Auckland Transport
An Auckland Council Organisation

Technical note

Costs and Design Standards

in support of the Cycling and Micromobility Programme Business Case

Type the document number here.

Click here to select a date. - Version 0.1

Contents

1 Introduction

The purpose of this document is to provide the assumptions used for building up the cost estimates for the CAM-PBC strategic connections and local area networks and summarises the investigation and design standards expected to be adopted by the subsequent business case phases (i.e. SSBC and SSBC lite phases)

2 Cost Estimate

2.1 Overall assumptions

Table 2-1 below outlines the cost assumptions used for building up the cost estimates for the strategic cycle connections and local area networks.

The cost estimates generally represent construction cost estimates only (rather than actuals), and do not include investigation and design costs, nor contingency.

Table 2-1 Construction cost estimates for strategic connections and local area networks

Route type	Description	Construction cost assumed per km	Data used
Pop-up protection	Concrete separators retrofitted to existing painted cycle lanes, without affecting kerbs (and without intersection treatments)	$0.5m/km	$0.5m/km for AT's pop-up protection programme, 2021
AT network – reallocate road space	Protected cycle infrastructure on street, without shifting kerbs. Generally on neighbourhood or collector type route where car parking and/or flush median can be removed. Does not include the cost of intersection upgrade.	$2-3m/km	$1.2m/km – Mangere West cycle improvements, 2019 $1.3m/km – Tamaki cycle loop concept, 2020 $3.5m/km – Puhinui Rd & Lambie Dr, 2019 $2.35/km – Project WAVE pilot
AT network - mid-range	Locations where a combination of road space reallocation and kerb movement is required	$5-6m/km	
AT network – move kerbs	Protected cycle infrastructure, assuming kerbs shifted. Generally on constrained arterial corridors where existing road space cannot easily be reallocated, or where there are major intersections to address	$8-10m/km	$7m/km – Link to GI, 2021 $9m/km – Pt Chev & Meola Rd, 2021
Waka Kotahi network –	Significant off road shared path or cycleway within a rail	$20-25m/km	$20m/km – Akoranga to Constellation, 2020

off-road facility	or motorway corridor, with major structures		$21m/km – Seapath, 2018
Intersections upgrades	Retrofitting existing intersections to provide safe facilities for people on bikes	$1-2m per intersection	
Local Area Networks	Physical investment in area-based programmes that aim to make neighbourhoods more accessible by bicycle. This may include investment in local area traffic calming, greenways, low traffic/low speed neighbourhoods and other 'lower tier' interventions	$2-4m per km2 $250k per modal filters/traffic calming	

Through the development of the blended option (i.e. a prioritised list of strategic connections and focus areas), investigation, design, and contingency costs were also added based on the following assumptions:

- Contingency is 30% of construction costs; and
- Investigation and design are 30% of construction costs.

The investigation, design and contingency costs are considered low by current delivery standards, however, these are expected to be reduced further than those assumed in the CAM-PBC through quicker business case and delivery processes, and reduced risks from road space reallocation projects (i.e. less risk of affecting utilities or requiring new structures).

3 Investigation and design standards

3.1 Investigation and design procurement

Investigation and design will be undertaken with the SSBC-lite process for road space reallocation opportunities (where project costs and risk are less than $15 million), with detailed design procured at the same time. This provides the following efficiencies, which are expected to reduce investigation and design costs:

- Shorter business case phase (<6months);
- Less design – Move straight from concept design to detailed design (i.e. no scheme level design required);
- More cost certainty with detailed design, so contingency will be less; and
- Single procurement, so quicker and less costly procurement process.

This is detailed in Part C of the CAM-PBC.

3.2 Design standards

The CAM-PBC prioritises road space reallocation opportunities delivered as 'pseudo-permanent' facilities, where the facility is intended as permanent, but it is accepted that further investment may be required in future. For the majority of routes, it will not be possible or affordable to meet full TDM standards within existing kerb to kerb space, departures from standards will be required. Proposed minimum standards for separated cycle facilities have been developed by AT alongside the CAM-PBC and will inform a programme level departure to support faster, lower cost delivery for investment in road space reallocation projects delivered through the CAM-PBC. The key recommendations are summarised below.

These minimum standards are not proposed to apply to new roads or major projects where kerb realignment is necessary.

The programme wide departure will cover:

- Cycle facility and separator width
- Separator material
- Cycle facility surface
- Safety treatments on side roads
- Lighting
- Use of shared paths at intersections where necessary. NB this is not recommended for a programme-wide departure but can be considered on a case-by-case basis. In the first instance, road space reallocation from general traffic should be considered.