

Te Tupu Ngātahi Supporting Growth Alliance – Takanini Level Crossings Route Protection Detailed Business Case

For decision: For noting:

Ngā tūtohunga / Recommendations

That the Auckland Transport (AT) Board (board), subject to being satisfied that the concerns of Takanini Village Limited have been appropriately considered:

- a) Approves the Takanini Level Crossings Route Protection Detailed Business Case (DBC) proposing:
 - i. Three new multi-modal grade separated bridge crossings, two new active mode grade separated bridge crossings and two consequential road closures, to support the planned rail upgrades and, critically, to unlock the constraints in the southern network required to maximise capacity of the City Rail Link (CRL).
 - ii. Route protection of the recommended option and the release of \$7.3 million from the approved Supporting Growth Alliance (SGA) budget for the post-lodgement activities associated with lodging Notices of Requirement (NoRs). This is also subject to Waka Kotahi New Zealand Transport Agency (Waka Kotahi) Board approval of funding to progress to post-lodgement.
 - iii. That funding is subject to the investment being prioritised within approved budgets.
- b) Notes that early property acquisition risk is estimated between \$21-56 million (P50 un-escalated). This will be accommodated within the draft Regional Land Transport Plan (RLTP) 2024-34 within an overall provision for “Property for route protection and encroachments”.
- c) Notes that the final design, cost and timing of the solutions for each crossing will be determined via the Auckland Level Crossings Single Stage Business Case (SSBC) which is due in late 2023.

Te whakarāpopototanga matua / Executive summary

1. Full operation of the CRL and KiwiRail’s proposed four tracking of the main rail line will significantly increase passenger rail movements and, crucially, necessitate level crossing removals and closures for safety reasons and to manage adverse impact on road users.
2. The Auckland Rail Programme Business Case (PBC) and the Auckland Level Crossings SSBC, currently underway, will confirm the detailed solutions, implementation staging, and cost for all level crossings across Auckland. This work has identified the four level crossings in Takanini as a significant constraint to enabling capacity of the CRL and Auckland’s passenger rail network in the south, which is forecasting high growth. Accordingly, they are deemed critical priorities and should proceed first.

3. Te Tupu Ngātahi SGA (Te Tupu Ngātahi) has completed the Takanini Level Crossings Route Protection DBC to support changes to four existing level crossings in Takanini and one new crossing. Three new multi-modal grade separated bridge crossings, two new active mode grade separated bridge crossings and two consequential road closures are recommended at a cost \$436 million (P50) to \$647 million (P95), of which \$144 million is associated with property purchase.
4. The DBC recommends route protection at a cost of \$7.3m, which is included in the Te Tupu Ngātahi budget approved by the board in October 2019. If approved, Notices of Requirement (NoRs) are planned to be lodged in mid-2023, followed by public notification and a hearing. Route protection is a key step towards delivery, it protects the land while allowing detailed investigations, design and land acquisitions to progress should the Takanini Level Crossing projects(s) be approved funding as part of the SSBC prioritisation.
5. Papakura Local Board has supported the proposal. There is opposition from parts of the community (i.e., Takanini Business Association and Mr Wallace - Takanini Village Limited) about the impacts of closing some level crossings to traffic and preference for an underpass rather than bridge option for grade separation due to visual impact and urban design reasons. Councillors and local Members of Parliament have also raised these concerns on behalf of Mr Wallace and sought deferment of the recommended option and further investigation of underpasses.
6. The key risks inherent in this work relate to uncertainty over the Joint Transport Plan outcomes and alignment with the PBC / SSBC work. All of these workstream have been consulted and the SSBC work remains a priority over the next decade. Route protection carries an early property acquisition risk, which is estimated at \$21-56 million (P50 un-escalated) and is provisioned for in the draft RLTP 2024-34 under and overall “Property for route protection and encroachments” line item.

Ngā tuhinga ō mua / Previous deliberations

Date	Report Title	Key Outcomes
February 2019 Board	Supporting Growth – Preferred networks and next steps	The board approved the Indicative Strategic Transport Network and to progress to the next stages including DBCs to lodgement of NoRs for route protection.
October 2019 Board	Supporting Growth – Amended Programme Alliance Agreement	The board approved Target Cost Estimate Two (TCE2) for the programme. This includes the Takanini Level Crossings DBC and route protection.
June 2020 Board	Level Crossings Removal Programme	The board noted the status of the Level Crossing Removal Programme.
May 2023 Design and Delivery Committee (committee)	Takanini Level Crossings Route Protection Detailed Business Case	The committee noted the wider Auckland level crossings programme update and its importance to the CRL and other planned rail investment. The committee was uncomfortable making a recommendation without first hearing the concerns of Takanini Village Limited.

Te horopaki me te tīaroaro rautaki / Context and strategic alignment

7. Te Tupu Ngātahi has the objective of investigating and route protecting the strategic transport networks required to support future urban growth areas over a 30 year plus time horizon. The future urban growth areas are as identified in Auckland Council's Auckland Plan, Future Urban Land Supply Strategy (FULSS) and Unitary Plan.
8. The FULSS identifies the South of Auckland (the South) as making up the largest proportion of future urban growth in Auckland (45%) with Takanini expected to provide for 5,900 new dwellings, 12,300 new jobs and 13,900 additional people over the next 30+ years (see Attachment 1). There is increasing development pressures in Takanini resulting from the recent Mixed Density Residential Standards (Plan Change 78), which could enable higher density developments to be built in the existing urban area as a permitted activity under the Unitary Plan.
9. Auckland Council is preparing its draft Future Development Strategy (FDS) as part of the Auckland Plan review, which will be publicly notified in June 2023 for feedback. It is understood the draft FDS will identify a reduction in some of the future growth areas impacted by flood plains, but the South will remain an integral part of the draft FDS and Auckland's largest future urban growth area. The FDS will have no impacts on growth in Takanini's existing urban areas.
10. The City Rail Link (CRL) project will double the capacity of the rail network resulting in improved travel options and journey times to the CBD and across Auckland. To enable this capacity, constraints on the wider rail network need to be addressed. This includes four level crossing in Takanini, which due to safety and adverse impacts on road users cannot be managed through barrier downtimes or road closures. Grade separation will enable increased capacity south of Takanini and support the significant forecast growth in Papakura, Drury and Pukekohe.
11. Several intersecting business cases are underway to determine the future transport system investment needs in this area including:
 - a. Auckland Rail PBC – investigates what is needed to support Auckland's growth, public transport mode shift and climate change outcomes for passenger, interregional passenger and freight rail perspective.
 - b. Auckland Level Crossings SSBC – prioritises the level crossing constraints across the rail network identified in the PBC, and investigates the detailed solution, implementation staging and cost of all level crossings across Auckland.
 - c. Te Tupu Ngātahi Takanini Crossing DBC – investigates the Takanini level crossings removals and grade separations required to operate the CRL and four tracking of the railway line and recommends the next step of route protection. This DBC is ahead of the other two business cases has been reviewed by the PBC and SSBC teams and will be incorporated into their work.
12. Each business cases recognises the importance of rail as the key rapid transit mode serving the South and the need for level crossing constraints to be managed to ensure the benefits of the CRL and four tracking of the rail network are realised. The removal of the Takanini Level crossings is identified as a high priority in all of these business cases.
13. The Manurewa Takanini Papakura Area Plan 2017 sets out Auckland Council's and the Local Board's urban vision for the area over the next 30 years. It also recognises that the Takanini Level Crossings as essential transport projects for the area. Other projects are also identified in

the plan and the majority of those are completed or underway. There has also been local interest in a proposal to investigate and deliver a new station location in Takanini Station, which is not part of the Takanini Level Crossings DBC or a priority for AT at this time.

14. The Mayor's Letter of Expectation for the Statement of Intent 2023-2026 requests that AT to adopt a one network approach to planning future infrastructure and to incorporate a high level of community engagement and decision-making. The Takanini Level Crossings have an extensive history of engagement over the seven years of Te Tupu Ngātahi and are supported by the Papakura Local Board.

Ngā matapakinga me ngā tātaritanga / Discussion and analysis

15. The Takanini Level Crossing DBC recommends changes to five level crossings in Takanini and that AT lodges NoRs to protect the land required for the delivery of the those upgrades and road closures.
16. The recommended option is:
- Replacement of the existing level crossings at Taka Street and Walters Road with new multi-modal grade-separated bridges
 - Replacement of the existing level crossings at Manuroa Road and Spartan Road with new grade-separated walking and cycling bridges
 - A new multi-modal grade separated bridge connection between Manuia Road and Oakleigh Avenue as replacement for Spartan Road and Manuroa Road closures to vehicle traffic.
17. The timing for implementation of each crossing will be confirmed within the SSBC, currently under development and expected to be completed in late 2023 for board approval. The proposed level crossing works are considered dependent investments for the CRL project. If these crossings do not proceed, the capacity limitations will remain on the rail network and the benefits that justified the CRL investment cannot realised as planned. The project has been included in the redevelopment of the RLTP and in the Joint Transport Plan.
18. The total cost of the recommended network is \$436 million (P50) to \$647 million (P95), of which \$144 million is associated with property purchase. The likely Benefit-Cost-Ratio (BCR) is estimated to be 2.7. These costs are currently being peer reviewed due to the challenging ground conditions. Value for money could increase further at the implementation stage through refinement of design and any opportunities to reduce property acquisition.
19. The recommended option was assessed against other options as part of the multi-criteria analysis (MCA) process. The purpose of an MCA is to objectively score the options against different considerations to identify the best option. In summary, the recommended option was the highest scoring for the following reasons:
- Network resilience and mode choice – multi-modal and active modes connections in locations that supports access to Takanini town centre, industrial areas and rail stations through the existing and planned bus, active mode and freight networks.
 - Safety – provision of safe multi-modal facilities aligning with AT's Vision Zero and Crime Prevention Through Environmental Design principles. Bridges are considered a safer than underpasses for active modes users.

- c. Groundwater and natural hazards – bridges have reduced impacts on ground water flow, settlement of and impacts on land. Bridges are more resilient in high rainfall and flood events.
 - d. Construction impacts – bridges minimise impacts on the existing and planned rail network. An underpass option would result in either the closure of the railway line during construction or relocation of the rail line with greater land and settlement impacts.
 - e. Cost / risk – bridges represent better value for money than an underpass option. In addition to the above issues, and underpass would be below the groundwater table (i.e., buoyant) and need anchoring.
 - f. Urban design and community feedback – underpasses have reduced visual impacts and the feedback received from the community preferred underpass due to this and loss of business viability. Overall, bridges scored higher than underpasses (see Attachment 4).
20. The DBC recommends route protection of the recommended option now due to the higher risk of buildout because of the Mixed Density Residential Standards (Plan Change 78), which could enable higher density developments in the existing urban area as a permitted activity. The brownfield location of the preferred options and proximity to Takanini centre and train stations increases this risk. Route protection will provide certainty to landowners, ensures better land use transport outcomes, and help secure the future pipeline of investment.

Ngā tūraru matua / Key risks and mitigations

Key risk	Mitigation
The Joint Transport Plan and RLTP does not prioritise or allocate sufficient funding to complete the level crossings and grade separation in the required time frame resulting in the inability to realise the benefits that justified the CRL.	Advocate with local and central government for additional funding to deliver dependent investments resulting from investment decision outside of AT's control.
Inconsistent conclusions between the Auckland Level Crossings SSBC and the Takanini Level Crossings DBC relating to required scope, timings and cost for the crossings and grade separation result in the NoRs being ineffective.	The Auckland Level Crossing SSBC team has been actively engaged in the development of the recommended solutions. The NoR protects land to enable delivery of the recommended option and there is the ability to change the designation boundary should this be needed later. This is not anticipated as being necessary though.

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

21. The costs for post lodgement activities for the Takanini Level Crossings route protection are estimated at \$7.3m including AT overheads and Council fees. This was in the overall budget for Te Tupu Ngātahi, which was approved by the board in October 2019.

22. The RLTP 2021-31 allocates \$320 million for all level crossings across Auckland inclusive of \$200 million for CRL day 1 works. This figure has been submitted as part of the draft RLTP 2024-34 and Joint Transport Plan.

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

23. Modelling identifies there will be an emissions reduction of 7,090 tonnes per year and 182,800 tonnes reduction over 40 years compared to the baseline network. Route protecting the project further contributes to emission reductions by enabling improved rail service, improved safety for all users including walking and cycling thus increasing the attractiveness of these modes leading to positive mode shift. The projects could result in a daily reduction of 134,900 vehicles kilometres travelled.
24. The level crossing upgrades will have positive contributions to the following Transport Emissions Reduction Plan (TERP) outcomes through a reduction of reliance on cars and supporting people to walk, cycle and catch public transport; and facilitating work to begin to decarbonise heavy transport and freight.
25. The details of the exact contribution to TERP will be determined with the final design as part of the Auckland Level Crossings SSBC.

Ngā whakaaweawe me ngā whakaaro / Impacts and perspectives

Mana whenua

26. Mana whenua are a partner of Te Tupu Ngātahi and continue to be engaged with through monthly hui. Representatives have provided inputs throughout the project including the optioneering process. They acknowledge that something must be done with the existing level crossings but note the visual amenity of the bridge option was a key concern.

Ngā mema pōti / Elected members

27. There is a high level of awareness by elected members and local boards since establishment of SGA. SGA has regularly presented to local boards, outlining the preferred options and updating on the consultation and engagement results. The Papakura Local Board gave their support for the proposed level crossings option ahead on last year's election.
28. A meeting was also chaired by Member of Parliament Dr Leavasa and attended by Papakura Ward Councillors Dalton and Newman, Takanini Business Association chair, Mr Holmes (now on the Franklin Local Board), AT, Waka Kotahi and Tupu Ngātahi. This was in response to the Takanini Business Associations preference for an underpass option over the (at the time) emerging preferred bridge option.

Ngā rōpū kei raro i te Kaunihera / Council Controlled Organisations

29. There is ongoing engagement with Auckland Council which supports the desired outcomes of the Manurewa Takanini Papakura Area Plan 2017 and integrated land use and transport planning generally. Discussions with Auckland Council have also taken place to understand the potential for the rezoning and timing of development in the area.

Ngā kiritaki / Customers

30. SGA engaged with the public and potentially affected landowners on the preferred option between 12 August and 26 September 2022. Initial feedback was limited and engagement reopened between 5 November and 20 December 2022 with further open days, workshops and meetings to ensure the public had a further chance to feedback. Affected landowner engagement was undertaken in March 2023.
31. In general, there was support for grade separation but concerns about the potential impacts of grade separation and road closures. Takanini Business Association and Mar Wallace sought an underpass rather than a bridge option at Walters Road. This option was assessed and discounted for a number of reasons (see paragraph 20 and Attachment 4).

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

32. SGA has applied Vision Zero principles to its business cases. The planned growth, CRL and planned four-tracking of the rail line will only exacerbate the actual and perceived safety risks at the existing level crossings. The recommended option removes these safety risks and has been developed to allow sufficient widths to ensure a safe and compliant design can be accommodated.




Ā muri ake nei / Next steps

33. Post endorsement, AT will lodge the NoR's in mid-2023. The process for integrating the Takanini Level Crossing DBC into AT and KiwiRail's Auckland Rail PBC and Auckland Level Crossings SSBC is underway.

Te whakapiringa / Attachment

Attachment number	Description
1	South growth
2	Recommended option
3	Key outcomes
4	Bridges versus underpasses

Te pou whenua tuhinga / Document ownership

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