

## MINISTERIAL BRIEFING NOTE

<b>Subject</b>	Announcement of the Waka Kotahi Hoe ki angitū Innovation Fund recipients
<b>Date</b>	26 October 2022
<b>Briefing number</b>	BRI-2628

Contact(s) for telephone discussion (if required)				
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Brett Gliddon	Group General Manager Transport Services	s 9(2)(a)	s 9(2)(a)	✓

### Action taken by Office of the Minister

- ☐ Noted
- ☐ Seen by Minister
- ☐ Agreed
- ☐ Feedback provided
- ☐ Forwarded to
- ☐ Needs change [please specify]
- ☐ Withdrawn
- ☐ Overtaken by events

26 October 2022

Hon Michael Wood – Minister of Transport

## ANNOUNCEMENT OF HOE KI ANGITŪ INNOVATION FUND RECIPIENTS

### Purpose

1. This briefing provides you with information on the successful applicants for the first round of Waka Kotahi NZ Transport Agency's Hoe ki angitū Innovation Fund that you launched in May 2022.
2. This briefing also asks you to agree to release the attached press release to publicly announce them.

### Background about Hoe ki angitū

3. Hoe ki angitū is an innovation fund that has been set up to support the private sector to develop, and accelerate, innovative solutions that will help to solve some of New Zealand's biggest transport challenges. A total of \$15 million has been allocated over the next two years.
4. The objectives of Hoe ki angitū are to:
  - a) catalyse the actions needed to solve some of our critical transport problems
  - b) enable innovators with the capabilities they need, but cannot access on their own
  - c) accelerate innovation by breaking down barriers and providing support across the transportation ecosystem.
5. Hoe ki angitū is challenge-based. We briefed you on the fund in May 2022 [BRI-2458 refers] and you publicly launched the scheme at that time. Applications for the first round of challenges opened in June 2022.
6. The three challenges sought solutions for:
  - a) accelerating the use of recycled materials and sustainable practices in transport infrastructure construction, operation and maintenance
  - b) integrating low emission first and last mile travel solutions into the public transport system to reduce climate impacts, congestion and vehicle dependency
  - c) providing under-served communities with greater access to safe, low emission and reliable modes of transport other than the private motor vehicle.

### The successful applicants

7. Following the launch in May 2022, we published the three challenges in a range of different media and presented the fund and the challenges at events including webinars and national and international conferences.

8. We received 118 applications from a wide range of organisations, which varied from small community and iwi groups, start-up technology companies to large research organisations. We worked directly with a number of the applicants to better understand and help them refine their proposals.
9. Of the 118, 50 applications were not taken forward because they either did not meet the criteria or respond to the challenges. Where appropriate, we passed unsuccessful applications to other organisations that may be able to assist the applicants.
10. The remaining 58 applications were then assessed and scored by Waka Kotahi subject matter experts using agreed assessment criteria (see Annex 1). Roughly equal numbers of applications were assessed for each of the three challenges. The amounts requested by the applicants ranged from less than \$30,000 to over \$1 million. Most requests were within the region of \$200,000 - \$300,000.
11. The recommendations were then assessed by a review panel of technology and innovation specialists. There were 24 applications recommended for funding.

## **A sample of the successful applications**

### ***Accelerating the use of recycled materials and sustainable practices***

- a. \$141,000 to develop a sustainable process using solvents for the recycling of chipseal, in which the bitumen and aggregate are separated and can be reused in road surfacing
- b. \$182,000 for a trial to determine the feasibility of using recycled textile fibres in different types of asphalt; and
- c. \$208,000 for a trial of a novel 'smart crushing' technology that processes concrete and other solid wastes back into their original components of sand, gravel and cement.

### ***Providing under-served communities with greater access to transport options***

- d. \$206,000 for a 'lease to buy' e-bike trial, offering low-cost e-bikes or e-bike conversions to people who are underserved on a 'lease to buy' scheme, with affordable low-interest repayments
- e. \$100,000 for a community-driven accessible transport trial in Eastern Bay of Plenty, to support seniors/pākeke, as well as people with disabilities, by increasing access to shared transport options in their local community; and
- f. \$60,000 for an e-bike incentivisation test and trial in Māngere.

### ***Integrating low emission first and last-mile travel solutions***

- g. \$508,000 to pilot a micromobility hub at Auckland's Panmure Station and a network of mini hubs in the surrounding neighbourhood. The hub will include e-scooters and e-bikes, secured bike parking with power outlets for charging and high-visibility wayfinding to enhance accessibility
- h. \$156,000 for the development of a 'total cost of journey' calculator, to build and prototype a logic-based system that presents people with information about their travel choices comparing the costs and environmental impacts of private vehicle vs public transport use

- i. \$41,000 for a trial of e-scooter rental and recharging on electric buses – providing e-scooters for rental by coach passengers and the conversion of existing zero-emissions commuting coaches to include e- scooter charging capability as a first and last mile zero- emissions solution
12. A full list of the successful applicants along with a brief summary of their proposals is attached as Annex 2. The list will be published on the Hoe ki angitū pages of the Waka Kotahi website
13. We have been in contact with all of the applicants to advise them the outcome of the process and to finalise the funding agreements with the successful applicants. We expect the recipients to be able to start work on their innovations before the end of this year.

#### Next steps

14. Further challenges will be released with each funding round, with private sector innovators again being invited to submit proposals via an application process. We are planning at least three further funding rounds over the next two years. We plan to announce the next round of challenges in November 2022.

#### It is recommended that you:

1. **Note** the content of this briefing.
2. **Agree** to release the attached press release announcing the successful applicants for funding under the first round of the Waka Kotahi Hoe ki angitū Innovation Fund **Yes / No**



**Brett Gliddon**

Group General Manager Transport Services

**Hon Michael Wood, Minister of Transport**

Date: 2022

**Attachment – Draft press release announcing the successful applicants**

## ANNEX 1: ASSESSMENT CRITERIA

Criteria	Sub-criteria	Consideration	Scoring
<b>Innovation</b>	Fit with the published challenge	The extent to which the activity is considered innovative	0-10
<b>Strategic fit</b>	Fit with Waka Kotahi Innovation Programme objectives AND Fit with strategic priorities, transport and outcomes and timeframes	The extent to which the activity is aligned to Waka Kotahi objectives and intent for Hoe ki angitū AND The extent to which the activity is likely to contribute to solving the challenge	0-10
<b>Feasibility</b>	Reliability of the applicant/ track record  AND Skillsets  AND Scalability	The extent to which the applicant has a track record or positive references to support their reliability and ability to deliver AND The extent to which the applicant has the skillsets needed to deliver successful outcomes, or a reputable plan to acquire the necessary skills AND The extent to which the solution could be scalable	0-10
<b>Methodology</b>	Approach and plan  AND Monitoring plan	The extent to which the applicant has a well-documented approach to solving the challenge AND The extent to which the applicant has documented how they propose to understand and measure the impact of the innovation	0-10
<b>Te ao Māori principles</b>	Positive impact for Māori outcomes	The extent to which te ao Māori principles are included and integrated in the applicant's methodology and approach	0-10

## ANNEX 2: SUMMARY OF APPLICATIONS RECOMMENDED FOR FUNDING

### Challenge 1: Accelerating the use of recycled materials and sustainable practice

Applicant	Funding approved	Innovation summary
1 / WSP New Zealand Ltd	\$145,000	Trial the feasibility of using lignin as a partial or 100% replacement for bitumen in New Zealand and to identify potential barriers to the implementation of such technology.
2 / WSP New Zealand Ltd	\$141,000	Development of a sustainable recycling process for chipseal surfacing in which the bitumen and aggregate are separated and can be re-used in road surfacing
3 / UsedFULLY Ltd	\$182,238	Determine the feasibility of using recycled textile fibres in different types of asphalt, to understand why the application of polycotton fibre into chipseal has yielded such promising results, and to optimise the processing parameters to produce a reliable product at scale.
4 / University of Auckland	\$88,435	Trial of several concrete mixes using various locally sourced waste materials and natural volcanic materials (pozzolana) to reduce the use of virgin aggregates and cement.
5 / BECA Ltd	\$208,500	Feasibility of "Smart Crushing", a novel technology that processes concrete waste back into its original components of sand, gravel and cement.
6 / Neocrete Ltd	\$240,000	Design of 'High Performing, Low-carbon Concrete' mixes to meet specifications, followed by two rounds of laboratory tests and scaled trials.
7 / Higgins Contractors Ltd	\$88,400	'Blue-sky' research to perform a laboratory study that evaluates candidate materials from non-petroleum sources for use as a bitumen replacement.
8 / Auckland University of Technology	\$80,420	Utilisation of local glass waste in an environmentally friendly, sustainable method for stabilisation of soft volcanic soil (eg pumiceous soils) in road construction.

## Challenge 2: Integrating low emission first and last mile travel solutions

Applicant	Funding	Innovation summary
1 / University of Auckland	\$508,051	Pilot a small micromobility hub at Panmure Station and network of mini hubs in the surrounding neighbourhood.
2 / Reureu Kotahitanga Ltd	\$250,000	Digital twining of existing railway track combined with real time data from crossing sensors to build a 3D virtual model of an autonomous commuter service.
3 / Jacobs New Zealand Ltd	\$299,800	A “Concept of Operations” for a mobility hub trial via a planning and investigation study.
4 / Mahu City Express	\$41,000	Trial the provision of e-scooters for rental by coach passengers and the conversion of existing zero-emissions commuting coaches to include e-scooter charging capability as a first and last mile zero-emissions solution.
5 / Ohmio Automotion Ltd	\$151,111	Develop performance-based requirements for testing and trialling an autonomous on-demand first-last mile solution in New Zealand to inform regulators and ready infrastructure and systems required.
6 / Somar Digital	\$151,111	Build and prototype a logic-based system that presents users with information about their travel choices in regard to the costs of private vehicle vs public transport use.
7 / Abley Ltd	\$183,375	Validate concept work to date on OurCommute, an employee focused, commuter carbon emissions reporting tool that incorporates behaviour change elements through incentives and rewards.
8 / Shutl	\$297,000	Test and trial Shutl’s e-bike subscription service in Christchurch, allowing commuters to have an e-bike to call their own for or a simple weekly fee.

### Challenge 3: Providing under-served communities with greater access to transport

Applicant	Funding	Innovation summary
1 / Big Street Bikers	\$98,384	Trial of a low-cost e-bike subscription service model for underserved communities.
2 / Mackie Research and Consulting	\$60,000	Development and testing of appropriate incentives for participants of the Māngere e-bike trial in South Auckland.
3 / Eastern Bay Accessible Transport Charitable Trust	\$100,000	Trial of a community-led accessible transport scheme aimed at seniors and people with disabilities within the Whakatāne district.
4 / MADE Group Ltd	\$368,000	Develop an activation program and campaign for change, to enable a new urban community to develop sustainable travel patterns from establishment, so that an entire community can demonstrate reduced reliance on private vehicle.
5 / Liftango	\$164,000	Develop an 'On Demand' bus service to be designed in collaboration with iwi (Ngāi Te Rangi) for Matakana Island residents.
6 / The Wednesday Challenge	\$176,200	Pilot a 16-week engagement in Tairāwhiti of The Wednesday Challenge (TWC), a challenge for people to use any mode other than a single occupancy car on Wednesdays.
7 / Bike Auckland	\$27,258	Showcase inclusive cycling options, enabling disabled people to try a cycle and identify current issues with accessibility to bike path networks.
8 / Rebicycle Charitable Trust	\$105,247	Trial offering low-cost e-bikes or e-bike conversions to people who are underserved on a 'lease to buy' scheme, paying them off interest free over two years at a rate that is affordable to them.