

Auckland Light Rail

NZTA Board Workshop – Friday 26 October 2018 (9am – 4pm)



Agenda

Item

1. Vision
 - a. Strategic alignment
 - b. Project objectives
 - c. The urban product
 - d. Project Description
 - e. Economic Case summary
 - i. Costs and benefits



Agenda (continued)

Item

2. Delivery

- a. Funding and Financing (Financial Case)
 - i. CC2M – immediate 3 year NLTP
 - ii. 10 year GPS
- b. Procurement (Commercial Case)
 - i. Market engagement refresh
 - ii. Overview of market dynamics and recent light rail projects
 - iii. Packaging options and recommendations
 - iv. Contract model options and recommendations
- c. Governance (Management Case)
 - i. Roles and responsibilities



Agenda (continued)

Item
3. Decisions – 9 November Board meeting <ul style="list-style-type: none">• Business Case endorsement• Procurement Strategy endorsement• Funding• Communications & Engagement



Auckland Light Rail – supporting a vision for a more liveable Auckland



The project will ...

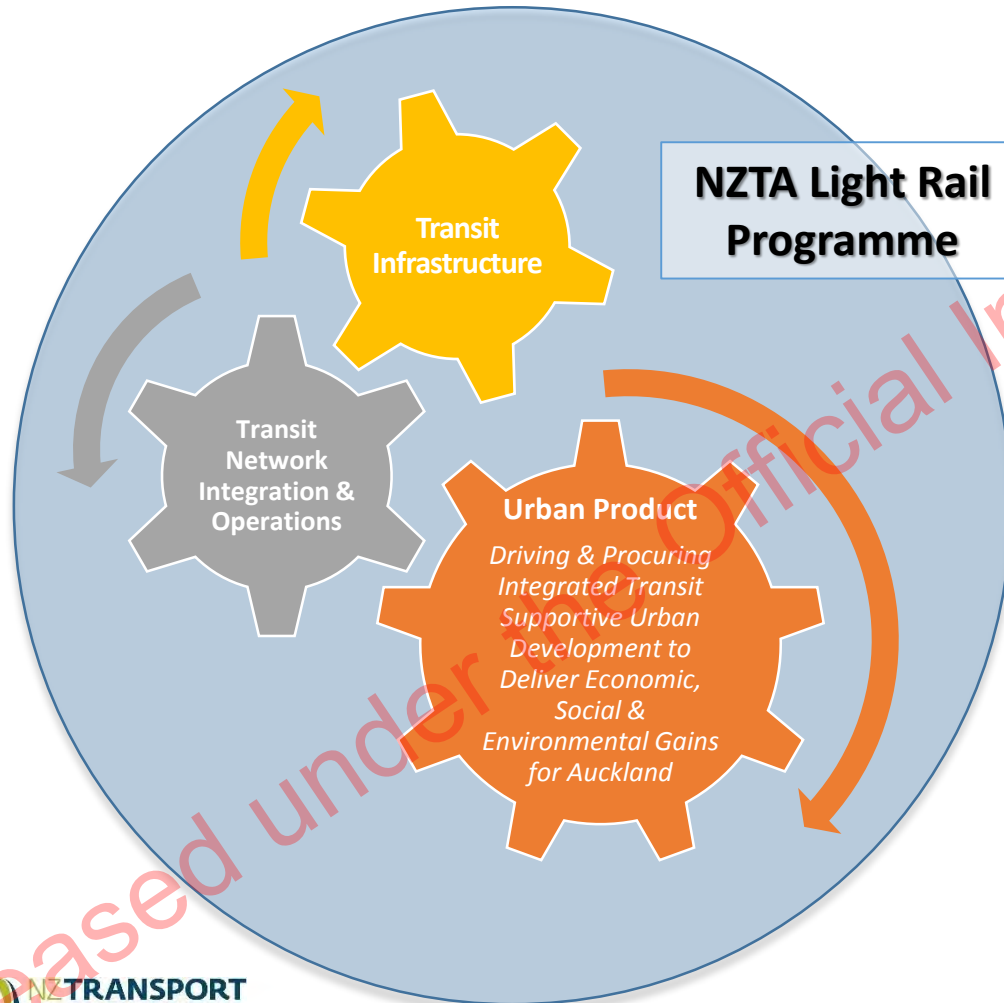
Provide a step-change in transport accessibility to the strategically important economic hubs of the City Centre and Auckland Airport precinct by delivering a high quality, reliable and frequent light rail link.

AND

Unlock significant urban potential along the corridor in a way that supports a sustainable quality compact city.



NZTA Project Components to Deliver a Fully Integrated Urban Transit Programme



Urban Product defined:

The delivery of urban interventions which support successful, resilient and connected transit systems, produce desirable urban form and growth, benefit our social & human capital and improve our urban productivity and prosperity.

Urban Product Success Factors

- Intentionality & ownership
- Collaboration
- Whole of Government
- Place based
- Spatially informed



Key assumptions



Vehicle specs

Length: 33m each

Occupancy: 210 passengers

Low floor

Can be coupled to add capacity (extends to 67m)

Operations

Max speed is 80 kph

Peak headway of 4min and off-peak headway of 8 min

Signal priority at intersections

Line of sight operation



Criteria for route selection

	Criteria	Notes
Investment Objectives	1: Focus on transport outcomes	Provide a step change in capacity and access improvements along the corridor, to the city centre and Auckland airport precinct by delivering a reliable, frequent and rapid light rail link
	2: Focus on urban outcomes	Unlock significant growth potential along the corridor, especially for housing around Mangere, Onehunga and Mt Roskill in a way that supports a quality compact city
Implementability	Feasibility	Assessed measures including delivery and constructability risks and impacts on health and safety
	Affordability	Impact on construction costs, operating costs
Assessment of Effects	Built and Natural Environment	Included criteria pertaining to risks of adverse effects on built environment and heritage, natural environment, social impact, human health
	System Integration	Impacts on the wider transport system, including ability to integrate with the PT/bus network and impacts on other infrastructure and utilities
	Safety	Impacts on the safety of transport users and others
	Economy	Impact on economic growth and the development potential of adjacent land

Recommended Alignment

Key Facts/Figures

- 23.3 km total distance
 - On street (urban) – 12.9 km (55%)
 - Off street – 10.4 km (45%)
- Primary Interchanges
 - Britomart
 - Mt Roskill
 - Onehunga
 - Mangere Town Centre
- Total stops: TBC, likely to be between 18 and 22



Route Alignment – City Centre



Key Features

- Light rail located in the middle of Queen St
- Queen St pedestrianised between Customs St and Wakefield St
- Underpass under K' Rd



Route Alignment – Upper Queen St to Mt Roskill



Key Features

- New bridge over CMJ
- Dominion junction ramps removed – intersection signalised
- On-street running along Dominion Rd



Route Alignment – Mt Roskill to Onehunga



Key Features

- Light rail in dedicated corridor along SH20 in Kiwirail corridor
- On-street running along Princes St
- Multi modal and multi level interchange at existing Onehunga station
- Proposed Depot location at Carr Rd



Route Alignment – Onehunga to Māngere

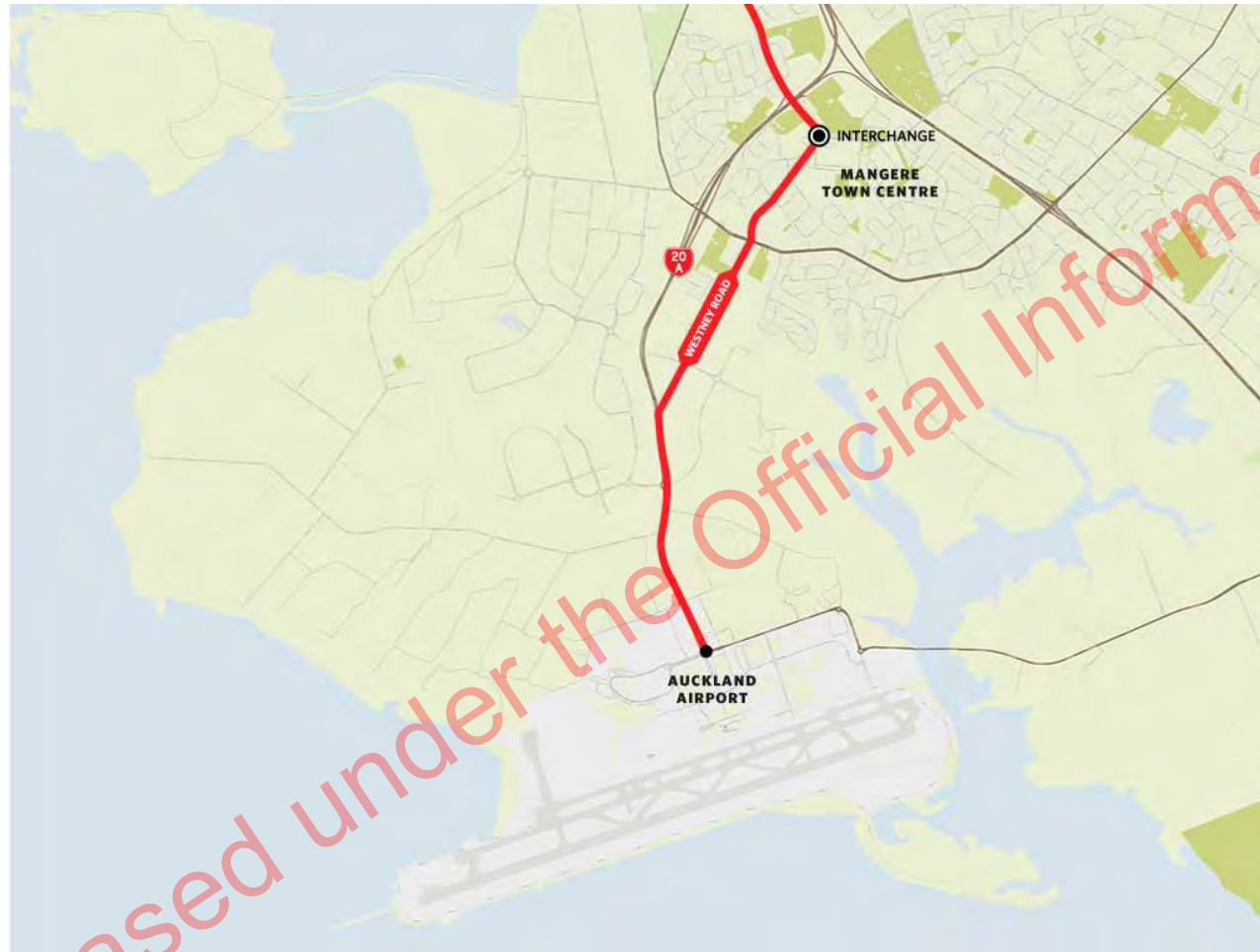


Key Features

- Dedicated light rail corridor alongside SH20 through Mangere Bridge
- On-street running along McKenzie Rd and Bader Dr
- Multi modal interchange at Mangere Town Centre



Route Alignment – Māngere to Airport

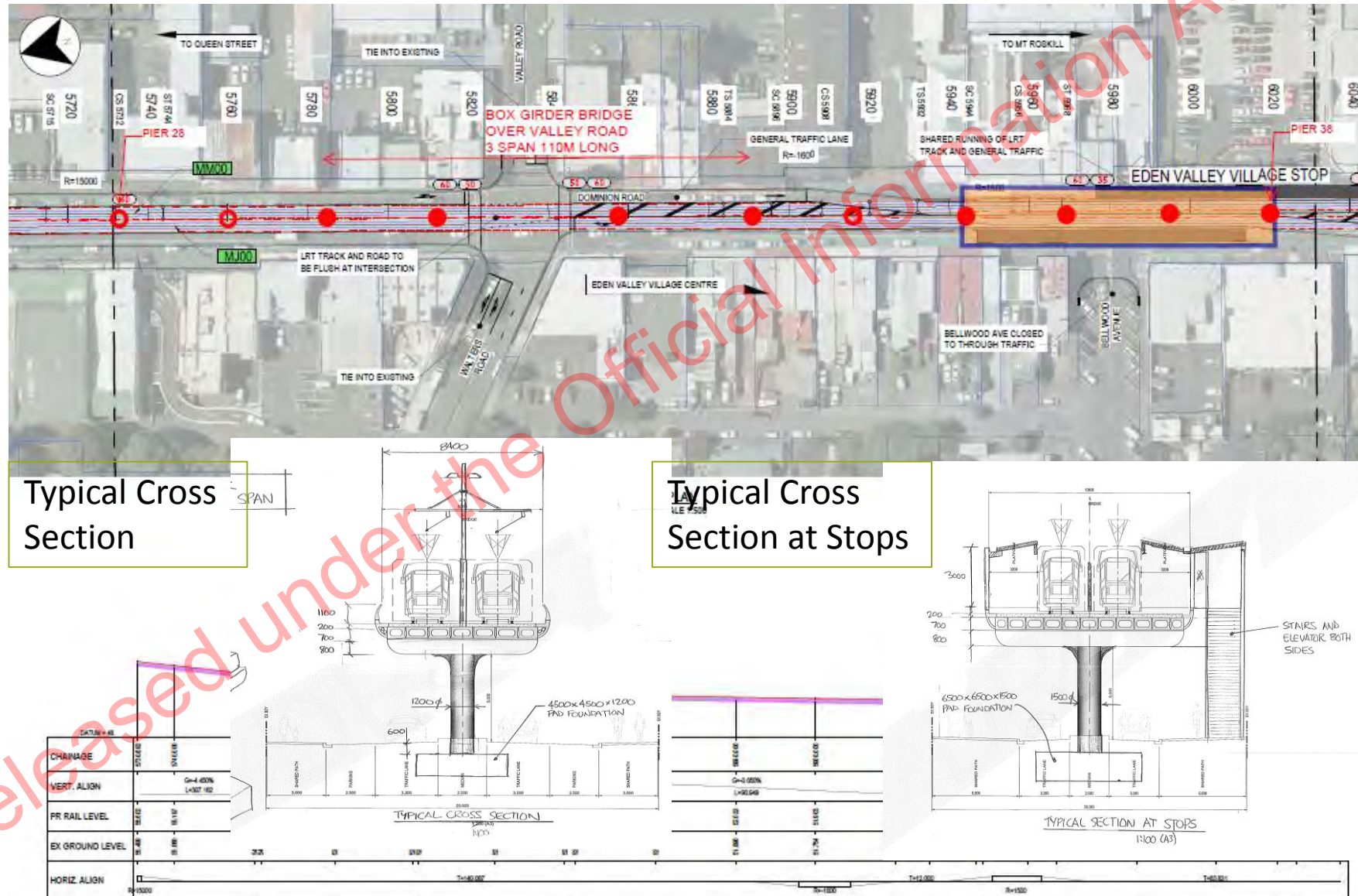


Key Features

- On street running along Jordan Ave and Westney Rd
- Dedicated corridor from SH20A to Airport



An elevated structure has been considered along Dominion Rd...



...and while it may be safer and more reliable, an elevated structure is unlikely to be deliverable

Advantages	Disadvantages
Safety improvement	Costs \$270m more than at grade option
More reliable and faster	Requires same level of utilities relocation
	Elevated platforms reduce accessibility
	High consenting risk associated with elevated structure in special character areas

Auckland Unitary Plan – D.18 Special Character Areas Overlay

D18.2 Objectives

1. The special character values of the area, as identified in the special character area statement are maintained and enhanced.
2. The physical attributes that define, contribute to, or support the special character of the area are retained, including:
 - a. built form, design and architectural values of buildings and their contexts;
 - b. streetscape qualities and cohesiveness, including historical form of subdivision and patterns of streets and roads; and
 - c. The relationship of built form to landscape qualities and/or natural features including topography, vegetation and open spaces.
3. The adverse effects of subdivision, use and development on the identified special character values of the area are avoided, remedied or mitigated.

The project is estimated to cost \$3.3b with ongoing operating costs of \$32m per year


	Queen to Mt Roskill		Mt Roskill to Mangere		Mangere to Airport	
	P50	P95	P50	P95	P50	P95
Property	145	155	185	265	20	30
Construction	870	905	1,240	1,745	450	650
Subtotal	1,015	1,060	1,425	2,010	470	680

Capital Costs		P50	P95	Operating & Maintenance		\$M pa
	Property	350	450		Operating Costs	37
	Construction	2,550	3,300		Maintenance Costs	36
	Subtotal	2,900	3,750		Total Operating Costs	73
	Rolling Stock (x33)	290	370		Farebox Revenue	41
	Total	3,200*	4,120*		Net Operating Costs	32

* Does not include an additional future capital outlay for additional rolling stock which brings total cost to \$3.3b



The project has a BCR of 1.1

	NPV (\$M)	BCR	Wider Economic Impacts (NPV)	Low End	High End
Traditional Economic Benefits					
Travel time savings – PT	971	0.7	M2MPJ		232
Travel time savings – car	-82				
Congestion reduction	46		Infrastructure cost deferral		22
PT Reliability	726				
Vehicle Operating Cost savings	87				
Emission reductions	4				
Health benefits	140				
Crash cost reductions	62				
Urban amenity benefits	229				
Total	2,183				
Wider Economic Benefits			Costs (NPV, \$M)		
Agglomeration	943	1.1	Capital	2,631	
Imperfect Competition	15.4		O & M	327	
			TOTAL	2,958	
					

The project will substantially improve access to jobs and provide a step change in travel choice

Some of the initial results include *(figures still to be confirmed)*:

- Over 20,000 less vehicle trips in the morning peak
- 5,800 additional PT trips in the morning peak, representing a 3% increase (across the region)
- Change in PT mode share from 24-27% in the corridor
- 70,000 more people will be within 45 mins of the CBD by PT
- 250,000 more people will be within 45 mins of the airport by PT
- Reduction of between 21 and 29 minutes in PT journey time at peak periods between Mangere Town Centre and Mt Roskill