

# Rapid Transit Network Planning



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# Overview

1. Current context
2. Current roles and responsibilities
3. Changes in context
4. Current rapid transit plans
5. Implementation challenges
6. Future network planning
7. Mode choice
8. Conclusion

# Current context

- *“Rapid transit forms the backbone of an urban area’s public transport network, providing fast, frequent, high capacity services along corridors separated from general traffic and therefore unaffected by road congestion.”*
- Rapid transit can be heavy rail, light-rail, busways, bus rapid transit, frequent ferries etc.
- Rapid transit will need to play an increasingly important role in Auckland’s transport future



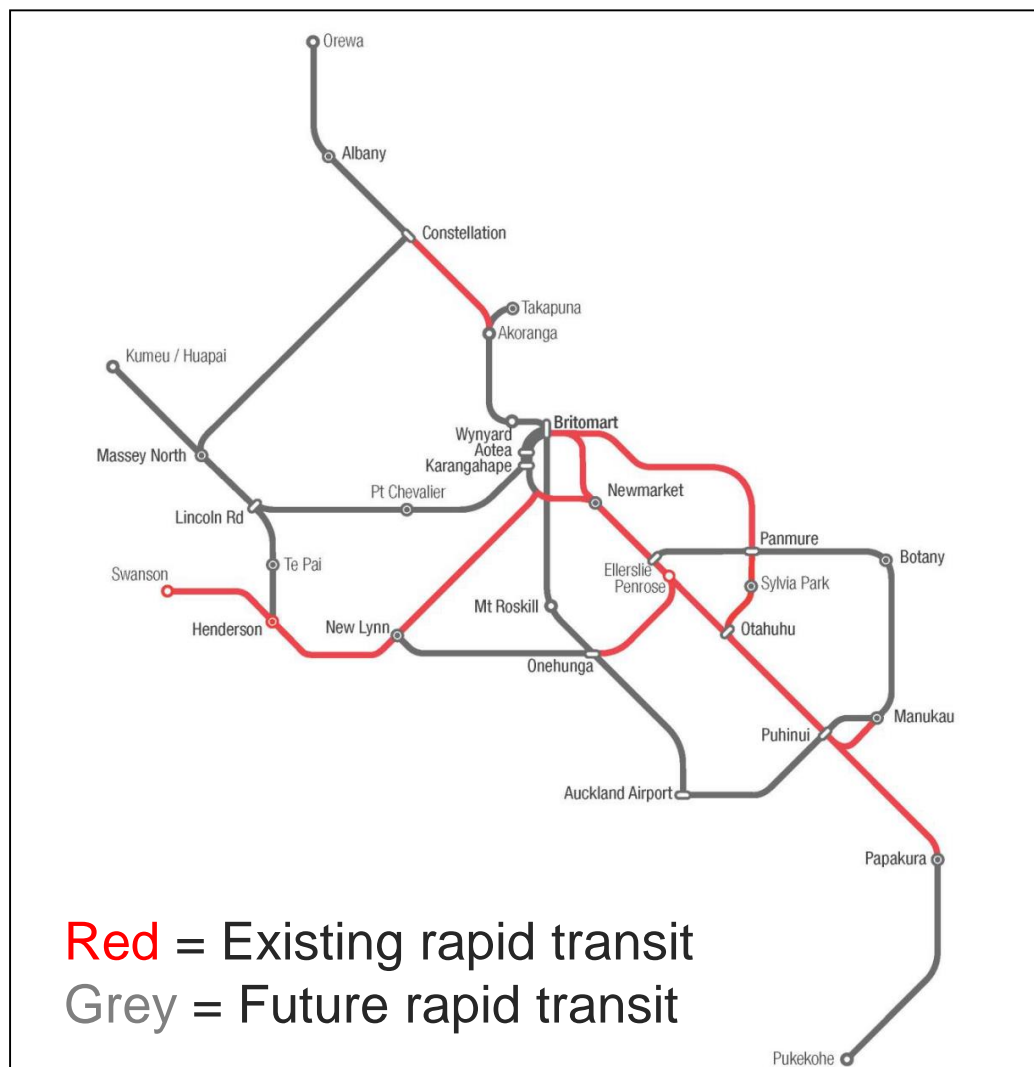
# Current context

- Limited access points to key destinations like the city centre and the Airport create further bottlenecks
- Auckland's motorway network is now largely complete and very few easy opportunities for adding new or widened road links
- Increasing competition for street space between modes and growing need for streets to perform as urban spaces



# RTN development

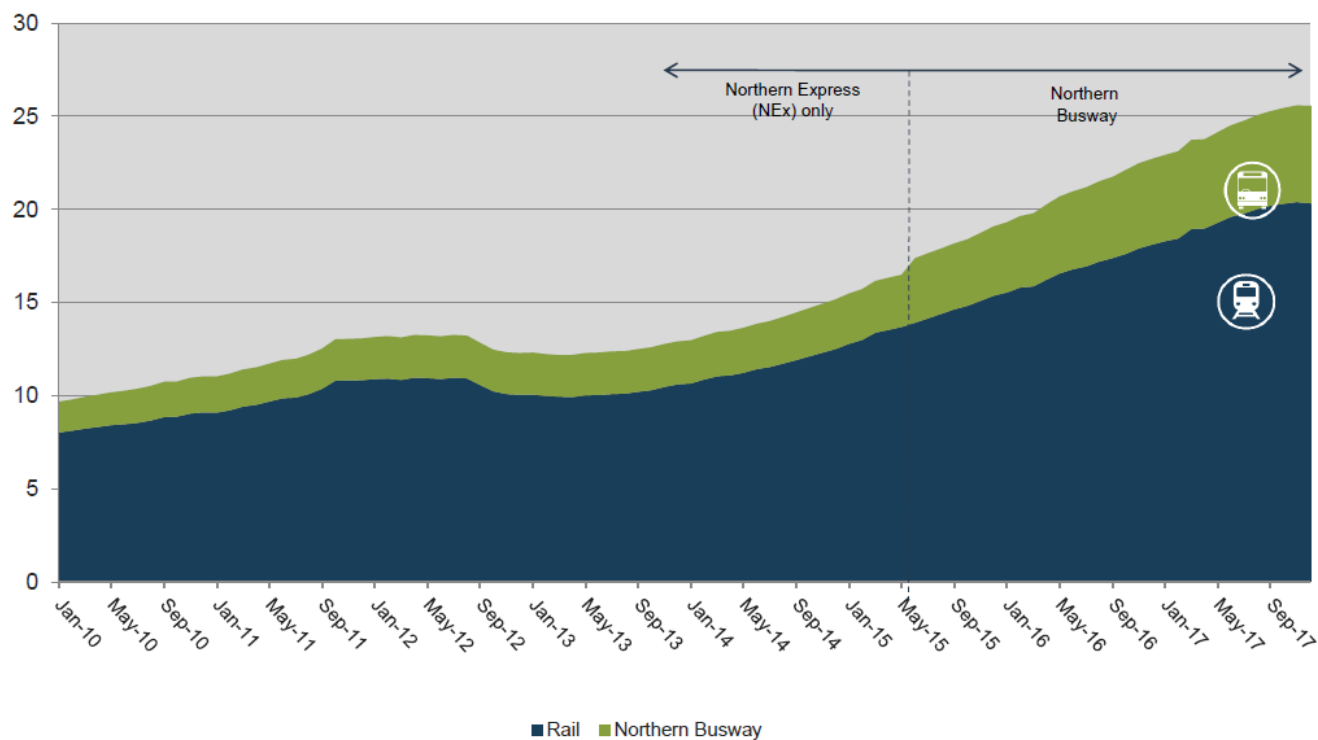
- Electrified heavy rail between Swanson and Papakura, as well as the Northern Busway
- Passenger rail has operated for over a century, but has been substantially upgraded over the past decade to enable more frequent and reliable services. Electric train services from 2014
- The Northern Busway was opened in 2008 using the Auckland Harbour Bridge, local roads and bus shoulder lanes



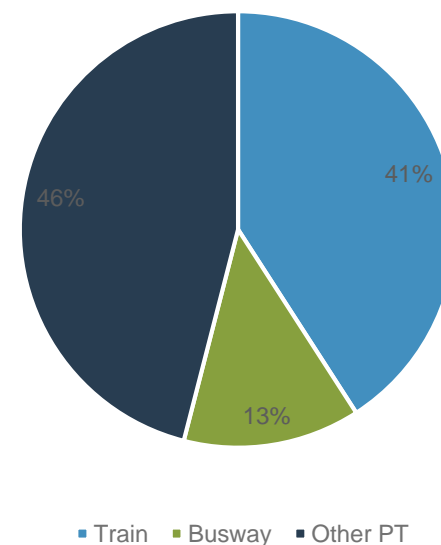
# Patronage

- Strong patronage growth, ahead of projections
- Most PT growth in past five years has been on rapid transit

Rapid Transport Network (Rail & Northern Busway)

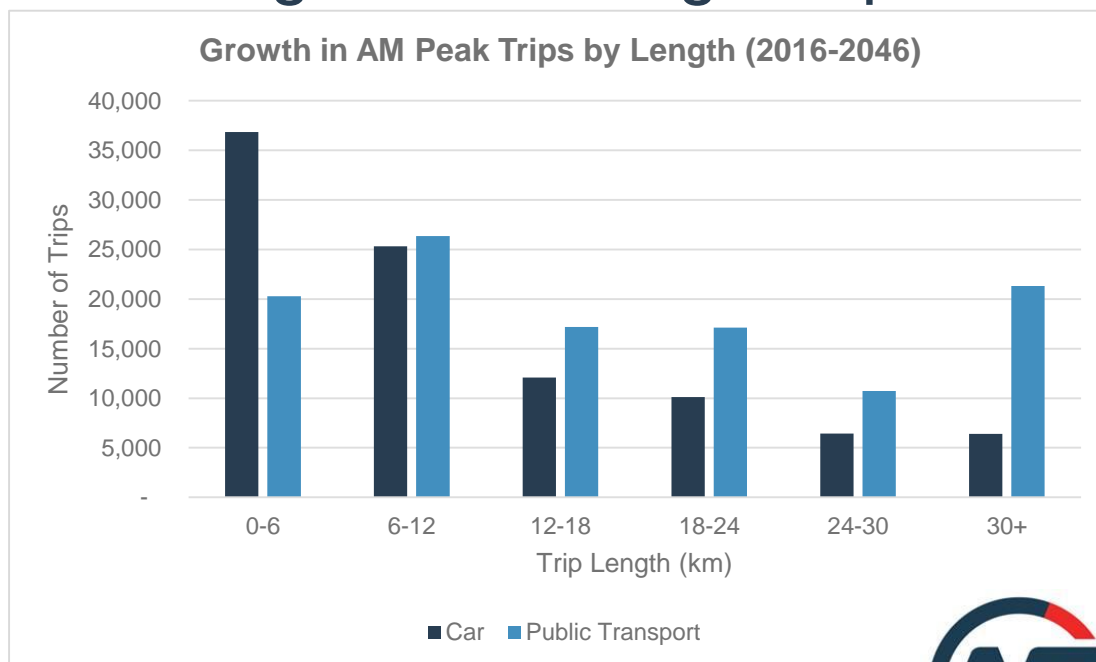
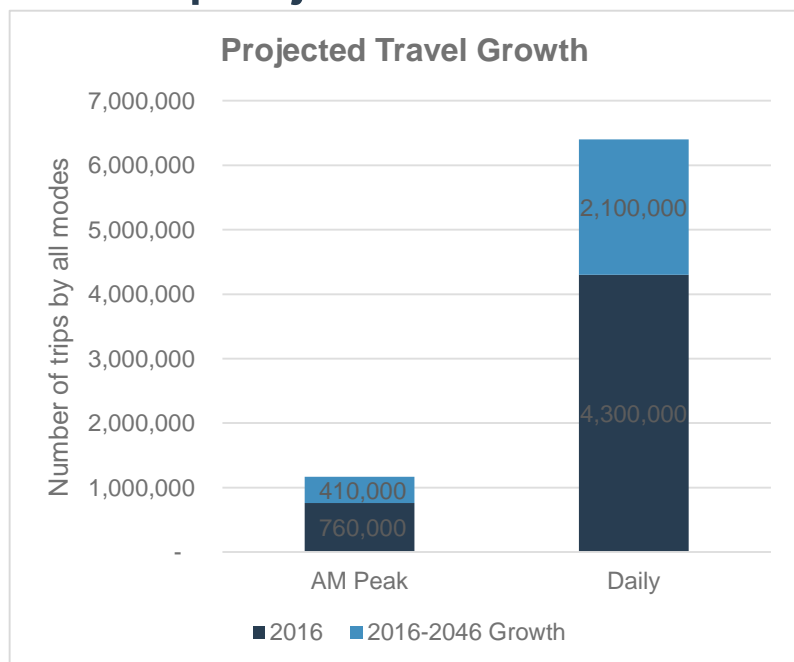


Share of Ridership Growth (2013-2018)



# RTN trends

- Rapid Transit will need to play an increasingly large role in meeting Auckland's future travel needs.
- 410,000 more peak time trips and 2.1 million more daily trips by 2046 (by all modes)
- PT projected to take the bulk of growth in longer trips



# Roles and responsibilities

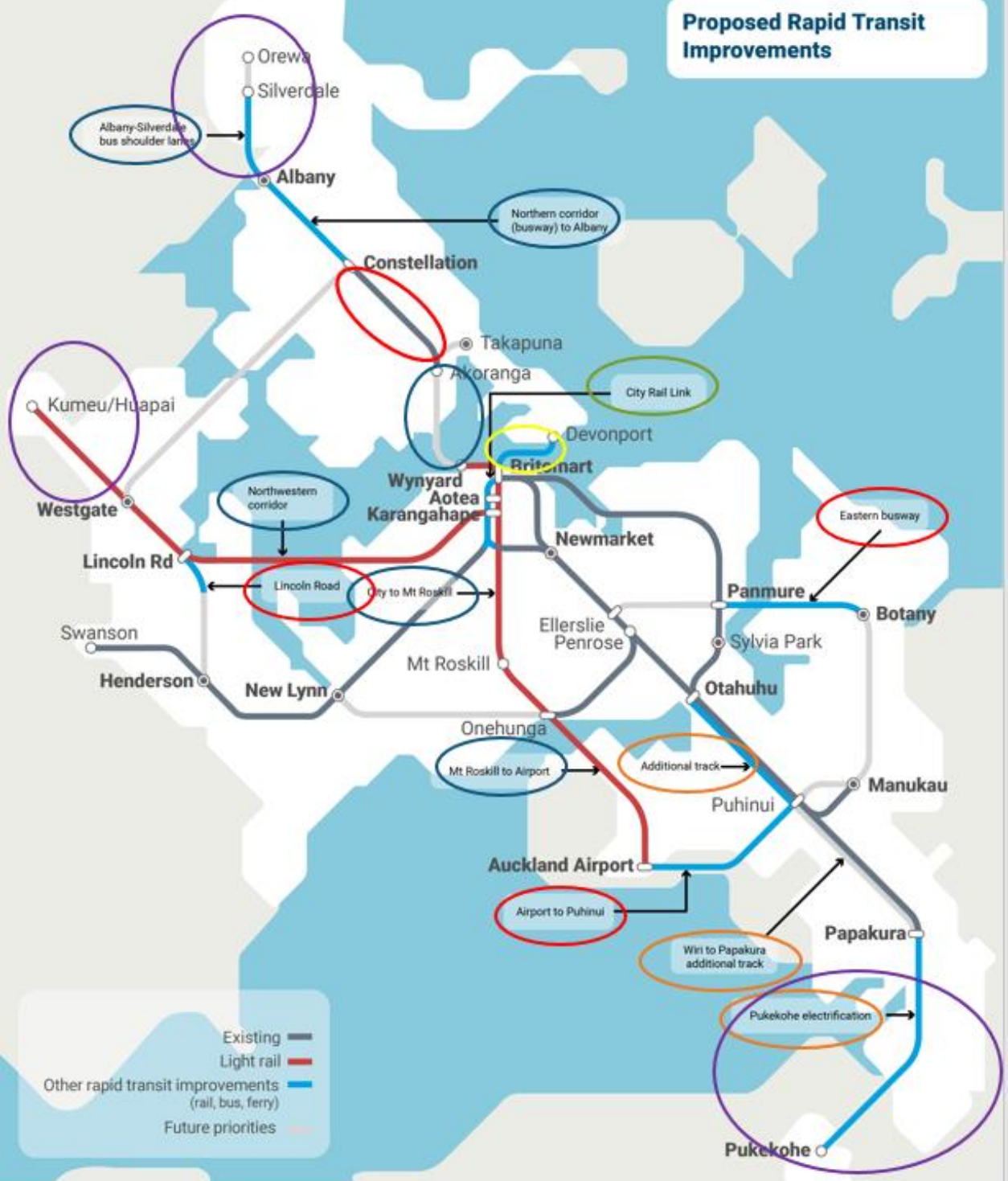
- Transport is a partnership between central and local government, but there is a mixture of arrangements
- Rapid transit is nationally significant infrastructure, like the state highway network (owned and operated by NZTA) or the rail network (owned and operated by KiwiRail)
- It is essential that rapid transit services are integrated with the wider public transport network, operated by AT
- A RTN corridor may be in its own right-of-way (i.e. rail or adjacent to a state highway) or on local roads, or a combination of the two.
- The overlap of roles and responsibilities for RTN between central and local government means joint network planning is essential
- ‘Best for Auckland and NZ’ principle must apply throughout project development, implementation and operation



# Roles and responsibilities

**Key:** Current Organisation Lead:

- ▶ AT (Red oval)
- ▶ AT-NZTA Alliance (Purple oval)
- ▶ NZTA (Blue oval)
- ▶ KiwiRail (Orange oval)
- ▶ CRL (Green oval)
- ▶ Fullers (Yellow oval)



# Varying project arrangements

Project	Delivery Phase	Delivery Lead	Funding arrangements
<b>City Rail Link</b>	Early works under construction. Main project in procurement.	City Rail Link Limited	50% Auckland Council, 50% Crown
<b>Northern Busway Extension (Constellation to Albany)</b>	Under construction	NZTA (mainline busway) Auckland Transport (Rosedale station)	Mainline busway: 100% NZTA. Rosedale station: Approx. 50% Auckland Council/NZTA
<b>AMETI Eastern Busway</b>	Panmure-Pakuranga under construction Pakuranga-Botany consenting/land acquisition	Auckland Transport	50% Auckland Council 50% NZTA
<b>City Centre to Mangere Light Rail</b>	Business case	NZTA	100% NZTA (seed funding in NLTP)
<b>Northwest Light Rail</b>	Business case	NZTA	100% NZTA (seed funding in NLTP,)
<b>Pukekohe rail electrification</b>	To be determined	KiwiRail	100% NZTA (transitional rail activity class)
<b>North Shore Rapid Transit</b>	Business case	To be determined	To be determined
<b>Greenfield rapid transit networks</b>	Business case	Joint AT/NZTA	75% NZTA 25% Auckland Council (investigation costs only)

# Recent changes in context

- In May 2018, the Minister of Transport confirmed that it is now NZTA's responsibility *“to plan, fund, design, supervise, construct and maintain RTNs and/or projects, including light rail.”*
- This overlaps with AT's unchanged role
- NZTA is now leading the Business Case for the city centre to Mangere and North-west light rail corridors, in partnership with AT, Auckland Council and the government development agency HLC
- 2018 GPS also includes a new rapid transit activity class, which enables 100% NZTA funding of rapid transit projects
- Previously, AT had to apply for funding from the public transport activity class. Although nationally available, most future rapid transit investment is likely to be in Auckland
- GPS also established 'transitional rail' activity class for heavy rail

# Current Rapid Transit Plans

- Plans to develop Auckland's rapid transit network over the next decade are detailed in the Auckland Transport Alignment Project (ATAP) and the Regional Land Transport Plan (RLTP)
- Full implementation of these plans will see a substantial expansion of Auckland's current network through the additional of several rail, light rail and bus rapid transit improvements



# Current Plans

- ATAP allocated \$8.4 billion to developing Auckland's rapid transit network over the next decade

City Rail Link

Northern Busway Extension  
(Constellation to Albany)

AMETI Eastern Busway

City Centre to Mangere Light Rail

Northwest Light Rail

Pukekohe rail electrification

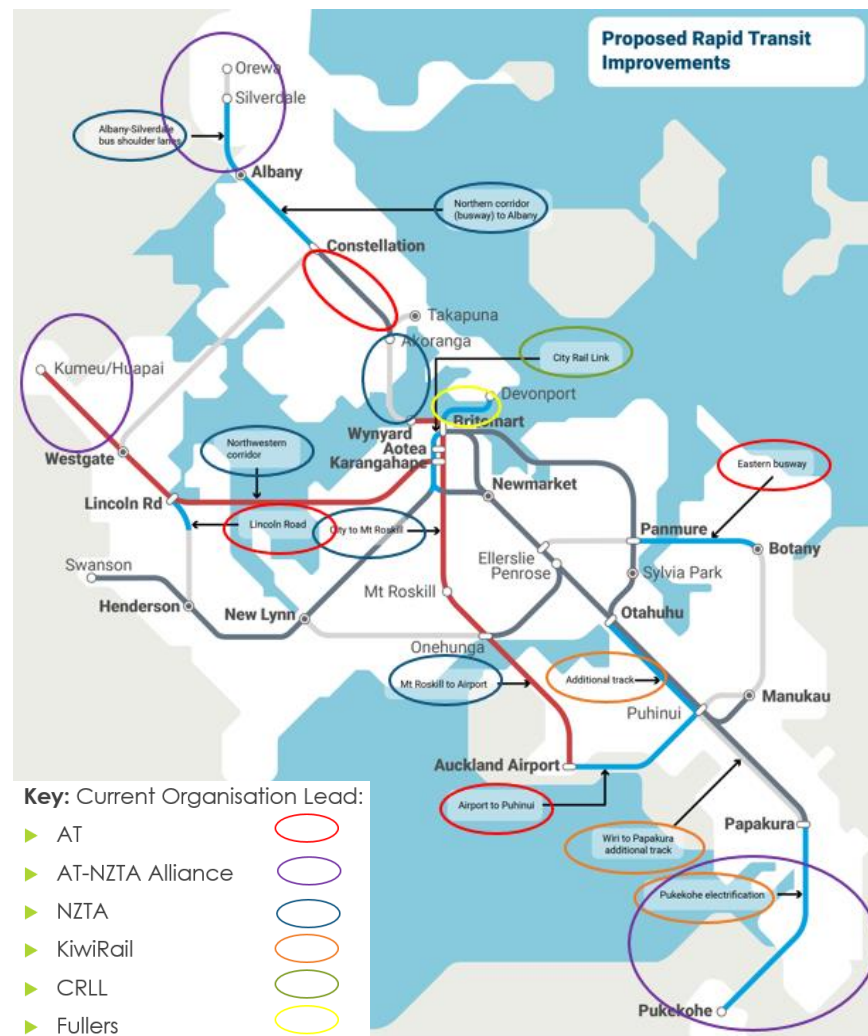
North Shore Rapid Transit (2<sup>nd</sup>  
decade)

Greenfield rapid transit networks



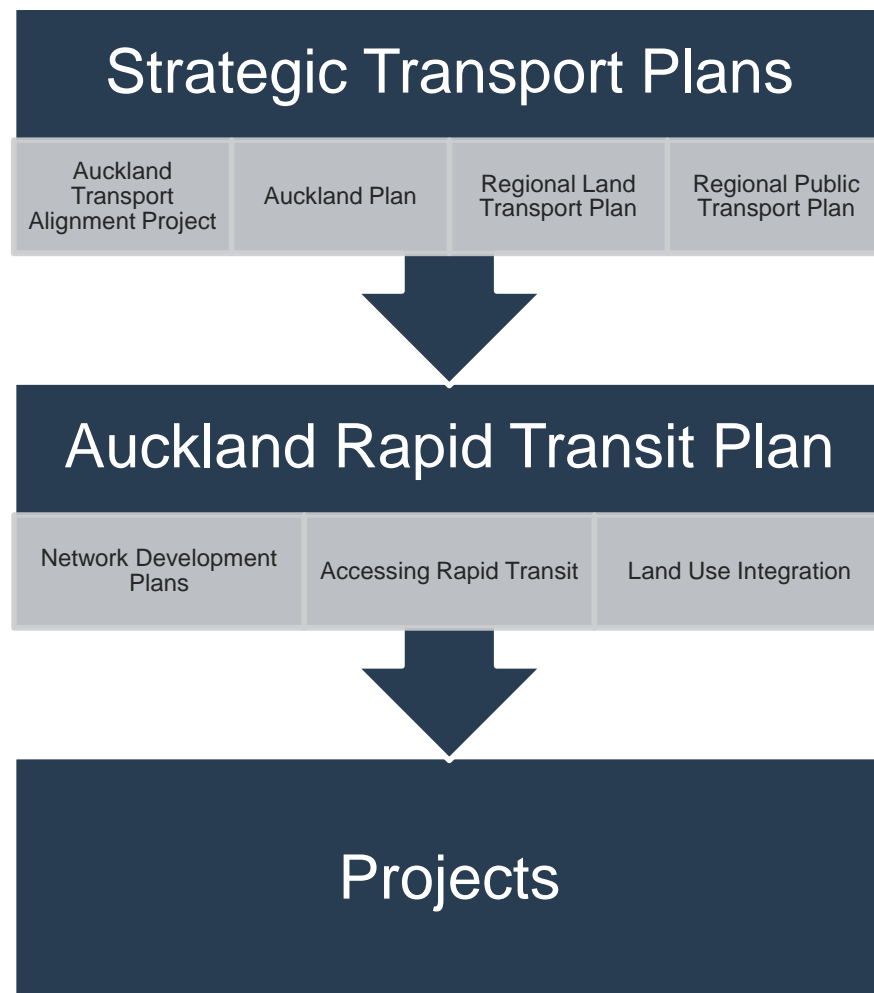
# Implementation Challenges

- RTN planning, funding, delivery and operational arrangements are currently complex and inconsistent
- Risks project delays, inefficient investment & poor customer outcomes
- Many network level issues are being tackled on a 'project by project' basis
  - the need for City Rail Link Limited
  - legal/role complexities for LRT
  - different lead for Eastern Busway than Northern Busway
  - Supporting Growth Alliance leading greenfield RTNs



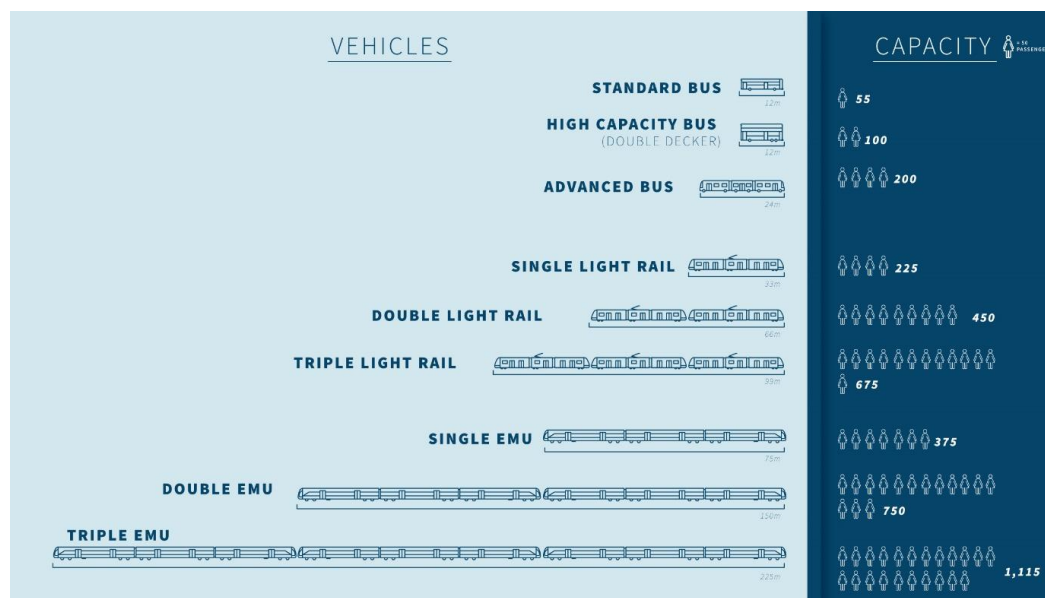
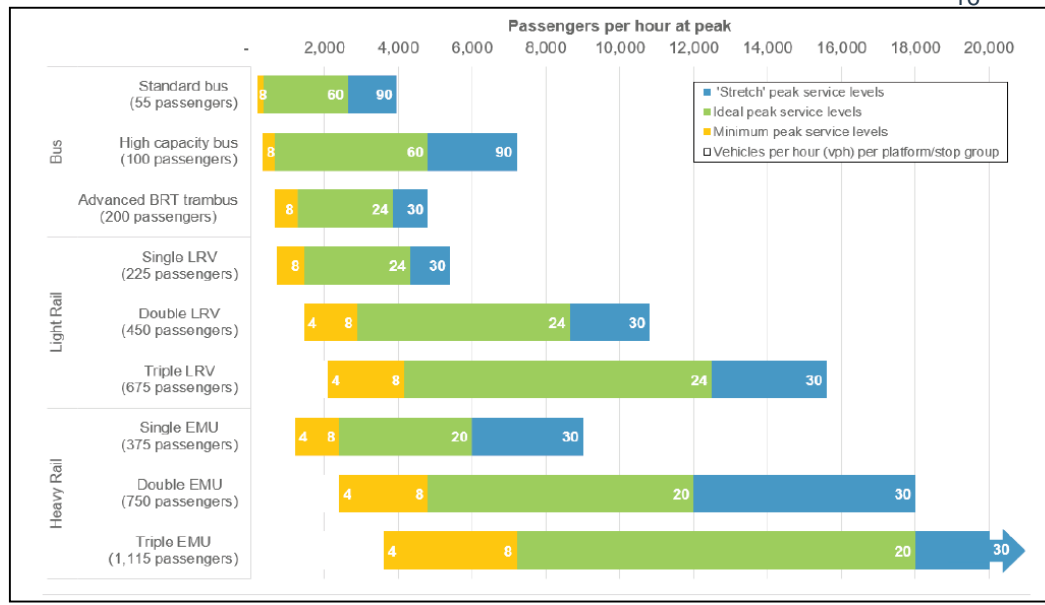
# Future Network Planning

- AT & NZTA are working together to:
  - Provide clarity on the roles and responsibilities for rapid transit planning, delivery and operation
  - Develop a clear long term rapid transit plan for Auckland (building on what is identified in ATAP)
- Collectively identify key next steps:
  - Changes necessary to give effect to the recommended roles and responsibilities
  - Network-level direction for project-level



# Mode choice

- Key RTN planning decision is selecting the right mode
- Key criteria include:
  - Forecast demand
  - Constraints along route (especially at each end)
  - Supporting and shaping urban use
  - Network integration
  - Cost (capex & opex) and value for money





# Conclusion

- Rapid transit is increasingly important to Auckland's transport future
  - Rapid transit is the largest area of investment over the next 10 years – with \$8.4 billion signalled in ATAP
  - Recent changes in government direction have signalled a fundamental shift in the planning and delivery of rapid transit, with NZTA playing a much greater role than before
- AT and NZTA are working together to:
  - Provide clarity on the roles and responsibilities for rapid transit across the different phases planning, implementation and operation
  - Build on ATAP to outline a clear long term rapid transit plan for Auckland

# Thank you.

