



Autonomous Public Transport in New Zealand

A comprehensive study examining the feasibility and viability of implementing autonomous vehicles within New Zealand's public transport networks

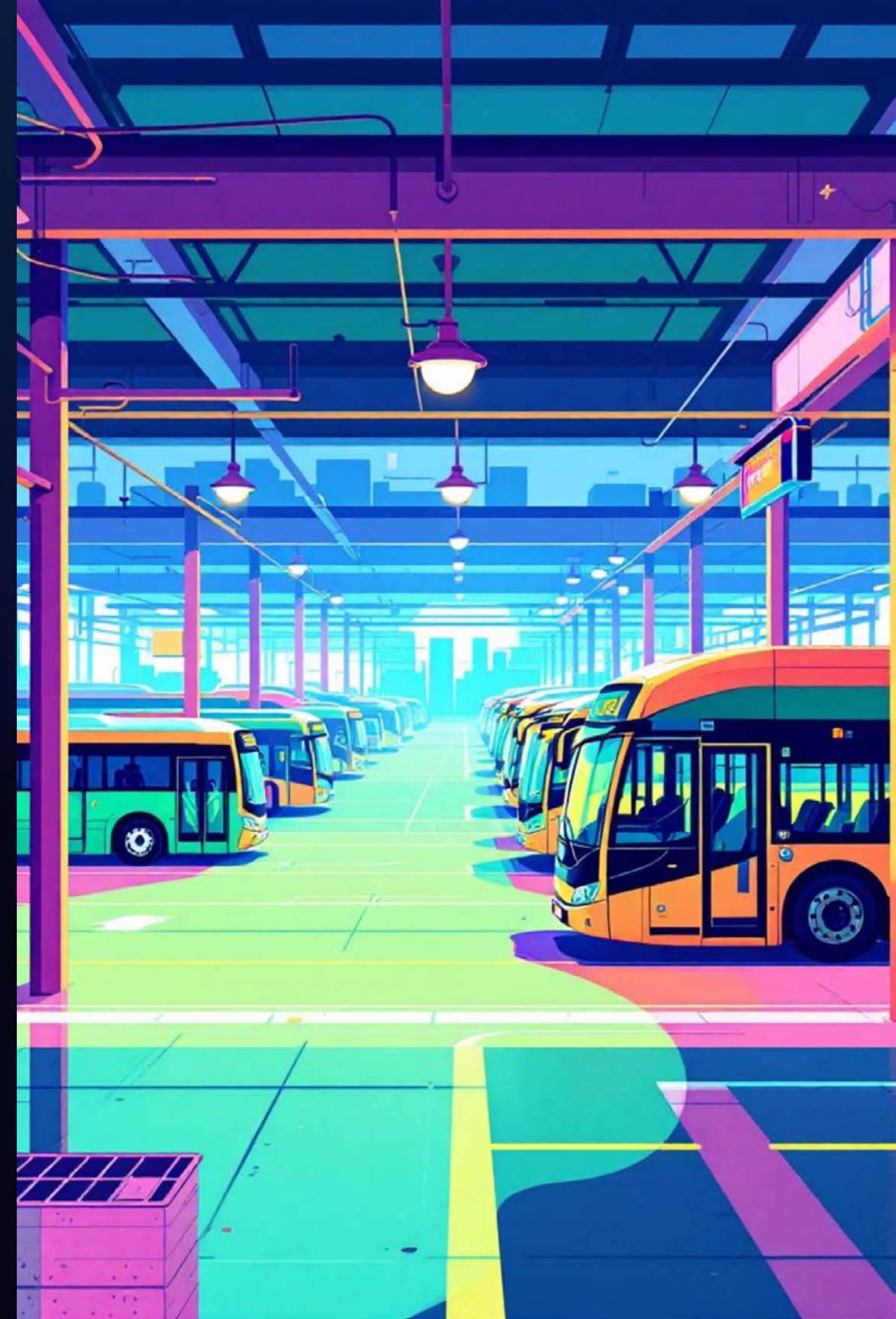
Research Purpose and Context

New Zealand faces persistent public transport challenges, particularly driver shortages magnified by the Covid-19 pandemic.

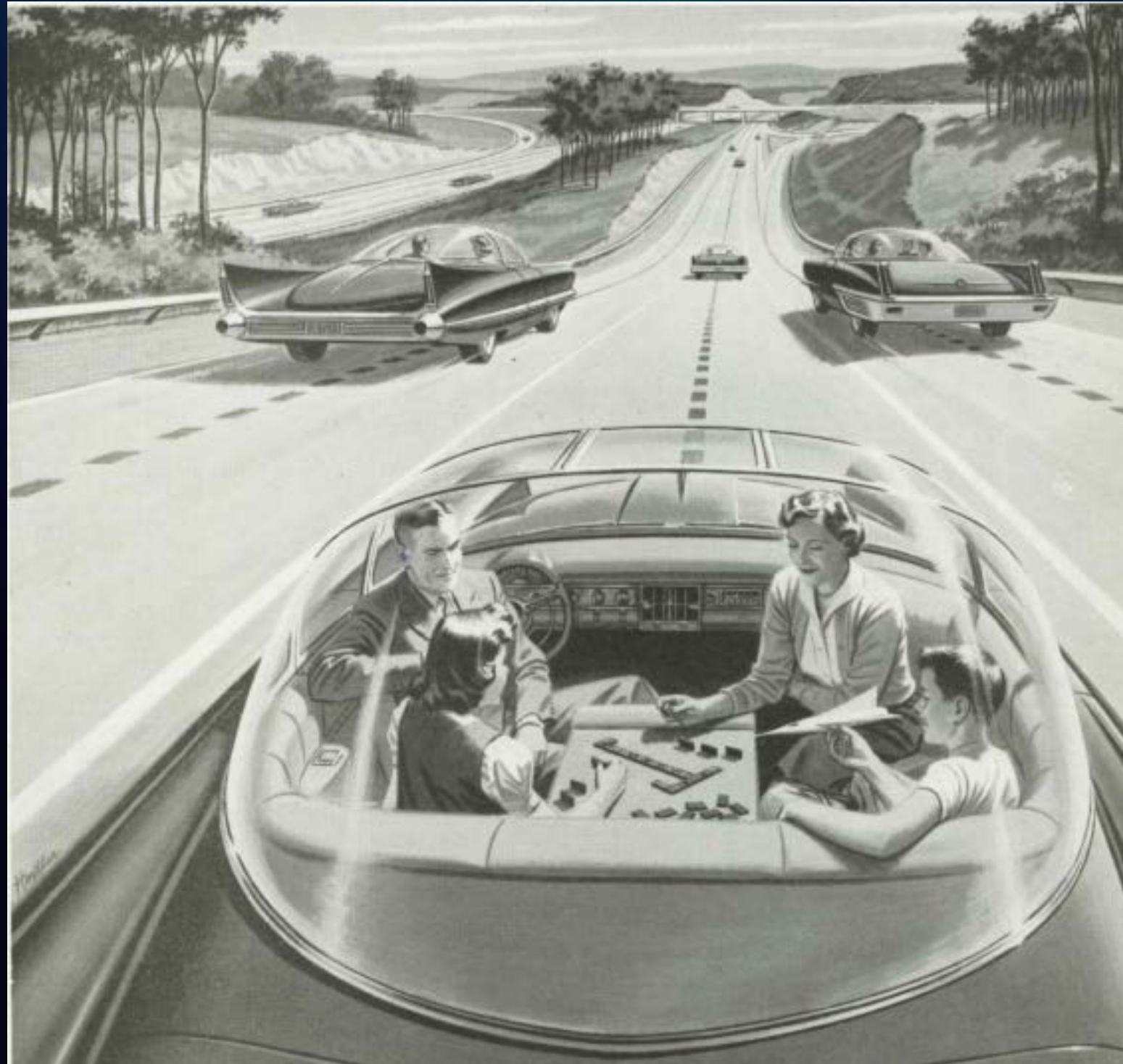
Autonomous vehicle technology offers potential solutions including enhanced safety, efficiency, accessibility and sustainability.

Primary Question

How can international experiences and technological advancements in autonomous vehicle deployments inform the feasibility and viability of implementing autonomous public transport in New Zealand?

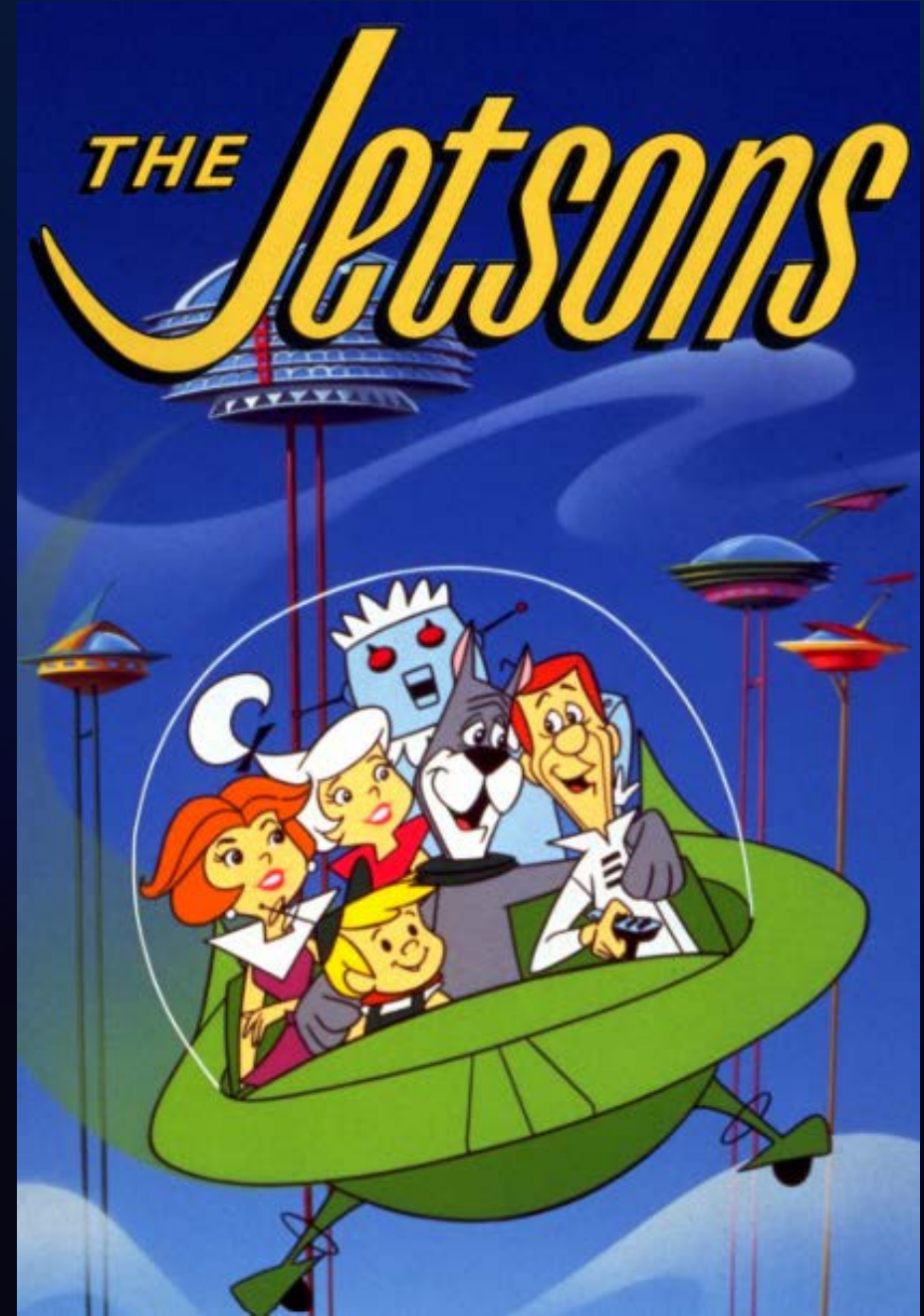


1950





1962



KNIGHT RIDER

SEASON ONE

1982



フロントスキャナー付
(赤色LED)
With LED Front Scanner Unit.

K.I.T.T.
KNIGHT INDUSTRIES TWO THOUSAND

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2011

2020





Not yet...







SAE J3016™ LEVELS OF DRIVING AUTOMATION™

Learn more here: [sae.org/standards/content/j3016_202104](https://www.sae.org/standards/content/j3016_202104)

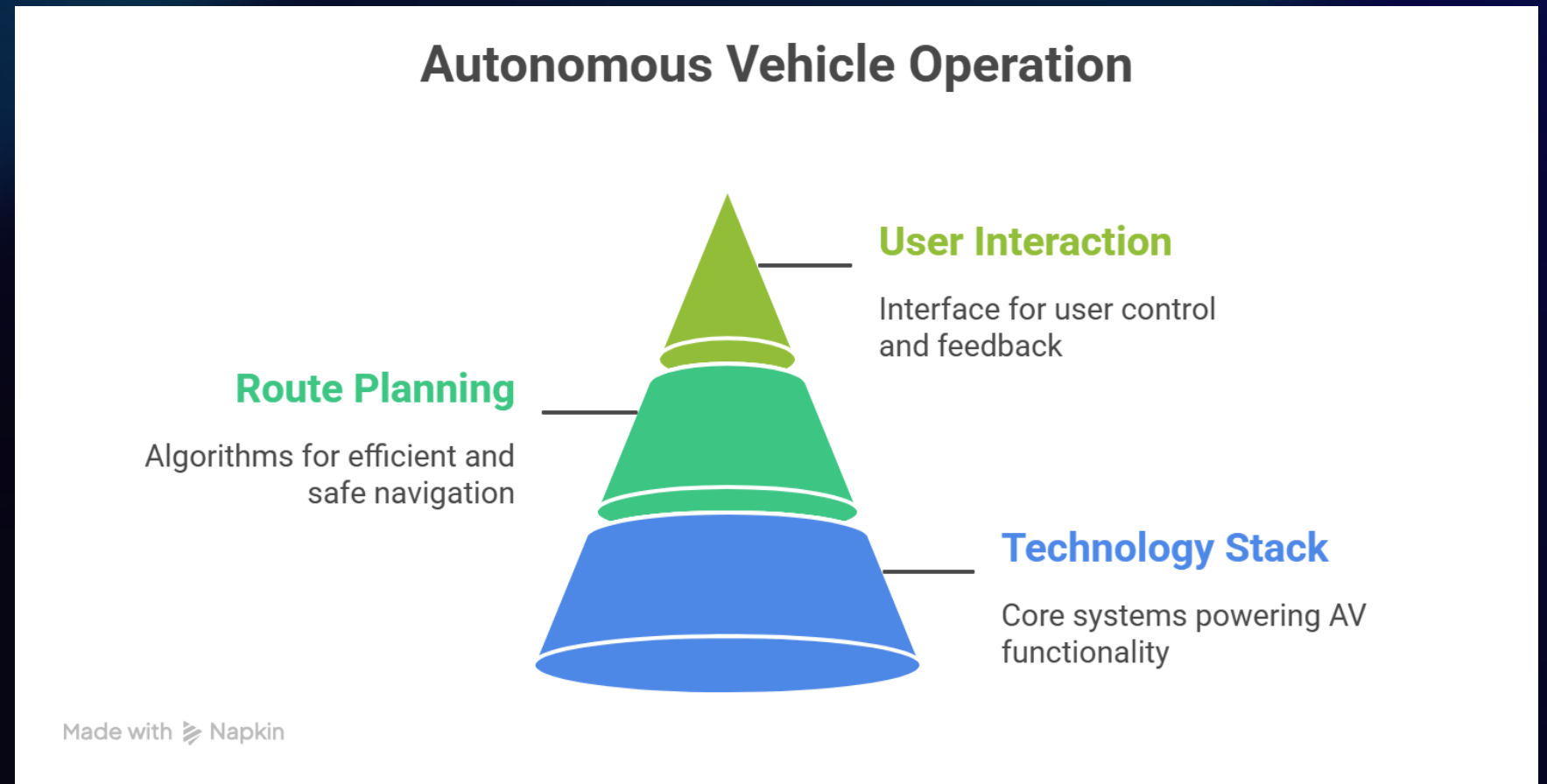
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	SAE LEVEL 0™	SAE LEVEL 1™	SAE LEVEL 2™	SAE LEVEL 3™	SAE LEVEL 4™	SAE LEVEL 5™
What does the human in the driver's seat have to do?	You are driving whenever these driver support features are engaged – even if your feet are off the pedals and you are not steering			You are not driving when these automated driving features are engaged – even if you are seated in “the driver’s seat”		
	You must constantly supervise these support features; you must steer, brake or accelerate as needed to maintain safety			When the feature requests, you must drive	These automated driving features will not require you to take over driving	

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	These are driver support features			These are automated driving features		
What do these features do?	These features are limited to providing warnings and momentary assistance	These features provide steering OR brake/acceleration support to the driver	These features provide steering AND brake/acceleration support to the driver	These features can drive the vehicle under limited conditions and will not operate unless all required conditions are met	This feature can drive the vehicle under all conditions	
Example Features	<ul style="list-style-type: none"> • automatic emergency braking • blind spot warning • lane departure warning 	<ul style="list-style-type: none"> • lane centering OR • adaptive cruise control 	<ul style="list-style-type: none"> • lane centering AND • adaptive cruise control at the same time 	<ul style="list-style-type: none"> • traffic jam chauffeur 	<ul style="list-style-type: none"> • local driverless taxi • pedals/steering wheel may or may not be installed 	<ul style="list-style-type: none"> • same as level 4, but feature can drive everywhere in all conditions

Key Insight: Technology Readiness



- ❏ The integration of these three systems remains complex, particularly in shared public transport settings where point-to-point flexibility, passenger safety, and accessibility must all be addressed simultaneously.

Licensing Framework

New Zealand currently lacks a coherent legal and procedural framework for licensing and operating autonomous vehicles. No clear authority governs AV approvals, and no formal standards exist for autonomous systems.

Safety and Privacy

Cybersecurity and privacy emerged as critical priorities. AVs collect vast personal and travel data, requiring robust encryption, blockchain security, and transparent data handling to maintain public trust.

Te Tiriti o Waitangi

Deployment must align with Te Tiriti o Waitangi, ensuring Māori partnership, participation, and protection in AV policy and programme design. Further research needed on embedding te ao Māori values.

Key Findings



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Key Findings

Public Acceptance

Public acceptance significantly improves with direct exposure. Research shows that even one ride in an autonomous vehicle increases comfort levels and trust.

Equity

Services must be codesigned with target communities including Māori, Pasifika, older adults, people with disabilities, and residents of low-income neighbourhoods from project inception.

Accessibility

AV deployments must prioritise wheelchair access, accommodate users without smartphones, and consider sensory impairments. Flexible booking and payment methods are essential for inclusive access.



Conclusions and Recommendations

1

Establish Licence to Operate Pathway

Benchmark international best practices from Singapore, UAE, China, and US states. Review all relevant legislation and propose amendments.

2

National Data Framework

Establish standardised data protocols, privacy oversight, and an open access repository.

3

Build Public Trust

Support real-world demonstrations and pilot programmes.

4

Prioritise Equity

Ensure inclusive technologies and flexible access methods for all community members.

New Zealand has the technological capacity to trial and operate autonomous public transport, but faces regulatory and societal hurdles requiring clear, bold leadership. A coordinated, government-led approach is essential to realise the potential of autonomous public transport for New Zealand's future.

Questions?

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