

Memorandum

To: Albert-Eden Local Board
From: Auckland Transport
Date: 13 July 2017
Subject: Airport Access

Purpose

1. The purpose of this memo is to respond to a number of enquiries received by Auckland Transport regarding the decision to discount a heavy rail option as a mass transit solution between the airport and the city centre. This memo will illustrate additional reasons, other than the value for money rationale that has been provided to date.
2. In addition, the memo will clarify the process, the steps taken and the studies and factors that contributed to the decision made by AT and the NZ Transport Agency.

Executive summary

3. Auckland Transport is progressing a business case for route protection for mass transit for the airport to city centre corridor. The two modes being investigated for this route are bus and light rail transit (LRT). Studies to date have concluded the benefits of an LRT system outweigh the benefits of heavy rail.
The context for this discussion are the numerous studies that have contributed to the decision-making process regarding mass transit to the airport; the key study regarding heavy rail being the South-Western Multi-modal Airport Rapid Transit study (SMART), after which the heavy rail option was discounted.

Recommendations

That the Board:

- i. receives this memo.
- ii. acknowledges the rationale for heavy rail being discounted as the optimum mass transit solution for the Airport to City Centre corridor.

Comments

4. Attachment A illustrates the walk-up catchment unlocked by each option. The location of new stations along the route would provide 51,700 residents with access to the strategic public transport network on LRT and 3,100 on heavy rail.
5. Attachment B is the resolution passed at the AT board meeting in June 2016 where the board resolved "***That Management discount heavy rail to the airport from any further option development due to its poor value for money proposition***"

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6. Attachment C illustrates the progression path from current bus services to LRT agreed to by the Auckland Transport and NZ Transport Agency boards in March 2017 and the next steps for the project.
7. A key factor in the decision to discount heavy rail was value for money. The cost estimate and Benefit Cost Ratio (BCR) of each option at the time of the SMART study analysis are as follows:
 - Heavy rail BCR = 0.37-0.64
 - Heavy rail cost estimate = \$2.6-\$3 billion
 - Light rail BCR = >1
 - Light rail cost estimate = \$2.5-\$3 billion
8. The cost was similar between a heavy rail option for the section from Onehunga to the airport and an LRT line for the route from the city centre to the airport. It was concluded that an LRT option would be accessible to more people than heavy rail and the benefits would be more widespread (including relieving the bus congestion in the city centre).
9. Generally, the high cost of the heavy rail option was due to the number of structures that it would require in areas such as along SH20. The impact of this mode on property and business would require it to be elevated, which signifies high capital cost. At the airport, a heavy rail option would require tunnelling to the planned terminal that is part of the Auckland Airport Masterplan.
10. Investing in a heavy rail line from Onehunga to the Airport would offer a number of benefits, but would not solve the bus congestion problems in the city centre or on Dominion Road – one of the busiest public transport corridors in the country.
11. Investment in an LRT line from the airport to Wynyard Quarter, would address the bus congestion issue, bring connectivity through the city and south west, address the public transport issues in Wynyard Quarter, and enable housing development and town centre improvements along the route at a similar cost.
12. The LRT route through Dominion Road and into the city achieves more benefits than a heavy rail option, adding additional capacity to the current network. This means that into the future, the resilience of the network can grow and services can be further improved and optimised to service the southern growth areas and east to Botany in the longer term. LRT provides a supportive service to the existing network, which means that the pressure and strain is spread across services, and the network resilience is retained.
13. The LRT option would support the Auckland Transport Alignment Project (ATAP) Strategic Public Transport Network and provides a one seat journey from the airport to the city.
14. It has been acknowledged by Auckland Council and Auckland Transport through ATAP and in addition Kiwirail, that the Southern line through Wiri and into Manukau is under pressure with all of the services coming through, which include freight.
15. Adding extra services in order to service the airport limits the future possibility to increase passenger train services to Papakura, Pukekohe or south in the future to Hamilton due to overloading the network.
16. If the southern heavy rail line was to be used to service the airport, the resilience of the network as a whole would be compromised. The reliance on one service line to

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the airport would mean that in the case of an incident on that line, the effect would be more widespread than if there was a supplementary network that could take some of the passenger load. For example, in the case of an accident on the line, the operators have a statutory obligation to halt all services until resolution is reached. If the rail line was the only option for frequent and reliable access to the airport, the effect of any such incident would cause major disruption across the network.

17. There is high cost involved in making the Onehunga line a feasible option for heavy rail. It would require double tracking, removal of a number of level crossings, relocation of the Onehunga station and a larger number of structures.
18. There is a limit to the service levels of heavy rail because of the number of services already running on the rail network. Heavy rail and LRT provide similar levels of capacity into the future, but LRT has the added advantage of doing that by running more frequently than the heavy rail option.
19. Additional information regarding rail to the airport can be found in the minutes from the 4 July 2017 Planning Committee meeting at the following link:

http://infocouncil.aucklandcouncil.govt.nz/Open/2017/07/PLA_20170704_ATT_6723_PLANS.PDF

Summary

- Bus congestion and terminal space in city centre major constraints and not addressed by heavy rail
- Heavy rail provides less network resilience and operational constraints limit its capacity
- Mass transit on the airport to city corridor via Dominion Road is a supplementary service to the rail network and therefore increases the resilience of the network
- Both options can provide a one seat ride to the city centre
- Dominion Road corridor offers service benefits for the whole isthmus and addresses access issues at each end of the corridor
- Heavy rail access to Manukau from the airport via Puhinui has a number of operational constraints that reduce its benefits – overloading, sharing with freight, – for one extra station – no further catchment opened up
- City centre bus congestion remains a problem under heavy rail
- Both options cost the same but LRT has higher benefits – accessibility, connectivity, catchment, housing and development potential
- LRT serves the isthmus
- LRT provides resilience to the strategic network – more corridors / more modes

Next steps

20. The progress of the Airport to City Centre project is illustrated in Attachment C. The NZTA and AT boards have agreed to progress to LRT, with the next steps being three business cases for route protection:
21. Airport to city centre business case for route protection – will include analysis of how and when to transition between modes, with a possible transition to bus rapid transit before introducing an LRT system, and a full understanding of implementation staging and the operational impacts of the options.

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22. Southern and eastern access business case for route protection – will include mass transit from Auckland Airport to Botany via Manukau with bus to LRT transition and implementation staging, including staged additional capacity on SH20B and SH20 and a new southbound link from SH20A to SH20.
23. Improving short and medium term airport access – investigation to further refine the public transport and road infrastructure requirements to support the already identified short and medium term public transport improvements.

Signatories

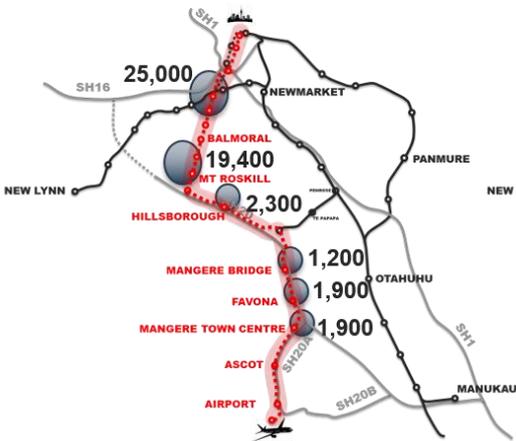
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Attachments

No.	Title	Page
A	Benefits of LRT and heavy rail to Aucklanders	
B	Auckland Transport Board resolution	
C	Progression pathway	

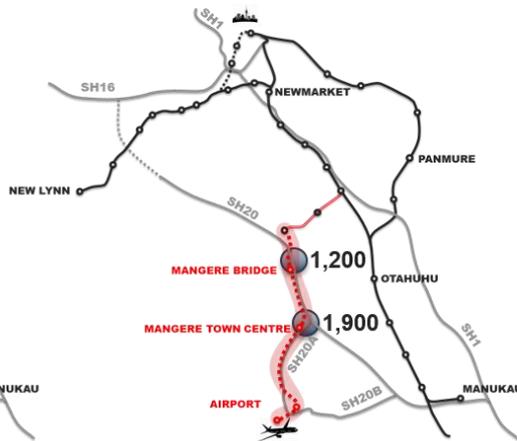
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Attachment A – Benefits of LRT and heavy rail to Aucklanders



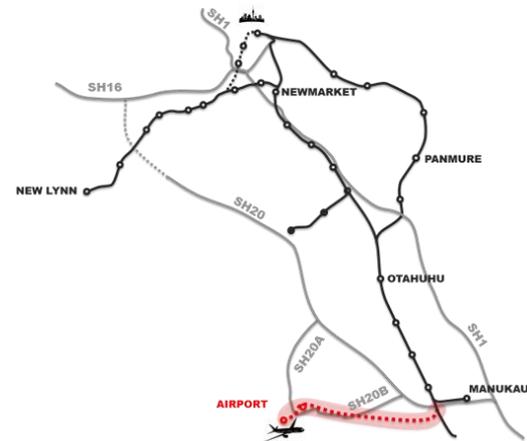
LRT

Walk-up catchment to the strategic network for **51,700** additional residents



HR (northern option)

Walk-up catchment to the strategic network for **3,100** additional residents



HR (eastern option)

No additional residents gain walk-up catchment to the strategic network

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Attachment B – Board resolution

Resolution from 27 June 2016 AT Board Closed session, the report was released to media after the Board meeting and the full report was placed on the website on 28 June 2016.

11.6 South Western Multi Modal Airport Rapid Transit (SMART)

The Chairman reinforced the need for the strictest board confidentiality due to confidential information being released to the media. **For the reader, please note this point was made to be complementary with the final point of this minute.**

The Chief Executive provided some background information as follows:

AT was primarily looking at a new mode and finance implications to ensure the selection of the most appropriate mode to meet the requirements of the Isthmus and ultimately the South East and North in terms of the next phase of volume management within the road corridor.

Work was currently being undertaken with professional technical advisors on potentially emerging technology eg. Pontooning guided driverless buses.

There was a question in relation to progressing Dominion Road and light rail. It was noted that within the light rail scenario AT were investigating a mix and match of LRT on Dominion and double decker buses on Mt Eden and Sandringham roads, this is work in the early stages of modelling.

Director Mike Lee expressed concern and requested that AT should not foreclose on heavy rail.

The Chief Strategy Officer outlined ATAP's preferred options.

That the Board resolves the following:

- i. That Management discount heavy rail to the airport from any further option development due to its poor value for money proposition;***
- ii. Instructs Management to:***
 - a. Develop a bus based high capacity mode to the same level of detail as the LRT option to allow a value for money comparison with the LRT option and submit this to ATAP for consideration;***
 - b. Refine the LRT option further to address the high risk issues as articulated in this paper;***
 - c. Report back to the Board on the findings of the bus based high capacity mode and LRT comparison.***
 - d. Progress with route protection for bus / light rail, not heavy rail;***
 - e. Align the SMART and CAP business cases to enable the consideration of an integrated public transport system between the city centre and the airport***
 - f. Progress the business case development of the RTN route between Botany, Manukau and the airport and align this with NZTA's business case development for SH20B.***

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(Rabin Rabindran / Ian Parton) – Carried

Director Mike Lee requested that his vote against the motion be recorded.

It was noted that due to public interest this item will be released to the public subject to agreement from the all stakeholders (ATAP and NZTA).

Directors in attendance during the meeting were : Dr Lester Levy – Chairman, Paul Lockey – Deputy Chairman, Dr Ian Parton, Mark Gilbert, Mike Lee, Christine Fletcher, Rabin Rabindran, Dame Paula Rebstock, Ernst Zollner, Louise Ward (Board Observer)

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Attachment C – Progression pathway

PROGRESSION PATHWAY

In March, the AT and NZTA boards agreed:

- A staged, integrated transition from bus to LRT will occur over time
- To progress a route protection business case for the Airport to City route, via SH20 and Dominion Rd to Wynyard Quarter
- To progress a business case for the eastern connection from the Airport to Manukau City Centre and Botany
- Short term access improvements to the Auckland Airport – Auckland Council, AT, NZTA, AIAL

