

MINISTERIAL BRIEFING NOTE

Subject	Rapid Transit in Auckland
Date	1 November 2017
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Contact(s) for telephone discussion (if required)					Withheld under section 9(2)(a)
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Action taken by Office of the Minister

- Noted
- Seen by Minister
- Agreed
- Feedback provided
- Forwarded to
- Needs change [please specify]
- Withdrawn
- Overtaken by events

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Minister of Transport

Rapid Transit in Auckland

Purpose

1. The purpose of this briefing is to provide an update on the performance of the Rapid Transit Network (RTN) in Auckland, assess the alignment between the Auckland Transport Alignment Project (ATAP) and the emerging government RTN priorities, discuss ways of accelerating and procuring a RTN programme for Auckland, and discuss ways the NZ Transport Agency could take a greater role in the funding and delivery of the RTN.

Overview of current rapid transport

2. Four public transport networks are identified by the Auckland Regional Public Transport Plan (RPTP) as shown below along with their key characteristics:

Service Layers	Rapid	Frequent	Connector	Local
Defining features	All-day network			
Minimum Frequency	15 minutes		30 minutes	60 minutes
Operating hours	7am-7pm, frequency may be less outside these hours			
Achieving speed and reliability	Dedicated Right of Way	Priority measures	Some priority measures	Generally no priority measures
In addition, there will be some targeted services such as peak-only, school, rural and other single-destination services with frequency and service span determined by demand.				

Source: Auckland Regional Public Transport Plan, 2015.

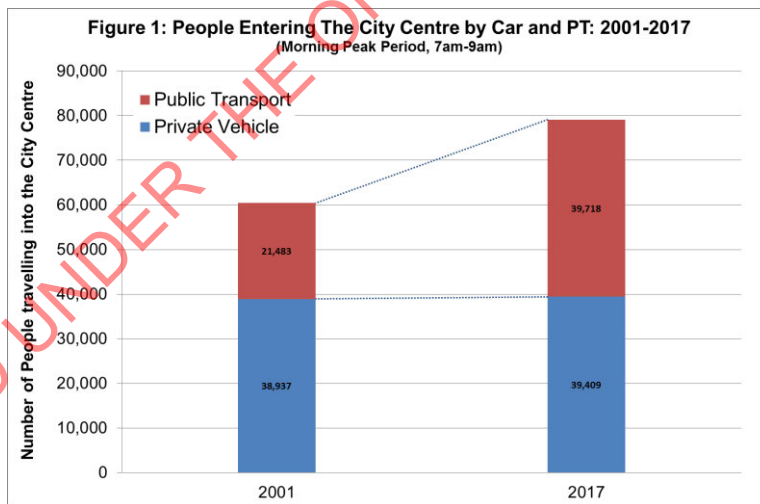
3. Auckland's current rapid transit network (RTN) comprises the Northern Busway and passenger rail network. The Northern Busway was completed in 2008 and the electrification of the passenger rail network was completed in 2015, between Swanson and Papakura. The only non-electrified section is between Papakura and Pukekohe, which is operated by diesel shuttle services requiring passengers to transfer to electrified services at Papakura. This has been identified as a priority for electrification.
4. Patronage growth on the RTN has largely exceeded expectations. Table 1 below summarises public transport patronage growth up to September 2017. It is worth noting that growth in public transport trips is slower than growth in patronage (boardings) due to the increased number of transfers occurring.

Table 1: Patronage Growth on Auckland's Public Transport Network - September 2017

Mode	Annual Patronage - September 2017 (m)	% Growth over previous year
Rail	20.2	16.1%
Northern Busway	5.1	16.7%
Sub-Total Rapid Transit Network	25.3	16.2%
Frequent Transit Services	11.5	n/a
Local and Connector Services	53.2	3.6%
Total Patronage	90.0	7.0%

Source: Auckland Transport (note annual growth for the Frequent Transit services not reported - not been measured for a full year)

- Table 1 shows that the significant investment by Auckland and the Crown into the RTN is delivering the highest growth of all public transport services (over 16% vs 7% for the whole network) - often ahead of forecast growth. The 2009 business case for the current 57 Electric Multiple Unit (EMU) fleet projected that by 2017 annual patronage would be 17.5 million, whereas actual observed demand is currently 20.2 million. To meet this accelerated demand, Auckland is purchasing 15 3-car EMU sets 2-3 years earlier than originally programmed at a cost of \$133 million. The Transport Agency is supporting this and is co-investing \$67.8 million (51%) of the \$133 million total cost.
- The RTN delivers the highest decongestion benefits of all public transport networks largely because it offers congestion free travel to all centres along its routes, and especially the fast



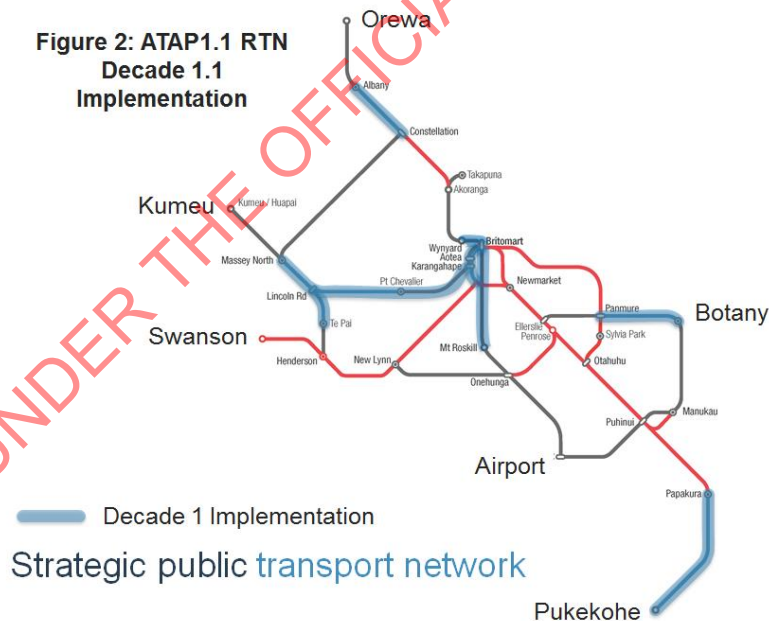
growing Central City which is connected by all RTN routes and by the most congested motorways in the country.

- Figure 1 shows that since 2001 the number of people travelling in to the City Centre during the morning peak period has increased by about 20,000 people, almost all of which has been on public transport. Of the 20,000 additional peak person trips by public transport, over 80% has been on the RTN.
- The main conclusions from current performance of the RTN are that:

- It is delivering patronage and decongestion benefits - often ahead of business case projections;
- It is exceptionally popular with customers;
- It is providing resilience benefits to the national State highway network and is essential to ensuring that benefits of investment in State highways is achieved;
- It provides transport system capacity as required by Auckland's rapid population and economic growth;
- Continued and accelerated investment in the RTN is justified in parts of the network; and
- It is important to ensure that best use is made of existing capacity.

ATAP and ATAP1.1 Rapid Transit proposals

9. The Auckland Transport Alignment Project (ATAP) was considered by Central Government and supported by Auckland Council in October 2016 and, due to faster than anticipated growth in Auckland, updated in July 2017 (ATAP1.1). A key success of ATAP and ATAP1.1 was to get alignment on the RTN for Auckland - the "Strategic Public Transport Network" shown in Figure 2 below. Due to faster than projected population growth, ATAP1.1 brought some components of key RTN projects forward - notably the "isthmus mass transit" from the City Centre to Mount Roskill.
10. Figure 2 shows the RTN network ATAP1.1 identified as needed to be completed in the first decade (i.e. by 2028).



11. The current status of the ATAP RTN corridors is shown in Table 2, together with an assessment of alignment between the ATAP proposed programme and the emerging Government priorities as contained in the Coalition Agreement, the Confidence and Supply Agreement and the election manifestos.

Table 2: Current Status of ATAP RTN Corridors

Corridor	Current Status	Mode	Estimated Cost	Alignment with Emerging Government RTN priorities
North – including Harbour Crossing	AT preliminary assessment is that current busway likely to run out of capacity by early 2030. AT preparing Programme Business case. Completion estimated end 2017. ATAP recommends construction in 3 rd decade – after 2036.	To be determined by business case – LRT / advanced bus.	To be determined by business case.	Timing not aligned. Emerging priority is North Shore RTN construction begins after 10 years.
North West – City to Westgate	AT is completing Indicative Business Case with NZTA participation. Completion estimated end 2017. Identified as first decade priority. Discussions with AT indicate busway preferred as can be delivered in the first decade for approx [REDACTED] less than LRT as it can be staged.	Staged Busway is emerging preferred option.	Total cost of busway is [REDACTED]. In first decade a staged busway can be delivered for [REDACTED]. LRT implementation cost [REDACTED] – limited staging opportunities.	Mode not aligned and timing partially aligned. Emerging priority is LRT to be constructed within 10 years – with construction start within 3 years. Withheld under sections 9(2)(f)(iv) and 9(2)(j)
Airport to City	AT and NZTA completing "progression" business case and route protection. Progression triggers completed end 2018, [REDACTED] Withheld under section 9(2)(f)(iv)	Immediate bus improvements, then Advanced Bus progressing to LRT determined by demand triggers being met.	[REDACTED] (LRT) v \$1.2bn (advanced bus – these costs have not been developed to the same level of detail as the LRT costs and are being confirmed in the business case)*	Mode not aligned timing partially aligned. Emerging priority is for LRT and construction to begin within 3 years. Withheld under sections 9(2)(f)(iv) and 9(2)(j)
Pukekohe to Papakura	KiwiRail completing assessment of construction feasibility and timing by November 2017. ATAP identifies as a first decade priority.	EMU unless delayed construction past 2025/27 then IPEMU. Decision needs to be made end 2017.	[REDACTED] excluding stations.	Aligned Withheld under sections 9(2)(f)(iv) and 9(2)(j)
AMETI	AT completing NoR for Panmure to Pakuranga. AT completing business case Botany to Pakuranga.	Busway	[REDACTED] (including Reeves Road Flyover – part of busway design).	Aligned – Reeves Road component to be determined
Airport to Botany	AT implementing higher frequency services to Manuka by December this year, and likely to include [REDACTED] for Puhinui station upgrade. AT released RfT for Indicative Business Case for busway to Botany. Currently programmed for second decade – post 2028. Withheld under sections 9(2)(f)(iv) and 9(2)(j)	Immediate bus improvements upgraded to busway post 2028.	To be determined by Business Case.	Mode aligned, timing partially aligned. Emerging priority for immediate bus service improvements to Puhinui and Manukau and upgraded Puhinui station within 3 years followed by busway/bus lanes on SH20B to Botany in 10 years.
City Rail Link	Under construction	Passenger rail	~\$3bn	Aligned

Estimates to be confirmed by business case

12. Table 2 shows that there are some corridors where ATAP and the emerging Government priorities are aligned, such as electrification to Pukekohe, but in other corridors there are differences in both the timing of delivery and the preferred mode. These include:

Timing:

- Northern Corridor - ATAP implementation of an upgraded RTN system post 2038; the emerging priority is to begin construction in the second decade.
- North Western Corridor - ATAP construction completed within the next 10 years; the emerging priority is to begin within the next 4 years.
- City to Mount Roskill - ATAP construction completed within 10 years; the emerging priority is construction start within the current Government term.
- Mount Roskill to Airport - ATAP construction start post 2028 - emerging priority construction complete within 10 years.
- Airport to Botany corridor - ATAP construction post 2028; emerging priority construction in next 10 years.

Mode:

- North Western Corridor - ATAP busway; the emerging priority LRT.
- Airport to City - ATAP progression from advanced bus on busway to LRT; emerging priority LRT.

13. The transport industry is evolving quickly with new technology being developed, effectively narrowing the differences between the levels of service and capacity that LRT and bus solutions provide. Joint work completed by the Transport Agency and Auckland Transport (the Advanced Bus Study - ABS) examined bus based options for the airport to City corridor with consideration of current and emerging technologies that can practically be applied in an Auckland context. The ABS provided a valuable contribution to what could be a credible bus based mass transit option which merits further investigation and could form an intermediary progression from the current bus based system to a long term solution (i.e. light rail). It demonstrated that:

- An Advanced Bus option has the potential to deliver on forecast demand (to 2046), depending on the rate of growth;
- Fit for future bus based propulsion systems, with good amenity, layout, aesthetics and technology is viable;
- That a bus based system can be flexible and has the potential for incremental benefit and there are opportunities for staging and phasing across the isthmus and to the airport; and
- There are opportunities for good urban form outcomes-case studies demonstrate induced land use development (e.g. Health line - Cleveland).

14. These technologies have the potential to deliver LRT performance at lower cost due to less track and fewer overhead infrastructure requirements - an example of a bus based technology currently being tested in China is shown below. Before finalising the preferred mode, the proven ability of these systems to deliver similar levels of service at significantly lower cost should be confirmed.



Withheld under section 9(2)(f)(iv)

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