Business case documents often have a strong focus on defining the solution that will be delivered, but fail to adequately describe the problem or specify the benefits that the investment will produce.

Good investment management requires that the underlying business need for an investment is understood before significant resources are devoted to building a detailed case for investment.

The early phases of business case development can act as a filter to:
- test whether there is a problem
- gain some confidence that it is real (even if not fully understood)
- check how well the identified benefits will align with organisational objectives.

This ensures that funding is prioritised towards investments that are most likely to be successful.

Defining problems and benefits also helps you develop your investment story. Read more in the Strategic case: developing your investment story information sheet.

NZ Transport Agency requirements

When the NZ Transport Agency assesses a strategic case, one of the important things it looks at is the quality of problem and benefit statements. Before deciding whether to seek National Land Transport Programme (NLTP) funding to develop a business case, you should spend time describing problems and their consequences as accurately as possible, and identifying the relevant benefits of addressing the consequences.

Defining problems and benefits aligns with the following BCA principles and behaviours:

- **Investing for benefits**: every investment should be able to describe how it is contributing to the benefits the organisation is seeking before any dollars and/or resources are spent.
- **Clarity of intent**: the logic of any investment can be easily tested, evaluated and communicated using simple concepts and language on single page documents.
- **Gathering information through informed discussions with appropriate stakeholders**: the best way to aggregate knowledge is through informed discussion with people who know most about the subject.
Defining the problem
Before any problems and consequences workshop, think about what the problem is, and what it means to you (as a business case developer, problem owner or stakeholder) or people you represent. In the workshop, consider the downstream effects of what you and other stakeholders discuss and agree.

- The cause(s) of the problem that you identify can be used in future phases to help choose ways to respond. This is usually done in the programme business case at a strategic level or the detailed business case at an activity level.
- The consequence of a problem can often be used to help identify relevant benefits. These are built on as the business case develops, for example by informing the development of investment objectives. Investment objectives will be used later to choose between alternative responses or options.

If a problem is not well defined, decision makers will have inadequate information to work with and the chances that the investment will succeed are much lower. Downstream, solutions may be less than fit for purpose, inadequate or even harmful. There is a risk of using too many resources to solve low-priority or poorly defined problems, or too few resources to solve major ones.

In contrast, having a clear understanding of problems and benefits right from the start makes it easier to keep decision makers in the loop, ensuring there are no surprises when seeking approval at implementation phase. It also helps to ensure that solutions are well-aligned to organisational priorities, and that they will be effective in addressing the underlying problem.

Identify the root cause
Identifying the underlying or root cause of a problem helps to address some fundamental ‘why’ questions: ‘Why is this problem happening? Why here and not somewhere else? Why at this point in time?’.

You can also run into difficulty if you identify the wrong problem. It is important to address the root causes of the problem(s) - not the symptoms. Consider these examples:
- Congestion is often perceived as the cause of a problem, when it’s actually often the consequence of a different, core problem, such as growth occurring faster or in places other than planned.
- Safety-related issues often focus on consequences because they are compelling, but this means the underlying causes may not be well understood. For example, one problem statement identified that people were regularly breaking the speed limit on a stretch of urban road, placing themselves and other road users at risk from crashes. The underlying reason that speeding was a problem at that location was the wide, open appearance of the road, which led drivers to feel they were in a high-speed environment. As a result, many were speeding without realising it.

In the second example, responding to the original problem (speeding drivers) would likely have focused on clearer signage and rigorous speed enforcement. Focusing on the root cause (a misleading speed environment) introduces the possibility of using minor engineering to make a ‘self explaining road’; for example, using landscaping to create a visually narrower road environment.

It is important to identify root causes before seeking alternatives and options for ways to respond; this encourages wider options to be considered, and the understanding of the root causes can help to identify appropriate ways to respond.

Problems can highlight opportunities
Keep in mind that problems can also help to highlight opportunities. Issues can lead you to initiate infrastructure development, such as:
- accelerated LED street lighting
- developing corridors to facilitate or enable regional growth (lead infrastructure)
- designing growth areas so they are able to accommodate public transport services as they become economical
- strategic land acquisition or designation for future highways development.

**Problem definition questions**
- Is it clear what the problem is that needs to be addressed (both the cause and the consequence)?
- Is there evidence to confirm the cause and effect of the problem?
- Does the problem need to be addressed at this time?
- Is the problem specific to this investment, or should a broader perspective be taken?

**The ‘5 whys’**
Think about applying the BCA principle of fit-for-purpose effort when considering problem definition workshops. If the proposed investment is small in scale, complexity and risk and doesn’t justify the time and cost involved in a full investment logic mapping (ILM) workshop, you could use the 5 whys technique.

The 5 whys is one way that can help find the root cause and define problems and benefits. Asking ‘why?’ of a problem, then of the answer, and so on for five iterations is an effective way to get past obvious symptoms and reveal underlying causes of problems.

**Example of the 5 whys**

<table>
<thead>
<tr>
<th>Initial problem statement: ‘A fatal crash occurred’</th>
<th>Potential solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The vehicle skidded and lost control</td>
<td>Install barriers</td>
</tr>
<tr>
<td>The road surface was wet from rain</td>
<td>Reduce speed limit</td>
</tr>
<tr>
<td>The wet skid resistance was too low</td>
<td>Reseal the pavement</td>
</tr>
<tr>
<td>The aggregate used did not meet specifications</td>
<td>Reseal the pavement with better aggregate</td>
</tr>
<tr>
<td>The testing and quality assurance regime was not followed</td>
<td>Stricter enforcement of testing and quality assurance contract conditions</td>
</tr>
</tbody>
</table>
Drafting problem statements

A good problem statement will allow you to easily identify the evidence needed to support (or disprove) a statement and define measures of success.

Poorly formulated problem statements can result in misidentification of benefits and undermine the strength of the entire business case. Apply critical thinking and ask ‘How much of a problem is this, really?’

For example, consider this problem statement:

*Mixed traffic during off-peak times and high peak-time volumes results in poor travel-time reliability.*

- This statement is not specific – it tried to capture a very broad issue and link it to the catch-all problem of ‘travel-time reliability’.
- It led to this benefit statement: Improved connectivity that enables economic activity.

This benefit is not very specific, so performance measures for ‘connectivity’ were not easy to relate to the outputs of the proposed investment. In effect, the benefit was not directly related to the problem.

In contrast, consider the problem statement:

*A lack of defined network hierarchy for Eastshire may exacerbate the conflict in the future between the town’s local traffic and highway traffic.*

- This statement led to the benefit statement: Improved understanding of the network, which can be measured against an existing documented hierarchy.
- This is a good example of problem and benefit statements because the problem statement is succinct and covers exactly what the problem is. In turn, this makes the benefits obvious.

A clear problem statement should have both a cause and a consequence, and be a compelling call to action that answers the ‘Why?’ and ‘So what?’ questions.

The cause and consequence need to be linked logically. Think about ‘What will happen if we do nothing?’ as a starting point to identify consequences.

Don’t aim for perfection in a problem statement – you’ll never finish. But do bear in mind that the problems will be tested against the evidence and changed where appropriate, and be prepared for your initial thinking to change. For example, a different problem or opportunity may be identified and mapped at a workshop, and may be further refined after the workshop once the available evidence has been taken into account.

Tips

- Avoid simply identifying an asset failure as the problem; this will drive an asset-led response too early, by focusing attention away from the causes of asset failure.
- You must have evidence (or be able to access evidence) to give reasonable confidence that the problem exists.
- Keep a note of where the evidence is as you develop the problem statements (not afterwards).
- Get someone who is not connected to the proposed investment to read the problem and benefit statements and ask, ‘Do they make sense?’

Watch a video on developing good problem statements.
Defining benefits

Once a problem and consequence is defined, stakeholders can identify the benefits of doing something about it. A benefit is the measurable improvement that answers the question ‘What value is derived from this outcome?’ The consequence of a problem can help identify good-quality, relevant benefits and develop investment objectives.

Good-quality benefits:
- are clearly aligned to the problem statements
- are clearly linked to the results the organisation seeks
- have enough context to demonstrate local impact
- are clearly attributable to the potential solution
- are worth pursuing – they justify the expenditure or effort
- are supported by good-quality performance indicators (an indicator that demonstrates an expected investment benefit has been delivered).

Benefit performance measures

Each benefit should have measurable performance indicators. When considering these, ask:
- What value will the investment provide to the organisation or its customers?
- What performance measures will demonstrate the investment’s specific contribution to the identified benefit?

Performance measures must:
- be meaningful, measurable, and attributable to the investment
- demonstrate measurable outcomes, not capabilities
- provide an obvious connection to the benefits and outcomes in the context of their local impact.

To help develop indicators and performance measures, the Transport Agency has developed an investment performance framework and a list of performance measures.

Use of the investment performance framework is not mandatory, but is a useful tool that can help quickly identify widely recognised indicators and measures that are commonly associated with transport investments.

Weightings

During problems and benefits workshops, participants are asked to assign percentage weightings to both problems and benefits. This identifies which problems and benefits are of highest value to the participants.

Assigning weightings is not about deciding how much money gets spent on fixing each problem. It is about making informed choices between options, to make sure the investment delivers what is most needed.

Later in the business case development process, the weightings assigned to problems and benefits should inform the weightings given to investment objectives. They can then be used to guide discussions for trade-offs across outcomes when considering possible ways to respond to the problems.
Outcome versus output measures

The Transport Agency prefers to work with **outcome** measures, rather than **output** measures.

An outcome is the result of a change (action or intervention), such as:
- improved customer experience
- a safer transport system
- a more efficient transport system
- a more liveable city.

This is an example of an outcome measure:
- Indicator – Increased mode share of public transport
- Measure – Mode share of public transport on defined routes.

Using outcomes may also, for example, establish that you have identified the wrong initial solution, provide the ability to push back on pet projects, challenge understanding or expose hidden disagreements.

In comparison, output measures are generally solution driven and as such they often stifle genuine exploration of benefits and outcomes. For example, if a workshop identifies ‘increased length of cycling paths’ as a performance measure, how do we even know that this is the right thing to be doing, and what it will actually achieve?

However, output measures can sometimes be compelling and appropriate. For example:
- Indicator – Service kilometres
- Measure – Public transport service kilometres delivered.