

Technical note Longlist options

in support of the Cycling and Micromobility Programme Business Case

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Contents

1	Introduction	1
2	Option development	2
3	Longlist options	5
3.1	Longlist option 1 – Regional Routes and Connections	5
3.2	Longlist option 2 - City Centre and Central Isthmus	6
3.3	Longlist option 3 – Rapid Transit Station Access.....	7
3.4	Longlist option 4 – Connections to Schools	8
3.5	Longlist option 5 – Showcase Demonstration Neighbourhoods	9
3.6	Longlist option 6 – Metropolitan Centres and Satellite Towns.....	10
4	Longlist assessment	11
4.1	Assessment method.....	11
4.2	Assessment results	11
5	Conclusions	14

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DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
DOCUMENT No.		DATED	7 July 2021
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1 Introduction

The purpose of this document is to outline the Longlist options for the Auckland Cycling and Micromobility Programme Business Case (CAM-PBC).

The list of options and alternatives from the 2017 Auckland Cycling Programme Business Case (2017 PBC) were reviewed and refined by the Project Working Group of the CAM-PBC, with consideration of feedback received from project partners and reference groups.

The CAM-PBC Alternatives Assessment Technical Note explains that most alternatives have merit as either infrastructure options (i.e. cycle network development), cycle parking and customer growth initiatives or policy recommendations. The Longlist Technical Note only looks at those alternatives identified as cycle network development infrastructure that can be delivered directly by the investment partners (as opposed to external parties), they are:

- Protected cycling facilities¹; and
- Local area networks (LANs), i.e. traffic calming, modal filters and street redesign.

However, this does not diminish the importance of cycle parking, customer growth initiatives and policy recommendations ‘alternatives’, which have been detailed separately from the cycle network development options development and assessment process, in the Cycle Parking and Customer Growth Initiatives Technical Note, and the Policy Recommendations Technical Note.

¹ Painted cycle lanes do not meet Vision Zero standards for safe cycling and are not included as part of network development.

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2 Option development

The 2017 longlist of options was reviewed and refined to generate the longlist of options for the CAM-PBC. Amendments were made to the 2017 longlist of options following feedback from investment partners and reference groups.

The amendments since 2017 are outlined in Table 2-1 below. Notable changes since 2017 are:

- The trunk routes option was combined with the long-distance connections option and extended into the city centre. It was renamed the 'Regional Routes and Connections' option to align with the Cycle and Micromobility Strategic Network in Future Connect.
- A metropolitan centres and satellite towns option was added following feedback from project reference groups. This longlist option has merit because it provides cycle facilities within high growth areas, enabling densification through the provision of more transport choice.

Table 2-1 compares the 2017 Longlist of options with the CAM-PBC longlist.

Table 2-1 Comparison against 2017 options

2017 Longlist		CAM-PBC Longlist		Amendments
Option 1	Enhance connections to existing trunk routes and expand trunk network	Option 1	Regional routes and connections	<ul style="list-style-type: none"> • Combined with 2017 Option 4. • Updated to align with the Future Connect Cycle & Micromobility Strategic Network. • Consider both the development of 'Regional' routes and 'Major' connections into these routes.
Option 2	City Centre and Central Area Network	Option 2	City Centre and central isthmus	<ul style="list-style-type: none"> • Consider Future Connect's 2031 Cycle & Micromobility Network. • Extend to 10km radius to account for e-bikes • Extend to Northshore to account for possible bridge, bus, or ferry connection
Option 3	Rapid Transit Station Access	Option 3	Rapid Transit Station access	<ul style="list-style-type: none"> • Consider Future Connect's 2031 Cycle & Micromobility Network.
Option 4	Long-distance connections	Incorporated into the CAM-PBC Option 1.		
Option 5	Demonstration neighbourhoods	Option 4	Showcase demonstration neighbourhoods	<ul style="list-style-type: none"> • Remove reference to 'high quality' in description. • Could take the form of Low Traffic/Speed Neighbourhoods. • Opportunity to trial tactical urbanism interventions.
Option 6	Enhance connections to schools	Option 5	Connections to schools	<ul style="list-style-type: none"> • Review school clusters.
-	-	Option 6	Metropolitan centres and	<ul style="list-style-type: none"> • New option to respond to growth in these areas and increasing

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
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	satellite towns	need to provide cycling facilities.
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Note that the 2017 recommended option was blend of the 2017 Longlist options 2, 3 and 6.

A description of the CAM-PBC longlist of options, along with the likely journey type, is summarised in Table 2-2. Each option generally targets a different journey type through the provision of safe cycling facilities using the Cycle and Micromobility Network in Future Connect.

Table 2-2 Longlist options

Option	Description	Likely journey type(s)
Longlist option 1 – Regional routes and connections	Fills in the missing links in the ‘Regional’ routes including ‘Major’ connections into these regional routes (as defined in Future Connect).	Journeys to work and secondary/tertiary education, with some recreational trips, likely travelling longer distances than other options.
Longlist option 2 – City centre and central isthmus	Cycle and Micromobility Strategic Network routes within a 10km radius of the city centre.	Journeys to work and education, with some local neighbourhood journeys within the city centre and central isthmus.
Longlist option 3 – Rapid transit station access	Cycle and Micromobility Strategic Network routes and supporting local area networks near rapid transit stations (i.e. train stations, and Northern Busway stations).	Journeys to work, education and metropolitan centres via the RTN (i.e. first km last km trips).
Longlist option 4 – Showcase demonstration neighbourhoods	Cycle and Micromobility Strategic Network routes and supporting local area networks within a selection of ‘demonstration neighbourhoods’ across Auckland that have higher than average cycle mode share and are regionally spread.	Local neighbourhood journeys including for education and shopping. Commuter trips are likely to be lower than other options.
Longlist option 5 – Connections to schools	Cycle and Micromobility Strategic Network routes and supporting local area networks around clusters of schools with a high collective roll.	Journeys to primary/secondary education. Commuter trips are likely to be lower than other options.
Longlist option 6 – Metropolitan centres and satellite towns	Cycle and Micromobility Strategic Network routes and supporting local area networks within metropolitan centres and satellite towns.	Local metropolitan and town centre trips including shopping and commuting.

At longlist stage, the options were kept conceptual and specific routes were not defined or assessed. However, the Cycle and Micromobility Strategic Network in Future Connect was used as a guide of what connections and focus areas would be included within each option. More detailed development and assessment was undertaken in the shortlist development phase.

The CAM-PBC longlist of options has the following potential delivery approaches, which will be explored for the preferred option:

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
DOCUMENT No.		DATED	7 July 2021
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- Tactical urbanism / semi-permanent infrastructure as a means of delivering benefits sooner and/or testing improvements at a lower cost;
- Permanent cycle infrastructure as per Auckland Transport's Transport Design Manual (TDM); and
- Permanent cycle infrastructure with approved departures from TDM standards to enable protected cycling facilities to be delivered within existing road space to (i.e. avoid kerb relocations) to reduce cost and speed up delivery, while maintaining Vision Zero safety standards.

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3 Longlist options

3.1 Longlist option 1 – Regional Routes and Connections

Option 1 is the “*Regional Routes and Connections*” network option to further develop Auckland’s Cycle and Micromobility Strategic Network (Regional) and enhance the ‘Major’ connections into this network. This option is considered to have good potential to increase use of the Cycle and Micromobility Strategic Network and maximise the effectiveness of previous investment by building on existing routes and ‘filling gaps’ in the ‘Regional’ network.

Some existing ‘Regional’ routes that this option would look to extend and tie into include the North-Western Cycleway, the South-Western Cycleway, the Waterview Cycleway (along Oakley Creek) and the Tāmaki Drive shared path.



Figure 3-1 Longlist option 1: Regional Routes and Connections indicative map

This option aligns well with the Connected Communities Cycling Single Stage Business Case (SSBCs) and the Henderson, Manukau and Māngere East SSBCs that are all under development following the 2017 PBC recommended programme.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
DOCUMENT No.		DATED	7 July 2021
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3.2 Longlist option 2 - City Centre and Central Isthmus

Option 2 is the “City Centre and Central Isthmus” network option, with the purpose of developing a grid pattern cycle and micromobility network within approximately 10km of the city centre. This option is expected to enhance cycling access to the city centre and provide for short trips within Auckland’s central isthmus. It is expected that this option has good potential to improve cycling and micromobility uptake due to the shorter average commute distance for residents living in this area.

Figure 3-2 shows the approximate extent of longlist option 2. The assessment also considered:

- Connections within Northcote in response to a possible walking and cycling bridge, bus or ferry connection;
- Connections within a 10km radius in response to e-bikes and e-scooter extending the potential range for a cycle or micromobility trip; and
- Removal of those connections being delivered by other projects within the next ten years, such as a number of the Connected Communities corridors.

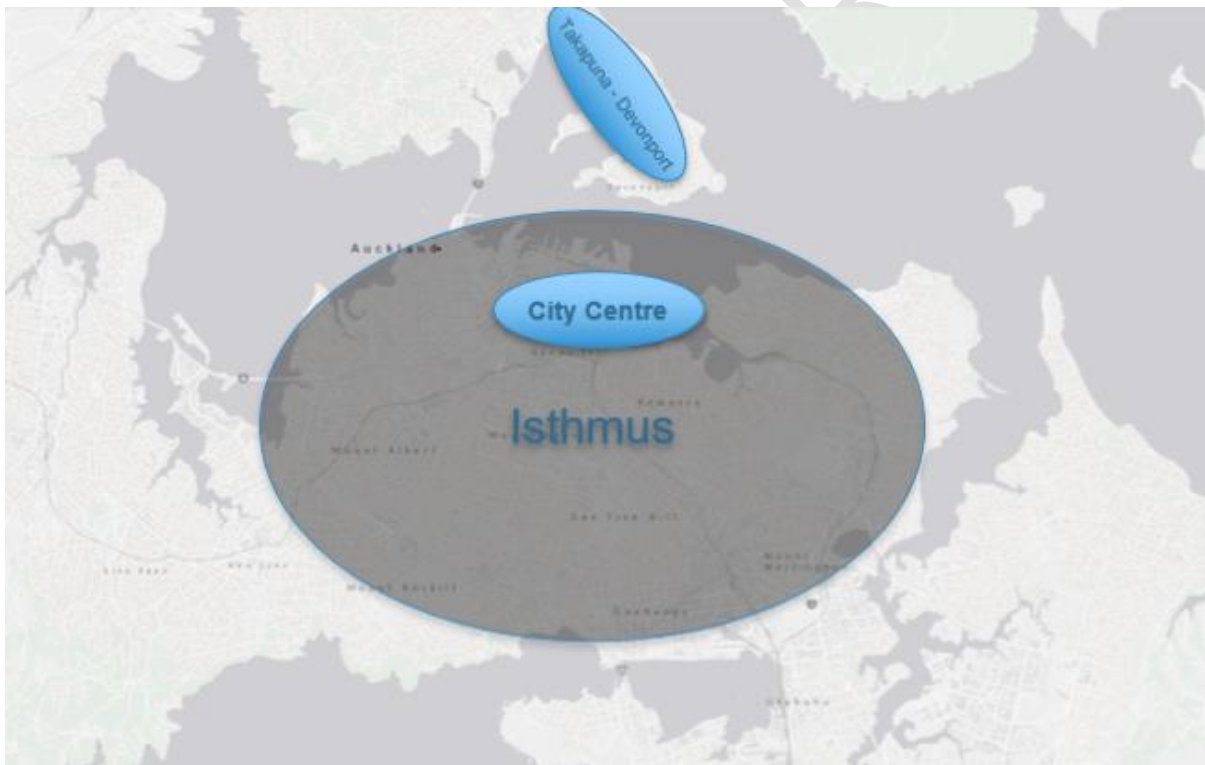


Figure 3-2 Longlist option 2 - Central city and central isthmus indicative map

Option 2 aligns well with the Connected Communities Cycling SSBCs, but not the Henderson, Manukau and Māngere East SSBCs.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
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3.3 Longlist option 3 – Rapid Transit Station Access

Option 3 is the “*Rapid Transit Station Access*” network option, which involves expanding the existing cycle network with a focus on serving cycle trips to access rapid transit station hubs (which also generally coincide with major suburban centres). This option is expected to cater for shorter (less than 15 minute or 3km) cycle trips to and from rapid transit stations (‘first-km/ last-km’ trips). It was also expected to cater to short-distance trips to/ from major suburban centres.

The map below shows the indicative locations of investment for Longlist option 3 based on the 2017 analysis. It is an indicative map only and not a comprehensive map for investment

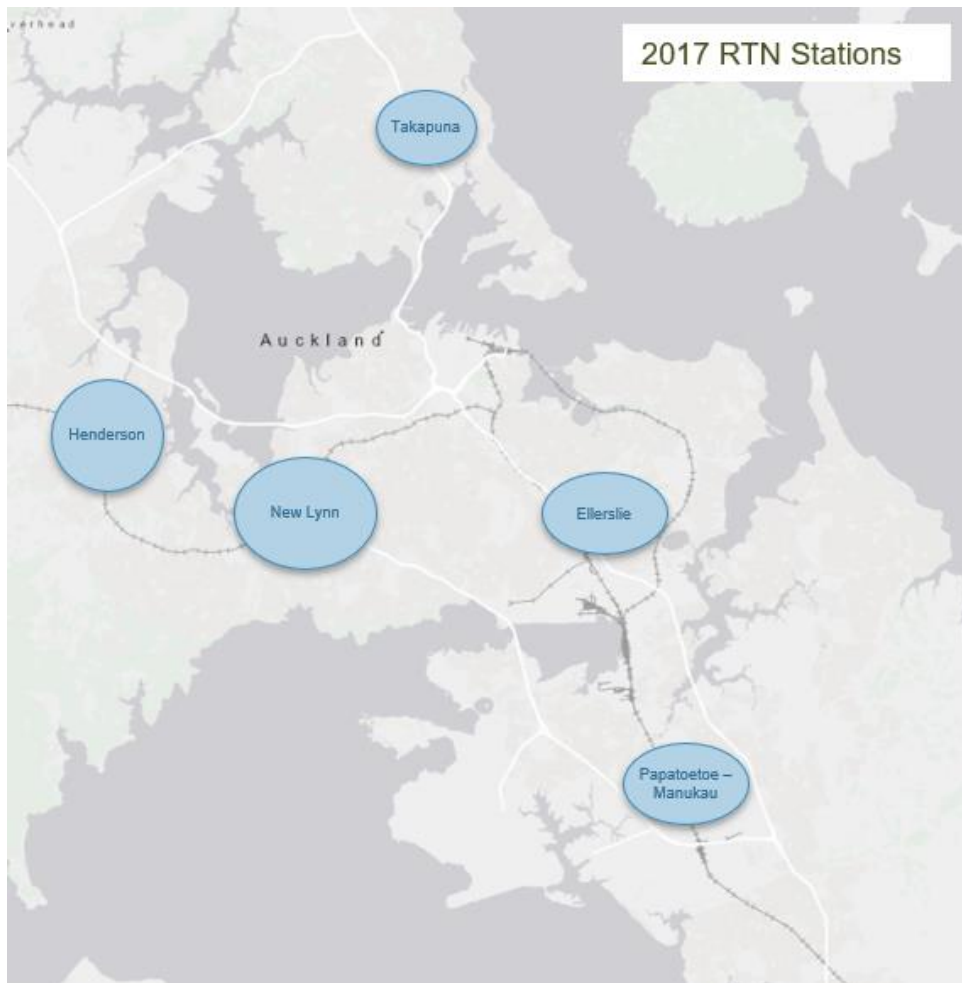


Figure 3-3 Longlist option 3: Rapid Transit Station access indicative map

Option 3 aligns well with the Henderson Cycling SSBC and parts of the Manukau Cycling SSBC. However, it does not align well with the Connected Communities Cycling SSBCs or the Māngere East SSBC.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
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3.4 Longlist option 4 – Connections to Schools

Option 4 is the “Connections to Schools” network option, which prioritises cycle network development around major clusters of primary and secondary schools. It is expected that this option would increase cycle and micromobility mode share by serving school-age children who live within 1-3km of their school. Providing for school-age children may also have added benefits of establishing cycling confidence and ridership at an early age.

The map below shows the indicative locations of investment for Longlist option 4 based on the 2017 analysis. It is an indicative map only and not a comprehensive map for investment.



Figure 3-4 Longlist option 4: Connections to schools indicative map

This option aligns well with the Connected Communities Cycling SSBCs, as well as the Henderson, Manukau and Māngere East Cycling SSBCs.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
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3.5 Longlist option 5 – Showcase Demonstration Neighbourhoods

Option 5 is the “*Showcase Demonstration Neighbourhoods*” network option, which involves focusing cycle network investment on a selection of ‘demonstration neighbourhoods’ where a safe cycling environment is provided within distinct residential neighbourhoods. It is expected that this option would serve as a demonstration of the potential to improve residential street environments for cycling while increasing supporting growth in short-distance cycling trips within the neighbourhoods treated.

The map below shows the indicative locations of investment for Longlist option 5 based on the 2017 analysis. It is an indicative map only and not a comprehensive map for investment.

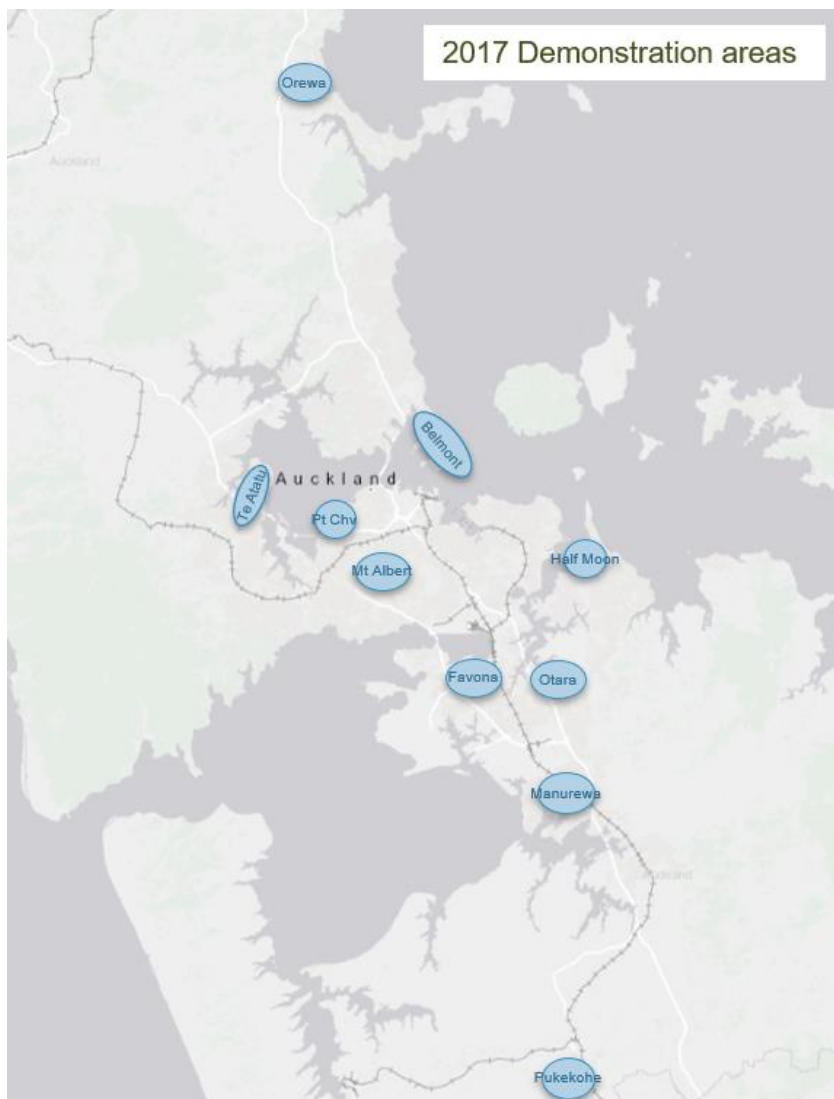


Figure 3-5 Longlist option 5: Showcase demonstration neighbourhoods indicative map

Option 5 aligns well with parts of the Connected Communities Cycling SSBC, as well as the Māngere East and Manukau Cycling SSBCs, but not the Henderson Cycling SSBC.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
DOCUMENT No.		DATED	7 July 2021
PREPARED BY		FILE REF	30.0
FILE NAME/LOC	https://aucklandtransport.sharepoint.com/sites/campbc2021/shared documents/cam pbc - working drafts/2 appendices/appendix e - long list technical note.docx		

3.6 Longlist option 6 – Metropolitan Centres and Satellite Towns

This option is the “Metropolitan Centres and Satellite Towns” network option, which involves focussing on improving access for cycling and micromobility within the metropolitan centres of Albany, Takapuna, Westgate, Henderson, Newmarket, Central City, Sylvia Park, Botany, Manukau, and Papakura, as well as the satellite towns of Pukekohe and Warkworth. This option would focus on supporting growth and densification within these centres through the provision of safe cycling facilities that attract cycle and micromobility uptake.

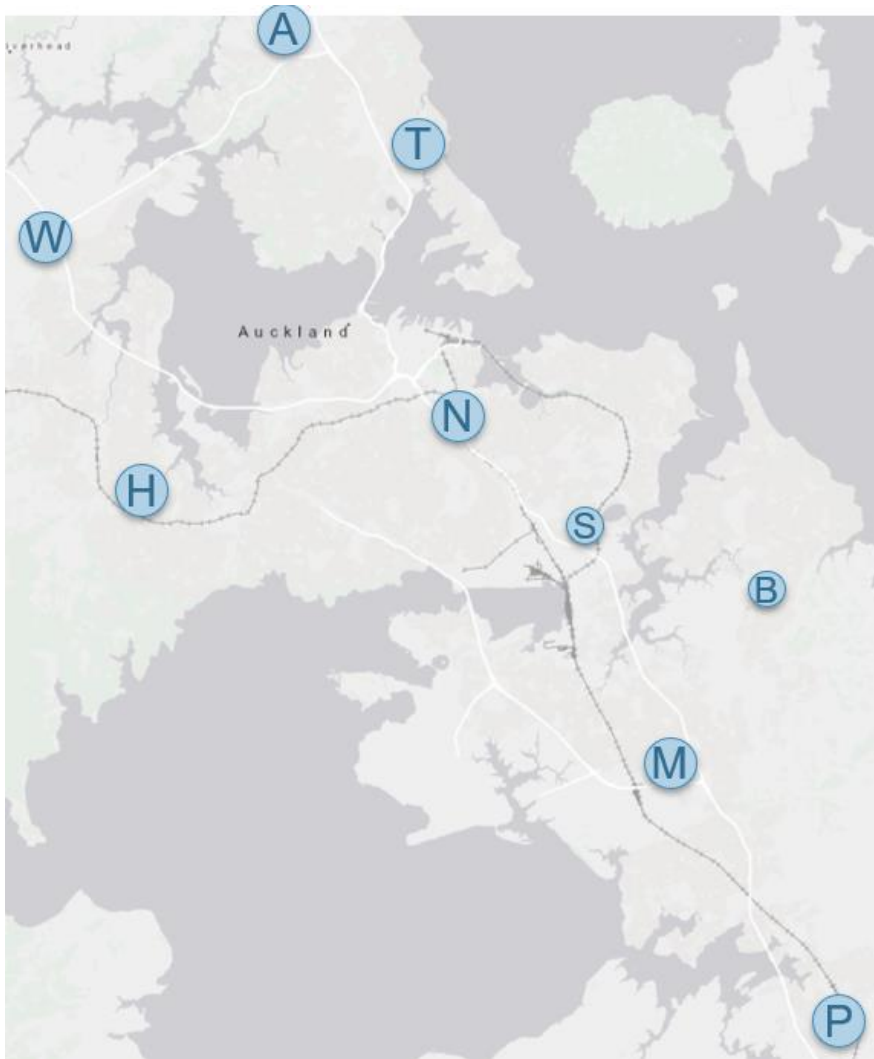


Figure 3-6 Longlist option 6: Metropolitan centres and satellite towns indicative map

Option 6 aligns well with the Henderson Cycling SSBC, as well as parts of the Connected Communities Cycling SSBC, Māngere East and Manukau Cycling SSBCs.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
DOCUMENT No.		DATED	7 July 2021
PREPARED BY		FILE REF	30.0
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4 Longlist assessment

4.1 Assessment method

The longlist has been assessed using the Waka Kotahi Early Assessment Sieving Tool (EAST) and using the 2017 PBC assessment as a starting point.

The 2017 assessment has been updated in the following ways:

- New investment objectives have been assessed; and
- New longlist options.

4.2 Assessment results

The EAST including assessment of achievability, cost, climate change, environmental and social screening. The full EAST results are appended, a summary is presented in Table 4-1.

The City Centre and Central Isthmus option scored poorly against the investment objectives because it would be unlikely to contribute much beyond the Do Minimum (Reference Cases) which includes committed and planned projects in the city centre and central isthmus such as the Urban Cycleway Programme, some Connected Communities Corridors and its Cycling SSBC, Access for Everyone and Light Rail. Furthermore, it scored poorly when equity was considered because it serves the more affluent areas of Auckland that already have good travel choice by public transport, as well as the highest concentration of cycle facilities.

However, there is a risk of potential gaps in the city centre and central isthmus if the committed and planned included in the Do Minimum do not go ahead or deliver safe cycle facilities as currently expected. Therefore, there is a need for the shortlist option development to examine gaps in the city centre and central isthmus and establish contingency / risk funding at the programme level.

DOCUMENT NAME	Alternatives Assessment Report- Technical note[Project Name]	VERSION	Version 0.1
DOCUMENT No.		DATED	7 July 2021
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FILE NAME/LOC	https://aucklandtransport.sharepoint.com/sites/campbc2021/shared documents/cam pbc - working drafts/2 appendices/appendix e - long list technical note.docx		

Table 4-1 Longlist assessment results summary

Option details		Investment objective				Key risks	Summary of decision made	
ID	Option	Reduce deaths and serious injuries	Increase cycle mode share by distance	Increase opportunities accessible within 15 minutes for people with low levels of transport choice	Increase rate of delivery		Summary of decision made	Progress or discontinue
1	Regional routes and connections	4	3	3	3	Cost, deliverability (i.e. consenting and constructions risks)	Likely to have more technical and consenting issues than low traffic street type approaches because of more infrastructure and potential for outside roadway. Likely to be expensive.	Progress
2	City Centre and central isthmus	2	2	3	3	Cost, deliverability (i.e. consenting and constructions risks)	Discard for feasibility and equity issues. City centre likely to need substantially more streetscape type interventions than other areas, so some technical and consenting difficulties. Likely to be expensive for permanent works. Do min has a lot happening in city centre (light rail, Connected Communities). Equity issues (i.e. serves mostly more affluent areas that already have good travel choice). But there is a risk of gaps in the central city especially if do min works don't continue as expected. Therefore,	Discontinue

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							need to examine gaps in shortlist.	
3	Rapid Transit Station Access	3	3	4	3	Cost, deliverability (i.e. consenting and constructions risks)	Likely to have some technical difficulties like option 1 Could target lower socio-economic areas	Progress
4	Connections to schools	3	3	5	4	public acceptance (e.g. issues with Onehunga)	Lower cost option than option 1 and easier technically to deliver.	Progress
5	Showcase Demonstration neighbourhood	2	2	3	4	public acceptance (e.g. issues with Onehunga)	Discard for low Investment objective scores. Lower cost option than option 1 and easier technically to deliver (although some risk of public acceptance).	Discontinue
6	Metropolitan centres and satellite towns	4	3	4	3	Cost, deliverability (i.e. consenting and constructions risks)	Likely to have some technical difficulties like option 1. Could target lower socio-economic areas. Lots of cross over with other option (e.g. metro centres also on RTN)	Progress

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5 Conclusions

The longlist assessment found that four longlist options for cycle network development in Auckland had the most potential for contributing to the investment objectives and should be investigated further at the shortlist stage:

- Network expansion focused on regional routes and connections (Longlist option 1)
- Network expansion focused on short-distance connections to rapid transit stations (Longlist option 3).
- Network expansion focused on enhancing connections to schools (Longlist option 4)
- Network expansion focused on improving accessibility to and within metropolitan centres and satellite towns to support densification and growth within these areas (Longlist option 6).

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