

DRAFT DESIGN ASSESSMENT TOOLS

A technical paper prepared for the Investment Decision-Making Framework Review

3 DECEMBER 2019

Guidance on the appraisal of options and for the assessment of business cases has been clarified. This includes the consideration of both monetised and non-monetised benefits and costs. Waka Kotahi NZ Transport Agency has developed tools to assist with options appraisal and investment decision-making. There will be clearer differentiation between assessment and prioritisation – the Investment Assessment Framework will be replaced by clear guidance on assessment and separate guidance on prioritisation. The guidance on assessment will apply from 1 July 2020

Please note that this is a draft document. As such there are a number of design elements that still need to be worked through. The intention is that the assessment tools will be piloted in early 2020 to enable them to be further refined following real-life testing. Design elements that need to be further developed include:

- articulating how the Appraisal Summary Table (AST) will be positioned within the economic case and also in relation to the other cases (commercial, management, financial, strategic)
- providing guidance on moving from the long to short list and the short list to preferred option
- functionality to populate the AST with quantitative and qualitative benefits
- better alignment of spatial planning outputs with National Land Transport Fund investment
- further alignment/integration with the business case approach
- providing clarity around investment expectations.

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DOCUMENT PURPOSE

The purpose of this document is to outline assessment design changes.

BACKGROUND

Included in the Minister of Transport's Letter of Expectations to Waka Kotahi NZ Transport Agency is the need to improve the Transport Agency's investment decision making system. Changes are required to ensure assessment and prioritisation reflect government direction by giving effect to the Government Policy Statement on Land Transport and to ensure investment decisions are more rigorous and transparent. To deliver on Minister expectations the Transport Agency established the Investment Decision Making Framework (IDMF) Review Team.

Alignment across the transport system

The Ministry of Transport (MoT) and the Transport Agency are working together to develop a new framework that is consistent at both a sector and operational level. Local government investment partners are also supporting the design of this work. The benefit of joined up thinking will be that approaches, processes, tools and methodologies are developed to form a consistent whole of sector approach.

The National Land Transport Programme

The National Land Transport Programme (NLTP) reflects the partnership between local government – which invests local funding – and the Transport Agency, which invests national funding on behalf of government through the National Land Transport Fund (NLTF). The NLTP sets out how the Transport Agency will use national land transport funding for the next three years and a high-level forecast of revenue and expenditure for the next 10 years.

In preparing the NLTP the Transport Agency must give effect to the Government Policy Statement on Land Transport (GPS) and take into account Regional Land Transport Plans (RLTP). RLTPs set out each regions' land transport objectives, policies and measures, and transport priorities. They also include activities that have been proposed for inclusion in the National Land Transport Programme. Activities must be included in an RLTP to be eligible for funding from the NLTF.

Activities proposed for inclusion in the NLTP are prioritised using prioritisation criteria (currently termed the Investment Assessment Framework). The prioritisation criteria includes a factor which is designed to ensure alignment to the direction outlined in the GPS.

Following inclusion in the NLTP, the Transport Agency assesses each business case, at an investment decision gate, before considering approving funding for the proceeding stage. Assessment includes a check of the quality of the business case (based on answering the 16 business case questions), and a check against investment criteria. The activity's priority is also reviewed against the prioritisation criteria (including alignment with GPS priorities) and a check made to ensure enough funding is available.

Assessment vs prioritisation

Assessment identifies all significant benefits identified in the business case which are relevant to a proposal. Prioritisation focuses on the benefits that will give effect to GPS priorities. Assessment will support prioritisation by identifying a proposals contribution to the GPS priorities – (change from baseline scenario).

Please note that the Transport Agency is reviewing its prioritisation criteria (current Investment Assessment Framework). These prioritisation factors need to be developed in response to the draft GPS 2021, so will be developed once the draft GPS becomes available.

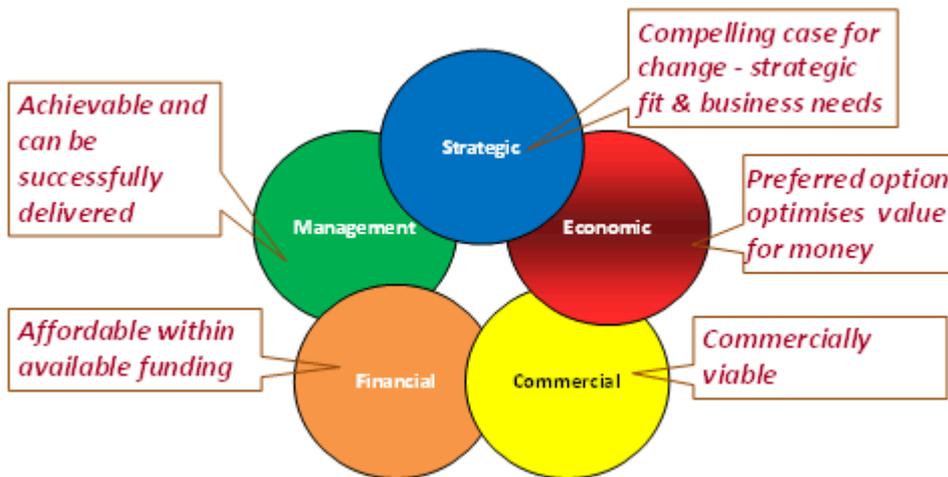
The Business Case Approach

Business cases provide the evidence to make a case for funding and are the basis for investment from the NLTF. Through the business case development process:

- problems and opportunities are clearly defined
- investment objectives and benefits sought are defined
- alternatives and options are generated
- optioneering is undertaken – to move from a long list – to short list to a preferred option.

The Business Case Approach is aligned to the Treasury's five case model (described in Figure 1).

Figure 1: Five case model, New Zealand Treasury



Benefits management

Benefits management underpins the Business Case Approach and NLTF investment decisions. The process of benefits management is a practice of benefits identification, analysis, planning and realisation and reporting of benefits consists of ex-ante and ex-post evaluations. Well evidenced and robust intervention logic needs to be applied through all stages of benefits management. The aim of benefits management is to:

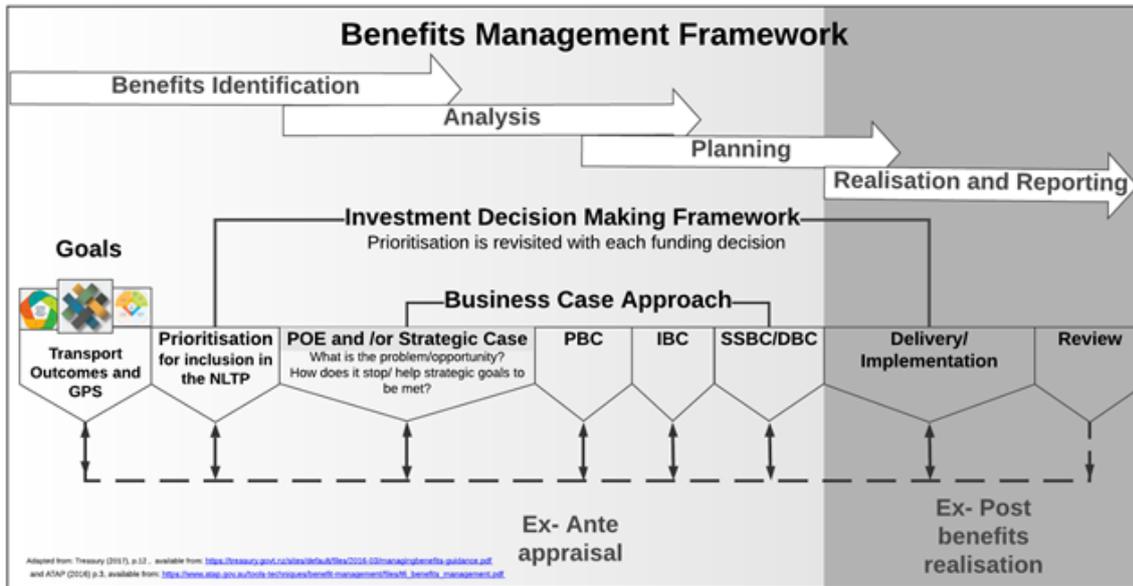
- ensure value for money
- demonstrate investment success to meet strategic outcomes and its anticipated results
- ensure benefits are realistic, achievable, and ultimately realised
- embed lessons learned in order to continually improve
- support prioritisation.

Benefit identification is common in both appraisal and benefits realisation. It seeks to identify and define potential benefits/dis-benefits arising from addressing an identified problem or opportunity.

Benefits are identified as part of the Business Case Approach – initially at the point of entry and during the strategic business case. A new benefits framework is introduced in Figure 2 that reflects the entire life of benefits through the investment cycle.

Current processes require the capture of benefit information to complete a cost-benefit analysis (CBA) for funding purposes. The *Economic Evaluation Manual* (EEM) provides detail of how to complete this benefit assessment, which focuses on monetary outputs. Currently the EEM is the Transport Agency's technical guidance for undertaking social cost-benefit analysis (CBA) for transport investment. The EEM is focused on monetising benefits and its primary function is to provide consistency, transparency and comparability between the economic efficiency of multiple activities. Complementing the EEM is the Transport Agency's framework for investment performance, which seeks to measure investment outcomes and help determine whether expected benefits are realised.

Figure 2: The Transport Agency’s benefits management framework



Benefits framework

The Transport Agency have developed a common benefits framework for use across the entire benefits management process. These benefits are mode neutral and aligned to the enduring Ministry of Transport’s Transport Outcome Framework (MoT TOF). High level benefit clusters have been developed to demonstrate meaningful alignment between the new mode neutral benefits and the MoT TOF.

In summary, the new benefits framework:

- is aligned with the enduring MoT TOF;
- is used in all stages of benefit management from business cases to economic evaluation, and through to benefits realisation post-implementation;
- includes monetised, quantitative and qualitative benefits;
- captures benefits to people, society and the environment rather than functioning as benefit indicators;
- is mode neutral.

One of the key shifts through the Investment Decision Making Review will be to move to better consider non-monetised benefits and costs within decision making – i.e. decision makers will be presented with qualitative, quantitative and monetised benefits and costs to inform investment decisions. This will put us in line with international best practice. The benefits framework will underpin the new approach by providing monetised and quantitative measures.

The EEM will be renamed as the *Monetised Benefits and Costs Manual*. This manual will include guidance, methodology and values for monetised benefits. The performance measures framework, which currently has 50 + benefit measures (29 of which can be pre-populated), will be able to be used in populating quantitative benefits. Guidance will be provided for both quantitative and qualitative benefits.

For further technical detail regarding the benefits framework refer to the Benefits Framework technical paper.

BUSINESS CASE ASSESSMENT TOOLS

The assessment tools will:

- provide fit-for-purpose assessment at each stage of the business case i.e. be aligned with the progressive nature of the business case.
- be enduring and not change with a change in government priorities.
- replace existing requirements within published Transport Agency guidance, as opposed to increasing the volume of analysis expected.

Attachment 1 provides detail for how and when the assessment tools will be used as part of the business case.

Early Assessment Sifting Tool

A new Early Assessment Sifting Tool (EAST) will support the coarse screening of alternatives and options at the long list stage of a business case. The EAST has been adapted from UK best practice to quickly and robustly document the ruling out of options that are simply not going to go forward. EAST will also assist in documenting why decisions have been made. The EAST tool will be used to assist with coarse screen optioneering at long list stage of business case. The EAST tool is aligned to the Treasury Better Business Case Strategic Assessment.

Please refer to Attachment 2 for further detail.

Multi Criteria Analysis

Multi-Criteria Analysis (MCA) is an analysis technique (or tool) that can be used to consider a range of criteria, both quantitative and qualitative. MCA can be used to establish preferences between different alternatives and options.

The Transport Agency's MCA methodology/guidance will be refreshed, and an MCA template provided to ensure that a broad range of alternatives and options have been considered and the resulting investment decisions at the long list stage are transparent and robust.

The MCA guidance and template will enable ease of transition from assessment of investment proposals, to assessment of alternatives and options in the pre-implementation and RMA phases. The MCA tool can be used during the optioneering of long list stage of business case however please note that MCA is often an iterative process often applied during subsequent stages of the business case.

The refreshed MCA tool and guidance aligns with Treasury long list option guidance. **Please refer to Attachment 3 for further detail.**

Appraisal Summary Table

An Appraisal Summary Table (AST) will be introduced to replace the currently used cost-benefit appraisal. The AST is widely used internationally; its main benefits is that it provides a structured way of presenting decision-makers with an overview of monetised, quantitative and qualitative benefits and costs at both the short list and preferred option stage. The AST has been adapted to the New Zealand transport context to present all relevant costs and benefits identified within the business case and will highlight priorities signalled by the GPS.

An AST will be required for all business cases to make explicit the benefits and costs for decisions between alternatives and options. The breadth and depth of an AST should be proportionate, reflecting the size, complexity and risk of what is being proposed.

The benefit of an AST is that it presents both monetised and non-monetised benefits and costs, describing all relevant impacts. Properly calibrated, the AST removes the incentive of those developing business cases to inflate benefits and underrepresent costs to get a project 'over the line.'

Consistent with current Transport Agency and Treasury guidance, results within the AST will:

- present all costs and benefits from a national perspective
- include monetised costs and benefits presented in real terms
- summarise capital and operating costs and benefits with the detail of budget impacts and affordability provided in the Financial Case.

Please note that, while the AST summarises the benefits and costs of a business case, it does not seek to replicate wider information required as part of this case, in particular the explanation for preferred option selection (i.e. applying judgement to balance qualitative and quantitative factors). Similarly, critical success factors, the evidence underpinning cost and benefits estimates, risks and uncertainties, relevant modelling assumptions and sensitive analysis will not be detailed in the AST table. Further work is required to develop how the AST is positioned within the economic case and also in relation to the other cases (commercial, management, financial, strategic).

Please refer to Attachment 4 for further detail.

How will effectiveness and efficiency be considered?

The Transport Agency is working on providing more clarity around the investment requirements for each stage of the business case. The 16 business case questions will stay the same, but the Transport Agency will provide more clarity around what is expected regarding the quality of the business case and what investment criteria is used at

investment decision points. The investment requirements will test a proposal's assertions of effectiveness and efficiency. The AST will sum all those elements up for presentation to decision makers; note efficiency is not just a monetised view in the new model. The actual weighting to these factors and comparison between activities happens at the prioritisation stage not in the business case assessment itself – that is how we have to build and manage the NLTP to give effect to the GPS.

Integrated planning

Planning integrated transport systems is a multi-dimensional task. Land use choices largely determine an area's development pattern (or spatial form), which, in turn, influences economic activity, social interaction and environmental quality. To achieve wider outcomes, it isn't possible to undertake 'transport planning' in isolation. The Transport Agency engages in integrated planning from a transport perspective at national, regional and local level, working in partnership with others such as councils, Ministry of Housing and Urban Development and the private sector.

The proposed Urban Growth Agenda (UGA) is a shift in the approach to urban development and infrastructure and the mix of instruments and levers that are available to relevant stakeholders. The UGA is designed to address the fundamentals of land supply, development capacity and infrastructure provision.

Spatial planning

A spatial plan provides a high-level direction or vision for future urban and economic growth, indicates the location and timing for delivering infrastructure, and sets overarching strategic objectives for an area. This is generally at a regional level but can also be at inter-regional or sub-regional level. A spatial plan can visually illustrate:

- Existing and future land use patterns
- Existing and future infrastructure provisions and strategic corridors for infrastructure
- Priority areas for investment
- 'No-go' areas, and areas for balancing negative development impacts or restoring/maintaining environmental qualities
- Other strategically significant priorities for the region.

The Transport Agency inputs/partners into spatial planning alongside local government, multiple crown agencies, tangata whenua and potentially private sector investors. A number of decisions are made during spatial planning around spatial form which subsequently feed into the business case process. Spatial plans themselves or their supporting documents are helping form Programme Business Cases under the Transport Agency's business case process (e.g. the Auckland Transport Alignment Project or the Urban Form and Transport Initiative in the western Bay of Plenty). Further work is required to better align spatial planning outputs with National Land Transport Fund investment.

Alternatives and options definition

Alternatives

An alternative is a strategic way of responding to a problem or opportunity such as exploring the potential for different land use arrangements or encouraging greater use of other modes to address projected growth in network demand. Please note that alternatives are often considered as part of spatial planning – however they can also be considered as part of the Business Case Approach. The Transport Agency is currently working with the wider sector to provide improved guidance around how spatial planning aligns with investment from the National Land Transport Fund.

In addition, when an intervention is likely to result in something being built – alternatives need to be thought of in a Resource Management Act 1991 (RMA) sense – i.e. designated route and its alternative route (location specific).

Options

Options represent different ways to achieve an outcome or objective. For example, if it had been decided that the best way (the preferred transport option) to address a particular problem was to improve an intersection for safety or efficiency reasons, options could include simple rearrangement of geometry or sight lines, building a roundabout, installing traffic signals, or grade separation. Non-transport investment alternatives and options

When making investment decisions the objective is to optimise value from new and existing investments and assets for current and future generations of New Zealanders. Investment decisions should integrate into a best value portfolio from an all of government perspective. Optioneering should consider a range of responses to

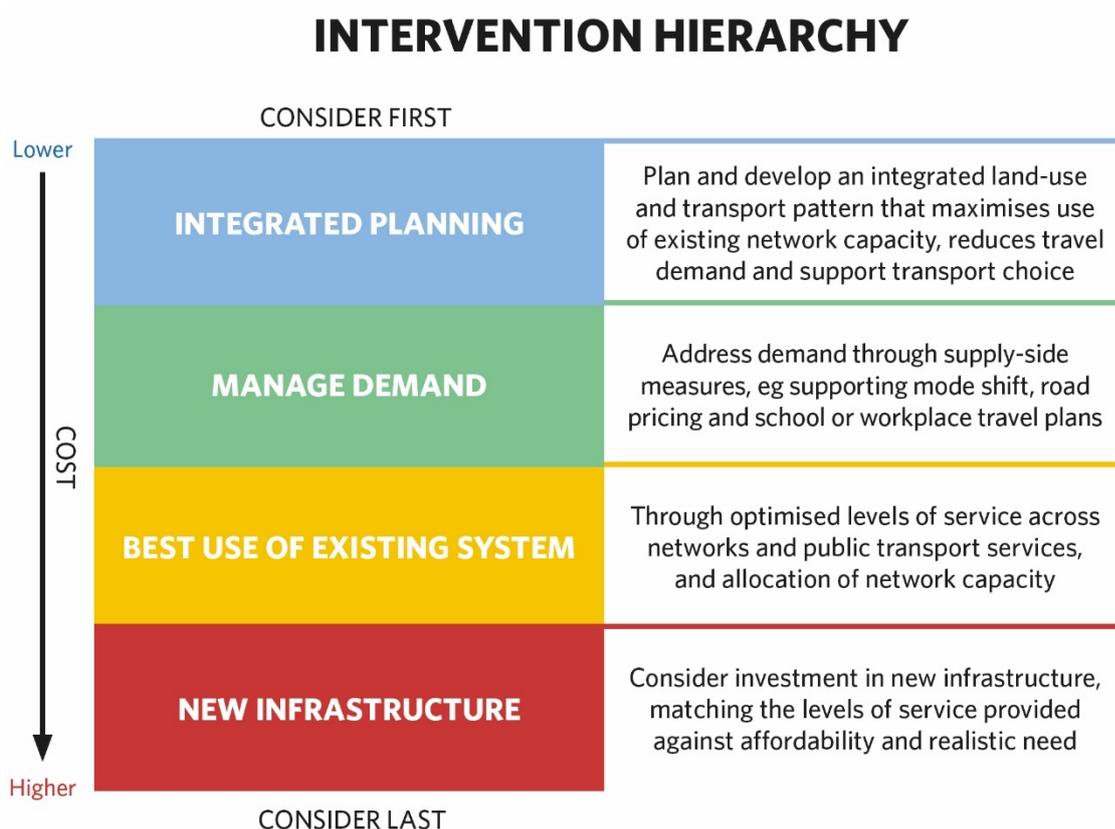
ensure that any solution is the best fit and makes best use of resources. This includes exploring non-transport alternatives, for example modified land use and planning rules.

When non-transport alternatives and options have been identified it will be important to work with the relevant agencies to ensure an all of government approach. This will include multi-partner integrated solutions and funding arrangements.

The assessment tools are designed to support a, mode-neutral approach. Non-transport investment options should be evaluated alongside transport based solutions, and the same methodology should be applied. Where options have different costs and benefits, for example a regulatory intervention with no capital requirements, trade-offs should be presented to decision-makers in a consistent and neutral fashion.

Intervention hierarchy

The Transport Agency will work with its investment partners in applying an intervention hierarchy to optimise past and new investments in the land transport system. The intervention hierarchy should be applied when generating and considering alternatives and options. The intervention hierarchy is used to help drive value for money by promoting low cost investment ahead of costlier infrastructure investment. It also promotes integrated planning, demand management and optimisation ahead of infrastructure solutions.



Developing a broad range of alternatives and options

It is important when developing alternatives and options to consider demand- and supply-side responses. The types of things that should be thought about are ensuring that:

- the right spatial and place-based planning has been undertaken which consider long term integrated growth and infrastructure plans
- all modes have been considered from a mode neutral perspective
- demand management alternatives and options have been considered – this will assist in supporting mode neutrality
- the best use is being made of the existing system – and optimised where possible.

Steps for optioneering long list

Before alternatives and options are generated, problems, benefits and investment objectives need to be properly defined. Following this being satisfied - a key part of the programme business case (PBC), indicative business case (IBC) and detailed business case (DBC) is the assessment of alternatives and options and the selection of the preferred options or recommended programme of activity. The below are the key steps during optioneering of the long list to short list.

	Steps
1	Develop a broad range of alternatives and options using systems focused interventions and the intervention hierarchy.
2	Screen out non-viable options (EAST can assist) Consistent with the UK approach, this is based on discussion and judgement, rather than a scoring or ranking methodology.
3	Agree how MCA will be undertaken, including: <ul style="list-style-type: none"> • Who needs to be involved? • What is required from discussions? Scoring and peer review
4	Determine methodology: <ol style="list-style-type: none"> Determine make up of decision-making group – ensuring different perspectives Agree assessment criteria and scoring approach (using MCA template to ensure consistency)
5	Develop and circulate background material on each option (providing sufficient information for informed decisions to be made).
6	Undertake MCA – undertaking the assessment of option.
7	Summarise results of option assessment.
	Perform sensitivity testing. This involves testing the extent to which MCA results would change in response to different assumptions, for example the impact of excluding certain criteria and / or assigning criteria more weight or considering where the largest uncertainties exist within scores. It could also involve identifying 'fatal flaws' based on new information obtained since the EAST assessment.
8	Peer review results and, if necessary, provide feedback to decision makers. Iterative refinement may be required, for example if the scope of options change. Any adjustment to scoring must be justified, explained and documented.
9	Identification of short list of options

Rating scale

The below rating scale will be used to rate quantitative and qualitative measures that can't be monetised within the Appraisal Summary Table, Multi-Criteria Analysis Tool and Early Assessment Sifting Tool.

Large Impact (-ve)	Impacts with serious, long-term and possibly irreversible effect leading to serious damage, degradation or deterioration of the physical, economic or social environment. Requires major re-scope of concept, design, location and justification, or requires major commitment to extensive management strategies to mitigate the effect.
Moderate Impact (-ve)	Moderate negative impact. Impacts may be short-, medium – or long term and impact will most likely respond to management actions.
Slight Impact (-ve)	Minimal negative impact, probably short-term, able to be managed or mitigated, and will not cause substantial detrimental effects. May be confined to a small area.
Neutral impact	Neutral – no discernible or predicted positive or negative impact.
Slight Impact (+ve)	Minimal positive impact, possibly only lasting over the short-term. May be confined to a limited area.
Moderate Impact (+ve)	Moderate positive impact, possibly of short-, medium-or long-term duration. Positive outcome may be in terms of new opportunities and outcomes of enhancement or improvement.
Large Impact (+ve)	Major possible impacts resulting in substantial and long-term improvements or enhancements of the existing environment.

RMA ALONGSIDE INVESTMENT CONSIDERATIONS

The new assessment guidance and tools can better reflect social and environmental responsibility, avoidance of significant adverse effects, mitigation and adaptation challenges. In addition, the assessment design will enable ease of transition from assessment of investment proposals, to assessment of alternatives and options in the pre-implementation and RMA phases.

Background

The Land Transport Management Act 2003 (LTMA) requires the Transport Agency to exhibit a sense of environmental and social responsibility and take account of the principles of Treaty of Waitangi, for example facilitating participation by Māori in land transport decision-making. The Resource Management Act 1991 (RMA) promotes the sustainable management of natural and physical resources. Investment proposals which may require a build solution should identify social, cultural, environmental and economic effects and appropriate action considered to avoid, remedy or mitigate any adverse effects. Both the RMA and LTMA require that adequate consideration is given to a broad range of alternatives and options.

Issue

There is currently confusion as to how investment and RMA considerations should be made when making decisions around alternatives and options – when investment may require a ‘build solution’. There is no reason why investment and RMA considerations cannot be undertaken at the same time. An initial scoping exercise can determine the need for resource consent and risk of notification. They may however require slightly different focus in the documented outputs – so RMA advice needs to be sought from the outset. For example, an ‘investment report’ would focus on investment criteria and report to support later RMA processes would need to satisfy RMA requirements, however, both would align and inform each other. It is appropriate to do so as social, cultural, environmental and economic considerations are directly relevant to both the LTMA and RMA assessment of alternatives and options. Investment objectives are also important from an RMA perspective as these can be translated at a later date to project objectives or Requiring Authority objectives to support the designation and consenting phase. While there may be some differences in the framing and focus of investment and project objectives, we would not expect them to significantly diverge. The Transport Agency will need to demonstrate how a designation is reasonably necessary to achieve the Requiring Authority’s objectives.

Optioneering long list options

Both the EAST and MCA template will assist in ensuring a broad range of alternatives and options are considered and enable criteria to be adjusted as necessary to meet project/programme context and requirements. At the long list stage, it is possible for EAST and MCA to include both investment and RMA considerations (e.g. human health is sufficient at a long list stage – however at the short list stage this may need to provide more granularity – such as more specific consideration of vibration, air quality and noise, and this may require the two sets of considerations to diverge more, although they can still be run together or in parallel. The EAST will help document why alternatives and options have been discounted and also help identify fatal flaws. Although the assessment tools help support decision making the choice to progress or discount options will be based on the judgement of decision makers.

Short list options

- At short list stage – more detailed/granular RMA considerations will be required for each option.
- Consideration of alternatives could be done at the same time or in parallel, but would include at least some different criteria and weighting between the two processes.
- Separate reports would need to be produced for the investment and RMA alternatives processes.
- At the short list phase preferred options are refined prior to lodgement of notice of requirement to designate land or resource consents.

BUILDING A MĀORI/IWI PERSPECTIVE INTO ASSESSMENT

A Māori/iwi perspective must be included into the Agency's investment decision making.

Background

The way in which investment decisions are made should support and enable Māori to contribute in a meaningful way to the decision-making process as investment decisions touch on matters that affect Māori and input may have influenced some of these outcomes. Māori are often involved at the delivery end of a project however at that point it is often too late to properly incorporate Māori perspectives.

Current investment guidance, tools and methodologies do not adequately consider a Māori/iwi perspective. Limited guidance is currently provided on how to consider cultural and Māori/iwi values when making investment decisions.

The Transport Agency recognises and respects Te Tiriti o Waitangi and will work with Māori to build strong, meaningful and enduring relationships to achieve mutually beneficial outcomes. Te Ara Kotahi (our Māori Strategy) provides strategic direction to the Transport Agency on how we work with and respond to Māori as the Crown's Treaty partner, and what this means for how we do business.

Māori are partners of the Transport Agency and there is also a need for the Transport Agency to meet its LTMA requirements. Section 18H of the LTMA requires that the Agency must establish and maintain processes to provide opportunities for Māori to contribute to land transport decision-making processes and consider ways to foster the development of Māori capacity to contribute to the organisation's land transport decision-making processes.

How do we propose to build a Māori/iwi perspective into the Transport Agency's investment decision-making?

The Transport Agency will give effect to GPS priorities and results within its assessment and prioritisation – however while doing so must also establish and maintain processes to enable Māori to contribute to decision making. We will do this by working with Māori/iwi to:

- provide recognition and visibility as to how consideration of Māori/iwi perspective and aspirations are included within investment decision making within assessment tools
- better align RMA and other legislative requirements with assessment
- within our performance measures framework 'Changes in liveability of places' will include Impact on Te Ao Māori and other cultural values – this will enable a Māori world view to be given visibility
- develop and provide guidance on what types of Māori/iwi values could be qualitatively described within assessment.

INVESTING FOR SUSTAINABLE AND RESILIENT OUTCOMES

Under the Land Transport Management Act 2003 (LTMA) in meeting its objectives and undertaking its functions the Transport Agency must (amongst other things) exhibit a sense of social and environmental responsibility. This is further outlined within section 20 of the act which sets out requirements for the approval of activities and combinations of activities. The Climate Change Response (Zero Carbon) Amendment Bill passed its third reading on the 7 November 2019. The purpose of the amendment bill is to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature to 1.5 degrees Celsius above pre-industrial levels.

The Transport Agency will work with the wider sector to embed long term emission reductions into planning and investment instruments. The Transport Agency is developing a sustainability action plan and climate change adaption plan, the action plans will respond to the zero-carbon bill and address climate change mitigation and adaption.

GUIDANCE IMPROVEMENTS

The following areas of business case guidance will be updated.

Who should be involved?

It is important to have the right stakeholders involved when developing and assessing alternatives and options. Investment partners, stakeholders, technical specialists need to be involved. It is also important to have several different perspectives (each response type should have representation). There should be no preference given to any particular intervention or mode. All modes including public transport, walking and cycling should be represented. Investment decision makers should be involved, as they need to identify alignment to desired investment objectives and be well informed of where most of the potential for trade-offs will be.

Iwi

Iwi have a special relationship with the Crown as Treaty of Waitangi partners and the Transport Agency has a role to develop Māori capacity in decision-making. It is also important to have appropriate Māori representation when considering options and alternatives. In terms of the RMA process iwi should be involved in the assessment of potential impacts and will often complete the project's cultural impact assessment.

Do minimum/do nothing

The number of options and alternatives considered should be commensurate with risk and complexity. The do minimum/do nothing guidance will be updated to ensure that an option and 'do-minimum option' are assessed.

Assessment involves looking at choices between different options or courses of action. In theory, every option should be compared with the option of doing nothing at all, i.e. the do nothing. However, for many transport issues, it is often not practical to do nothing.

Therefore in developing business cases, the do-minimum option should represent the minimum level of investment required to maintain a minimum level of service, not the minimum level of investment required to achieve the investment objectives.

It is important not to overstate the scope of the do-minimum option, that is, it should only include activities that are absolutely essential to preserve a minimum level of service. Where network interdependencies exist, the do-minimum option should take into account other activities elsewhere on the network where these other activities have a commitment to funding, and where they affect the demands and level of service at the location of interest.

It is important that the do-minimum can be sensibly analysed under all scenarios being considered. If this is not the case, benefits calculated may not properly reflect the difference between options being considered and the do-minimum.

The minimum level of investment to achieve the investment objectives is explored through the use of further options, in addition to the do-minimum. The do-minimum option is used as a baseline for comparing

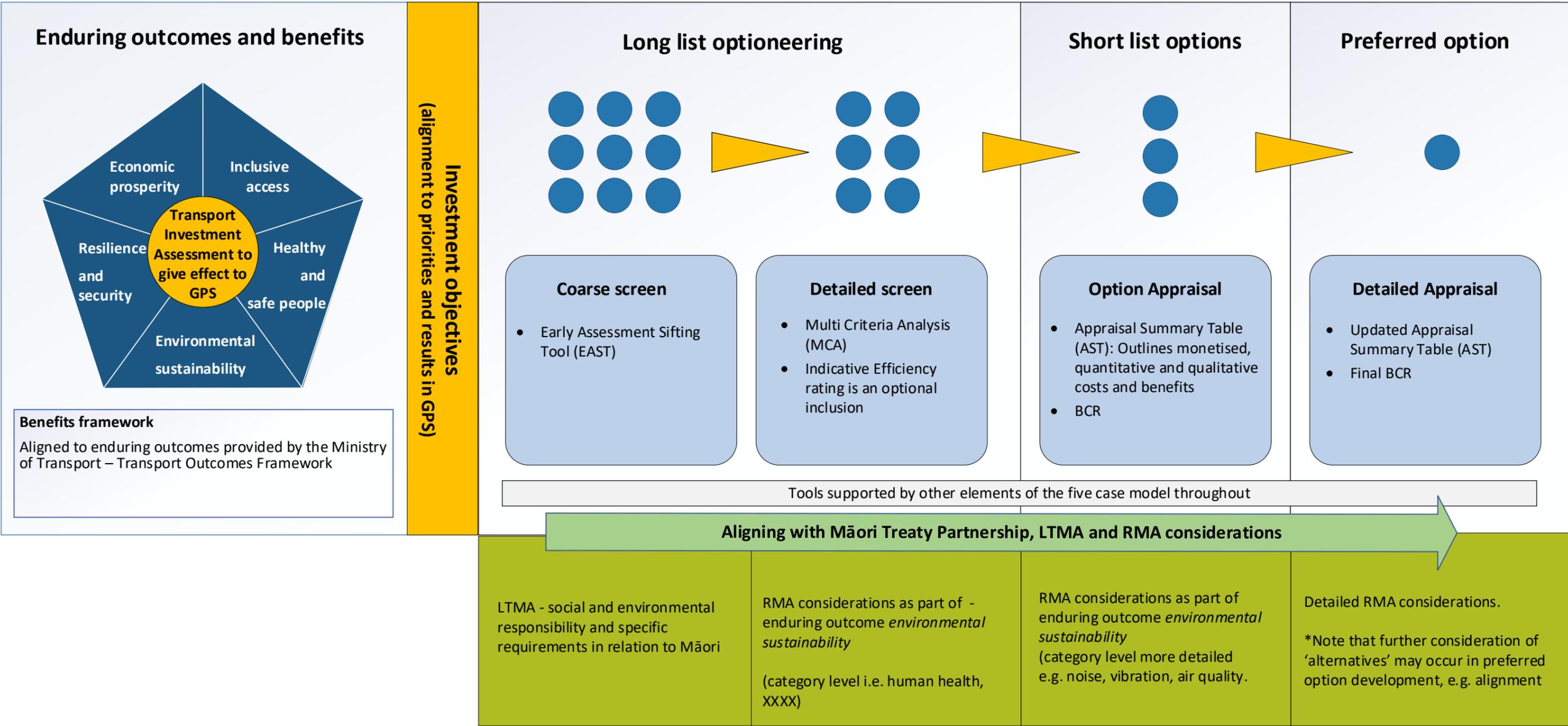
marginal costs and benefits of alternative activities. It provides the benchmark for determining the relative marginal value for money added by the other options under consideration.

It is not possible for the cost of the do-minimum to exceed the cost of any of the options being considered. In such a case, then, by definition, the minimum-cost option would be the do-minimum.

Please note further guidance will be provided in the *Monetised Benefits and Cost Manual* (current EEM)

ATTACHMENT 1: ALTERNATIVE AND OPTION ASSESSMENT TOOLS DIAGRAM

Draft Alternative and Option Assessment Tools



Notes

- Business case pathway – illustrative purposes only
- Process decision gates
- Investment decision gate - Prioritisation Reconsidered

Assessment Criteria	Guidance notes	Spatial/place-based planning			Demand Management			Education, engagement and awareness			Network Design and optimisation management			Infrastructure solutions		
		Do min	Inter-mediate	Maxi-mum	Do min	Inter-mediate	Maxi-mum	Do min	Inter-mediate	Maxi-mum	Do min	Inter-mediate	Maxi-mum	Do min	Inter-mediate	Maxi-mum
Project-specific capability or capacity risks	<i>Any external resourcing challenges, for example dependency on local construction firms or IT skills, including interdependencies across projects</i>															
Summary Assessment																
Fatal Flaws	<i>Identify any Agency 'red lines' crossed by the option or alternative, for example unacceptable environmental or cultural costs</i>	<i>Technical feasibility</i>	N/A	N/A	<i>Supplier capability</i>	<i>Not affordable</i>		N/A	N/A	N/A	<i>Conflicts with urgency</i>	N/A	N/A	N/A	<i>Unacceptable to local stakeholders</i>	
Decision	<i>Conclusion by decision-makers: Either continue the option / alternative for further assessment, or brief explanation of why it has been discounted</i>	<i>Discount</i>	<i>Discount</i>	<i>Progress</i>	<i>Discount</i>	<i>Discount</i>	<i>Discount</i>	<i>Discount</i>	<i>Progress</i>	<i>Progress</i>	<i>Discount</i>	<i>Progress</i>	<i>Progress</i>	<i>Progress</i>	<i>Discount</i>	<i>Discount</i>

Notes

¹Provide a rating, where possible, in terms of likely direction (+ve or -ve) and scale e.g. small, medium, large. Refer to Guidance notes below.

EAST Guidance Notes

General notes

The 'Decision' row is intended to summarise the conclusion of decision-makers, having considered the information presented in the table. As EAST does not include a scoring or ranking system, the decision to progress or discount each option will be based on discussion and judgement.

Example benefits measures are outlined in the Tool above, aligned to the updated benefits framework currently in process.

Where benefits have not been quantified at this stage – fill in as 'not applicable' and provide explanation. This does not preclude the identification of qualitative, additional benefits.

It is important to note that the level of detail of the alternative should be appropriate to the needs of the project i.e. for some projects, it may be more useful to have specific options considered as part of the EAST.

ATTACHMENT 3: DRAFT MULTI CRITERIA ANALYSIS TEMPLATE

Please note that the below is draft. The Early Assessment Sifting Tool, Multi-Criteria Analysis and Appraisal Summary Table will be piloted in early 2020 to enable them to be further refined following real-life testing. The tables have been partially filled in using a fictitious business case proposal.

Summary Description	
Project Name	Wellington Airport Link
Needs statement (problems & opportunities) and urgency	To improve access between the Wellington CBD and the Wellington Airport. Must be delivered within [x] years.
How project gives effect to GPS	GPS priorities have been considered through option generation and course screen. Potential trade-offs between GPS outcomes are outlined in the table below.

	Base Case (and example ratings)	Option / Alternative 1	Option / Alternative 2	Option / Alternative 3	Option / Alternative 4	Option / Alternative 5
Enduring Outcomes Specify where the investment objectives fit within these outcomes						
Inclusive access (specify relevant investment objective, as required)	Slight Impact (-ve)					
Economic Prosperity (specify relevant investment objective, as required)	Neutral Impact					
Resilience and security (specify relevant investment objective, as required)	Slight Impact (+ve)					
Healthy and Safe people (specify relevant investment objective, as required)	Moderate Impact (+ve)					
Environmental Sustainability (specify relevant investment objective, as required)	Large Impact (+ve)					
Other considerations						
Cultural and Maori impact	Large Impact (-ve)					
<i>Environmental considerations - This could include, ecology, water quality, stormwater, noise and vibration, visual Impact, urban design, natural hazards, contaminated land, landscape, biodiversity and air quality issues.</i>	Slight Impact (-ve)					
Cumulative impacts, interactions with other projects	Neutral Impact					
Project Critical Success Factors						
Potential affordability (e.g. scale of capex and opex required)	Slight Impact (+ve)					
Technical feasibility, for example safety, design and contestability	Moderate Impact (+ve)					
Urgency and other timing requirements	Moderate Impact (+ve)					
Stakeholder and customer perspectives	Large Impact (+ve)					
Project-specific capability or capacity risks	Large Impact (-ve)					
Decision	Possible	Preferred	Discounted	Possible	Possible	Discounted

ATTACHMENT 4: DRAFT APPRAISAL SUMMARY TABLE

Please note that the below is draft. The Early Assessment Sifting Tool, Multi-Criteria Analysis and Appraisal Summary Table will be piloted in early 2020 to enable them to be further refined following real-life testing. The tables have been partially filled in using a fictitious business case proposal. The AST is intended to summarise the costs and benefits of short-listed options, as part of an economic case. Wider economic case material, for example analysis of risk and a narrative explaining how a preferred option has been selected, is to be presented separately.

Summary Description			
Option Name	Option 1: Construction of Cook Strait Bridge	Date and Appraisal Period	Year zero equal to 2020/21. 20-year appraisal period.
Needs statement	New Zealand is currently lacking land-based transportation services between the North and South Island.		
How project gives effect to GPS	This option has been confirmed to align with GPS priorities and contribute to GPS outcomes. The orange highlight below – highlights the GPS 2018 strategic priorities.		
How the project gives effect to local community outcomes	A highlight could also be applied to identify local community outcomes.		
Key modelling assumptions, QA	Based on published traffic and travel data, with additional corridor analysis provided by internal analysts. Has undergone full quality assurance and review. Overall result is highly dependent on latent demand assumptions.		

Enduring Outcomes	Form of Impact	Do min/do nothing option impact (baseline)	Option analysis compared to baseline			
			Qualitative impact	Quantitative impact	Confidence in accuracy of quantitative estimate	Monetised Net Present Value (NPV / BCR in \$millions)
Inclusive access	Access to key economic destinations	No change	Moderate positive impact	N/A	N/A	N/A
	Impact on Iwi interests	No change	Slight negative impact	N/A	N/A	N/A
Economic prosperity	Reduced travel time	\$100m (improvement due to more regular ferry journeys over time)	Expected to provide significant journey time savings	< 1 minute: N/A	Medium	0m
				1-5 minutes:	Medium	\$291m
				5+ minutes:	Medium	\$2,622m
Resilience and security	Regional economic development	No change	Significant positive impacts through large-scale local investment	N/A	N/A	N/A
	Increased network redundancy	Slight Positive Impact (due to more regular ferry journeys over time)	Moderate positive impact (provides more redundancy than Do min)	N/A	N/A	N/A
	Noise	No change	Moderate negative impact	N/A	N/A	N/A
Healthy & safe	Incidence of car crashes	No change	Expected to lead to increased road crashes following modal shift	9.8 more crashes PA	High	\$43m
Environmental Sustainability	CO2-e emissions	\$10m (small decrease due to more fuel-efficient ferries over time)	Expected to lead to increased emissions due to modal shift	Increase of 300 Kt CO2-e PA	Very High	\$53.8m
	Resilience to climate change	No change	Slight negative impact due to vulnerability of 20km bridge	N/A	N/A	N/A
Summary Economic and Financial Results <i>Economic costs and benefits presented in real, present value terms</i>	Capital Costs (CapEx)	\$100m				\$1,944m
	Whole-of-life costs (OpEx)	\$35m				\$490m
	Total Monetised Benefits, excluding Wider Economic Benefits (WEBs)	\$150m				\$2,913m
	Total Wider Economic Benefits	\$0m				\$0m
	Total Monetised Costs	\$135m				\$2,531m
	Net Present Value and BCR, excluding WEBs (Monetised)	\$15m				\$382m BCR: 1.4
	Net Present Value and BCR, including WEBs	\$15m				\$302m BCR: 1.1
	Qualitative Assessment (Non-Monetised)		Slight positive impact	Mixed Qualitative Impacts: Both moderate positive impacts and moderate negative impacts		

Technical notes:

- Benefit Cost Ratios (BCRs) represent total benefits divided by total costs. Consistent with Treasury guidance, all savings and negative costs are categorised as a benefit.
- Report Net Present Value both inclusive and exclusive Wider Economic Benefits (WEBs). WEBs consist of indirect impacts arising from the option such as land value uplift agglomeration effects and labour market access improvements. WEBs are generally reported separately to more standard costs and benefits due to the difficulty in measuring and accurately predicting their effects
- Benefits management planning, including the link between expected benefits and project performance metrics form part of the Management Case.