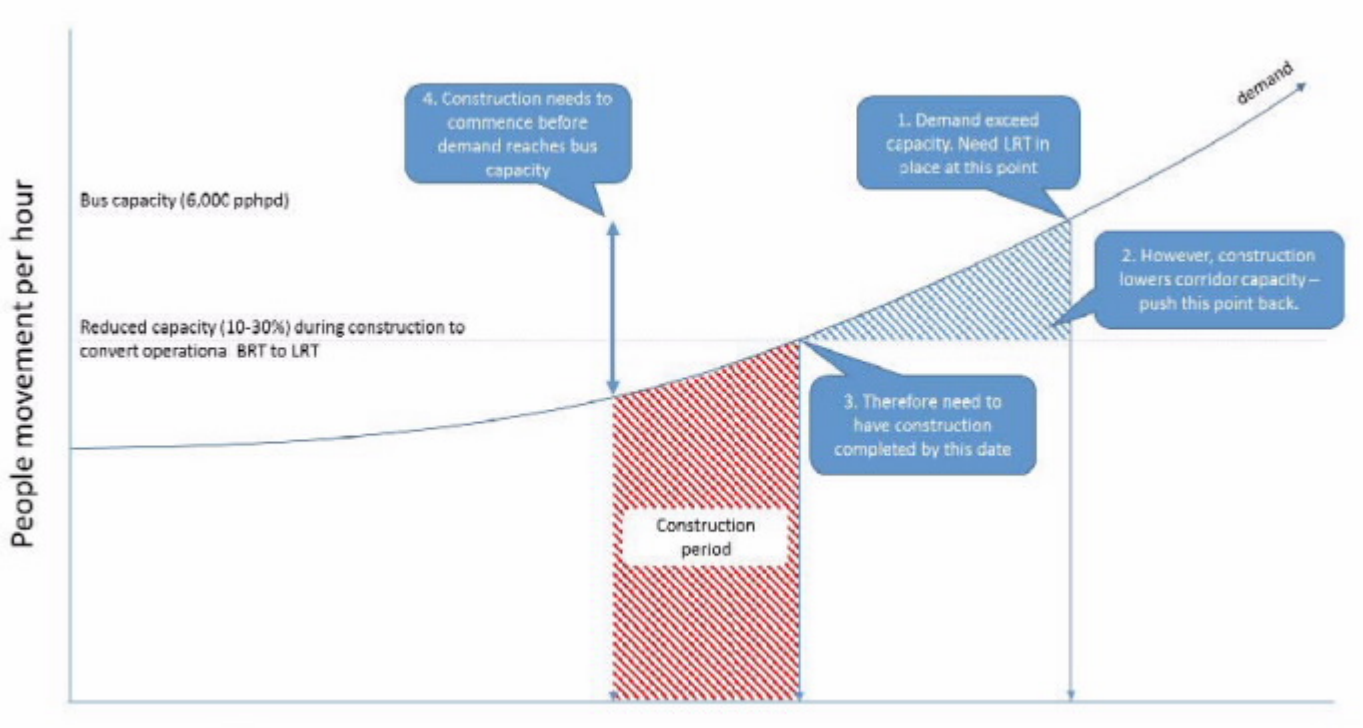
Auckland Transport
An Auckland Council Organisation

George Street
Sydney

Auckland Transport
An Auckland Council Organisation

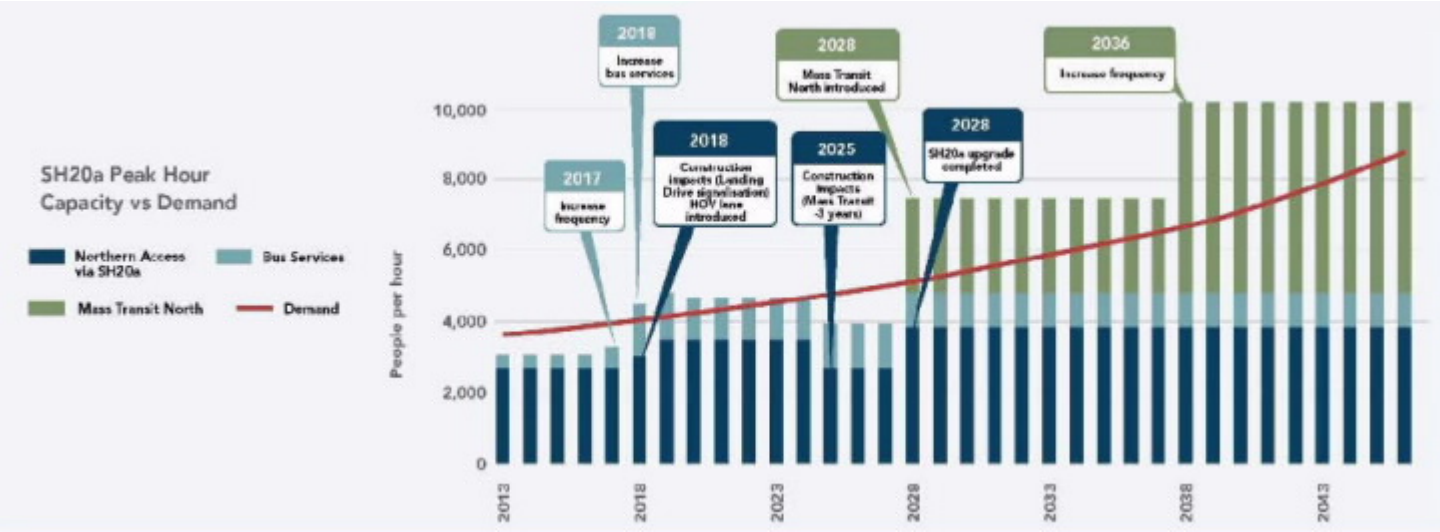
Dominion Road – Auckland

Trigger point considerations



Auckland Transport
An Auckland Council Organisation

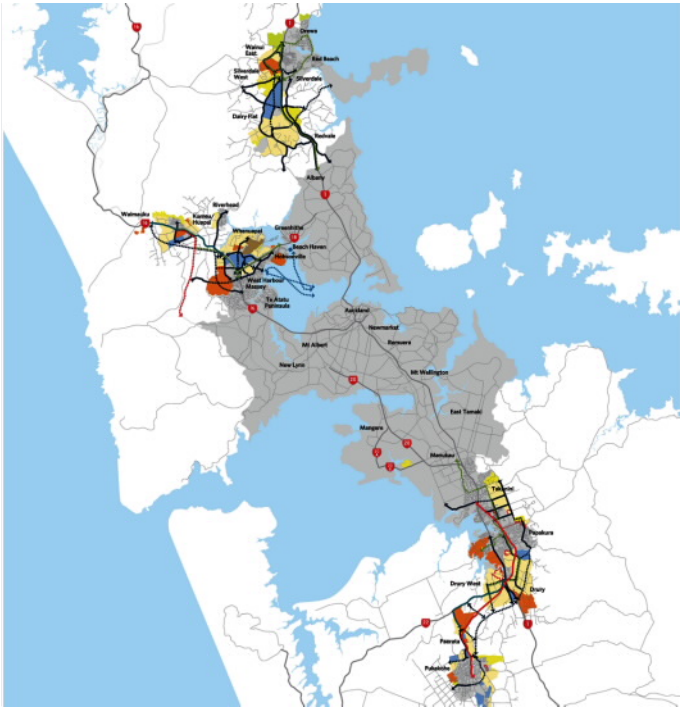
Trigger point considerations



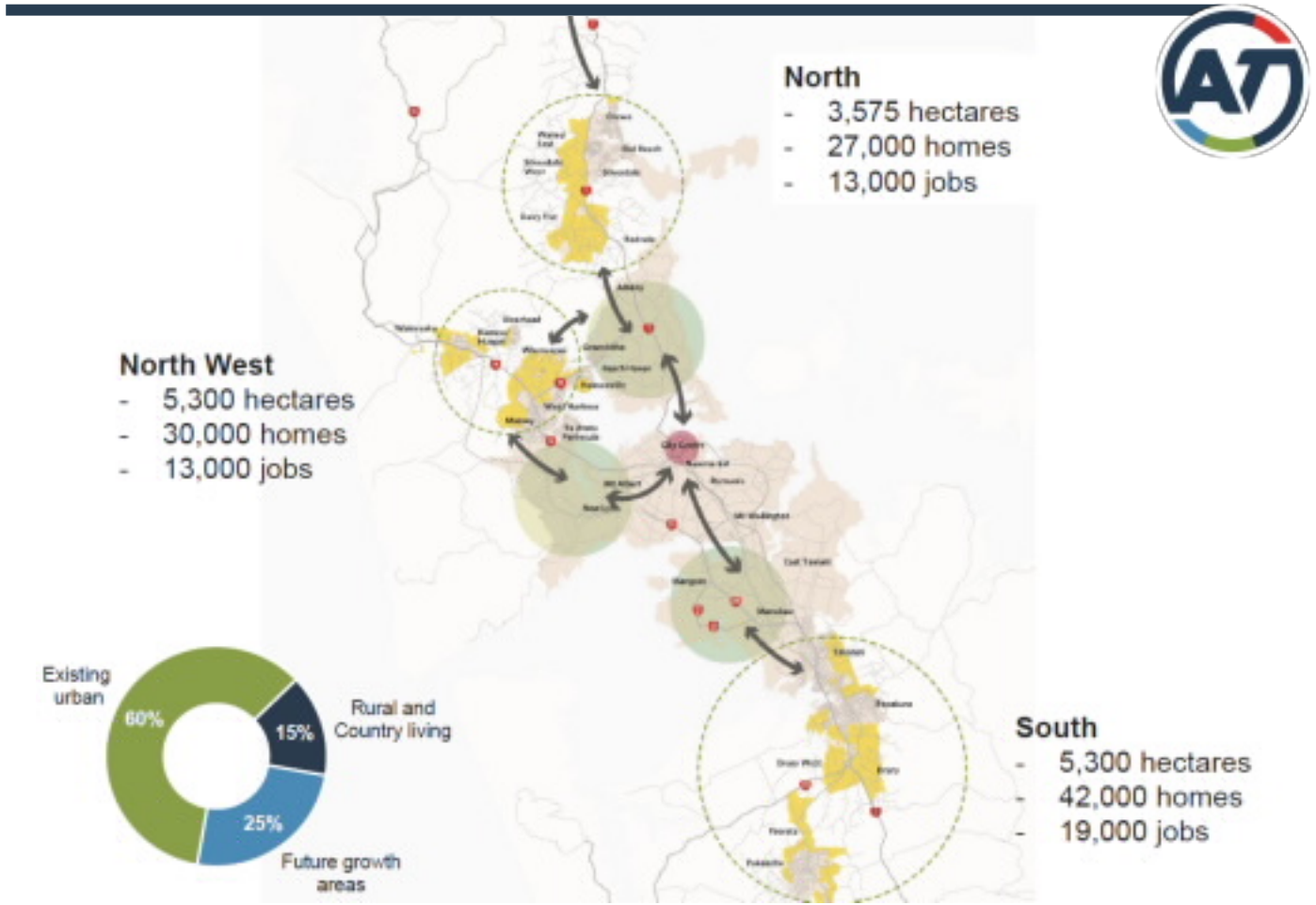
Auckland Transport
An Auckland Council Organisation

Meeting Auckland's Growth Demands

- Substantial infrastructure investment is required to support Auckland's strategic growth framework and meet demand for housing for the next 30 years.
- Work programmes such as ATAP, the Future Urban Land Supply Strategy and Transport for Future Urban Growth have helped clarify the likely scope, scale and timing of that investment required to respond but do not identify how it will be funded or what innovative solution may need to be considered.

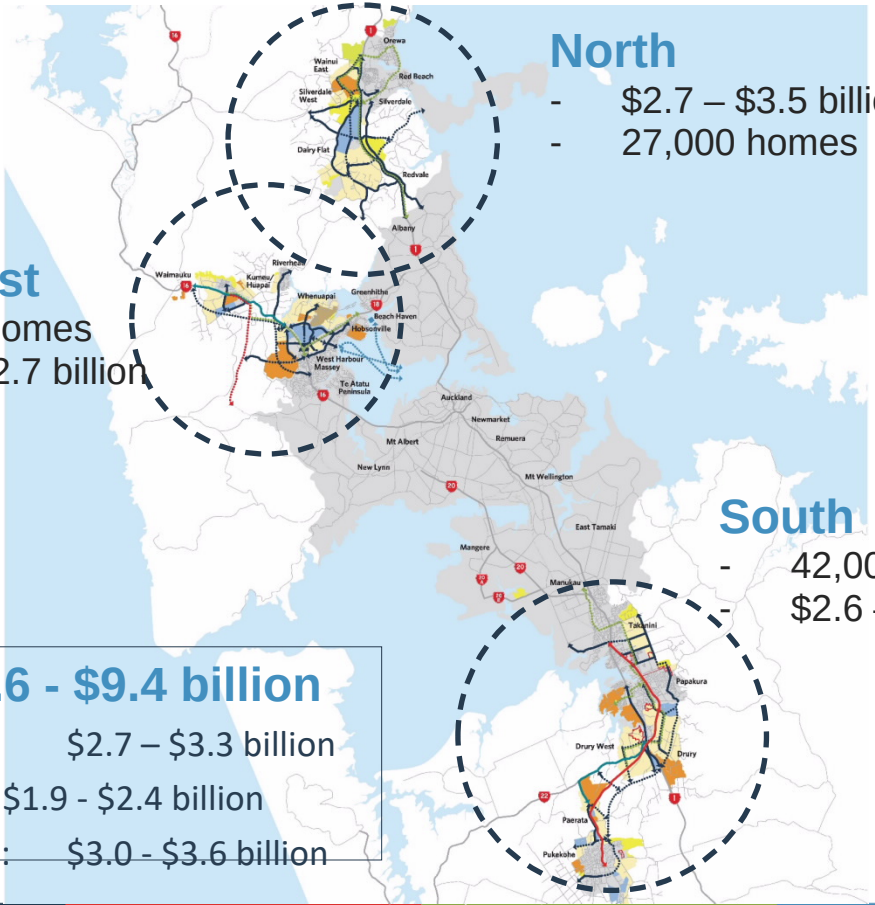


Auckland Transport
An Auckland Council Organisation



Auckland Transport
An Auckland Council Organisation

Early business case development for greenfield expansion



North

- $2.7 – $3.5 billion
- 27,000 homes

North West

- 30,000 homes
- $2.1 – $2.7 billion

South

- 42,000 homes
- $2.6 – $3.3 billion

Total $7.6 - $9.4 billion

- RTN: $2.7 – $3.3 billion
- SH: $1.9 - $2.4 billion
- Local: $3.0 - $3.6 billion

Auckland Transport
An Auckland Council Organisation

Thank you.

Auckland Transport
An Auckland Council Organisation