Transport Knowledge Hub

TRIPLE-4

KNOWLEDGE DEVELOPMENT AND PRIORITISATION FRAMEWORK

Delivering transport sector outcomes

Development of knowledge needs

2 Identify the nature of the knowledge gap
– Defining outcomes
– Assessing outcomes
– Delivering outcomes
– Balancing outcomes

1 Identify knowledge gaps in achieving long-term sector outcomes
– Effectiveness
– Efficiency
– Resilience
– Safety and responsibility

Triple-4 framework

3 Assess priority for closing the knowledge gap based on four key principles
– Impact
– Breadth of applications
– Access to the right resources
– Strategic value

Prioritisation of knowledge needs

OVERALL BENEFIT
Increasing our understanding of how the transport system helps New Zealand thrive
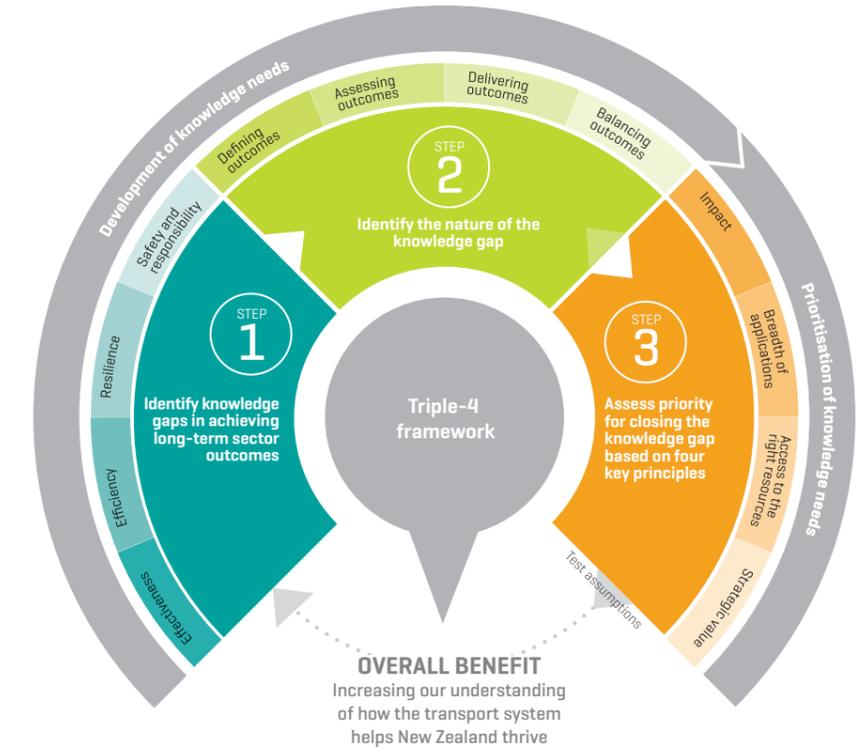

INTRODUCTION

There is demand for improvements in public services to address complex, long-term issues that affect New Zealanders.
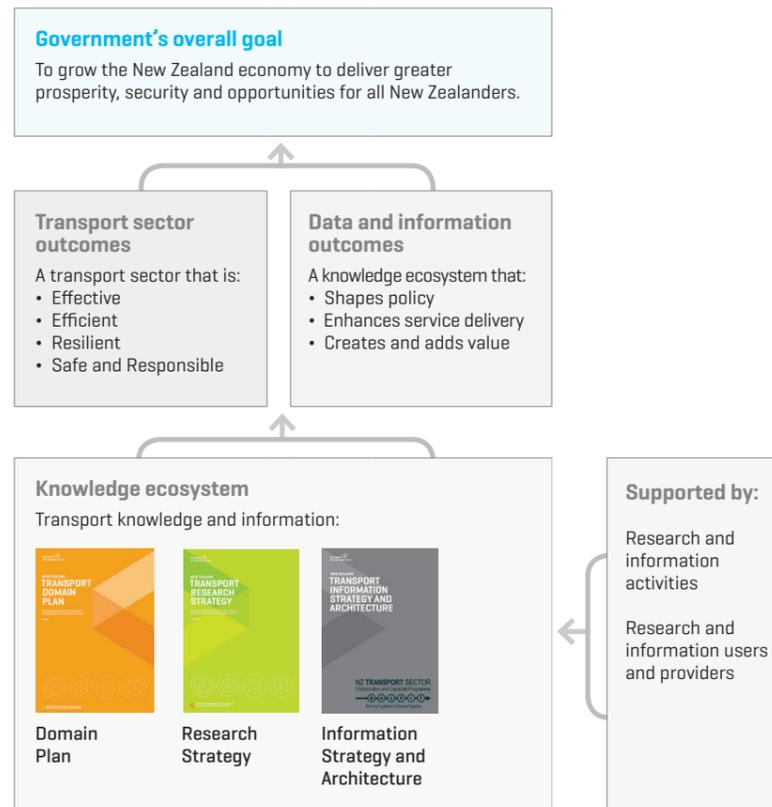
Overview
Research and information plays a key role in reshaping the policy landscape. The Government's overall goal is to grow the economy to deliver greater prosperity, security and opportunities for all New Zealanders. To do this requires decisions and priorities underpinned by robust research data, statistics and information.

A strong evidence base leads to better transport outcomes that deliver benefits, reduce harm and avoid unintended consequences.

The Triple-4 knowledge development and prioritisation framework
This framework (right) provides clear guidance to researchers and research funders on how best to prioritise effort according to sector needs. This will support evidence-informed intervention decisions.

Government's overall goal
To grow the New Zealand economy to deliver greater prosperity, security and opportunities for all New Zealanders.

Transport sector outcomes
A transport sector that is:
• Effective
• Efficient
• Resilient
• Safe and Responsible

Data and information outcomes
A knowledge ecosystem that:
• Shapes policy
• Enhances service delivery
• Creates and adds value

Knowledge ecosystem
Transport knowledge and information:

Domain Plan

Research Strategy

Information Strategy and Architecture

Supported by:

Research and information activities

Research and information users and providers

Development of knowledge needs

Assessing outcomes — Delivering outcomes — Balancing outcomes — Defining outcomes — Safety and responsibility — Resilience — Efficiency — Effectiveness

STEP 2 Identify the nature of the knowledge gap

STEP 1 Identify knowledge gaps in achieving long-term sector outcomes

Triple-4 framework

STEP 3 Assess priority for closing the knowledge gap based on four key principles

Impact — Breadth of applications — Access to the right resources — Strategic value — Test assumptions

Prioritisation of knowledge needs

OVERALL BENEFIT
Increasing our understanding of how the transport system helps New Zealand thrive

How to use the framework

The Triple-4 knowledge development and prioritisation framework is designed to help you get a good understanding of knowledge needs to assist with prioritising investments in policy, research and information gathering. It has three components, each with four elements and it is designed to be iterative.

The structure
i. Define the purpose of a knowledge development initiative
ii. Clearly define the problem or opportunity for research
iii. Develop and define a proposed response
iv. Follow the Triple-4 framework process to assess and prioritise the proposed response

The Triple-4 framework process

1 Identifies knowledge gaps to achieving long-term sector outcomes, which include effectiveness, efficiency, resilience, safety and responsibility.

2 Identifies the nature and extent of the knowledge gaps in defining, assessing, delivering and balancing outcomes.

3 Assesses the priority of knowledge needs by applying four tests to assess the relative priorities:

The tests
Impact – Can we identify existing and potential end use and end users? Do we know what the benefits will be and how big they are? Do we know how necessary the research is?
Breadth of applications – Will the knowledge gained by the research be accessible across the sector? Can the knowledge be used flexibly and applied in different situations?
Access to right resources – Are we able to access the skills, capability, techniques, tools and systems required? Is the required data reliable and available? Do we have the capacity to do the work and is it affordable?
Strategic value – Can the knowledge gained by doing the research help to address the strategic issues faced by the sector? Is this the right time to do this research considering the strategic issues?

Three case studies (over) have been prepared to illustrate the method.

CASE STUDIES

1: Building Capacity

Overview	
Purpose	To access and invest in the right capacity to deliver the Transport Research Strategy.
Problem definition and knowledge development opportunity	Articulate and agree the skills, attributes and knowledge required in the transport research community. Establish baseline information to be developed and maintained to allow good understanding of the current capability profile, how this might be changing, and the extent to which the current profile is likely to continue to be relevant.
Response	Collect or develop baseline data or information – a one-off project will be required to identify and agree the key attributes and training needs for the transport research community, which can then be monitored into the future. We recommend that a multi-agency approach be taken with involvement from academics and other professional groups.

Triple-A assessment		
Knowledge gap in achieving long-term sector outcomes ①	**Effectiveness Efficiency**	The proposed initiative will provide additional measures to better understand user needs and preferences to assist policy and investment planning
Nature of knowledge gap ②	*Better understanding of what constitutes high quality transport sector research capability will:*	
	Defining outcomes	Inform what constitutes optimum capability in the transport sector research community
	Measuring outcomes	Inform what the most appropriate measures of capability across different capability building outcomes and communities are
Assessing priorities ③	**Impact**	Makes a significant difference to measuring transport outcomes **H**
	Breadth of application	Applicable across transport as well as outside the transport sector **H**
	Access to right resources	Capability development methods are available from other disciplines which may be transferable **H**
	Strategic value	Reinforces the sector's commitment to delivering high quality sector outcomes on a sustainable basis **H**

2: Research

Overview	
Purpose	To gather additional information on people's attitudes, preferences and perceptions about transport.
Problem definition and knowledge development opportunity	People's attitudes, perceptions and preferences greatly influence their transport choices. In order to understand why people make the transport choices they do, it would be useful to have additional information about why they have these attitudes, preferences and perceptions. This type of information would be useful to supplement economic modelling techniques to inform a range of policy, investment and operational decisions. At present, data on people's attitudes, preferences and perceptions is limited largely to a small number of surveys conducted by commercial operators (which are not publicly available), and individual, often qualitative, studies carried out in the academic sector. There is an opportunity to work with the academic sector to develop the skills and knowledge of the public sector in this field.
Response	Develop research and capability – carry out additional surveys to gather information on people's attitudes, preferences and perceptions of the cost, reliability, security, safety and convenience across different modes of transport.

Triple-A assessment		
Knowledge gap in achieving long-term sector outcomes ①	**Effectiveness Efficiency Safety & Responsibility**	The proposed research will provide additional measures to better understand user needs and preferences to assist policy and investment planning to ensure the transport system is effective, efficient and safe
Nature of knowledge gap ②	*Better understanding user preferences will help:*	
	Measuring outcomes	Inform how outcomes might be best assessed
	Delivering outcomes	Identify the type of interventions to influence outcomes
	Balancing outcomes	Identify appropriate balance and trade-off between outcomes
Assessing priorities ③	**Impact**	The proposed research will add to current stock of knowledge as such information is currently incomplete **H**
	Breadth of application	The information will be useful to a range of stakeholders and applications **H**
	Access to right resources	Some methods are available for testing but the research will require a large sample size to obtain representative results **M**
	Strategic value	The knowledge can be used to inform the Government Policy Statement on Land Transport Investment and many other strategic policy decisions **H**

3: Data and Information

Overview	
Purpose	To better understand accessibility in New Zealand.
Problem definition and knowledge development opportunity	Accessibility is an important but difficult concept to consider and there is a lack of a clear definition. There are three aspects of access: ▸ access to mobility (or transport services) – how different groups can access transport services, considering a 'whole of journey' perspective ▸ access to specific destinations or locations – how well connected are different destinations (e.g. by function such as 'work', 'school', 'healthcare' and 'home') for different groups at different times ▸ barriers to access – what are the barriers to accessing transport for any user groups and the reasons why they exist
Response	Collect or develop baseline data or information – agree a definition of accessibility, and that baseline information (for different regions and sub-populations) is established and maintained into the future. This may include working with multiple agencies to identify and develop the key performance indicators for accessibility.

Triple-A assessment		
Knowledge gap in achieving long-term sector outcomes ①	**Effectiveness Efficiency Safety & Responsibility**	The additional measures will assist us to better understand accessibility issues from the transport users' perspective
Nature of knowledge gap ②	*Better understanding user preferences will help us to:*	
	Defining outcomes	Understand measures of accessibility that are complementary to, or substitutes for measures of mobility; and define specific outcomes around access to services, transport opportunities or locations
	Measuring outcomes	Inform the most appropriate measures of accessibility across different outcomes, regions and populations; and improve measurement of transport outcomes for location and other characteristics
	Delivering outcomes	Understand which interventions best address barriers to access
Assessing priorities ③	**Impact**	Makes a significant difference to measuring transport outcomes **H**
	Breadth of application	Applicable across transport as well as outside the transport sector **H**
	Access to right resources	Capability development methods are available from other disciplines which may be transferable **H**
	Strategic value	Reinforces the sector's commitment to delivering high quality sector outcomes on a sustainable basis **H**