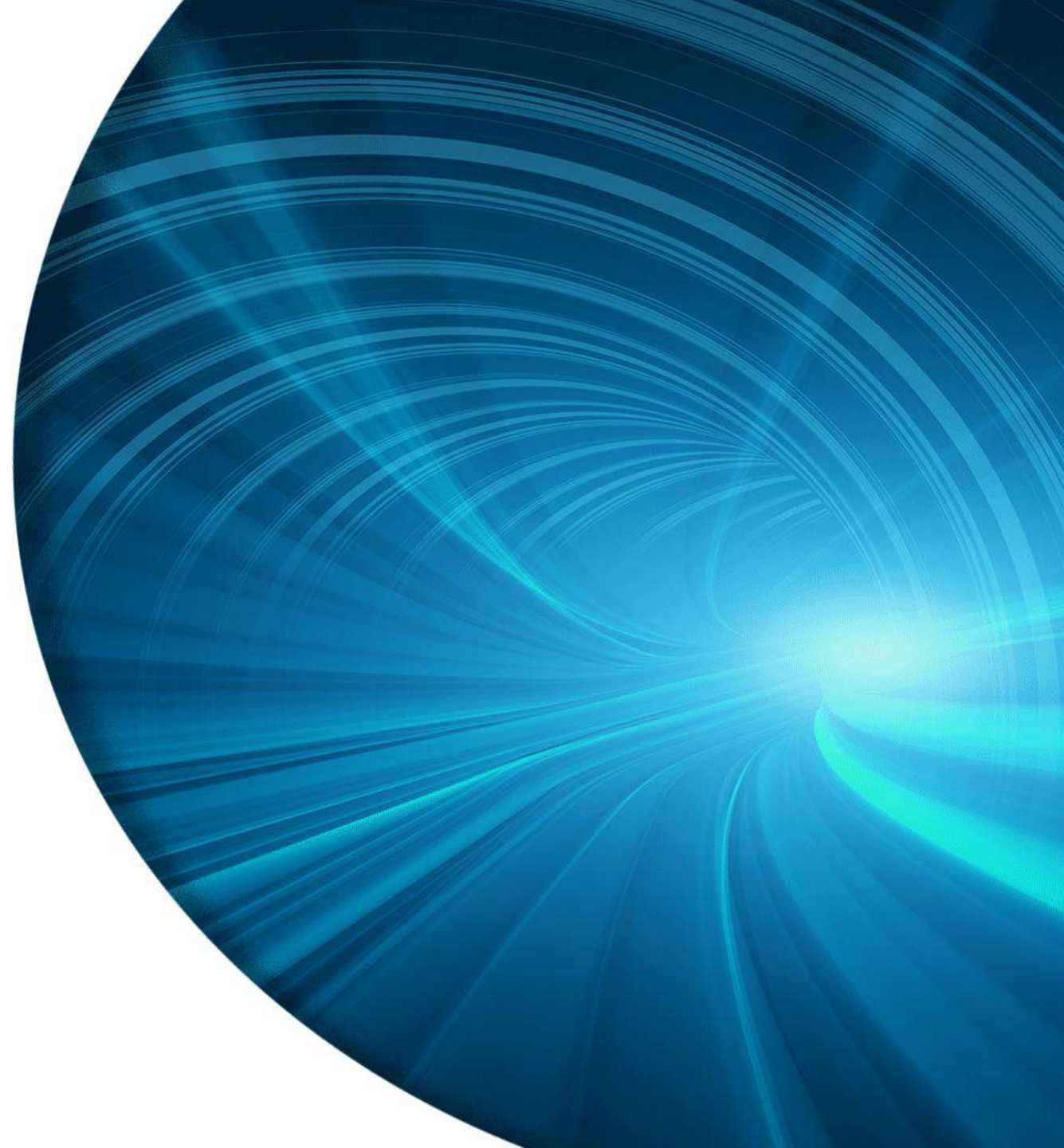




Integrating Sustainability from Design to Delivery: Lessons from City Rail Link

Dr Doug Boddy
CEP 2026
26 May 2026





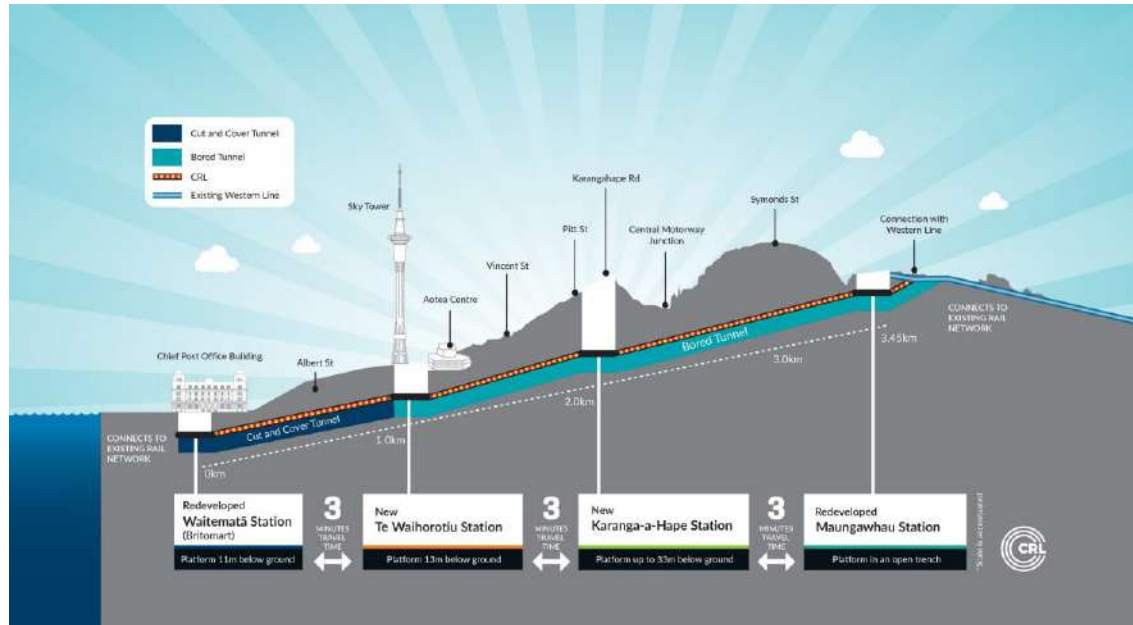
THE CHALLENGE

- \$5.5bn underground megaproject
- Dense city, live rail, heritage constraints
- Unprecedented environmental & social scrutiny



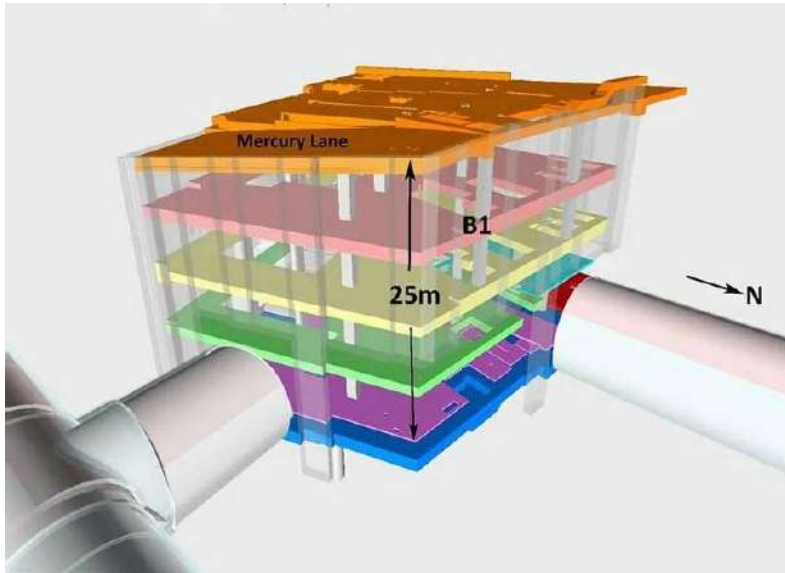
WHAT WAS AT STAKE?

- Construction emissions and environmental performance
- Disruption to communities and transport users
- Cultural responsibility and long-term legacy



WE NEEDED STRUCTURE

Sustainability had to be embedded — not bolted on



IS RATING SCHEME

Design and As Built

- Shared language for decisions
- Whole-of-life focus



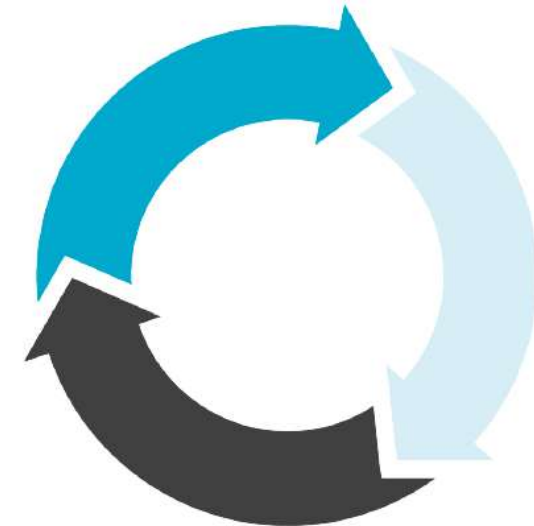
MAHI RAUORA ARATOHU

- Co-developed with mana whenua
- Adapts IS framework to te ao Māori
- Verified through IS As-Built as a world-first



ISQA Infrastructure
Sustainability
Council of Australia

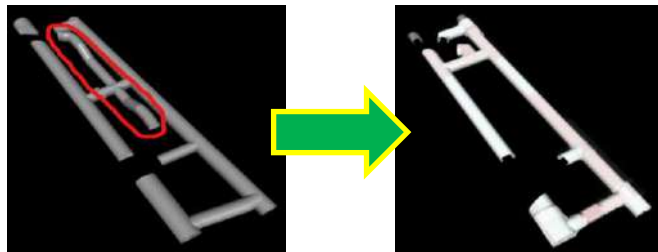
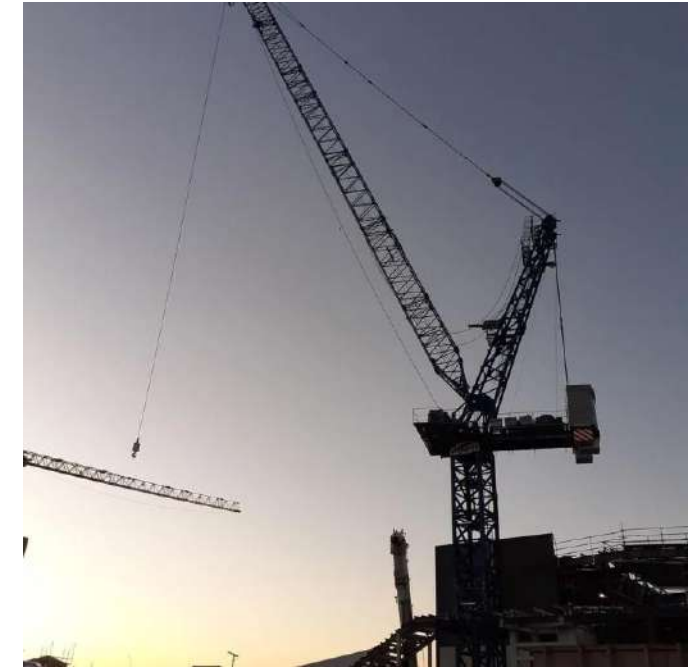
City Rail Link
IS Technical Manual | Mahi Rauora Aratohu
Version 1.2



DESIGNING OUT CARBON

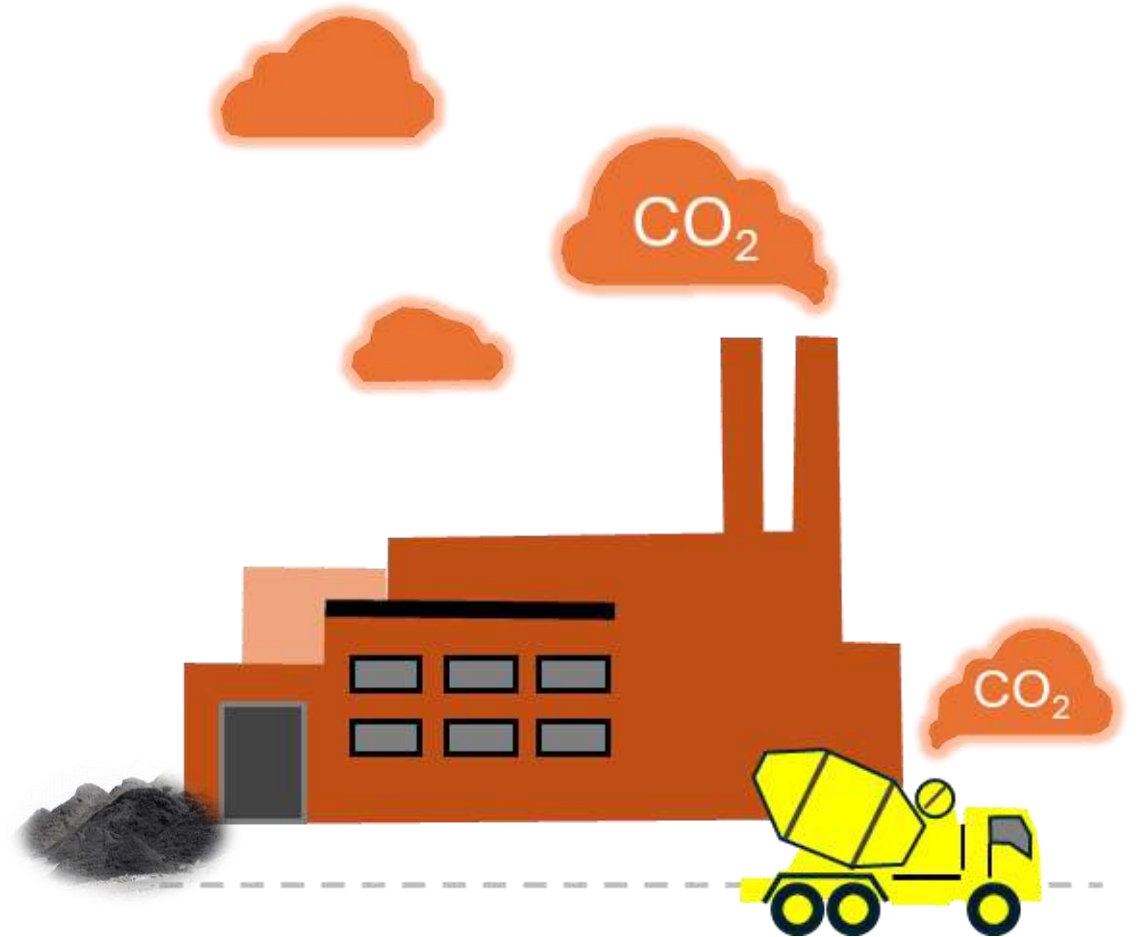
Sustainability embedded from the start — built into core project metrics, not added later:

- ~17% reduction (64,144 tCO₂e) in total whole-of-life carbon
- 13% reduction (27,583 tCO₂e) in embodied carbon



LOW-CARBON CONCRETE

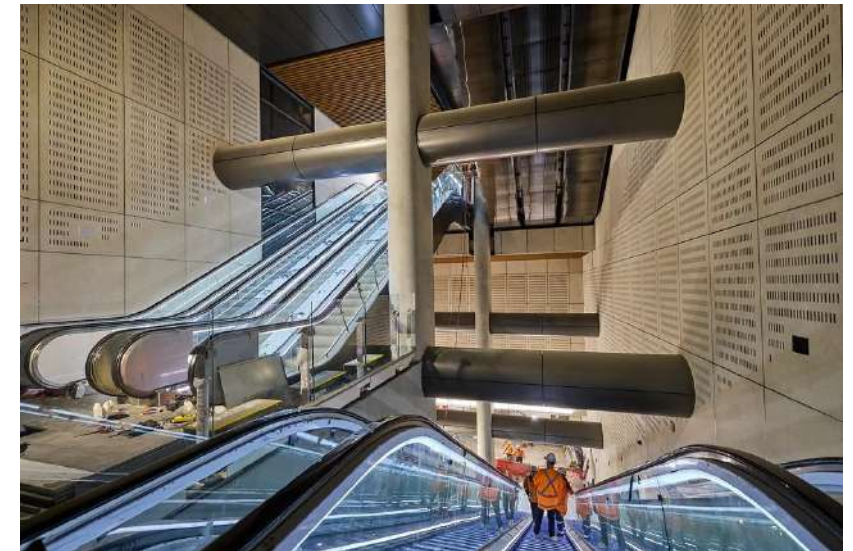
- 21,285 tCO₂e avoided
- ~10% reduction in total project carbon footprint
- 29% cement replacement



- ~70 bespoke low-carbon concrete mixes
- Equivalent to removing ~6,000 truckloads of high-carbon concrete
- Cement replacement rate >10x New Zealand's average (~2% at project start)

SMARTER TUNNELS

Design decisions mattered more than offsets



CIRCULAR ECONOMY

- Retention & relocation of heritage assets
- Integration of heritage into delivery
- Material recovery and reuse

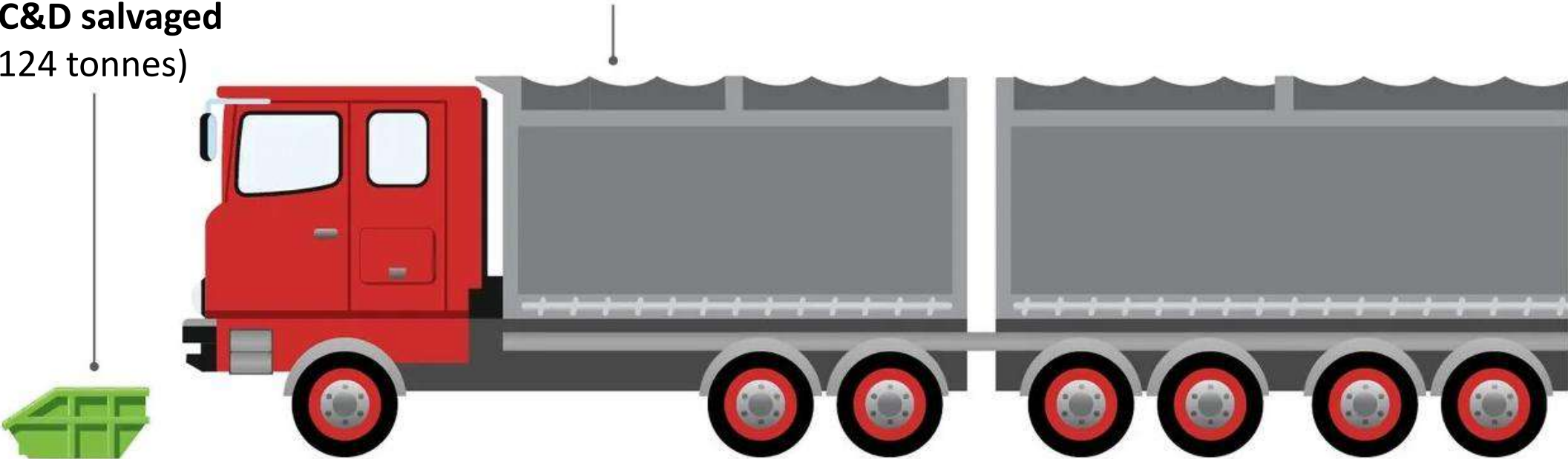


WASTE OUTCOMES

95% C&D diverted
(66,847 tonnes)

10% C&D salvaged
(7,124 tonnes)

100% clean fill diverted from landfill
(671,956 tonnes)



SOCIAL OUTCOMES

- Progressive Employment Programme (PEP)
- 70% employed post-programme
- \$151 million spent with Māori and Pasifika-owned businesses
- 305 social enterprises and socially innovative businesses engaged



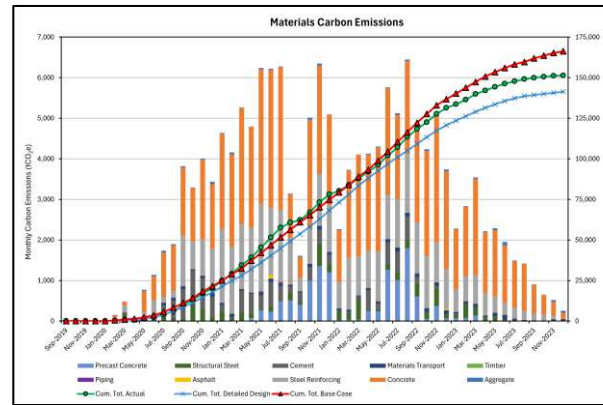
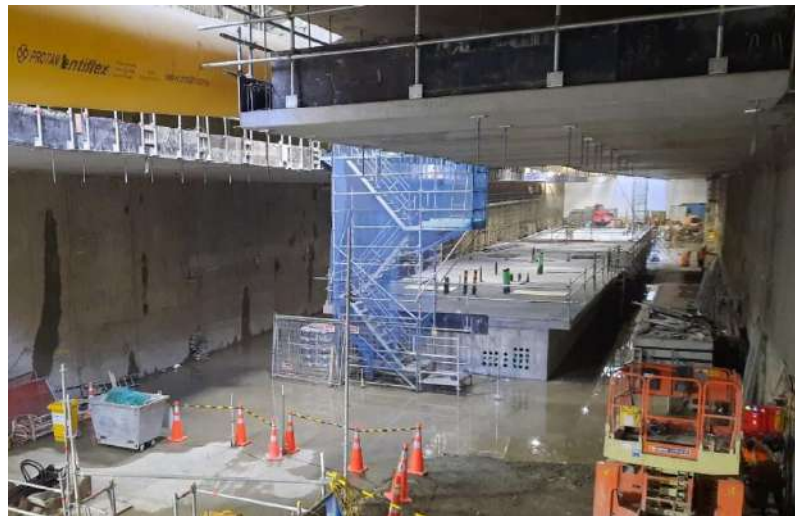
TEAMS

People delivered the outcomes



WHAT DIDN'T GO SMOOTHLY?

- Evidence burden underestimated
- Trust takes time
- Verification is hard



Sustainable Procurement Policy

Link Alliance aspires to be exemplary in the practice of sustainability, encompassing the four well-beings (cultural, social, environmental, and economic) and aligning and supporting kaitiakitanga, which encompasses:

- Protecting, restoring and enhancing the mauri (life supporting capacity) of te ao Māori.
- Fulfilling spiritual, emotional and inherited responsibilities to the environment.
- Supporting the mana of te taiao (the environment).
- Ensuring the welfare of the people.

We are committed to achieving excellent cultural, social, environmental, and economic outcomes throughout the life cycle of the City Rail Link asset (design, construction, maintenance and operations).

Sustainable Procurement will drive positive cultural, social, and economic outcomes, while providing a benefit to the environment through reduced resource use and greenhouse gas emissions. Sustainable procurement will support the outcomes identified in the Link Alliance Objectives and CRLL's Sustainability and Social Outcomes strategies.

Commitments

- Set new benchmarks in sustainable and environmental performance through procurement, covering cultural, social, environmental and economic aspects.
- Create training and employment opportunities within the Alliance and its supply chain, with a focus on Mana whenua, Māori, Pasifika, and Youth.
- Deliver supply chain opportunities for social enterprises and socially innovative businesses, with a focus on Mana whenua, Māori and Pasifika businesses.

Objectives

Cultural, social, environmental, and economic considerations will be embedded in our procurement processes.

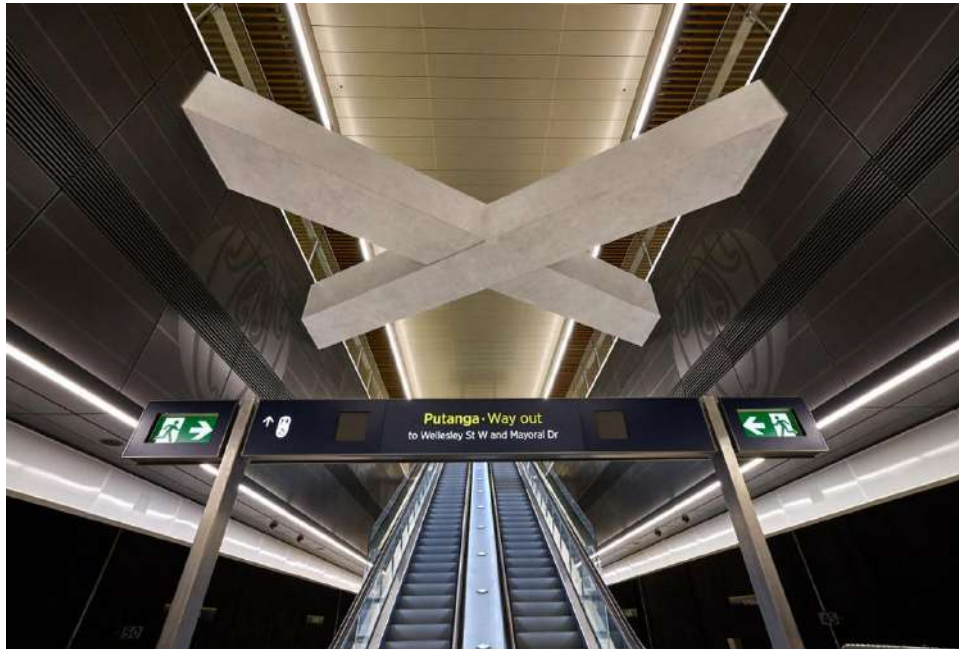
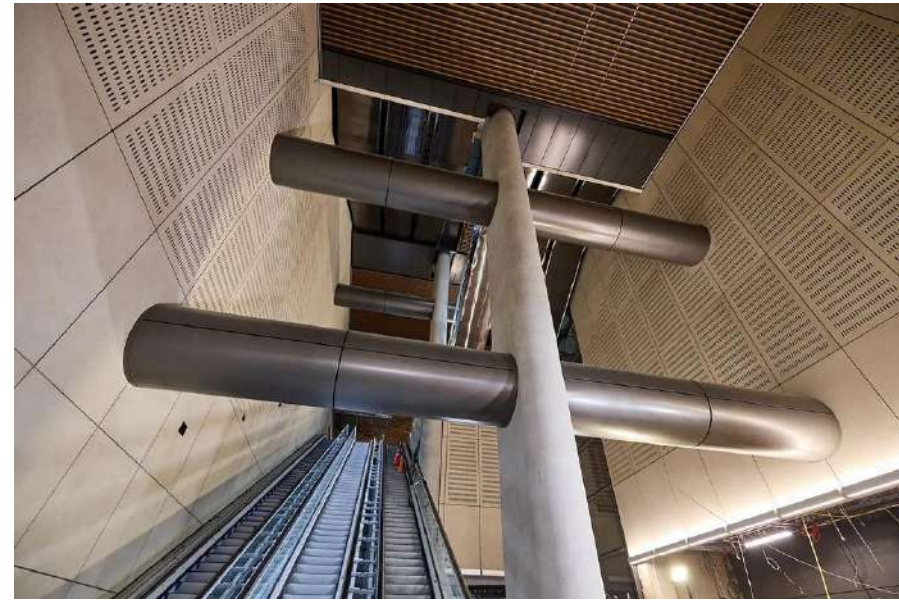
Link Alliance will, where possible:

- Require suppliers to provide details of their environmental and sustainability policies and practices during tendering for products and services
- Apply sustainability metrics to the evaluation of tenders received from suppliers and subcontractors
- Choose suppliers and products with demonstrable positive cultural, social, environmental, and economic impacts
- Support procurement from suppliers and businesses within Tāmaki Makaurau

December 2019

LESSONS

- Early integration is critical
- Shared language enables alignment
- Culture can't be retrofitted



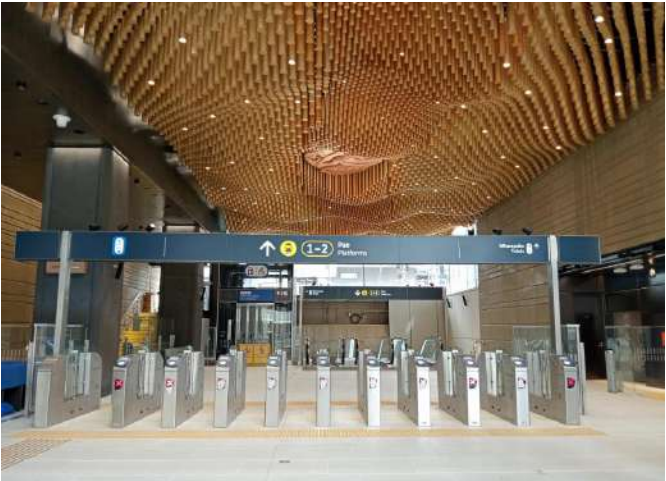
LEGACY

He waka eke noa



REFLECTION

What will you take into your next project?



KEY TAKEAWAY

You can't retrofit culture or sustainability — you have to start with it





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Q&A