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Auckland Light Rail update

For decision: For noting:

Reason for inclusion in closed board meeting session	
1. Please state why this report is being considered in the closed board meeting as opposed to the open board meeting. Please refer to the 'reasons for confidentiality' and provide a direct reference to one of these reasons.	To protect information that will soon be publicly available.
2. Please provide an estimated date for release of this report.	Post Sponsors decision on Light Rail.

Ngā tūtohunga / Recommendations

That the Auckland Transport Board (board):

- a) Note that the Sponsors of Auckland Light Rail Ltd (ALR Ltd) will be asked at a meeting 31 May 2023 to endorse the preferred route for the City Centre to Mangere line and indicative stations, to allow detailed design work to be finalised ahead of the lodgement of Notices of Requirement in August 2023.
- b) Note that by endorsing the preferred route and stations, the Sponsors (Auckland Council through the Mayor and Councillor Darby, the Crown through the Ministries of Transport, Finance and Housing and mana whenua through Paul Majurey, Karen Wilson and Ngarimu Blair) are implicitly being asked to endorse numerous key project elements, including mode, segregation, tunnel typology and network configuration, which all have implications for Auckland Transport (AT) in the role of proxy operator and asset owner.
- c) Note that a presentation on the project will be provided at the 30 May 2023 board meeting by the ALR Ltd Chief Executive.
- d) Note that management continue to advise Sponsors on relevant matters, including:
 - i. The whole-of-life cost considerations for the proposed system
 - ii. The implications of this project for the wider rapid transit network
 - iii. The need to carefully understand and assess the costs, benefits and differences of a lower-cost comparator option.

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- iv. Strategic considerations, relationships and interactions with other externally led rapid transit network projects impacting the Auckland transport system
- e) Note that management continue to advocate to ALR Ltd for:
 - i. the need to deliver Mt Roskill (Puketapapa) station as a key bus interchange for the wider public transport system;
 - ii. consideration of a station at the Auckland Hospital, as sought by mana whenua and Auckland Council staff;
 - iii. funding principles for enabling works that AT would have to deliver; and
 - iv. AT's ongoing involvement in the project including assurance, disruption management, and operational readiness.

Te whakarāpopototanga matua / Executive Summary

1. ALR Ltd is responsible for advancing the Auckland Light Rail (ALR) project through the Detailed Planning Phase, until a final investment decision is made by Sponsors. AT is the proxy owner and operator for the transport infrastructure elements of the ALR project during this phase, unless and until Sponsors determine the ultimate ownership and operating arrangements. As such, its key responsibilities include advising on key elements which will affect the performance, operations and customer experience of the eventual project. AT has several staff embedded in the ALR project team, as well as in the project's decision-making forum at management level (alongside staff from Auckland Council). AT will also have a role in a Product Owners Forum being established for delegated AT staff to endorse specific design and operations specifications. AT will also have additional approval functions (as asset owner, property owner or road controlling authority) for specific sites as the project is delivered.
2. ALR Ltd seek endorsement from Sponsors at a meeting on 31st May 2023 for the preferred route for the City Centre to Mangere line and indicative stations (see Attachment 1). This will allow detailed design work to be finalised ahead of the lodgement of Notices of Requirement in August 2023. AT management continue to advise Sponsors on relevant matters ahead of these decisions.
3. The selection of the preferred route and stations for this line is a significant milestone for the project and for Auckland more generally, as (once implemented) these will influence land use and travel patterns for decades to come. By endorsing the preferred route and stations, the Sponsors are also being implicitly asked to endorse numerous key project elements, including:
 - Patronage forecasts for the project and overall network (which drives the scale of intervention).
 - Segregation of the service, i.e., completely separate from other modes or activities, through tunnelling, grade separation or fencing.
 - Selection of Light Metro as the mode, as opposed to Light Rail.
 - Network integration (with same mode) with the Waitematā Harbour Connections (WHC) and North-Western Rapid Transit (NWRTN) projects, despite neither of those projects having the same level of project detail.

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- The tunnel typology of a mono-bore tube, rather than twin-bore like City Rail Link (CRL).
4. These decisions will affect how the ALR project will integrate with the rest of the rapid transit network (e.g., interline with the North West and North Shore equivalent projects), as well as having significant implications on the desired performance outcomes for the project, including key transport and customer service outcomes, whole of life costs, long-term ownership and asset management issues.

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Ngā tuinga ō mua / Previous deliberations

Date	Report Title	Key Outcomes
July 2021 Board	ALR – Progress Report	Noting the Establishment Unit’s progress ALR and AT’s involvement.
August 2022 Board	AT’s role and input to ALR project	Endorsing AT’s role as proxy operator, embedding staff in the project and seeking a technical control group.

Te horopaki me te tīaroaro rautaki / Context and strategic alignment

- A Corridor Business Case (CBC) for a new light rail connection between Wynyard Quarter and Auckland Airport is being led by ALR Ltd, established as a company by the Crown in October 2022. Although a transport project, there is a heavy focus on achieving better urban outcomes for Auckland, with urban benefits accounting for most expected project benefits. The corridor links two key employment hubs – the city centre and the airport precinct – running from Wynyard Quarter, connecting to Te Waihorotiu station and the University, then passes south via Dominion Junction, Mount Roskill, Onehunga, and Mangere to the airport terminus.
- Auckland Council is a project sponsor (alongside the Crown) and ‘owns’ the urban outcomes of the project. Under the Project Planning and Funding Agreement (PPFA), AT is to undertake the role of proxy owner and operator for the transport infrastructure elements of the project during the current detailed planning phase, until the sponsors determine the ultimate ownership and operating arrangements for the project. AT is not part of the project delivery governance or decision-making. AT management supports oversight of the project by providing advice to Sponsors on relevant matters through the Sponsors Representatives Forum.
- AT’s interests on the project include advising on the desired performance outcomes for the project, including key transport and customer service outcomes for the project, whole of life costs, long-term ownership and asset management issues. AT will also advise on implications for network integration and the impacts the project will have on AT’s other public transport, walking and cycling and roading networks, as well as advising on the impacts of construction on the existing transport network, how these can be mitigated and the associated cost.

Ngā matapakinga me ngā tātaritanga / Discussion and analysis

- The proposed route is consistent with the previous Cabinet decision on the preferred route for the City Centre to Mangere line and is also consistent with the Auckland Rapid Transit Network Plan (ARTNP). The preferred route will support the original light rail objectives in the Isthmus from when AT initiated the project, including a reduction of bus volumes in the city centre. The preferred route and indicative stations are in the majority consistent with the previous Indicative Business Case (IBC).

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9. The route (see Attachment 1) is proposed to be tunnelled from the city centre to just North of the Wesley station, from where it will run grade-separated alongside the motorway to the airport, with minor deviations at Onehunga and Mangere Town Centre (and the internal airport alignment remains under consideration). There are several issues for AT relating to the proposed route and stations, and these are set out below.
10. The *Mt Roskill (Puketapapa) station* was initially recommended for later delivery (i.e., passive space provision) due to low anticipated patronage and urban development potential. However, AT highlighted that location to is a key bus interchange location, of similar role and importance as the Wesley and Hayr Road station locations, so sought the re-introduction of the station. ALR Ltd has advised the station will be considered as part of the consent design process.
11. There is no station proposed at *Auckland Hospital* despite the alignment passing very close to the site. Due to the anticipated tunnel typology (see later discussion point), future stations are able to be built subsequently without disrupting services (i.e., a station shaft can be sunk and platforms added within the tunnel). It is understood that an additional station would add cost to the project and travel time to many customers, therefore was not included, however AT considers a hospital station to likely be a very popular destination, noting that the location is currently well served by buses but is not on the rapid transit network. Auckland Council staff and mana whenua are supportive of the reconsideration of this station as well, notwithstanding the fact that there is little urban development potential from this location.
12. At *Onehunga*, the recommendation is for the route to follow the motorway past the Onehunga Lagoon and then travel on an elevated structure to a station and then past the existing train station before continuing southward towards the harbour. The ground conditions and shallow depth mean this section through Onehunga cannot be tunnelled. A previous option to utilise the KiwiRail designation to the north of Onehunga has been discounted. While this is not a concern to AT, AT needs to ensure sufficient integration with the wider public transport system at Onehunga.
13. Further work will be required on how the emerging *Mangere town centre* station location can be best sited to support the town centre, given this was a key community expectation and preference. The lodgement of a Notice of Requirement for this section may therefore follow a later timeline than other, more settled parts of the route.
14. AT staff continue to meet with the ALR project team to seek better outcomes from route and station decisions, such as maximising *bus network connectivity*. It is noted that once the Sponsors decide upon the route and stations, significant effort will be put into detailed consent design work to be finalised ahead of the development of Notices of Requirement for lodgement in August. The costs associated with network integration have not yet been discussed with ALR Ltd.
15. The project team has recommended a fully segregated system (*light metro*), primarily due to it providing a greater capacity, frequency and faster travel time than an at-grade system interacting with general traffic (light rail). This will require the service to be in a tunnel, trench or viaduct, or physically fenced off for surface-running sections such as along the motorway. Segregation is agreed to be a key driver for a true Rapid Transit Network solution.
16. Light Metro has the potential to be operated as a driverless system, with minimal staffing requirements. Although this may have an operational cost saving through reduction in staffing requirements, the details and implications of this have not been shared with AT at this

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stage. AT is not a decision-maker on this matter, which will instead be made by Sponsors. Driverless metros have been in operation in the mid 1980's and are a proven technical solution with around 60 systems in operation worldwide. Automation is also consistent with the ARTNP.

17. The project team has recommended a mono-bore tube as the preferred *tunnel typology*, rather than twin-bore approach used by CRL. This approach provides cost savings and allows flexibility for constructing future underground stations (a shaft can be sunk later) and station extensions without disruption (the platforms can be lengthened as needed over time). Future flexibility and the ability for capacity increases is a significant positive factor for the Auckland transport system.
18. As part of a business case requirement, the project team have developed and assessed a *lower cost 'comparator option'* to be taken to a cost benefit analysis, with the emerging preferred option and evaluated relative to the Do Minimum option. This comparator option is understood to be a version of a previous surface-running light rail option. This option has a lower capacity and longer travel time, albeit with lower cost and carbon requirements.
19. There are other externally-led rapid transit network projects underway that will significantly impact the future of the Auckland transport system and therefore AT's future direction. AT plays a key role in integrating the transport system for the benefit of our customers, taking an overview to ensure a seamless system; as an operator of critical services; and a guardian of critical assets for the city. AT currently has no sponsorship role in these projects and its role within the projects vary.
20. Based on the above, AT's advice to Sponsors for the 31 May meeting is focusing on three elements: whole-of-life cost considerations, implications for the wider rapid transit network, the need to consider the proposals against a lower-cost comparator option and ensure AT's role in these projects is commensurate to the potential impact on its ability to effectively discharge its role as the expected owner operator of the public transport infrastructure and its statutory responsibility for the co-ordination, integration, and management of Auckland's transport systems, infrastructure, facilities, and services.

Ngā tūraru matua / Key risks and mitigations

Key Risks	Proposed mitigations
The rapidly progressing project challenges the ability for AT to function as the proxy operator.	AT to continue to seek active involvement in project development, especially through the new Product Owners Forum.
AT's absence from inter-project governance and the network outcome implications.	AT are actively seeking to be part of the planned inter-project governance.

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Ngā ritenga-ā-pūtea me ngā rauemi / Financial and resource impacts

21. Although expected to be primarily funded by Central Government, the project will have substantial financial implications for AT (e.g., costs for ongoing public transport operations, new local network connections for active modes and traffic, etc.).

Ngā whaiwhakaaro ō te taiao me te panonitanga o te āhuarangi / Environment and climate change considerations

22. The project is being assessed on criteria including influencing of land use development and altering of trip patterns, influencing of regional transport emissions and the level of embodied carbon.

Ngā whakaaweawe me ngā whakaaro / Impacts and perspectives

Mana whenua

23. Mana whenua are partners within the ALR project and have been involved in many of the project aspects. Mana whenua views are being included in the assessment of project options.

Ngā mema pōti / Elected members

24. Auckland Council (through the Mayor) is a project Sponsor, alongside the Crown. The ALR project continues to engage with local elected representatives on an ongoing basis.

Ngā rōpū kei raro i te Kaunihera / Council Controlled Organisations

25. The ALR project team have been engaging with both AT and Eke Panuku as part of project development.

Ngā kiritaki / Customers

26. Part of AT's role as proxy operator includes consideration of how the ALR project will achieve desired customer service outcomes.

Ngā whaiwhakaaro haumarū me ngā whaiwhakaaro hauora / Health, safety and wellbeing considerations

27. There are no health and safety considerations with this matter.

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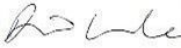



Ā muri ake nei / Next steps

28. AT staff will continue to work with the ALR project team in the finalising of their preferred design elements and continue to advocate for the matters highlighted in this report. AT will also continue to provide advice to Sponsors throughout further decision-making on the project.

Ngā whakapiringa / Attachments

Attachment number	Description
1	ALR route and station overview

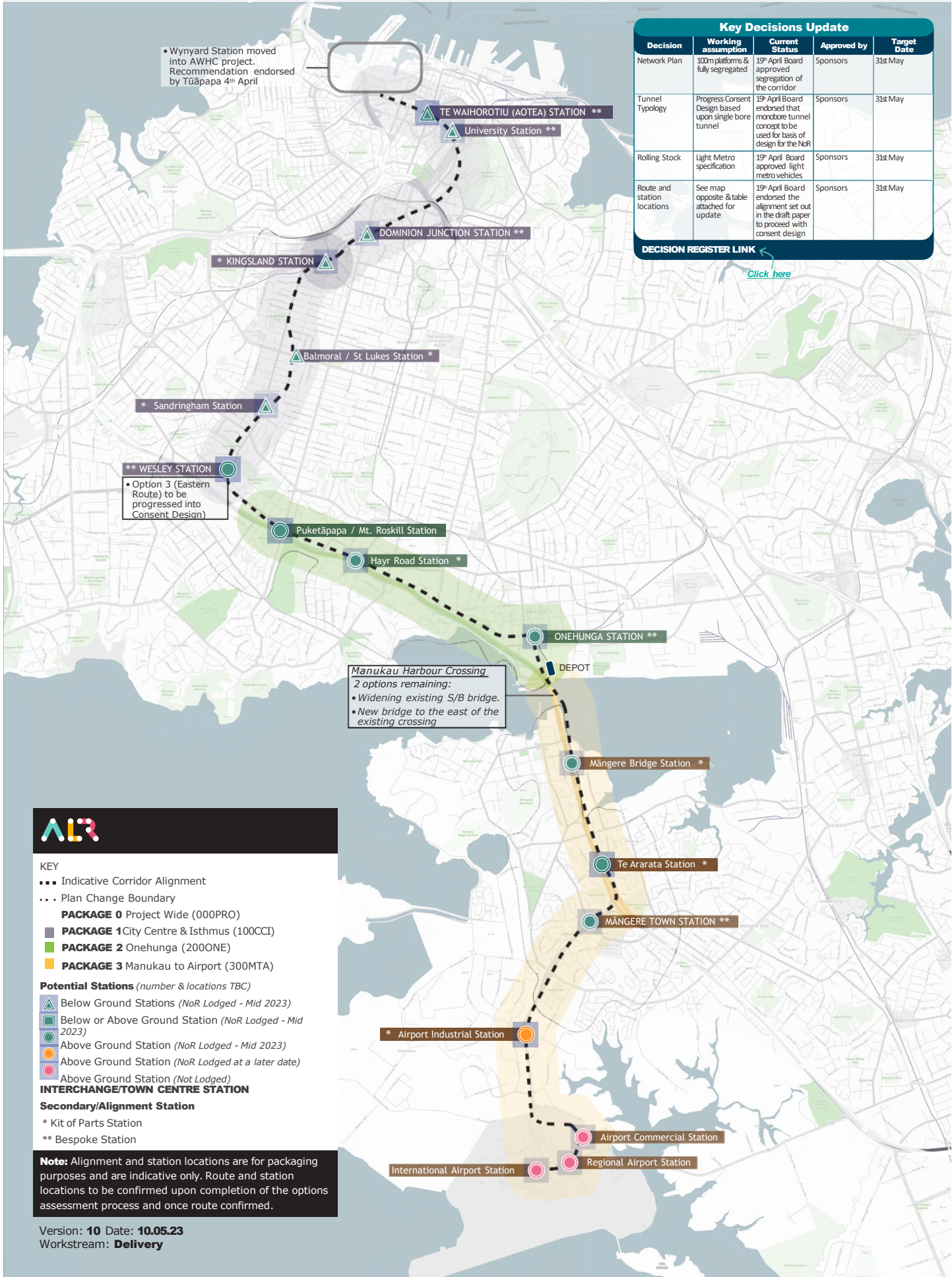
Te pou whenua tuhinga / Document ownership

Submitted by	Daniel Newcombe Auckland Light Rail, Northwest & Waitematā Harbour Connections Development Director	
	Christian Messelyn Group Manager Public Transport Development	
Recommended by	Mark Lambert Executive General Manager Integrated Networks	
Approved for submission	Mark Laing Acting Chief Executive	



WEEKLY UPDATE - 10TH MAY

ATTACHMENT 1



Key Decisions Update				
Decision	Working assumption	Current Status	Approved by	Target Date
Network Plan	100m platforms & fully segregated	19 th April Board approved segregation of the corridor	Sponsors	31st May
Tunnel Typology	Progress Consent Design based upon single bore tunnel	19 th April Board endorsed that monobore tunnel concept to be used for basis of design for the NoR	Sponsors	31st May
Rolling Stock	Light Metro specification	19 th April Board approved light metro vehicles	Sponsors	31st May
Route and station locations	See map opposite & table attached for update	19 th April Board endorsed the alignment set out in the draft paper to proceed with consent design	Sponsors	31st May

DECISION REGISTER LINK

[Click here](#)

KEY

- Indicative Corridor Alignment
- ... Plan Change Boundary
- PACKAGE 0** Project Wide (000PRO)
- PACKAGE 1** City Centre & Isthmus (100CCI)
- PACKAGE 2** Onehunga (200ONE)
- PACKAGE 3** Manukau to Airport (300MTA)

Potential Stations (number & locations TBC)

- △ Below Ground Stations (NoR Lodged - Mid 2023)
- ◻ Below or Above Ground Station (NoR Lodged - Mid 2023)
- Above Ground Station (NoR Lodged - Mid 2023)
- Above Ground Station (NoR Lodged at a later date)
- Above Ground Station (Not Lodged)

INTERCHANGE/TOWN CENTRE STATION

Secondary/Alignment Station

- * Kit of Parts Station
- ** Bespoke Station

Note: Alignment and station locations are for packaging purposes and are indicative only. Route and station locations to be confirmed upon completion of the options assessment process and once route confirmed.

Version: 10 Date: 10.05.23
Workstream: Delivery