Alliance Contracting

Roly Frost
General Manager Operations
Transit New Zealand

- Concepts of alliancing
- Conventional alliance: Northern Gateway
- Competitive alliance: Manukau Harbour crossing
- Maintenance alliance: Milford Road

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Project Alliance

- An alliance is a commerical framework
- It is not a legal entity
- It is not the same as partnering

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Alliancing is most suited to

- High number of unknowns
- High degree of complexity
- Short time frames
- Intention to engineer value
- Dispersed expertise
- Larger value
- Continuous improvement and game breaking

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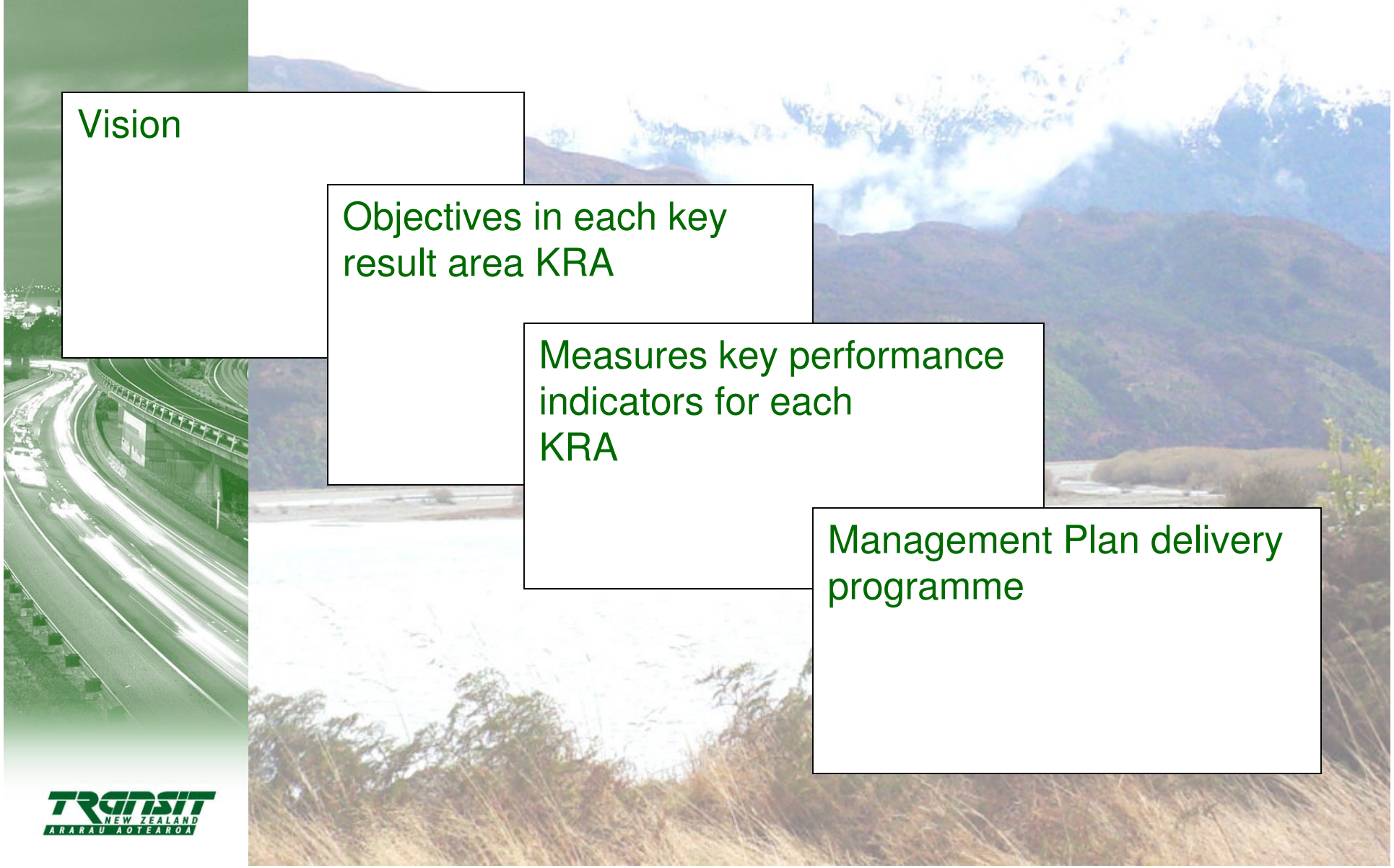
Performance Framework



Vision

Objectives in each key result area KRA

Measures key performance indicators for each KRA

Management Plan delivery programme

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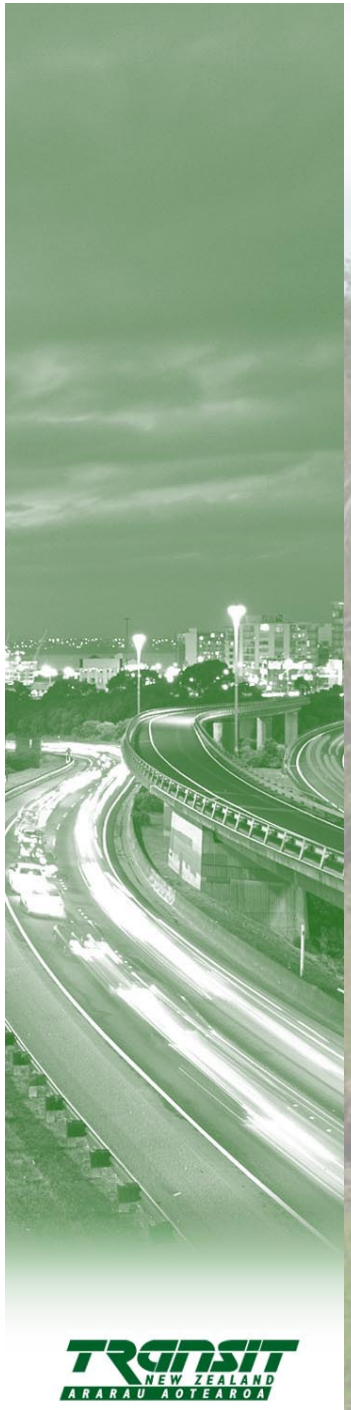

Performance Framework

People who will

- Make best for project decisions
- Be accountable for actions
- Show trust, integrity, respect

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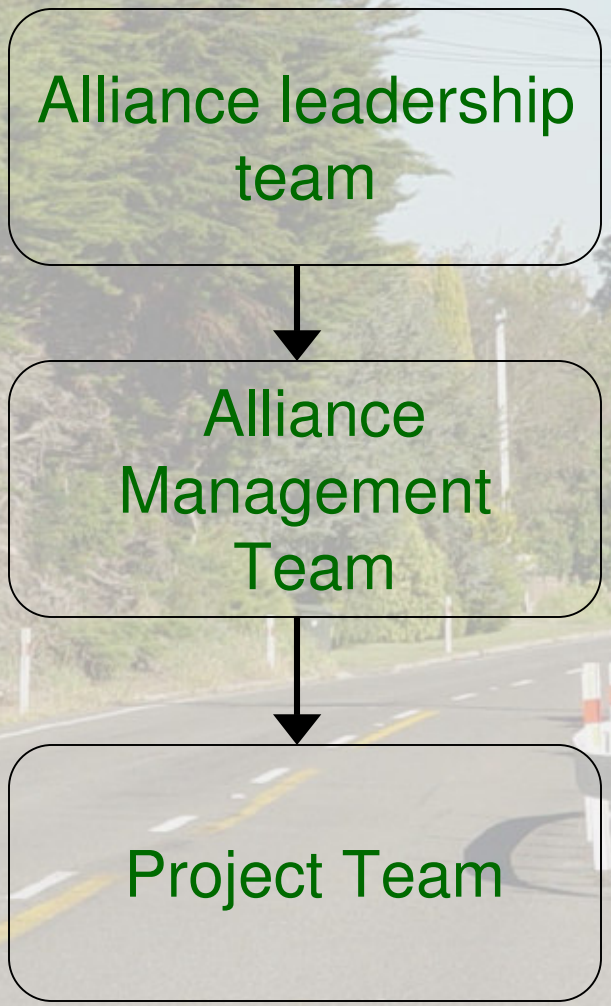
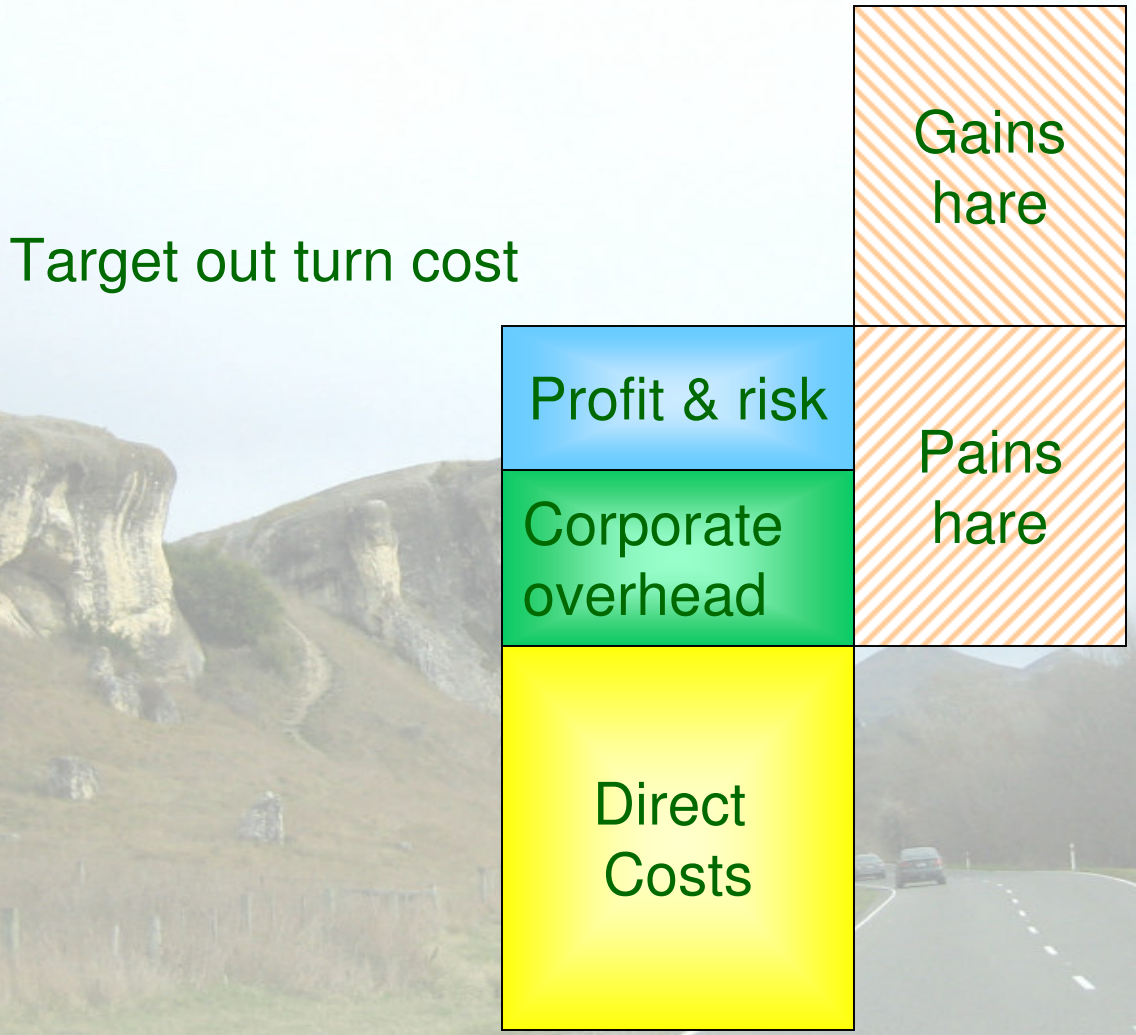
Performance Framework

Typical Structure



Support team: probity auditor, independent estimator, legal advisor, financial auditor.

Performance Framework



Purpose is to achieve game breaking results

Principals of gainshare

- Linked to real risks and benefits
- Only way to increase profit is gamebreaking performance
- Each party has incentive
- One KRA can't be played off against the other

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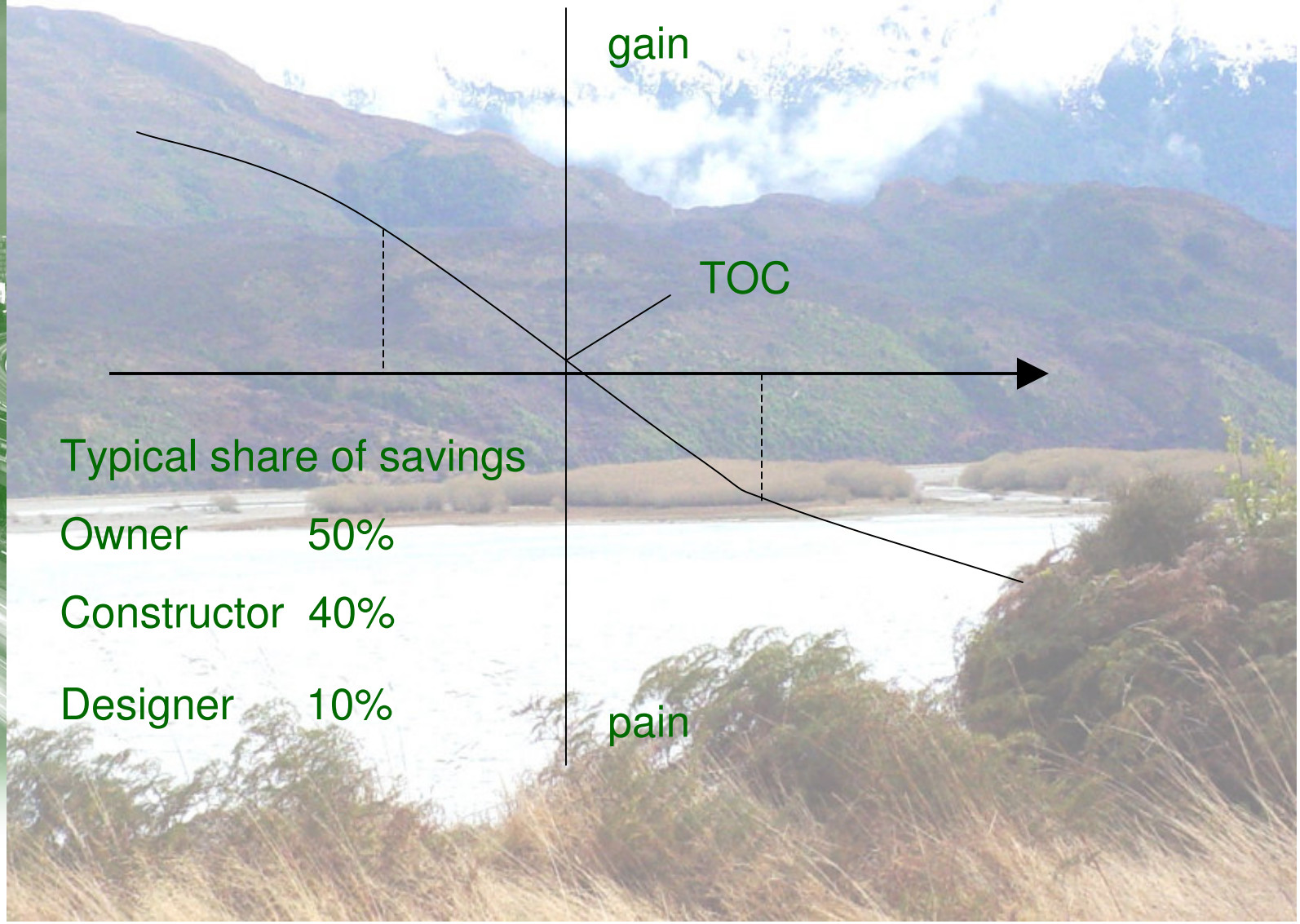
Typical cost share regime



Typical share of savings

Owner	50%
Constructor	40%
Designer	10%

Target outturn cost

	Owner	Designer	Constructor	
Direct costs	10.0M	10.0M	60.0M	
Overhead/profit		20%	10%	
Target outturn cost	10.0M	12.0M	66.0M	= $88.0M

Direct Costs are 10% under

	Owner	Designer	Constructor	
Direct costs	9M	9M	54M	
Overhead & profit		1.8M	5.4M	
Target outturn costs	9M	10.8M	59.4M	= $79.2M
+ gainshare		0.88M	3.52M	
Total costs	$9M	$11.68M	$62.92M	= $83.6M
% profit/overhead		29.7%	16.5%	

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Direct Costs are 10% over

	Owner	Designer	Constructor	
Direct costs	11M	11M	66M	
Overhead & profit		2.2M	6.6M	
+ target outturn cost	11.0M	13.2M	72.6M	= $96.8M
+ gainshare		- 0.88	- 3.52	
Total cost	$11M	$12.32M	$69.08M	= $92.4M
% profit/overhead		12%	4.6%	

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Performance Framework on non-cost KRA's

- Typically 2%-4% of the capital value
- Encourage game-breaking performance

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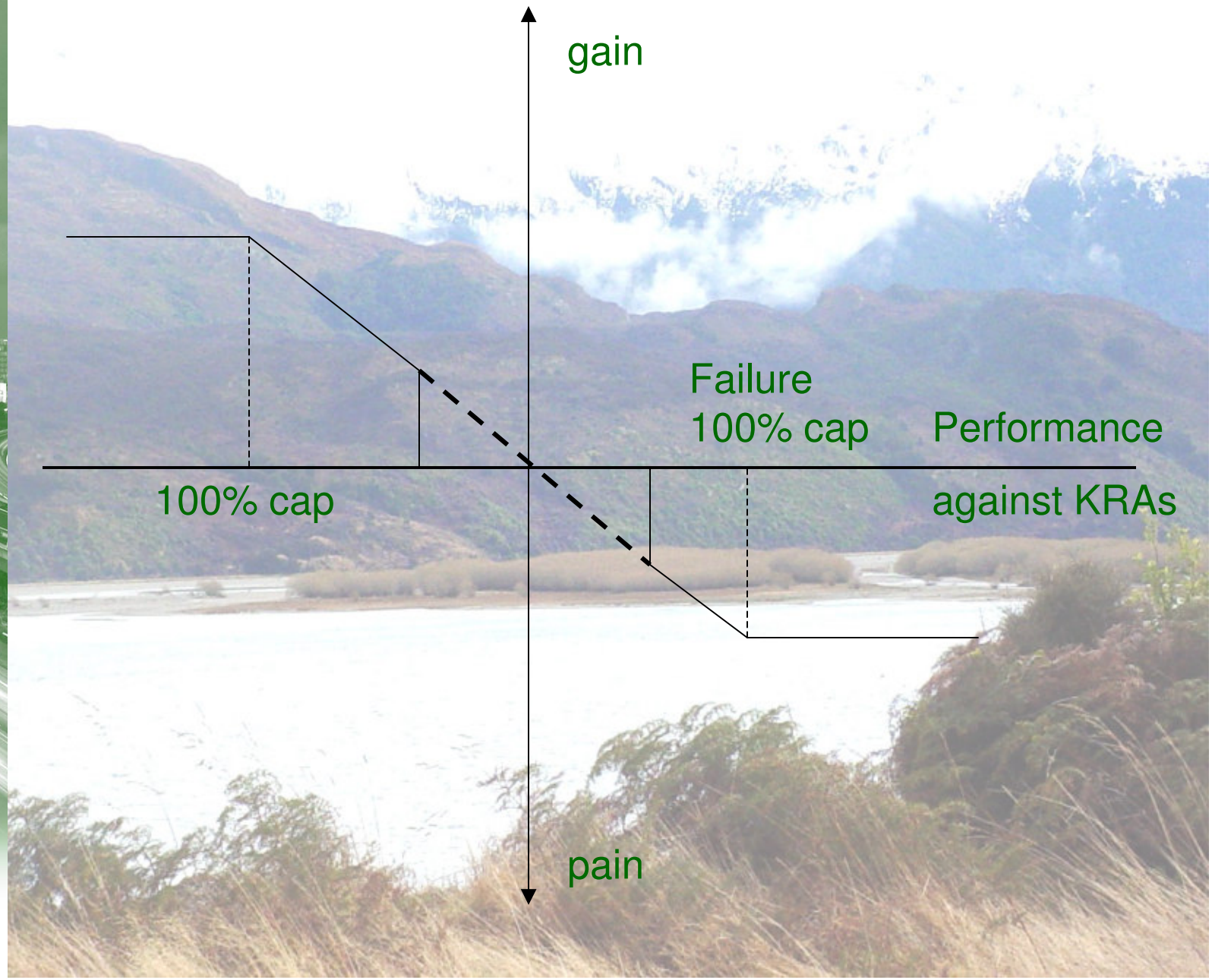
Business as Usual



Selection of the Target Outturn Cost

- Get the budget right
- Define clear objectives
- Decide what you are prepared to pay for
- Develop value for money plan
- Agree on margins

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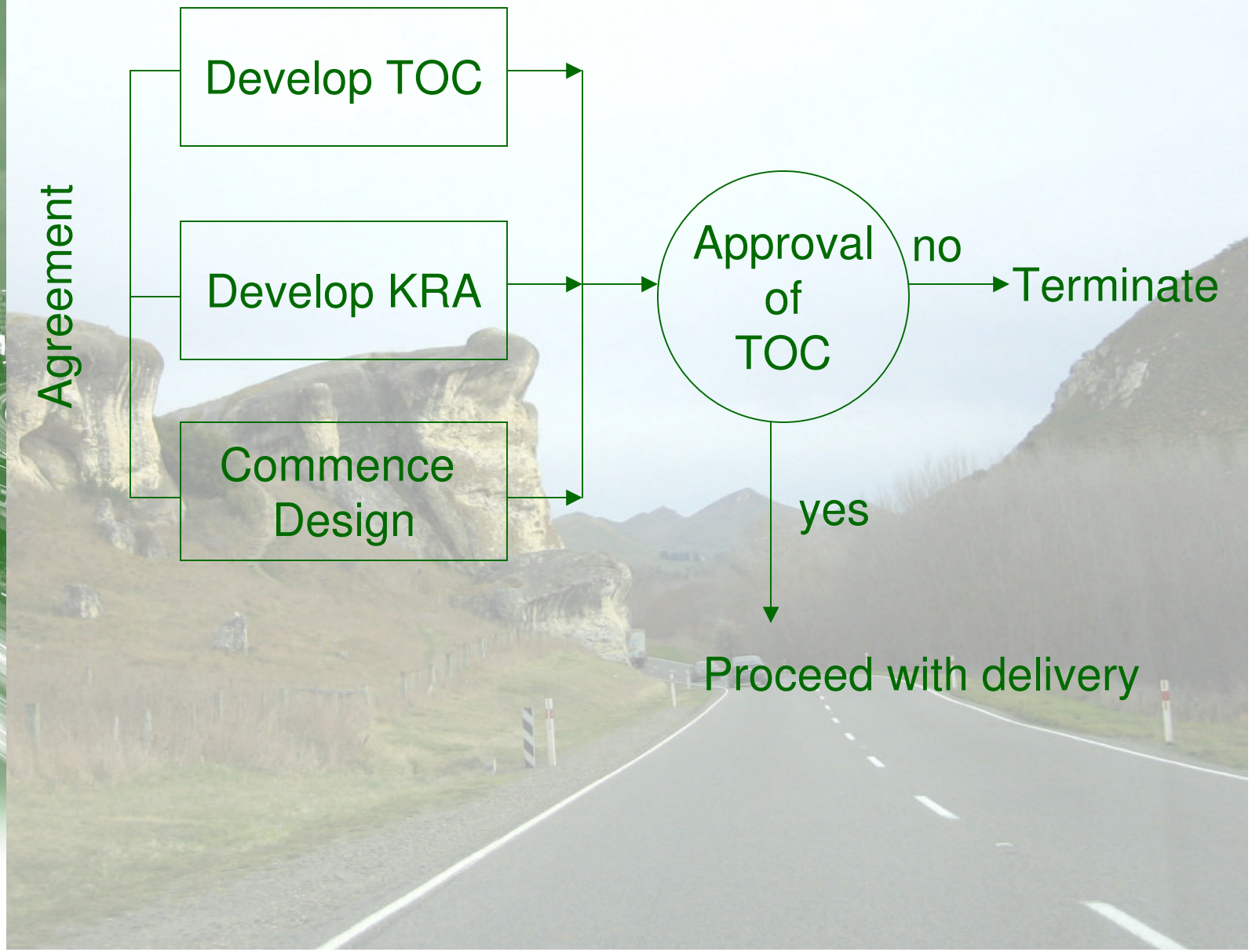
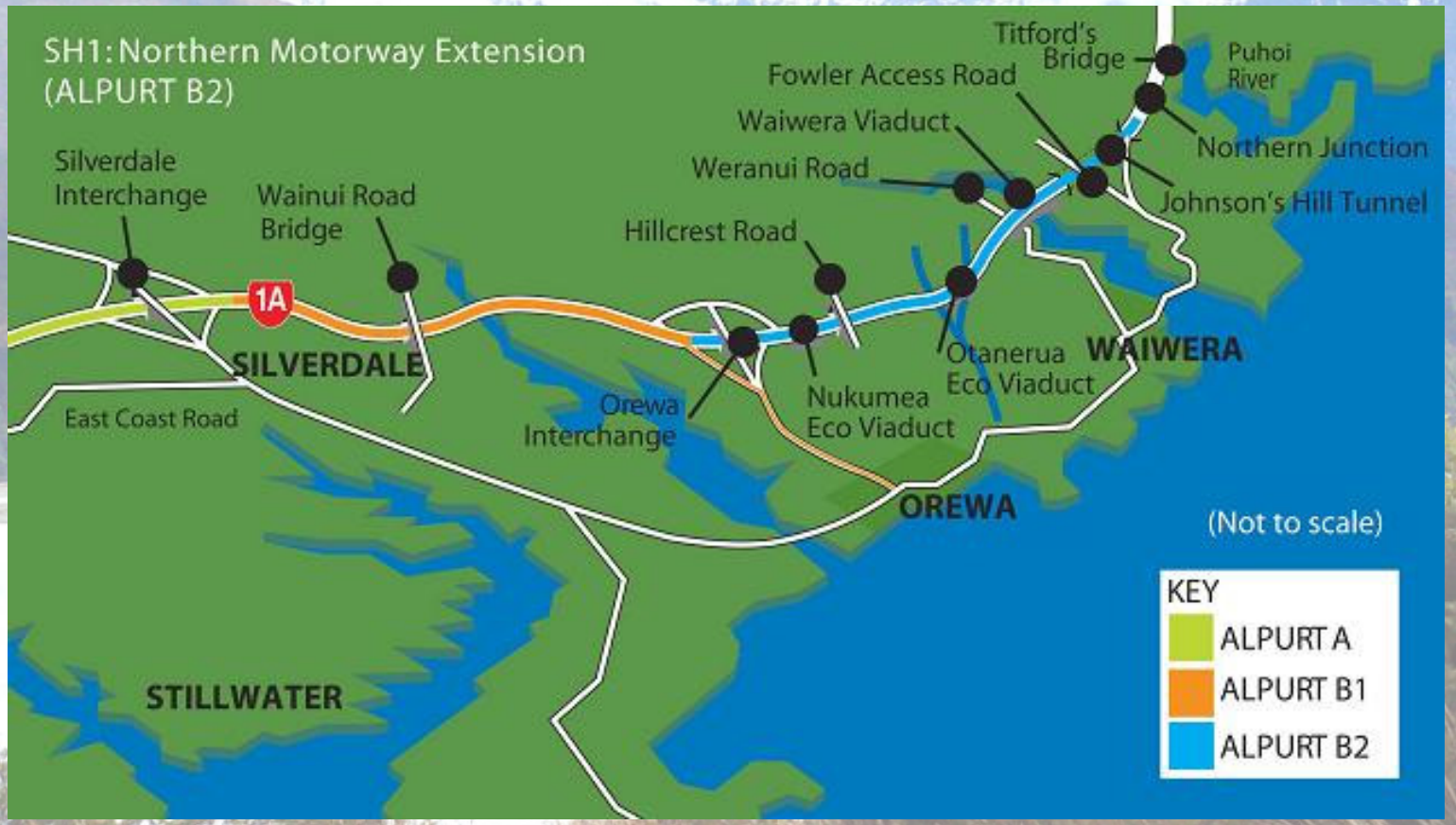
Estimating roller coaster


Agreement
Develop TOC
Develop KRA
Commence Design
Approval of TOC
no
Terminate
yes
Proceed with delivery

SH1 Northern Motorway Extension (ALPURT B2)



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Who is the NGA?

- Transit NZ
- Fulton Hogan
- Leighton Contractors
- URS New Zealand
- Tonkin & Taylor
- Boffa Miskell

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An Integrated Team Approach

- High-performance Alliance team
- An inclusive, collaborative approach
- Working together with central, regional and local government, regulatory bodies, iwi and the community

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Earthworks

- Approx 3.2 million m^3 of earth to move
- Limited earthworks season
- Batters to be stabilised in 4m lifts
- Minimum disturbance of RAP 21
- Maximum Open Space limitations for each of 5 catchments

Bridges

- Waiwera bridge: 517m balanced cantilever
- Otanerua eco-viaduct: 252m
- Nukumea eco-viaduct:150m
- Hillcrest overbridge: 100m
- Orewa interchange bridge: 70m

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Johnson's Hill Twin Tunnels

- Approx 8m high, 13m wide, 240m long
- Significant aesthetic, environmental and safety benefits
- Includes lighting, ventilation, fire protection and communications systems

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Project Challenges

- Ecologically valuable and geographically difficult terrain
- Need to minimise ecological ‘footprint’
- Limited earthworks season
- Need to control and mitigate effects (noise, dust, traffic)

Working with Stakeholders

- Focus on two-way communication
- Community Reference Group established
- Presentations made to community groups on a continuous basis
- Face-to-face meetings held with directly affected landowners
- Regular newsletter published
- Public Information Office established

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SH20: Manukau Harbour Crossing

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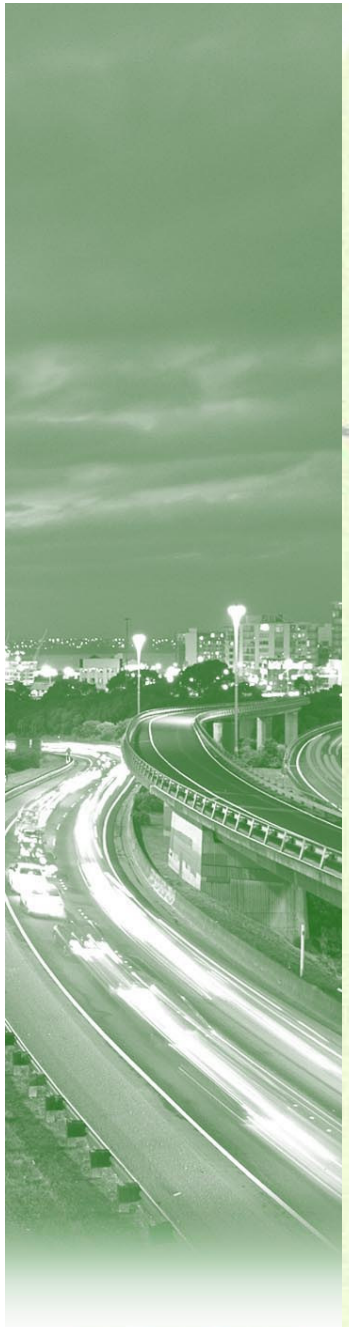
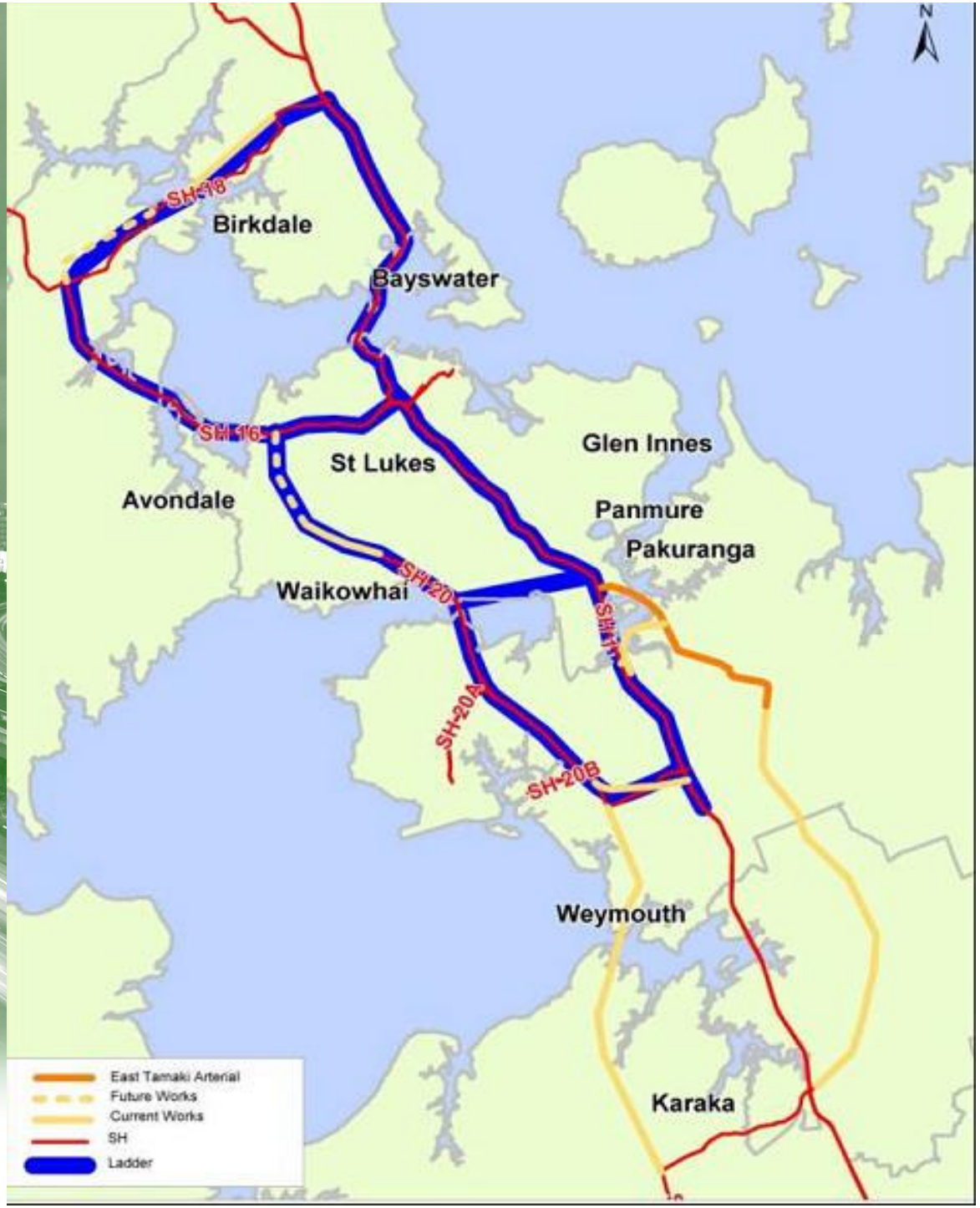
Western Ring Route



- The SH20 Manukau Harbour Crossing Project will form a key part of the proposed Western Ring Route.
- Once completed, the Western Ring Route will provide an alternative route to SH1 between Manukau City and Albany
- Transit plans to actively manage traffic flows on both the Western Ring Route and SH1.


N
SH-18
Birkdale
Bayswater
SH-16
St Lukes
Glen Innes
Avondale
Panmure
Pakuranga
Waikowhai
SH-20
SH-1
SH-20A
SH-20B
Weymouth
Karaka
East Tamaki Arterial
Future Works
Current Works
SH
Ladder

WRR Diagram

Project Area

The Current Problems

- Motorway bridge under capacity
- Onehunga interchange lacks capacity and is substandard
- Poor accident record (2 fatalities, 5 serious over 5 years)
- No provision for public transport
- Few pedestrian links

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Project Objectives

- Improve access to and from south and central Auckland.
- Increase traffic capacity and provide priority for buses across the Manukau Harbour.
- Improve travel times to and from the airport.
- Improve access to local and arterial routes.
- Provide better pedestrian and cycle links.
- Provide enhancements along the Orpheus Drive foreshore.

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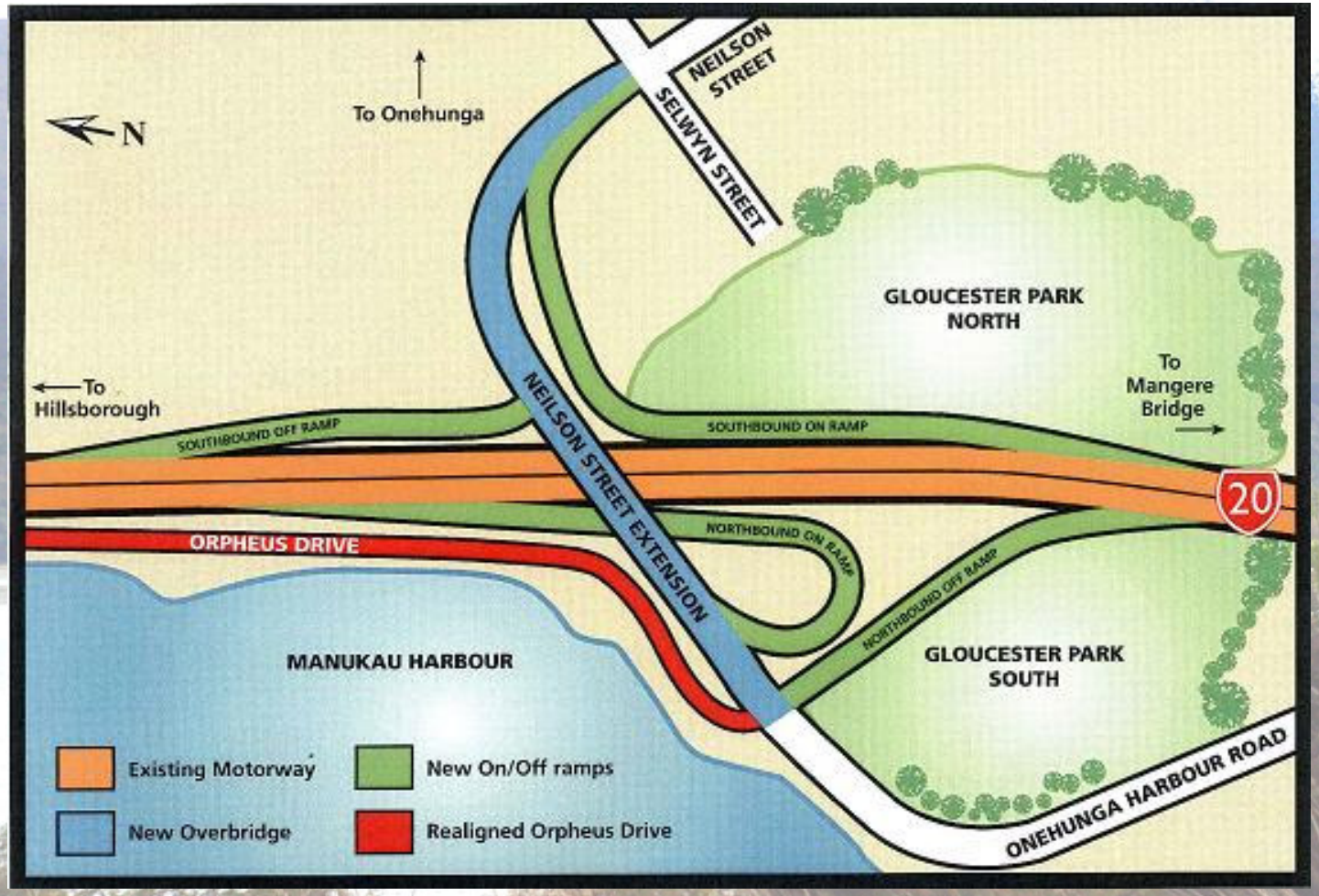
Key Feature –
Gloucester Park Interchange



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Key Feature – Orpheus Drive boulevard

Existing Orpheus Drive

Artist's impression – Orpheus Drive boulevard After

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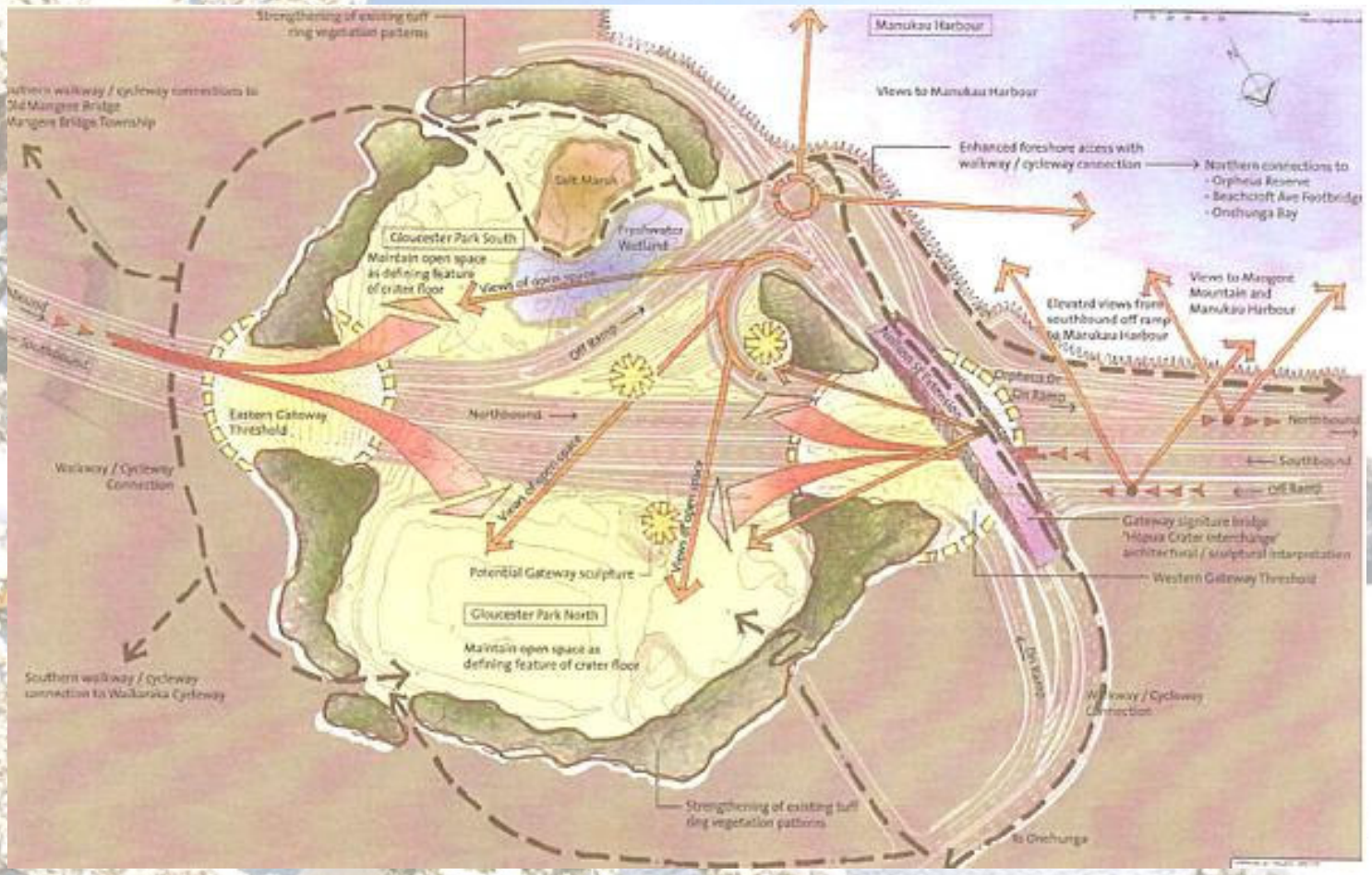
Key Feature – Improved pedestrian connections



Pedestrian and cycle connections concept – Gloucester Park

Key Feature –
Improved pedestrian connections

Existing Onehunga Harbour Road and end of Old Mangere Bridge

Artist's impression: Onehunga Harbour Road

After

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Potential for future rail at Gloucester Park

Future Rail

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SH94
Te Anau – Milford Sound

History

- Homer Tunnel opened 1954
- Milford Road initially only opened in summer and closed April – October
- Pressure from tourist industry eventually resulted in keeping road open all year if conditions allowed
- Avalanche danger recognised and NRB received reports from 2 world authorities

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History, continued . . .

- 1983 – A MWD employee killed by an avalanche whilst undertaking snow clearing operations
- This event resulted in the employment of a full time avalanche technician
- Up to 1988 Maintenance services including the avalanche control programme run by MWD
- From 1991 all works and services subject to CPP

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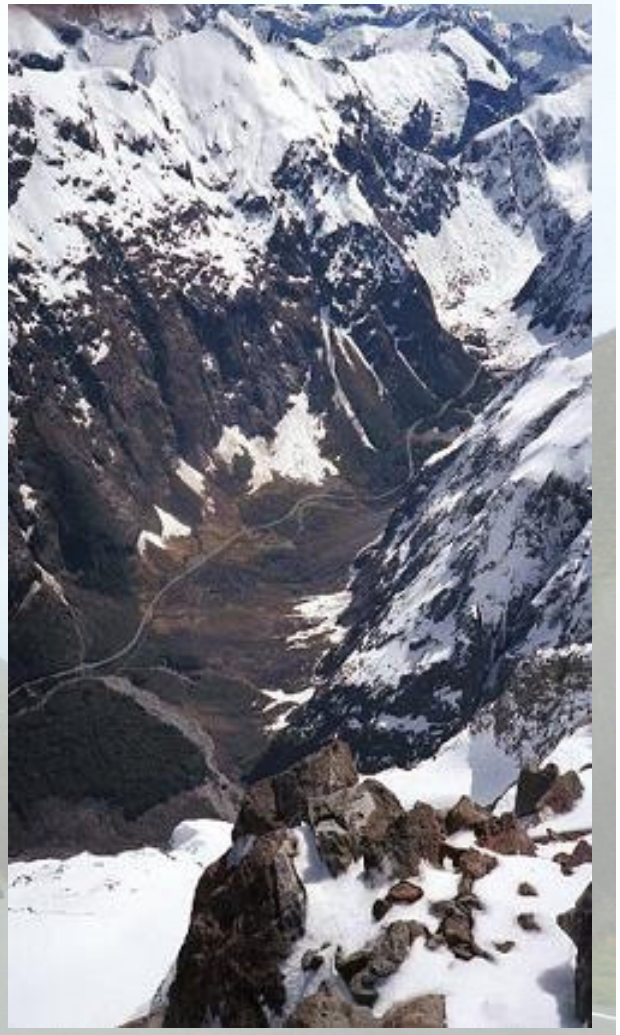
Operational Arrangements

- Contract is for management of Avalanche Programme and Highway Maintenance

- The Avalanche Control Programme involves:
  - Monitoring & forecasting avalanche conditions over 21 km of highway in vicinity of Homer Tunnel
  - 50 avalanche paths
  - 6 Transit NZ weather stations



Transit Involvement

- More involved in management than other maintenance contract through
  - Equipment ownership - $1 M assets
  - Technical committee

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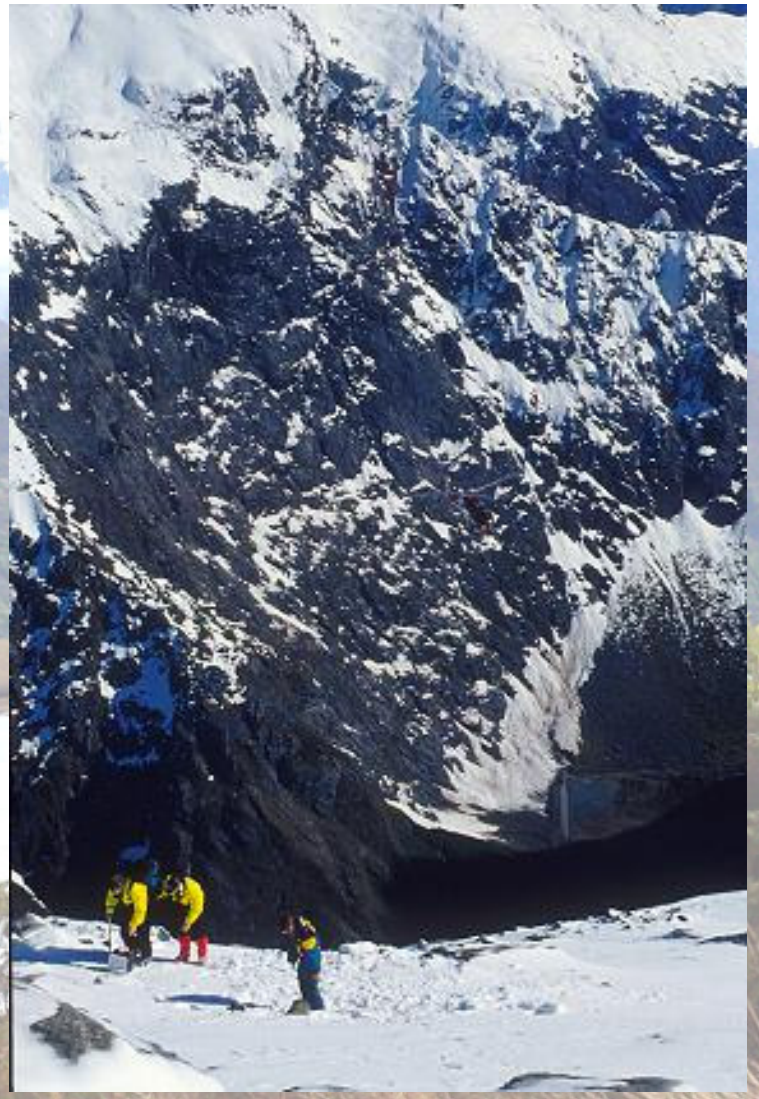
Uniqueness of Avalanche Programme

- Only highway in NZ with an avalanche hazard
- Requires specialist skills
  - Forecasting snow conditions
  - Active control – heli bombing
  - Public relations with tourist industry
  - Knowledge and operation of specialist equipment



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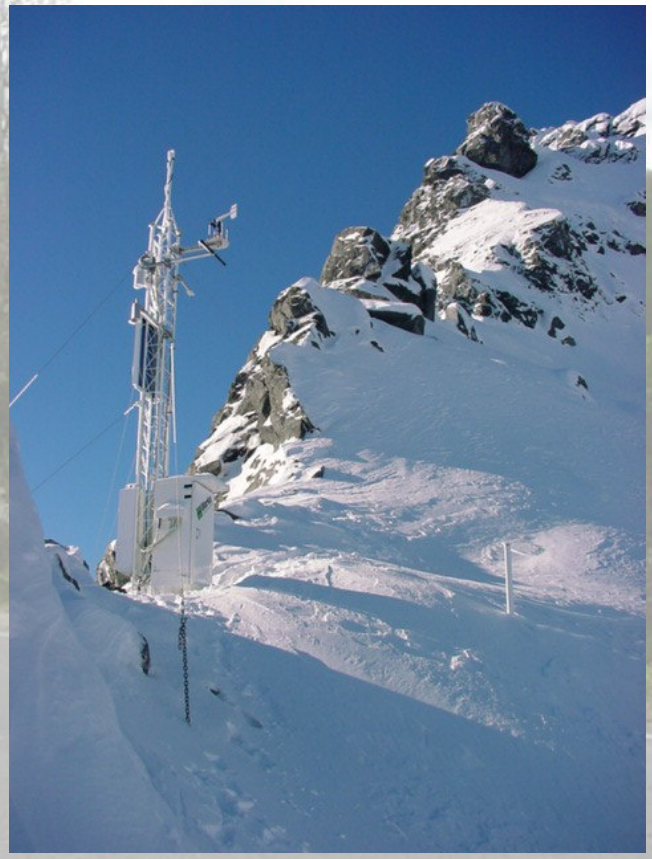
Staffing Requirements

- Long-term recruitment, training, qualification.
- Requirement for ALL staff to be Avalanche Assistants
- Must have the enthusiasm for research, improvement and development.
- Able to utilise extensive database



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Risk Management

- Risk Management Report completed
  - Highest Risks
    - Key skills shortage
    - Procurement Model

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Contract Area, Consultation, Competition

- 3 Contract areas in Southland
- Milford smallest but highest value because of Avalanche Programme
- Incumbent contractors don't want to change set up
- Consultation has been undertaken with local suppliers

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Current Concerns

- Overseas reviews have highlighted
  - The problem of employing, training and retaining qualified and experienced staff
- Limited opportunities, worldwide, to gain this experience

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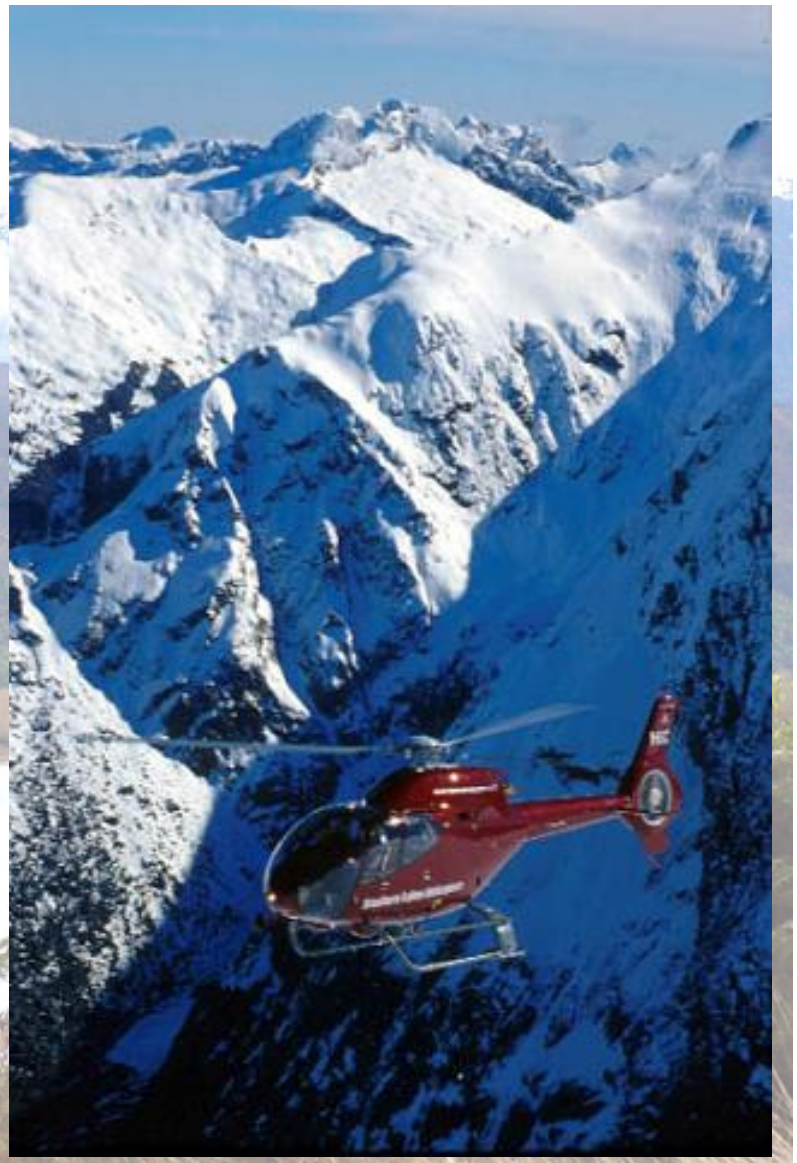
Works Infrastructure Ltd

- Only organisation to ever supply these services
- Provide complete service
- Have made substantial commitment to contract – staff, plant, facilities



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Recommendations

- Transit Board approval to take the project forward on a negotiated basis.
- Land Transport NZ informal support