

Improving Accessibility of Trails and Campgrounds

John Lieswyn| 20 October 2026

WORLD TRAILS CONFERENCE
PERTH / BOORLOO
WESTERN AUSTRALIA
19 - 22 October 2026

VIASTRADA
TRANSPORT PLANNING AND DESIGN

Agenda

- Introduction
  - Purpose
  - Methodology
  - What is accessible?
- Outputs
- Key findings:
  - Opportunities
  - Exemplars
- Patai | Questions



Project team

VIASTRADA



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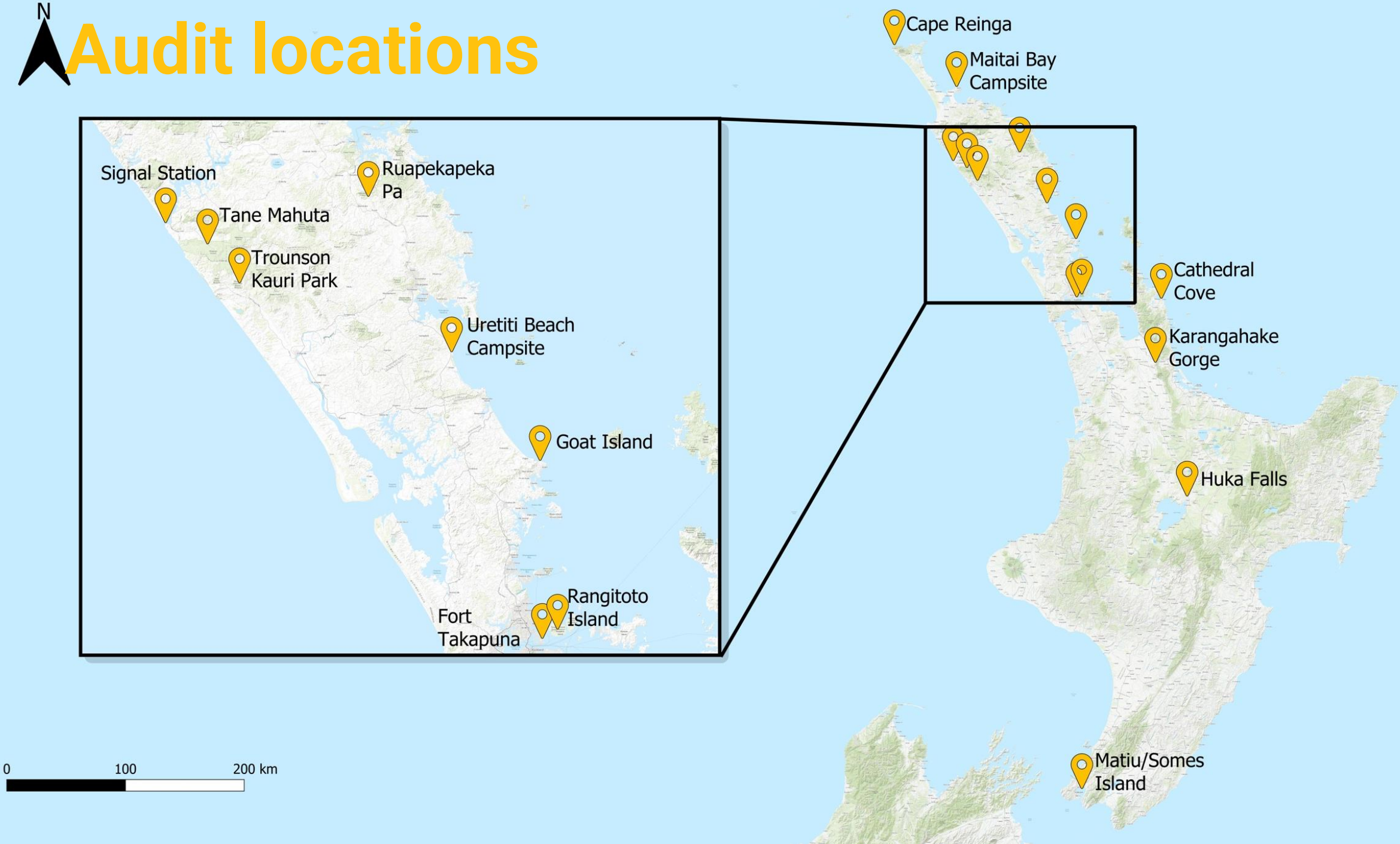
Jonathan Kennett
Kennett Brothers
Trail building expert

Purpose

Department of Conservation
Te Papa Atawhai

- DOC wanted the audit to:
  - Update existing accessibility information
  - Inform a prioritised capital programme
- We assessed:
  - 30 popular DOC locations
  - Over 50 individual experiences (walking tracks and campsites)
- Pilot programme — DOC intends to continue this work

Audit locations

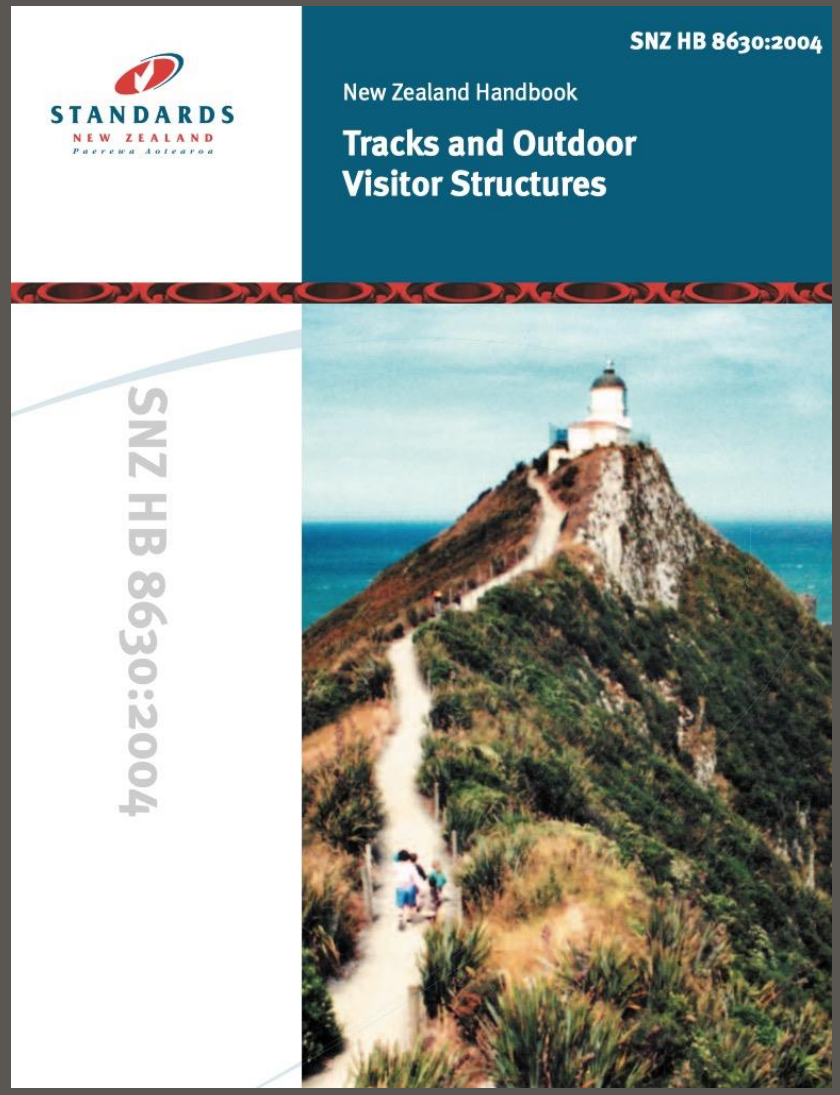


Audit locations



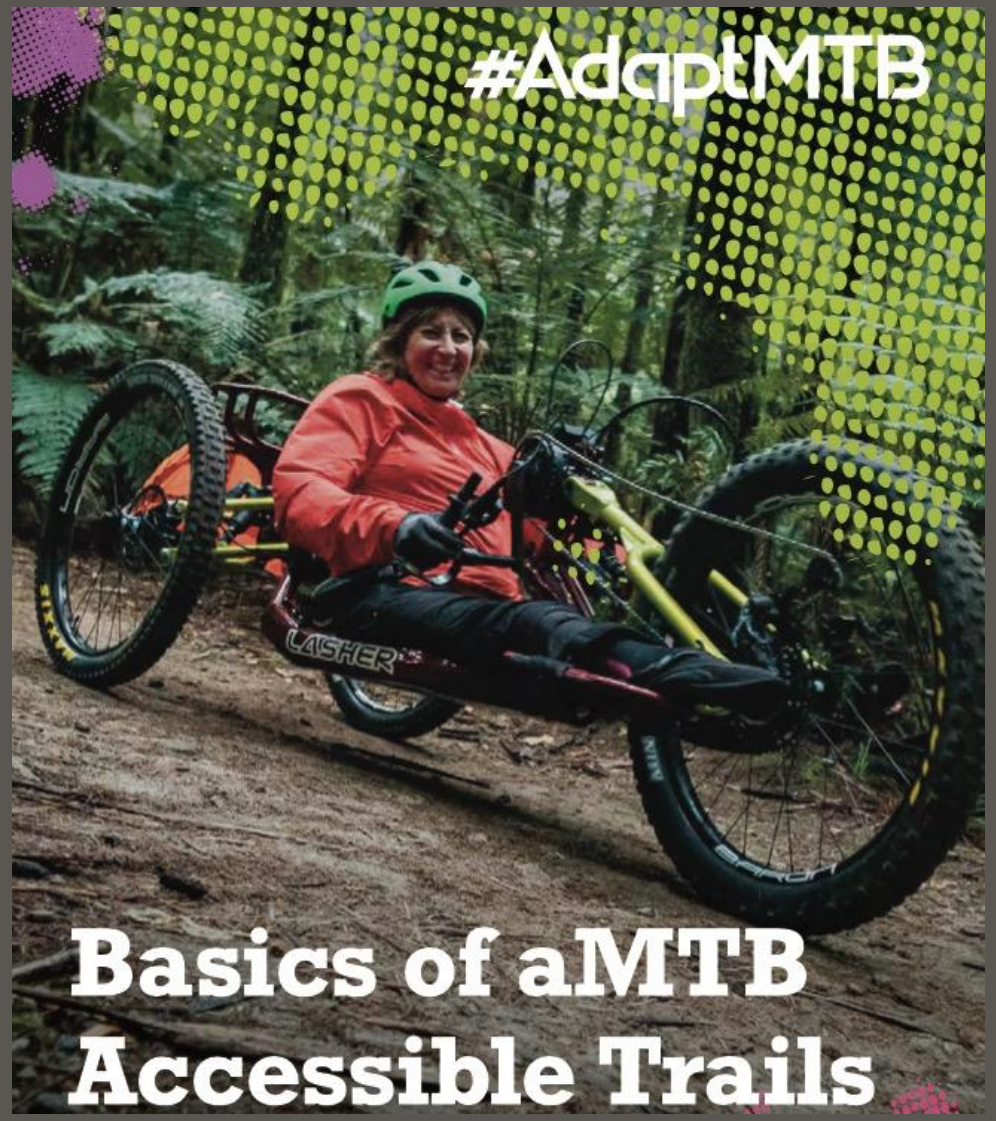
Key design references





Cycling not included

- Lots of guidance on how to make accessible trails
- None of the first tranche sites are currently or potentially shared use

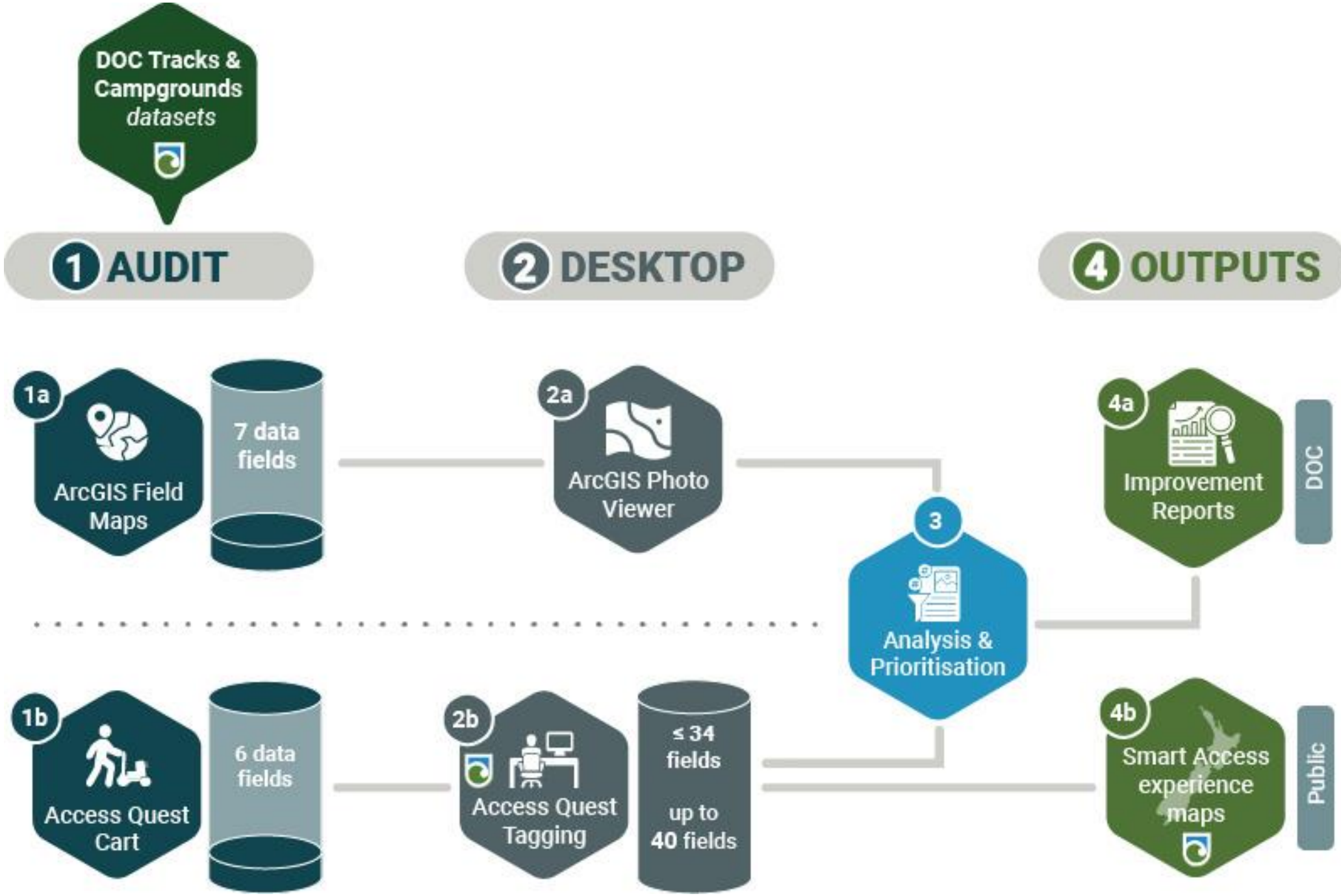


Methodology

1. Audited experiences using:
    - Access Cart — with smartphone recording parameters including gradient, crossfall, stair locations
    - Photographs and field notes — using ArcGIS Field Maps on a separate smartphone
2. Access Quest tagged recordings after the audit
3. VS assessed all data and compiled reports



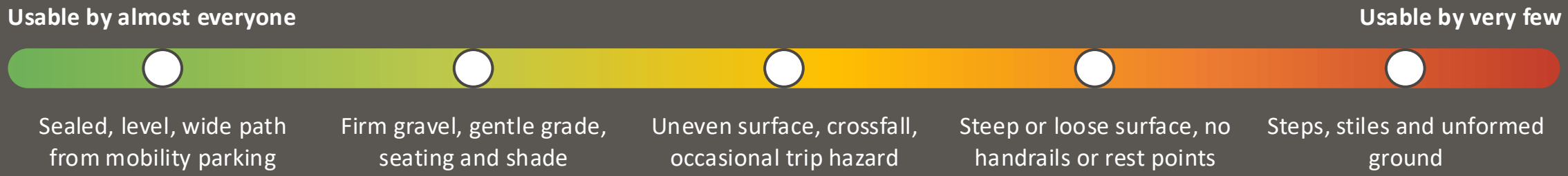

Sync All Sessions
3 sessions are ready to be uploaded
Sync All
COLLECTING...
Photos: 1
Sensor Data: 133
0 m
0 cal
0 pts


DOC Tracks & Campgrounds datasets
1 AUDIT
2 DESKTOP
4 OUTPUTS
1a
ArcGIS Field Maps
7 data fields
2a
ArcGIS Photo Viewer
3
Analysis & Prioritisation
4a
Improvement Reports
DOC
1b
Access Quest Cart
6 data fields
2b
Access Quest Tagging
≤ 34 fields
up to 40 fields
4b
Smart Access experience maps
Public

What is accessible?

- Not just binary – it’s a continuum
- People may have multiple accessibility challenges
- Accessible (or not) is determined by the visitor themselves

The same track sits at a different point for every visitor



Types of equipment and supports

* all examples are not to relative scale



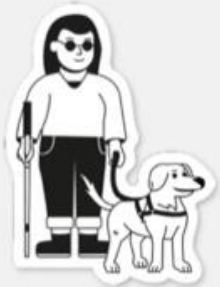
▲ **Ambulant person using crutches/ walking poles to aid mobility**

1.2m width.



▲ **Ambulant person with sighted guide**

1.2m width.



▲ **Ambulant person with guide dog and/or service dog**

1.1 m width.



▲ **Person using a wheelchair**

0.9m (width),
1.5m (turning circle).



▲ **Wheelchair user with power-assist mobility attachment**

0.9m (width), approx
500mm (additional length).



▲ **Wheelchair user with freewheel attachment**

0.9m (width),
approx 500mm (additional length).



▲ **Powerchair**

0.9m (width), 1.2m (length).



▲ **All-terrain wheelchair**

0.7m (width), 1.9m (length)
(with push bar size L),
push bar 1 m (height).



▲ **Mobility scooter**

0.85m (width), 1.6m (length),
3.6m (turning circle).



▲ **Trail Rider**

0.6m (width), 2.7m (length),
2m (turning circle, with front handles on),
1m (turning circle, with front handles off).



▲ **Off-road wheelchair – Rig or Grit All-terrain chairs**

0.9m (width), 1.7m (length), 2.3m (height).



▲ **Person riding a horse**

0.5m (width),
3.7m (clear space height).



▲ **Two-wheeled mountain bike**

0.65m (width), 1.8m (length),
2.2m (eye height).



▲ **Recumbent cycle**

0.9m (width), 1.6-2m (length),
0.8m (eye height), 3.5m min (turning circle).



▲ **Two deaf people signing to each other**

1.2m width.



▲ **Person with buggy (double pushchair)**

1m width.



▲ **Trike**

0.8m (width), 1.8m (length).



▲ **Tandem cycle**

0.65m (width) 2.4m (length),
turning circle - 3.15m (Outer radius),
2.25m inner radius).



▲ **Motom**

0.95m (width), 1.42m (length),
0.65m (height).

Outputs

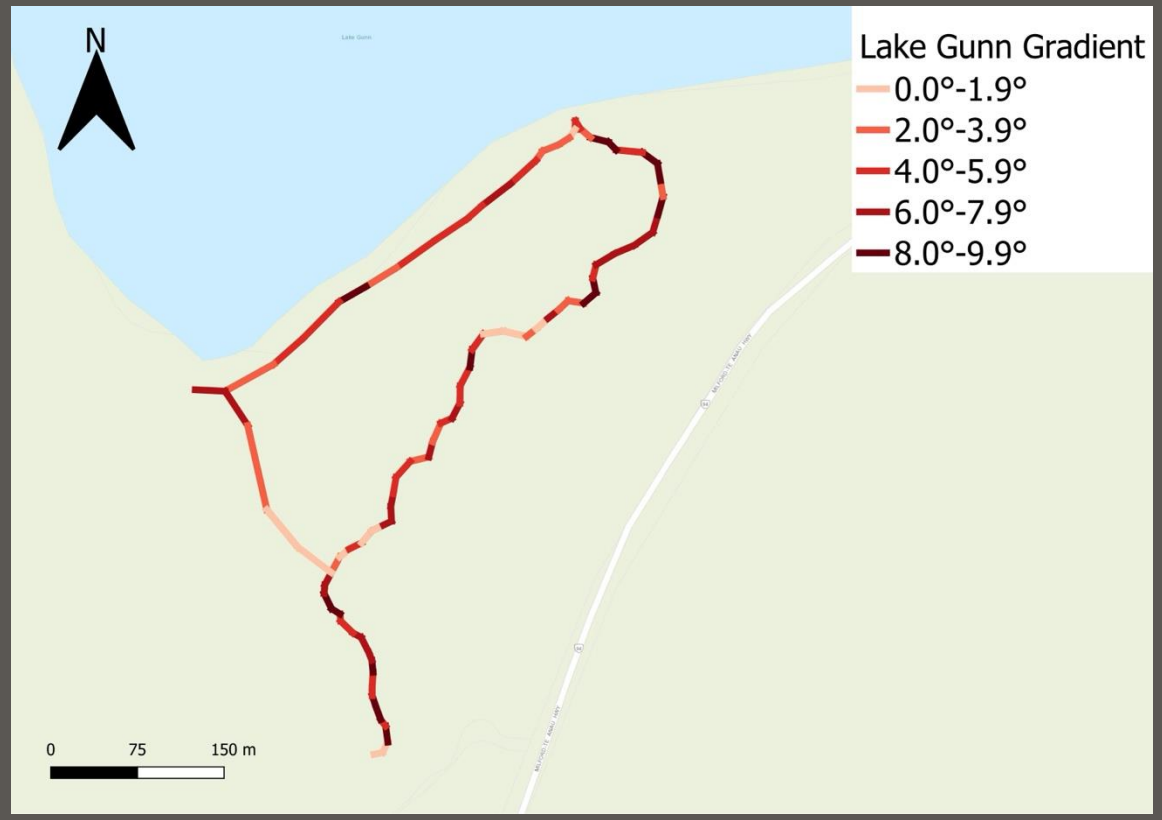


Existing conditions

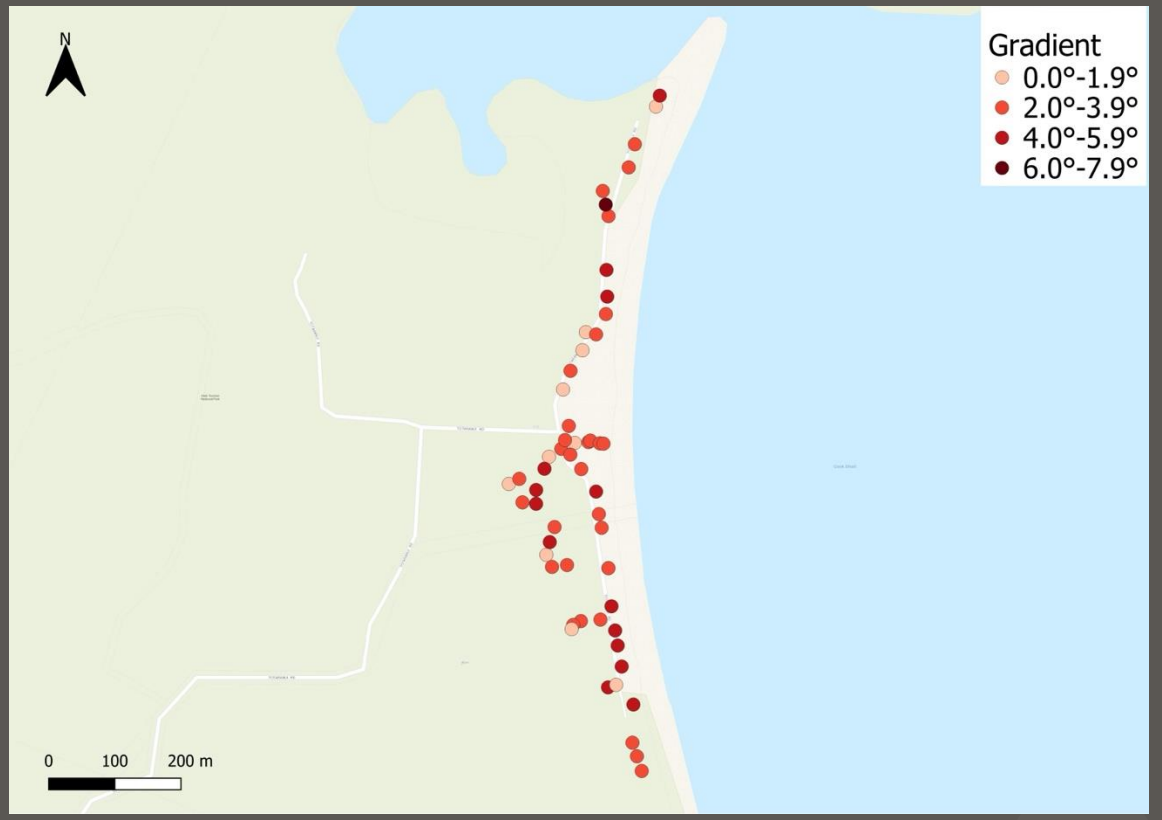
Boardwalks	**Multiple** board walk sections, and some of the lookouts are wooden platforms	
Handrails	**Five +**. One wooden safety rail where the path drops away steeply; others at the lookouts; handrails on the bridge	
Information	**Two orientation panels**. One at car park; another where the trail begins (with low contrast) A lot of other information and interpretation signage along the way, good condition	

Gradient and crossfall data

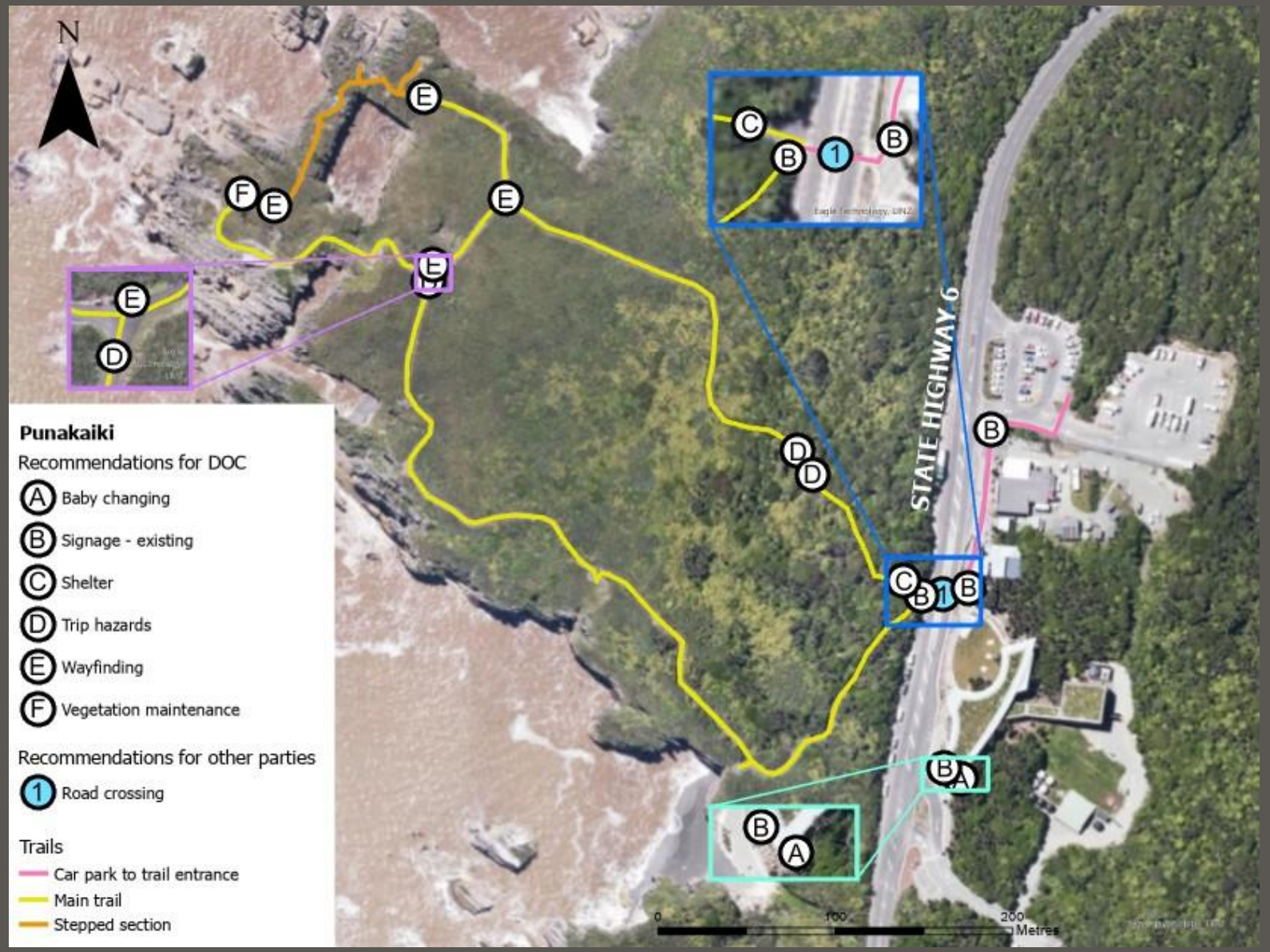
Tracks



Campgrounds



Recommendation maps



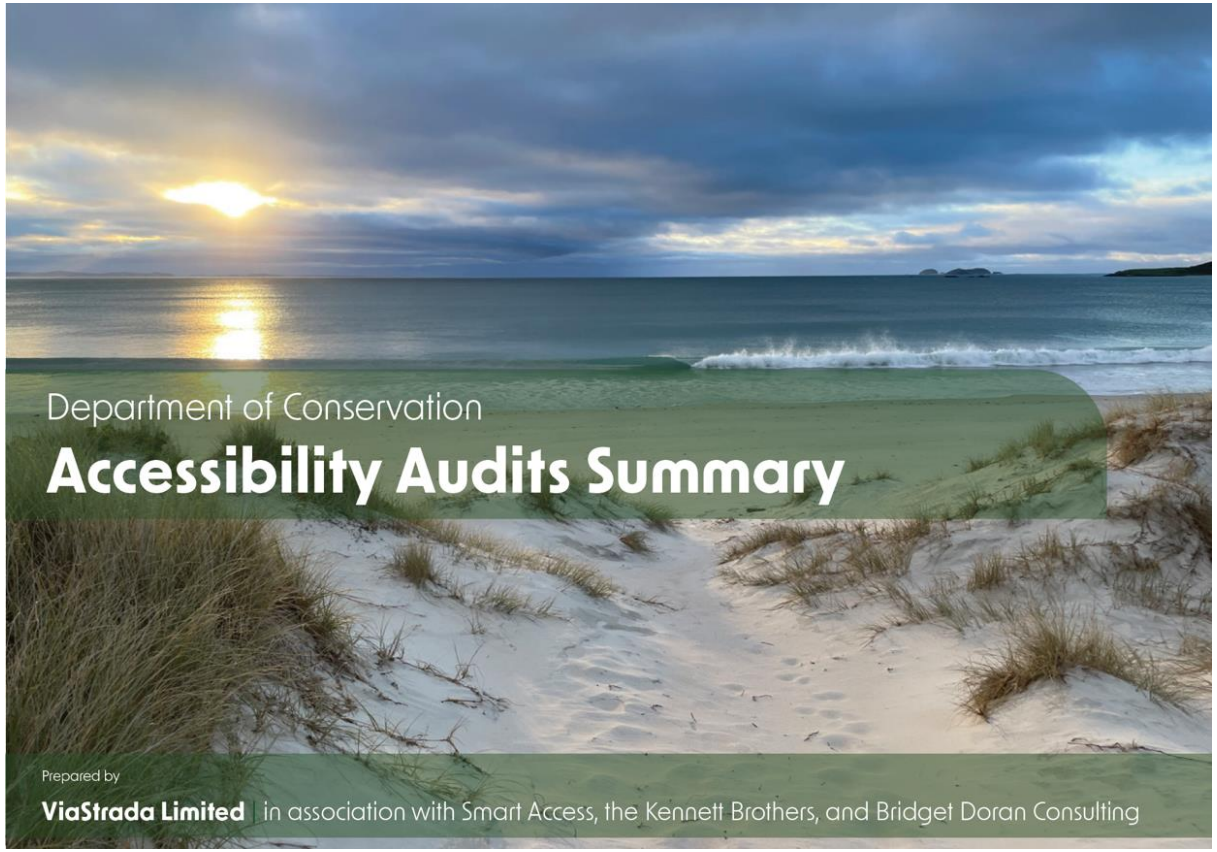
Rough Order Costings

Recommendations	Description		ROC[2]
A. Baby changing	Add a baby changing facility at the toilets.		$600
B. Signage – existing	• Improve information signs by increasing contrast and font size (three units costed); this includes wayfinding for the toilets, which were hard to find. • The map at the trail head also uses low contrast for the trail. Add accessibility information about the trail when it is replaced.		$3,900
C. Shelter	Add a shelter, wide enough to have room to manoeuvre, with a seat		$4,000

SIGNS	Wayfinding bollards	Wayfinding sign (ACM) on wooden post	Interpretation or map board	Placards e.g. accessible toilet sign
	$ 400.00	$ 800.00	$ 1,500.00	$ 50.00
	ea	ea	ea	ea
	with plastic pictograms		with wooden frame	
			4	
	6	4	5	

Summary report







Canterbury

Kura Tāwhiti Castle Hill

Positive features: The lower part of the walk (from the car park until the loop) is a wide and well-compacted surface with a low gradient, making it accessible to a wide range of visitors.

Opportunities: A step-free trail option adjacent to the existing trail would help visitors to bypass the steep steps, if they need to, in order to access the views on the west side.

Aoraki Mount Cook

Positive features: The trail width is always at least 1.5 m and often over 2 m wide (other than over the 1.2 m wide bridge).

Opportunities: Recommend adding handrails and kickboards to the board walks, and handrails to the steps. Some steps and board walks have steep drops to the side.

Awaroa Godley Head

Positive features: Accessible toilets and picnic tables are provided at each of the day & picnic and campsite areas.

Opportunities: The picnic and viewing platform area could be improved by formalising existing grass paths to provide step-free access. Likewise, three barriers around the site could be removed to provide step-free access.

West Coast

Hokitika Gorge

Positive features: The trail has a low gradient as far as the first viewpoint and is step-free all the way. There are two mobility parks at the start of the trail and a shelter at the car park.

Opportunities: Several small fixes are recommended, including removing lips onto boardwalks and bridges, and improving signage at the car park.

Lake Matheson / Te Ara Kairaumati

Positive features: Mobility parking and accessible toilets at the start of the trail. Step-free with a low gradient until the Jetty viewpoint.

Opportunities: Add ramps to platforms which currently have stepped access.

Punakaiki Pancake Rocks

Positive features: The car park is large and provides for a range of different modes of transport. It includes mobility parking, zebra crossing for safe walking, and e-charging stations.

Opportunities: Some of the existing signage is low contrast and/or small font. Replacement signage is recommended to address these issues. Additional wayfinding where the path forks should clearly indicate which route has steep and narrow stairs, and which bypasses that.

Ship Creek Tauparikākā

Positive features: The Kahikatea Swamp Forest Walk does not have any steps and has a low gradient. There is an gazebo with information and a look-out tower near the car park.

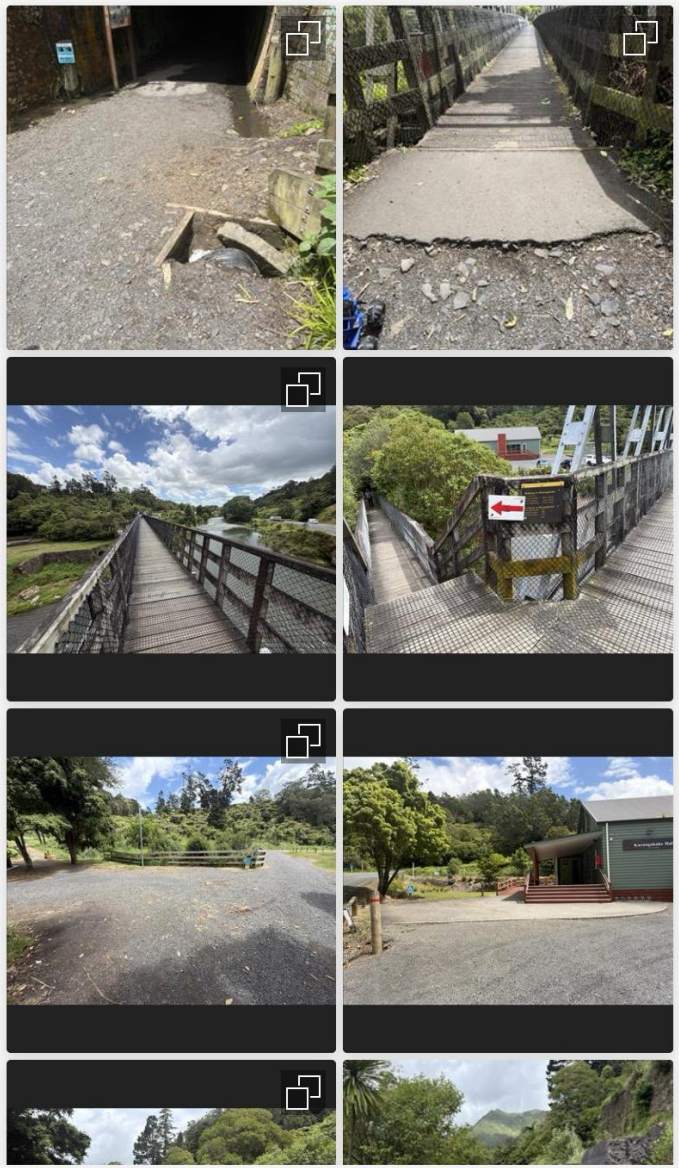
Opportunities: On the Dune Lake Walk, recommendations include extending the boardwalk to the beach orientation panel and adding a wheelchair accessible beach access.



DOC Accessibility Audit Photo Viewer

DOC Photo viewer

All Audit Findings 10



All Audit Findings
Audit Findings - Signage
Audit Findings - Steps
Audit Findings - Lips
Audit Findings - Other Accessibility Barriers

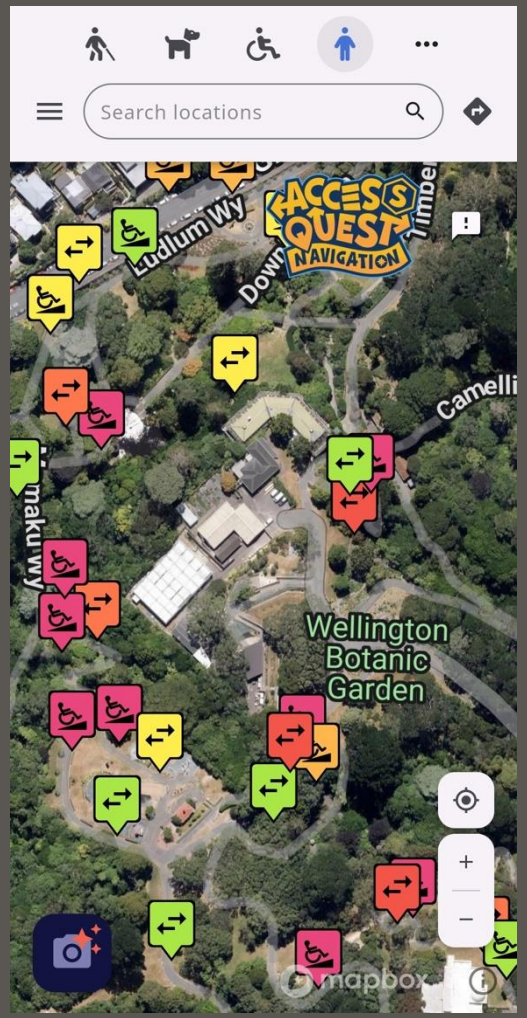
River Rd
State Highway 2
Ohinemuri River
Karangahake Walkway Tunnel Western Portal Reserve
Crown Hill Rd
State Highway 2
Ohinemuri River

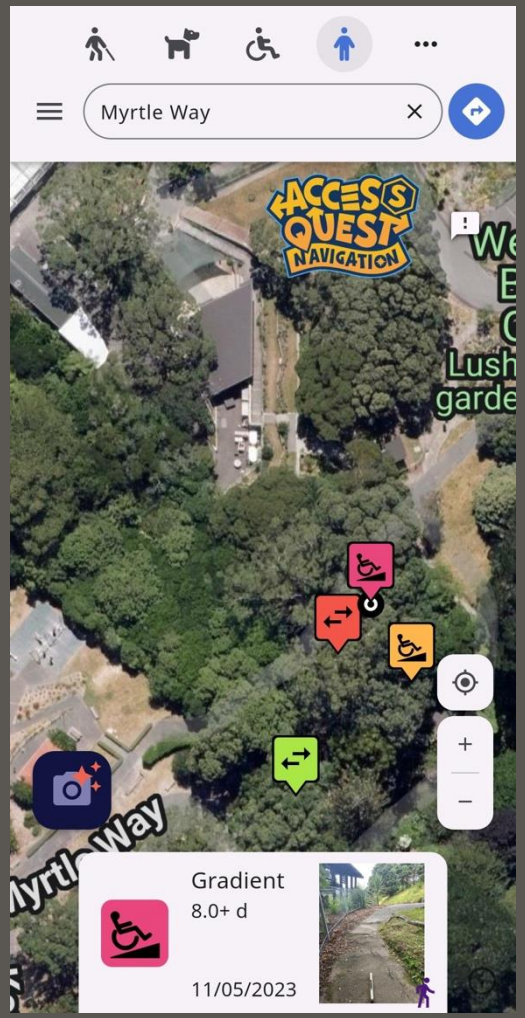
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Access Quest Navigation maps



Access Quest – Wellington







Key findings: Opportunities



Accessible toilets



Tōtaranui

Trip hazards



Momorangi Bay



Tōtaranui

Steps





Kaikōura Peninsula Walkway

Shelters



Tauranga Bay – Cape Foulwind

Signage



Fort Takapuna

Wayfinding signage



Lake Matheson



Ship Creek

Key findings: Exemplars



Wayfinding signage



Hokitika Gorge



Ruapekapeka Reserve

Boardwalks



Trounson Kauri Park



Tāne Mahuta

Beach ramp and shelter



Tōtaranui



Trounson Kauri Park

Car parks





Punakaiki

Ramp and mobility parking





Fort Takapuna

Patai | Questions

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TRANSPORT PLANNING AND DESIGN