

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



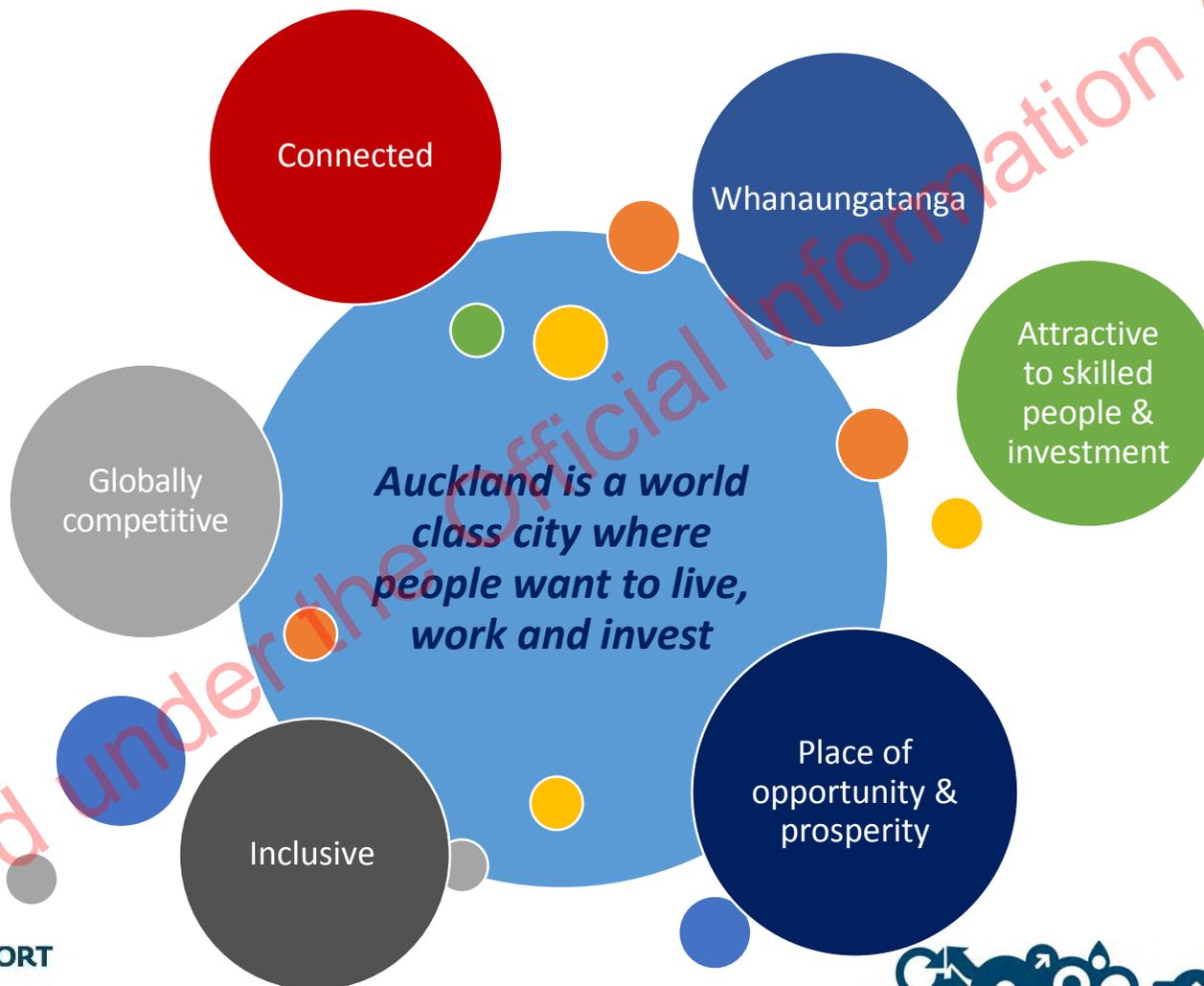
Agenda (continued)

Item

3. Decisions – 9 November Board meeting
 - Business Case endorsement
 - Procurement Strategy endorsement
 - Funding
 - Communications & Engagement



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



The project will ...

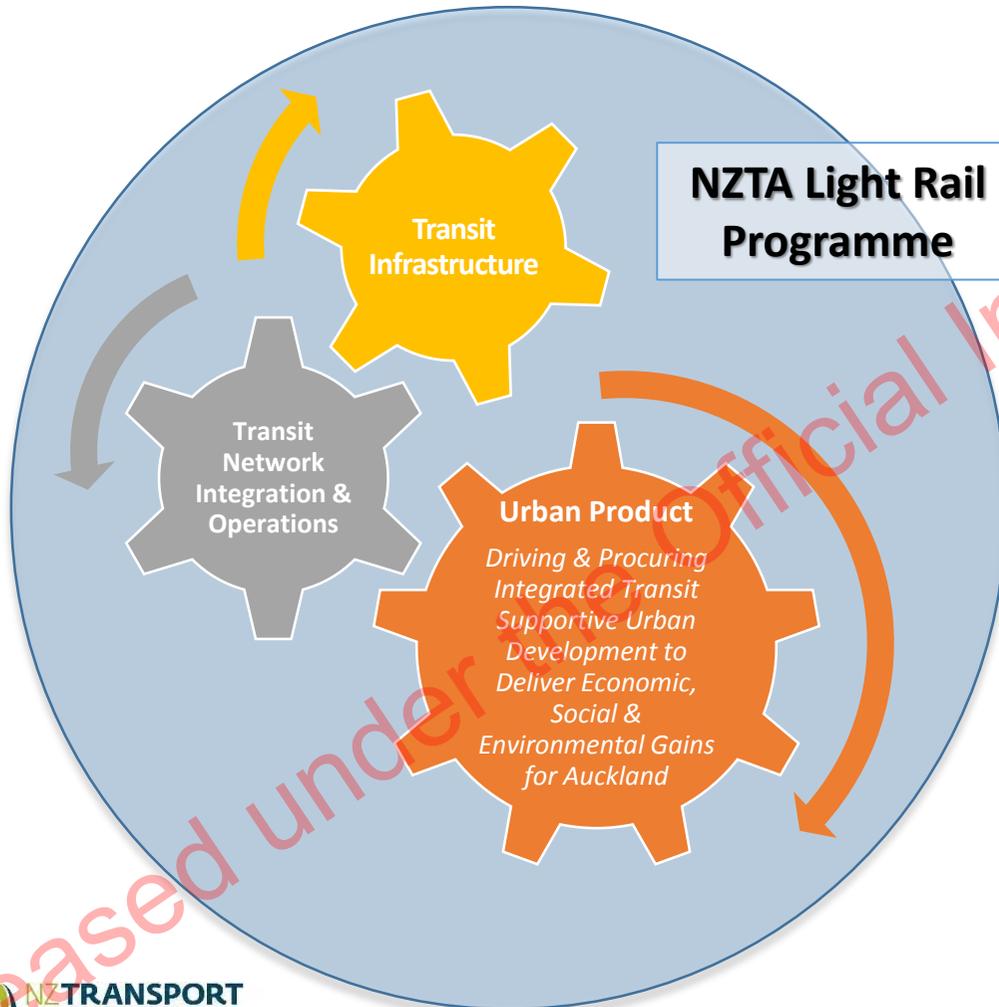
Provide a step-change in transport accessibility to the strategically important economic hubs of the City Centre and Auckland Airport precinct by delivering a high quality, reliable and frequent light rail link.

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



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

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

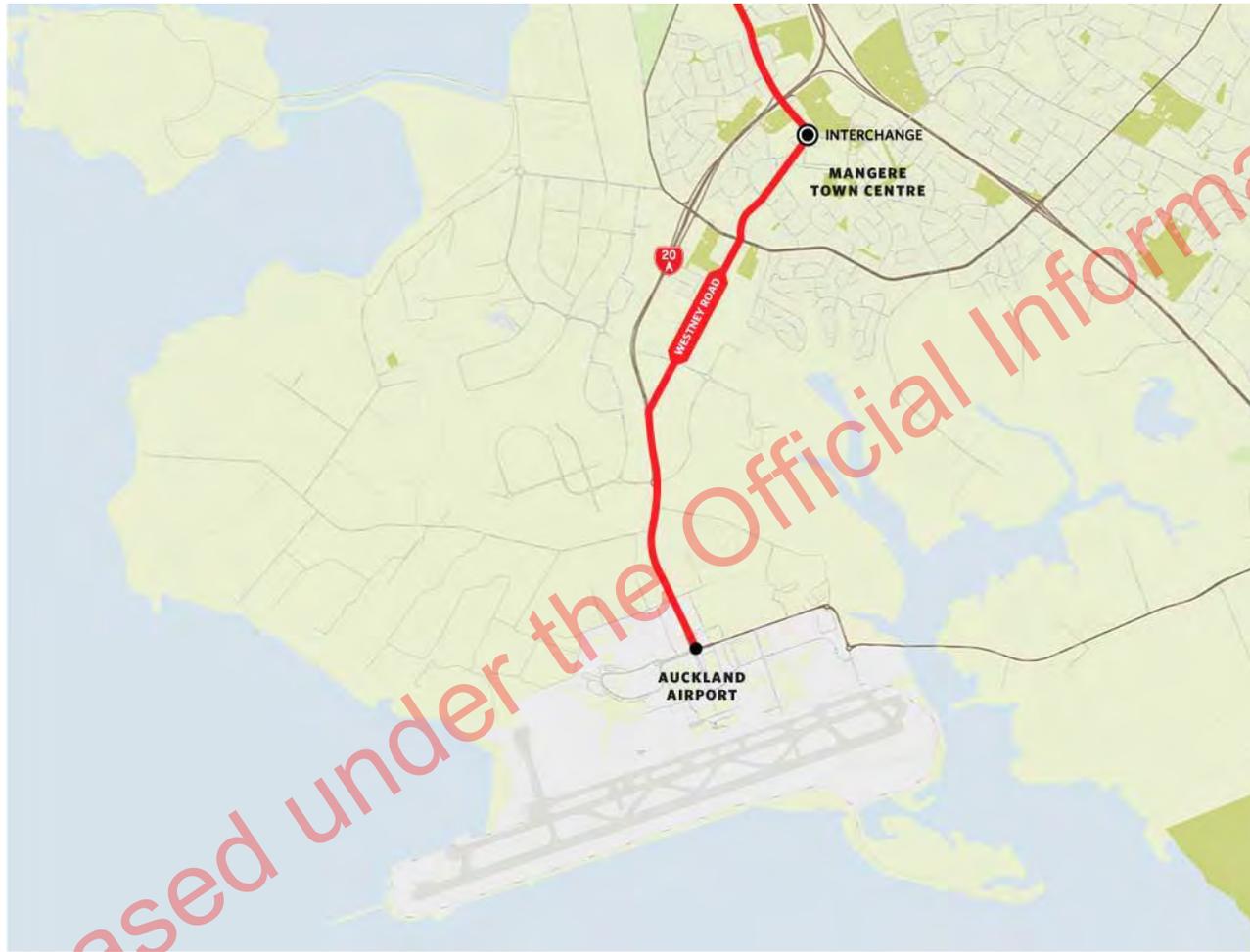


Key Features

- 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

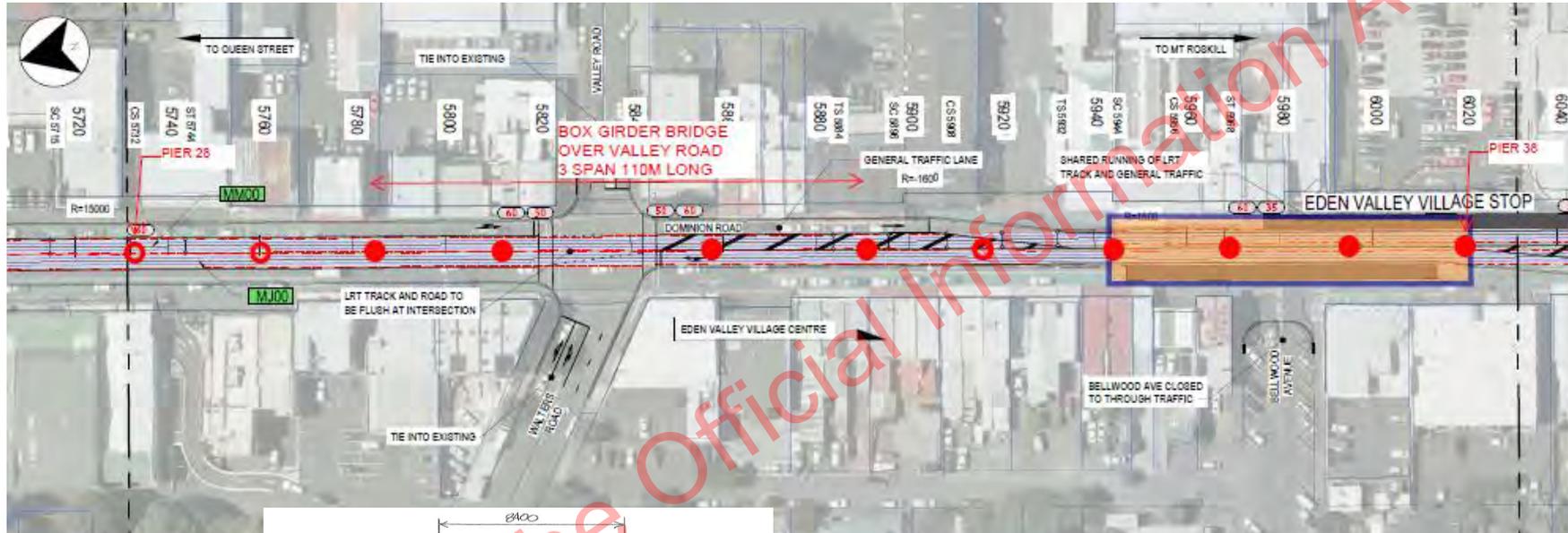


Key Features

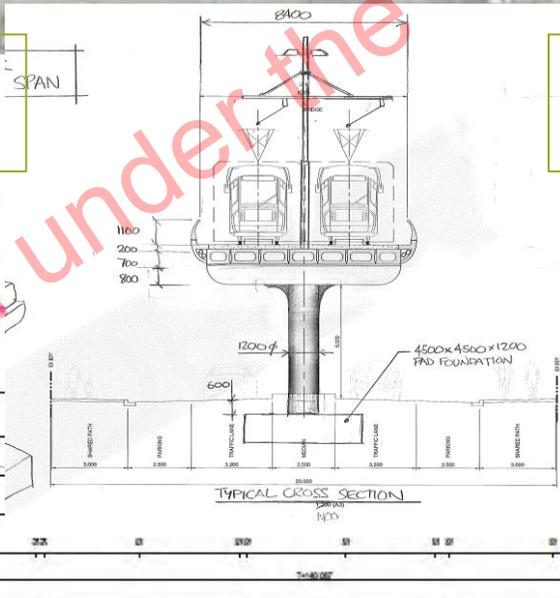
- On street running along Jordan Ave and Westney Rd
- Dedicated corridor from SH20A to Airport



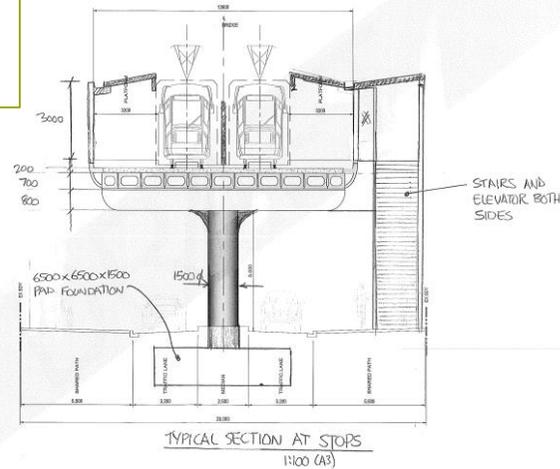
An elevated structure has been considered along Dominion Rd...



Typical Cross Section



Typical Cross Section at Stops



CHANGING	57200	57300	57400	57500	57600	57700	57800	57900	58000	58100	58200	58300	58400	58500	58600	58700	58800	58900	59000	59100	59200	59300	59400	59500	59600	59700	59800	59900	60000	60100	60200	60300	60400
VERT. ALIGN	G+4.000% L+0.021 182																																
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EX GROUND LEVEL	57400	57500	57600	57700	57800	57900	58000	58100	58200	58300	58400	58500	58600	58700	58800	58900	59000	59100	59200	59300	59400	59500	59600	59700	59800	59900	60000	60100	60200	60300	60400		
HORIZ ALIGN	T+40.000																																

...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		Operating & Maintenance	Operating Costs	
	P50	P95			\$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		Infrastructure cost deferral		22
Congestion reduction	46				
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					
Agglomeration	943	1.1			
Imperfect Competition	15.4				
			Costs (NPV, \$M)		
			Capital	2,631	
			O & M	327	
			TOTAL	2,958	



Released under the Official Information Act 1982

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