Transit – Value and Procurement

Presented by Dr. Kevin Doherty

Construction Clients' Group
CONSTRUCTING EXCELLENCE

TRANSIT NEW ZEALAND
ARARAU AOTEAROA

Content

- *Who we are*
- *Environmental Scan – Whats changing?*
- *What we do*
  - *Programming*
  - *Procurement*
  - *Current Case Studies and Trials*
- *UK Study Tour Feedback*

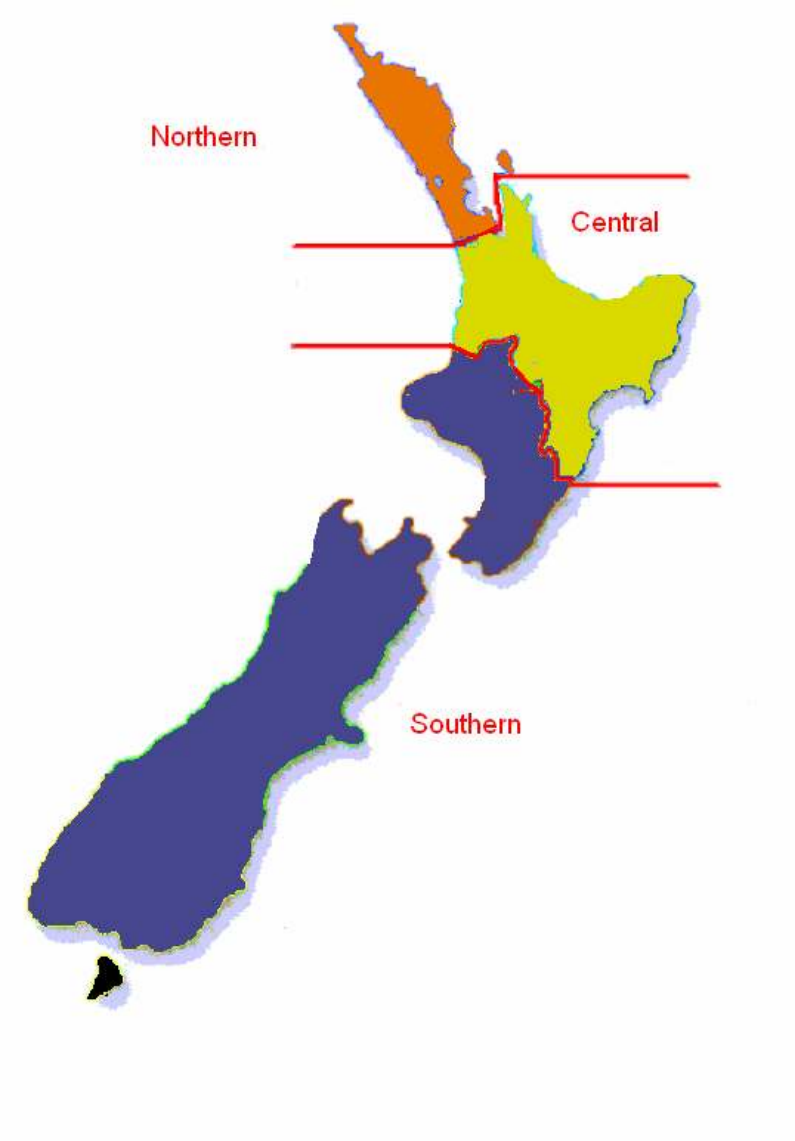
Who we are

- Crown Entity responsible for state highways

- The strategic roads and motorways that are about 12% (10,894 km) of all New Zealand's roads, but account for about half of the 36 billion vehicle kilometres every year.

- Annual budget is currently over $1 billion and we have about 350 staff.

Transit's Locations



- 3 Regions
  - National Office Wellington
- 7 Regional Offices
  - Auckland, Hamilton, Napier, Wanganui, Wellington, Christchurch and Dunedin
- 3 Satellite Offices
  - Whangarei, Tauranga and Blenheim

Statutory Objective

- To operate the state highway system in a way that contributes to an *integrated*, *safe*, *responsive*, and *sustainable* land transport system
- In meeting its objective, Transit must exhibit a sense of social and environmental responsibility

Goals

- Ensure state highway corridors make the optimum contribution to an integrated multi-modal land transport system.
- Provide safe state highway corridors for all users and affected communities.
- State highways will enable improved and more reliable access & mobility for people and freight.
- Improve the contribution of state highways to economic development.
- Improve the contribution of state highways to the environmental and social well-being of New Zealand, including energy efficiency and public health.

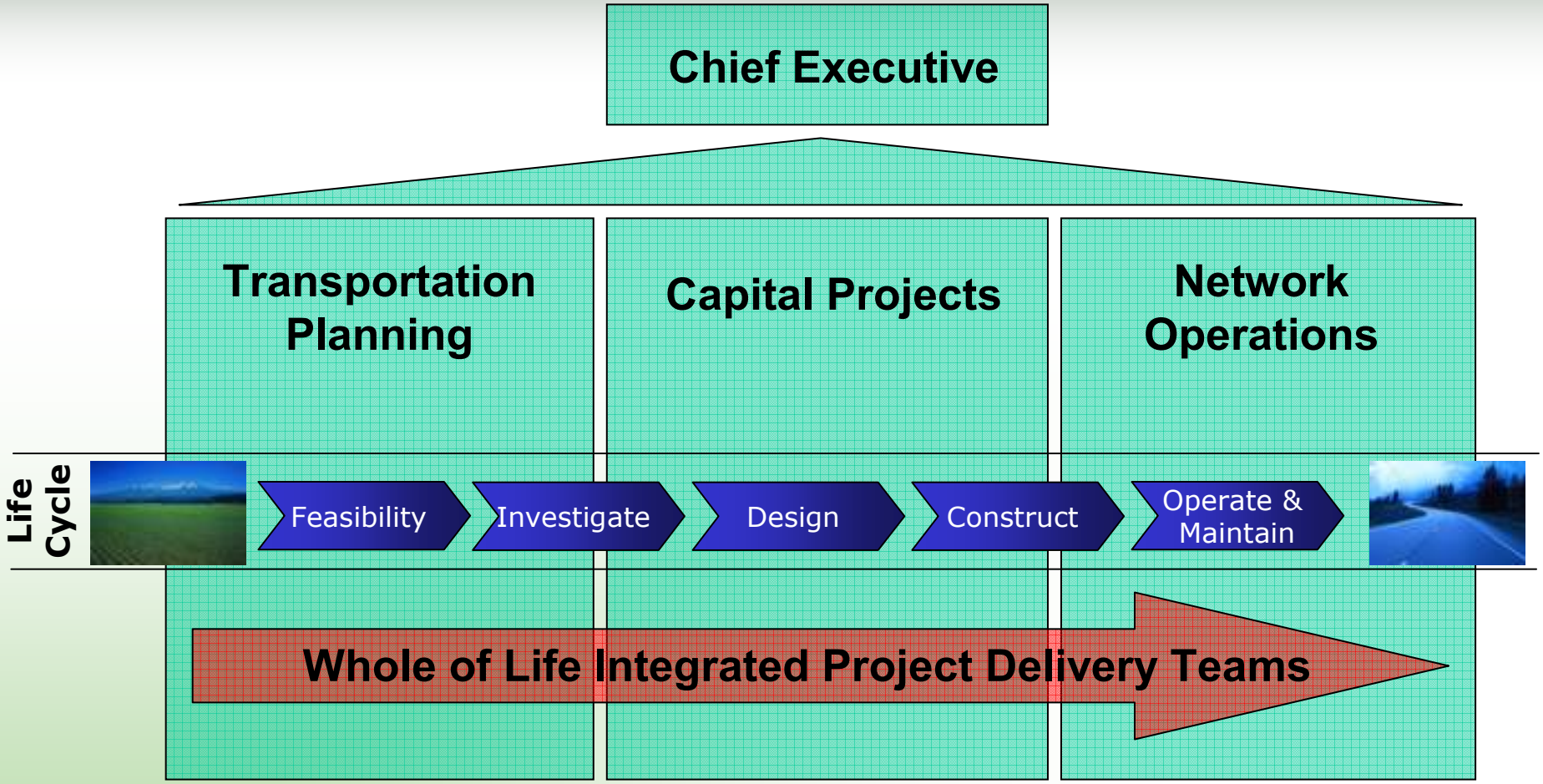
Transit's Definition of Value for Money

- ✓ VfM is the principal driver of performance.

$$\text{VfM} = \frac{\text{Functional Performance}}{\text{Resources Consumed}}$$

- ✓ Functional Performance
  - ✓ Benfit from economic (including finacial), social and environmental performance
  - ✓ Includes all tangible benefits associated with BCR
  - ✓ Difficult to determine as includes intangibles
- ✓ Resources Consumed
  - ✓ Costs incurred to deliver the functionality sought

Transit's Structure



Capital Projects

- **Responsible for Capital Projects**
  - **Programming,**
  - **Procurement; and**
  - **Delivery**
- **2006/07 Fiscal Responsibility**
  - **Large Projects (> $3.4M) $455M**
  - **Block Projects (< $3.4M) $85M**


STOP
Environmental Scan
Whats Changing?

Over past 3 years Transit experiencing significant price pressure

- ✓ Input prices are increasing:
  - ✓ The world is growing fast and this is increasing competition for resources and services, especially energy and oil, steel and freight capacity
    - ✓ Particularly driven by growth in China and India
  - ✓ Domestic buoyancy in the roading sector and in other construction sectors also driving up prices
    - ✓ Growth constrained by labour and staff availability
    - ✓ Major capital investment in plant and resources required following a long period of marginal growth

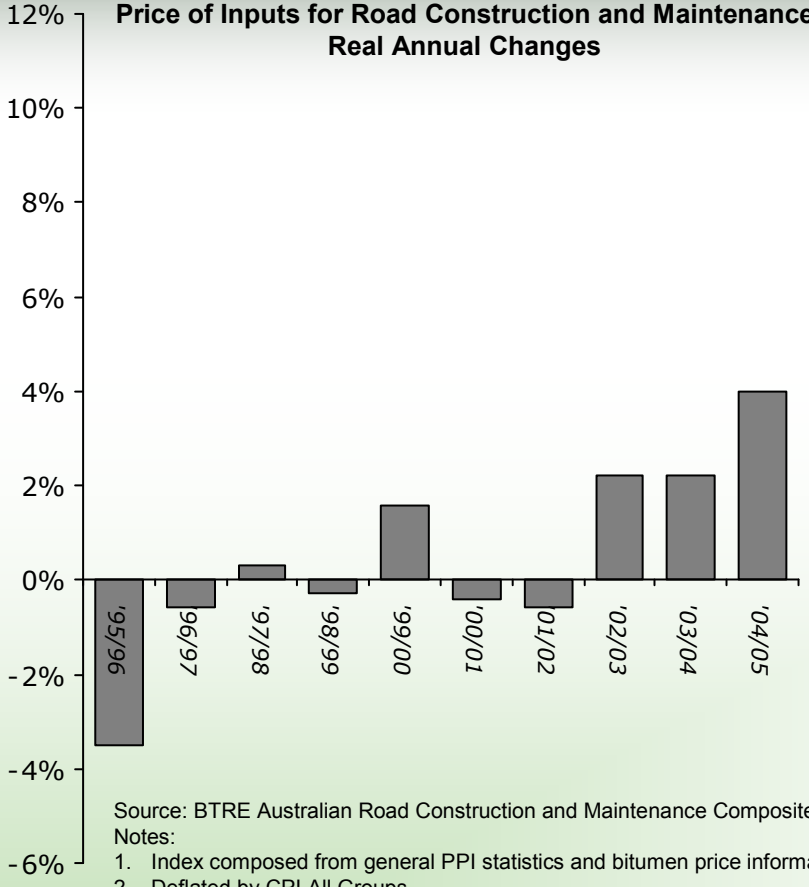
Increased Cost of Road Construction Inputs

	Compounded % over 3 years
Construction material inputs (concrete, steel,quarry products, bitumen etc)	10.3%
Construction Plant and Equipment	2.2%
Fuel	6.5%
Manual Labour	6.1%
Contractors Staff	2.8%
Margin Expectation	2.0%
	30%

Australia Experiencing Similar Price Pressure

Australia

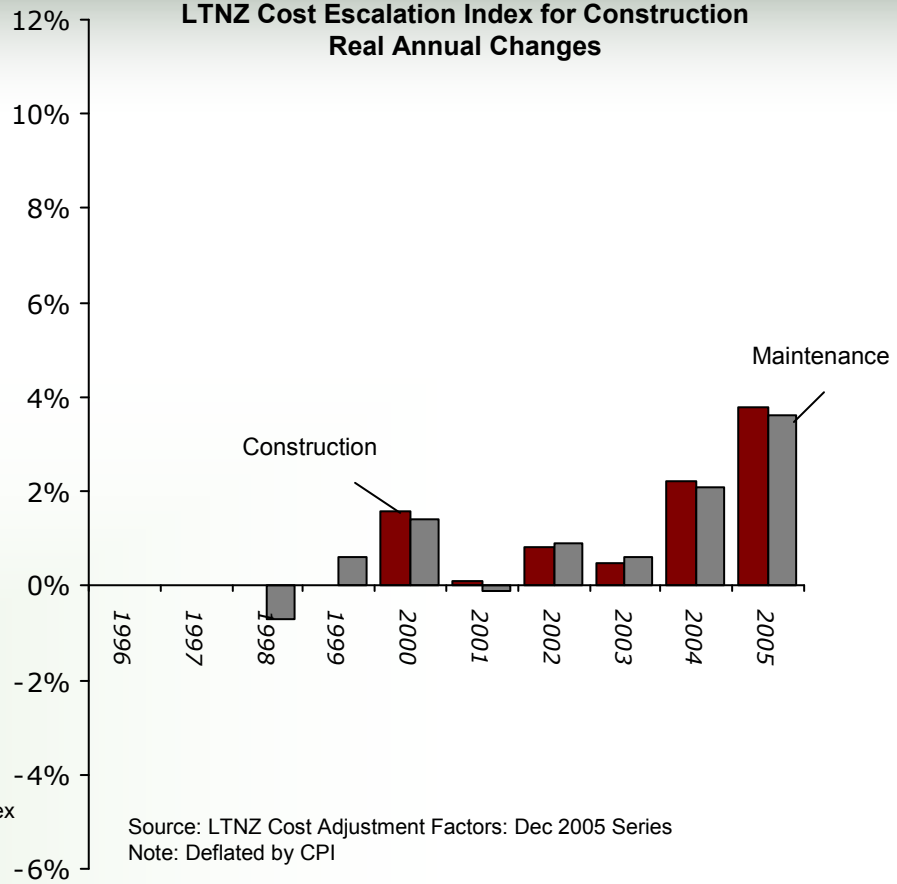
Price of Inputs for Road Construction and Maintenance
Real Annual Changes



Source: BTRE Australian Road Construction and Maintenance Composite Price Index
Notes:
1. Index composed from general PPI statistics and bitumen price information
2. Deflated by CPI All Groups
3. Year ended 30 June

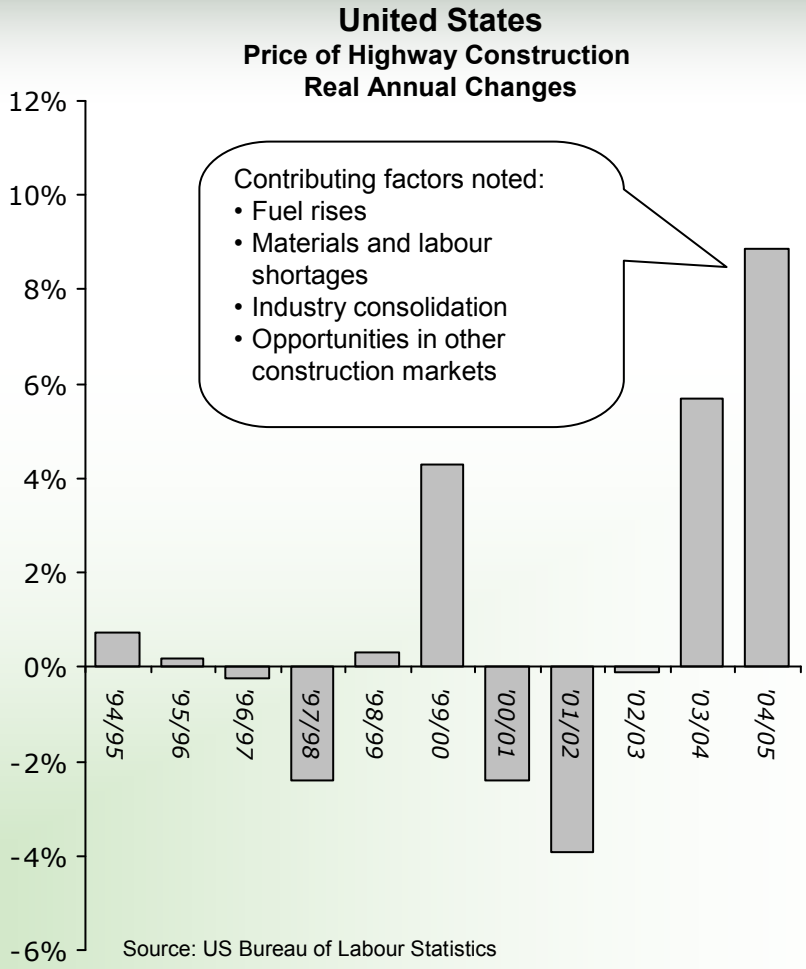
New Zealand

LTNZ Cost Escalation Index for Construction
Real Annual Changes

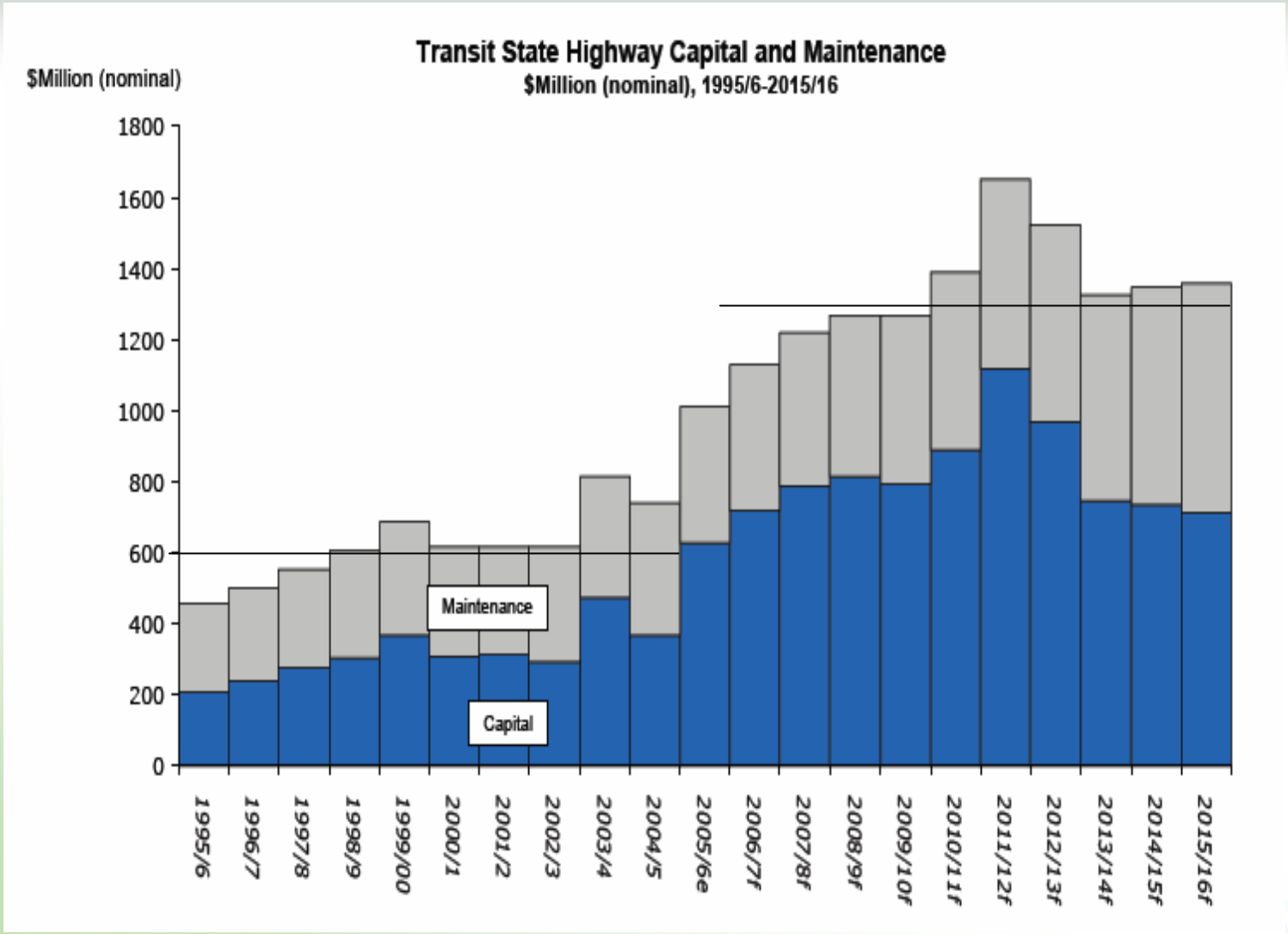


Source: LTNZ Cost Adjustment Factors: Dec 2005 Series
Note: Deflated by CPI

US Experiencing Similar Price Pressure



Increasing level of capital works investment in State Highways consisting of larger, more difficult and higher value urban projects




STOP
What we do
Programming

CIVIL CONSTRUCTION PROJECTS PROGRAMME (LARGE PROJECTS) 2006 - 2009 - (State Highway Forecast) 18 October 2006

CIVIL CONSTRUCTION PROJECTS PROGRAMME (LARGE PROJECTS) 2006 - 2009 - (State Highway Forecast) 18 October 2006

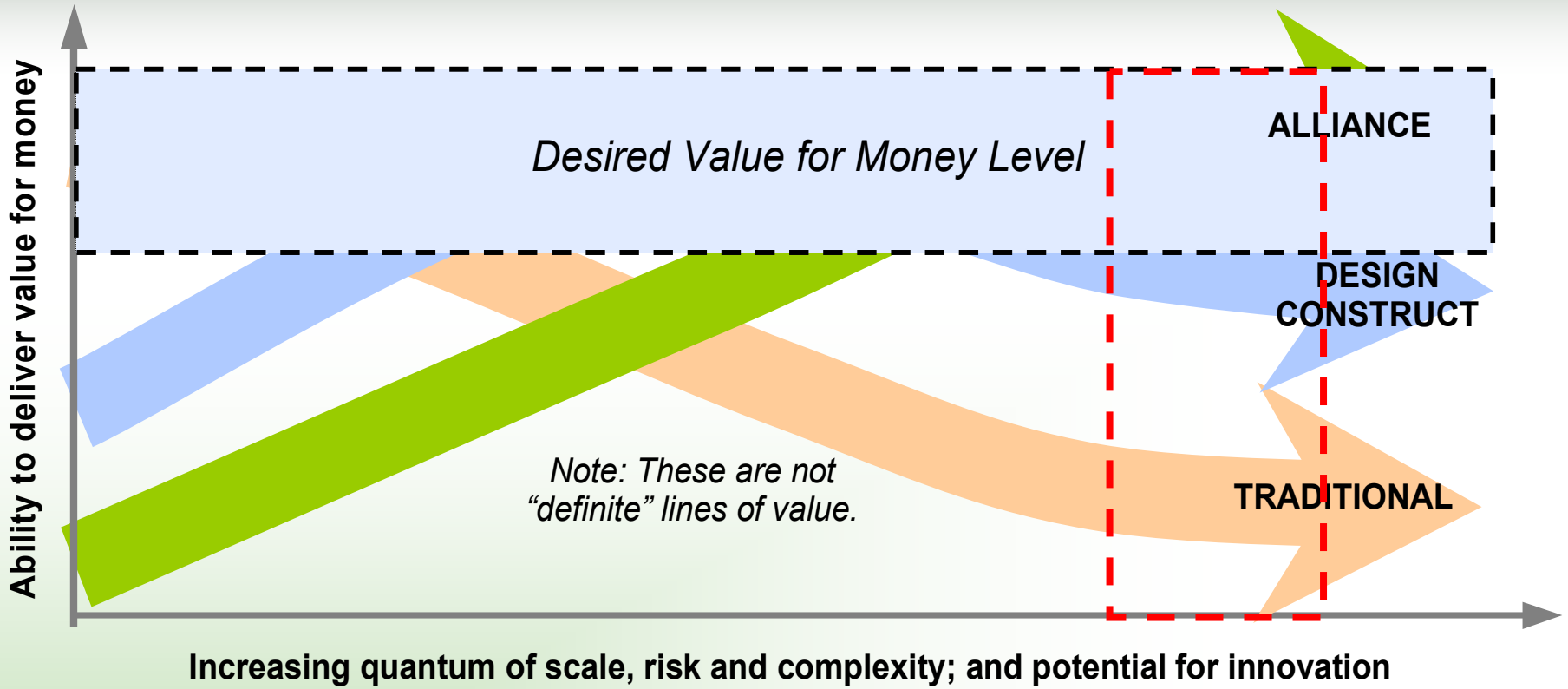
TRANSIT NEW ZEALAND


STOP
Procurement

Current Procurement Model Portfolio

- **Large Capital Projects**
  - Traditional (Measure and Value / Lump Sum)
  - Design and Construct
  - Project Alliancing
- **Block Capital Projects (< $3.4M)**
  - Traditional (Individually tendered)
- **Maintenance**
  - Traditional (NMM / NMC)
  - Hybrid
  - Performance Specified Maintenance Contracts (10 year)

Procurement Model Portfolio Application



- ***VFM STARTS FROM GOOD PROCUREMENT!***


STOP
Current Case Studies

Wellington Inner City Bypass

- $40 M
- Traditional
- Combined M&V and Lump Sum commercial arrangements

- Heritage building posed high risk as unknown quantum of restoration
- Risk retained by Transit

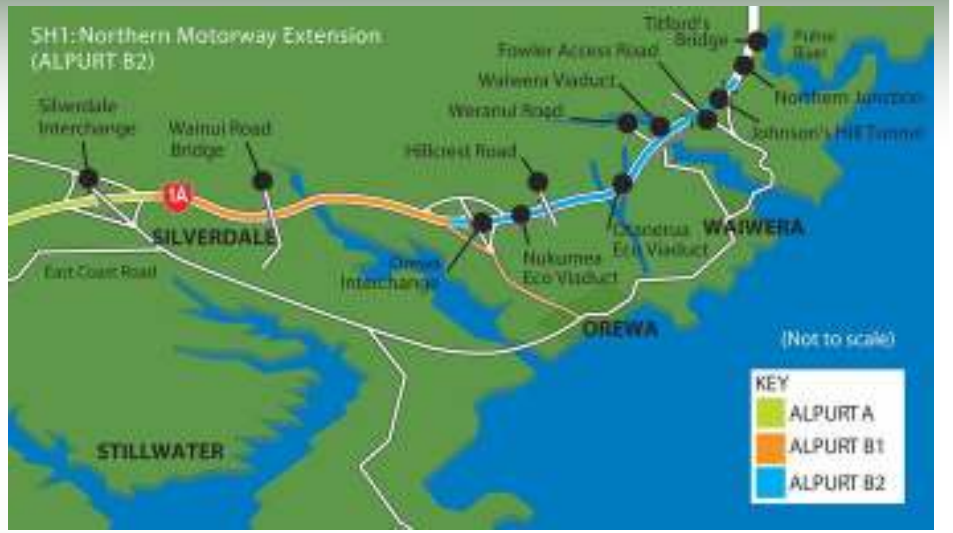
Grafton Gully

- **The $66 million Grafton Gully Project (GGP) was successfully delivered using the innovative Alliance model.**

- **<u>Value for money</u> analysis was commissioned to compare the Alliance model with a theoretical DC and Traditional (M&V) model.**

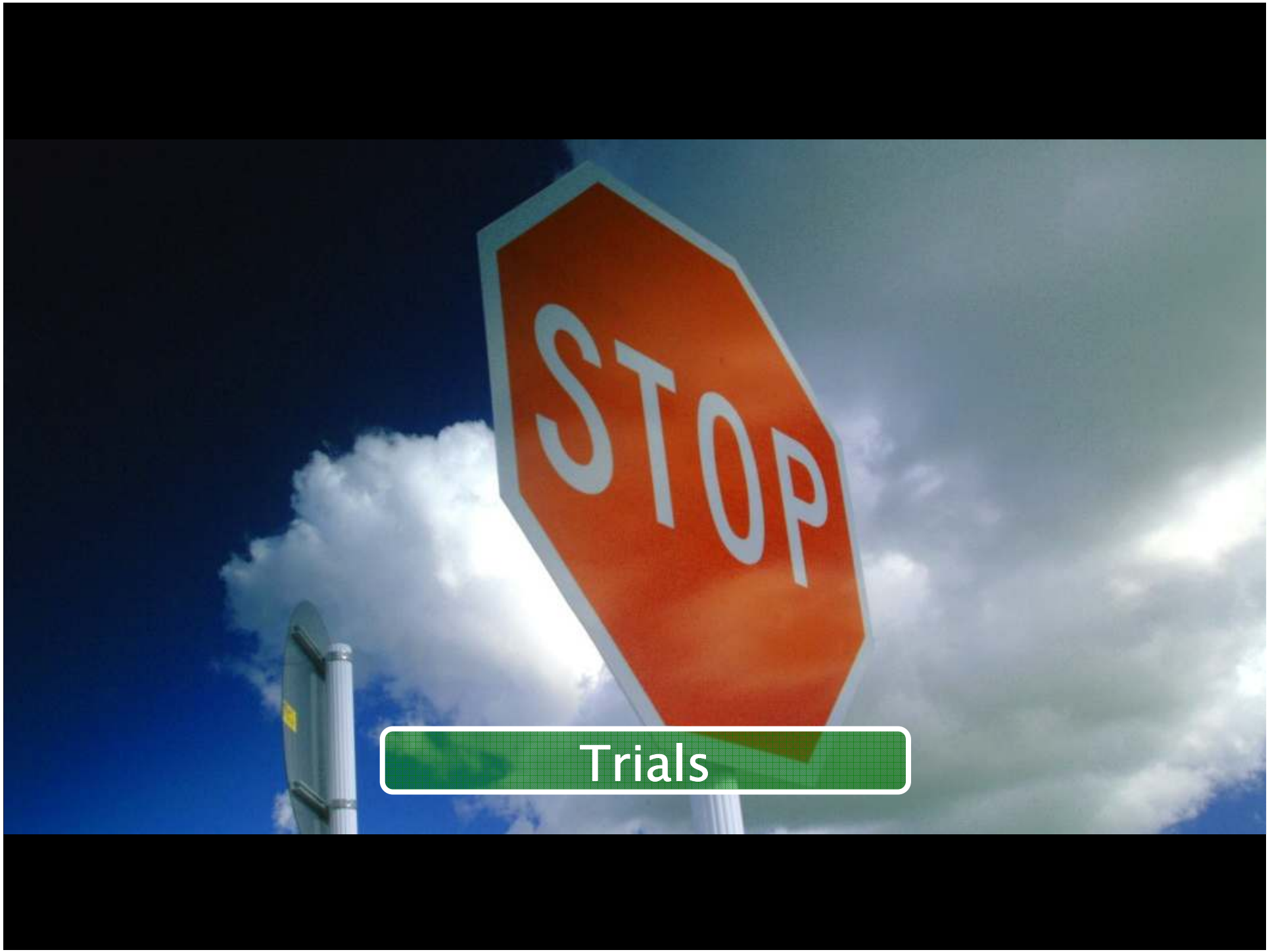
Alpurt B2

- The motorway involves the construction of twin tunnels, five major new culverts and seven major bridges.
- ALPURT B2 is the last stage of the realignment and extension of the Northern Motorway between Albany and Puhoi.
- Transit has established an alliance of organisations working in partnership to design and build ALPURT B2. The Northern Gateway Alliance.



Key Differentiators

- ***Time performance – ahead of schedule***
- **Fast procurement – non-price**
- **Good risk management**
- **Non-adversarial – aligned goals**
- **Focus on stakeholders**
- **Promotion of innovation/engineering excellence**
- **Flexibility to respond**
- **Whole of life focus**


STOP
Trials

Trial Procurement Model

- **Large Capital Projects**
  - **Dual TOC Alliance (D&C / Project Alliance Hybrid)**
  - **Early Contractor Involvement**

Manukau Harbour Crossing

- Bridge duplication over Manukau Harbour

- Dual TOC Alliance
- DC / Alliance Hybrid
- Programme constrained
- Flexibility required
- Opportunity for innovation
- Tangible demonstration of VfM

Centennial Highway Median Barrier

- Wire rope median barrier installation
- Early Contractor Involvement
- $15 M
- Difficult Traffic and Constructability issues
- Close stakeholder liaison
- Fast tracked procurement

- Early results positive
- Successful negotiation of construction phase
- Excellent innovation achieved
- Good response from critical stakeholders
- Model requires refinement

Looking Forward

- **Block Capital Projects (< $3.4M)**
  - **Investigating Framework Contracts**
    - **Professional Services and Physical Works**
    - **Small market supplier impact**
    - **Small projects allow market entry**
- **Maintenance**
  - **Maintenance Alliance**

Looking Forward

- **Two > $1 Billion projects on the horizon**
  - **How will these be procured?**
- **More Collaborative Contracting**
  - **ECI model being refined and proposed for future projects**
  - **Project Alliances**
  - **Investigating DBFO**

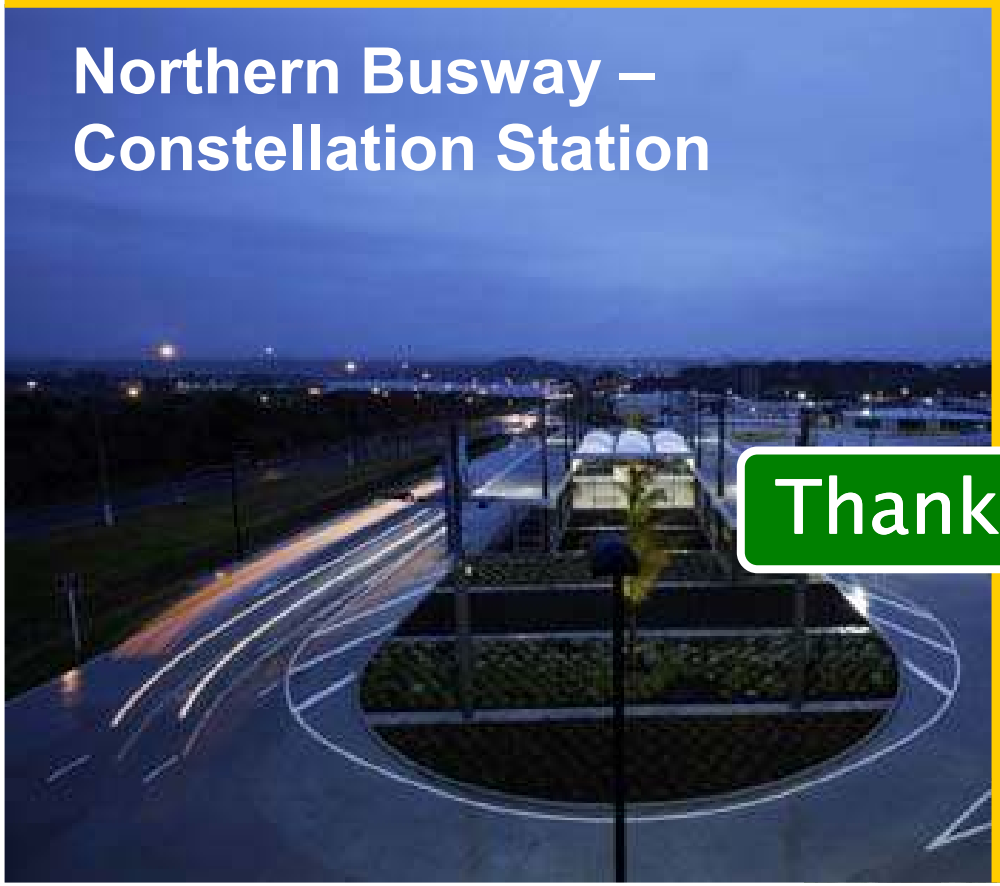

STOP
UK Study Tour Feedback

Whas on the cards

- Investigation of Framework contracts for Transit's Block programme (regional)
- Commitment to more collaborative contracting
  - ECI and Project Alliance proposed for future contracts
- Demonstration projects proposed
  - Manukau Harbour Crossing and
  - Waterview Connection
- Likely that Transit will sign the CCG Charter
- DBFO under investigation (HA M25)
- Enhanced Supplier Relationship Management
- Lean contracting (useful background for evaluation)
- Will never ever eat eel and mash – ever!


Tunnels team about to see daylight
The southbound tunnel takes shape underneath Johnstone's Hill.


CMJ Stage 2


Northern Busway –
Constellation Station


Otanerua Eco Viaduct

Thank you