Introducing intervention logic mapping

Ministry of Transport
TE MANATŪ WAKA

What is a logic map?

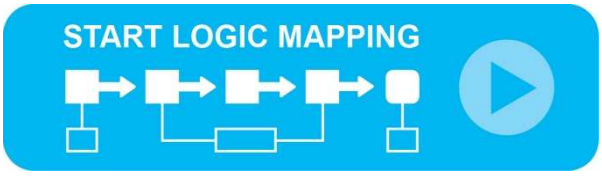
A logic map (also known as an intervention logic) is a visual depiction that demonstrates the relationship between proposed interventions and their intended effects. Interventions can be policies, programmes, or individual projects.

Logic maps consist of the problem/situation, inputs, activities, outputs, outcomes, and impacts[1].

Problem/ situation	The issues being addressed and the context within which the intervention takes place
Inputs	What you have, i.e. resources required to achieve intervention objectives
Activities	What you do
Outputs	What you produce
Outcomes	Short, medium and long-term results
Impacts	Broader primary/secondary effects

Logic maps increase the likelihood that proposed interventions will be successful because they:

1. Become a reference point for everyone involved in the proposal
2. Improve expertise in planning, implementation, and evaluation
3. Identify potential obstacles to the implementation of the proposed intervention to enable risk management early on
4. Reduce the risk of missing the key mechanisms and outcomes of a proposed intervention.



Why create a logic map?

A logic map explicitly documents the assumed effects and interactions of programmes, projects, or policies and by doing so increases the likelihood that effects will be realised[2]. Logic maps:

Foster collaboration:

- Enables communication of the purpose of the intervention and expected results
- Describes the actions expected to lead to the desired results
- Tells the "story" of the proposed intervention
- Enables a shared understanding and supports communication with stakeholders on what results or outcomes they may want and what they will do to achieve these

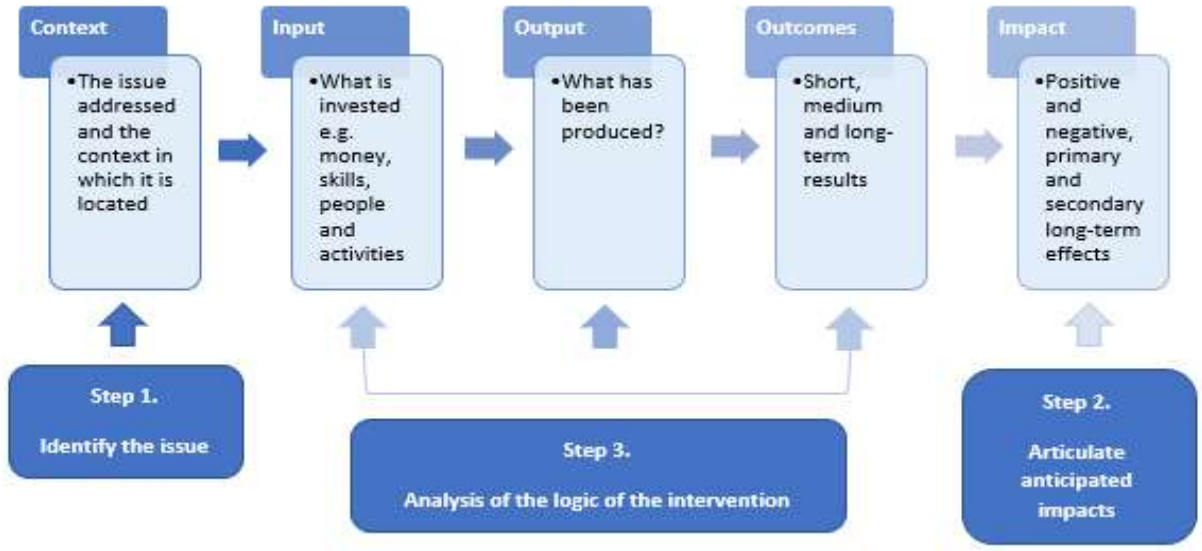
Support implementation:

- Helps the proposers determine if they have created sufficient solutions to address the needs that are the basis for securing resources for the proposed intervention
- Demonstrates the purpose of proposals regarding how they will meet needs and support intended outcomes and impacts
- Helps to identify key metrics and data required
- Enables a standardised but flexible and fit-for-purpose approach to evaluation

Support evaluation:

- Having a clear expectation about what is supposed to happen and why
- Builds the foundation for a monitoring and evaluation framework.

[1] What Works (2021). Logic Models and Theory of Change. Access from: https://whatworks.org.nz/logic-model
[2] Hills, D. (2010). Logic Mapping: Hints and Tips for Better Transport Evaluations. Access from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3817/logicmapping.pdf



Steps to developing a logic map: The Theory of Change evaluation strategy[3]

Before constructing the model:

Step 1

Determine the **purpose** of the logic model, who will use it and for what (i.e. develop a work plan, talk to stakeholders, or develop an evaluation plan)?

Step 2

Convene stakeholders of relevancy i.e. planners and managers, stakeholders with interests in the outcomes.

Step 3

Determine a **focus** for the logic model and what **level of detail** is needed to make this a helpful tool i.e. will the logic model depict a single intervention, a multi-year intervention etc.

Step 4

Explore and collect the evidence and knowledge base, and what others have done/are doing. Compile findings and lessons learned, applicable theory, and resources. Identify and discuss assumptions you are making and contextual factors.

Construction of the model:

Step 1: Identify the issue

Clarity on the problem, opportunity, or challenge you want your intervention to 'fix' is critical. You want to get beyond the symptoms of the problem to the cause/s. You need to develop a clear problem statement(s).

Step 2: Articulate anticipated impacts

Next you want to make assumptions on what you believe your intervention, if successful, is expected to achieve. This is a broad, population-level outcome or result - the ultimate consequences of effects of the proposed intervention.

Step 3: Identify outcomes

This step involves identifying what outcomes will be required for the ultimate impacts identified in step two to be achieved.

Outcomes are the direct results or benefits for individuals, whānau, groups, communities, organisations or systems and they can be short-term or medium-term. The further we go on the outcome chain, the less control or influence we have.

[3] Connell J P & Kubisch A. C. (1998) Applying a Theory of Change Approach to the Evaluation of Comprehensive Community Initiatives: Progress, Prospects, and Problems, Aspen Institute, Colorado.
Note: The term "theory of change" was popularised by Weiss (1995) and refers to a structured approach used in the design and evaluation of programmes to explore change and how it happens.

These early work products often serve as documentation of progress.

Step 4: Identify outputs (activities and participation)

Outputs refers to the direct, tangible results of the interventions needed to achieve longer-term outcomes.

Interventions may include things such as new or changed infrastructure or assets, new or changed services, workshops, education, training, etc.

Step 5: Create a list of inputs

Inputs are the resources that are utilised in the proposed intervention i.e. what we invest. This may include time, people (staff, volunteers), money, materials, equipment, partnerships, research base and technology, among other things. The inputs allow you to create the outputs.

Step 6: Establishing the underlying causal logic

It's important to consider the assumptions underlying why you think this is the best course of action to achieve the outcomes sought.

For example:

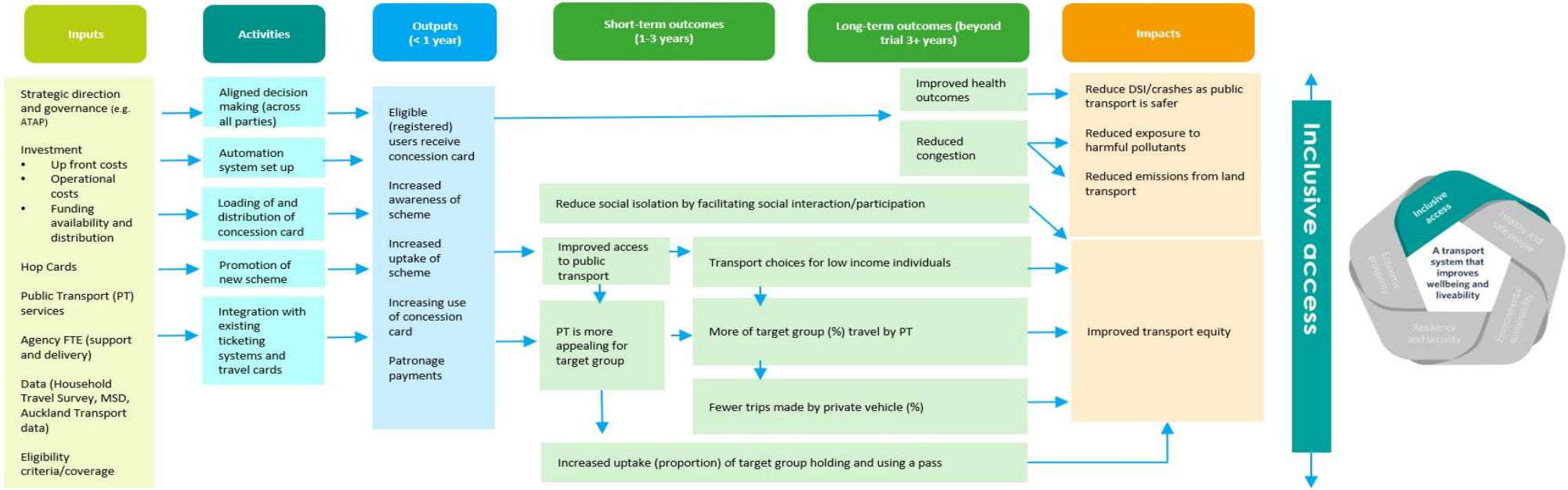
Why do you believe that activity X will lead to output Y and/or outcome Z?

Is there any evidence linking activity X and output Y, or output Y with outcome Z?

Assumptions are the beliefs we have about the intervention and the people involved and the way we think it will work. This is the "theory": the underlying beliefs in how it will work. These are validated with research and experience.

Below is an example of what a logic map may look like:

DRAFT LOGIC MAP FOR THE COMMUNITY CONNECT TRIAL



Assumptions: *Concession cards will make transport more affordable, and as a result, more accessible for those on a low-income.*

Potential indicators

Delivery Agencies: How much was spent (i.e. inputs) and on what (i.e. activities)

Inclusive access (CSC Eligible Audience)
- proportion lower income spending on transport
- proportion of lower income population using concession (hop card data)
- mode share for people – totals and %
- unmet GP need due to lack of transport or other "essential journey"
- perception of public transport
- employment

Variables of interest: (Among target audience)
- # of trips made (by mode) and purpose (increased social and education trips?)
- $ household spend on transport (by mode)
- Perceptions of public transport
- Perceptions of the trial
- Barriers for accessing public transport
- Socio-demographic details (incl. age, gender, suburb, income)

Ministry of Transport
3 Queens Wharf
Wellington 6011
PO Box 3175
Wellington 6140

Telephone: +64 4 439 9000
Email: evaluation@transport.govt.nz
www.transport.govt.nz/

Published June 2021