



# Building Better Regions Fund Round Five – Cost-Benefit Analysis

*This document provides guidance and information on preparing a cost-benefit analysis.*

A cost-benefit analysis (CBA) is an evidence-based process to understand the various impacts of a project. The scope of the CBA will be dependent on the scale and complexity of the project. The starting point for a CBA is to define the problem and specify the intended objectives and outcomes of the proposal.

The Building Better Regions Fund program is focused on regional and remote communities. The CBA should focus on impacts (costs and benefits) to the region or community (households, businesses, workers and/or governments) as the primary referent group.

A CBA report should include the following key information:

- A clear and concise summary of the base case, the options assessed and the main results of the sensitivity tests
- All critical assumptions should be made explicit and supported by evidence
- Net Present Value
- Cost-benefit Ratio.

### Define the base case and develop options

A CBA should provide a comparison of alternative scenarios forecasting likely future scenarios.

- A CBA should compare the state of the world with the proposed project against the state of the world without the proposal. The base case provides the benchmark against which the proposed project or investment can be measured. It is the 'do-nothing' or

'maintain status quo' option, describing what is likely to occur in the absence of the project being evaluated. Organisations should select a realistic base case and document the assumptions used.

- Options for infrastructure projects could include construction of new infrastructure, refurbishing existing infrastructure, changing the timing of an investment, or demand management.

### Value costs and benefits

The CBA compares costs and benefits by using a common measure of monetary value to quantify the value. Costs and benefits can cover economic and social (including environmental) impacts and benefits.

Examples of common costs includes:

- Capital costs on new assets
- Operating and maintenance costs
- Negative externalities - Examples of third party (externality) costs include noise, congestion, pollution, and reduction in visual amenity.

Examples of common benefits includes:

- Savings or avoided costs
- Revenues, e.g. increased tourism spend
- Additional jobs created
- Benefits to the broader community, e.g. improvements in public health and worker safety, reduction in

- injuries/fatalities, reduction in travel time, improved equity of access
- Improvements in environmental amenity.

In some cases, quantification may not be practical, particularly for social benefits. In these cases it is important that the CBA is clear about what can and cannot be reliably quantified and valued. The CBA should draw on the available information, describe and discuss the impacts, outline data limitations and all assumptions made.

The costs and benefits should cover the life of the project or asset. The Australian Taxation Office provides guidance on the effective life of assets. In many cases the infrastructure projects will use 20 or 30 years.

To compare costs and benefits over time, these are generally weighted by use of a discount rate and the concept of present value – where future costs and benefits are discounted. Typically this is calculated using a real discount rate of 7 per cent.<sup>1</sup> A more detailed CBA will provide three discount rates, typically 3 per cent, 7 per cent and 10 per cent.<sup>2</sup>

## Evidence

Reasonable effort should be made to collect the best available evidence to input into the CBA. The effort should be commensurate with the size of the project. As a general rule, projects that are high-cost or high-risk will warrant more extensive analysis than smaller projects.

Some possible information sources to help with the assessment task include:

- Consultation with those likely to be affected
- Surveys – existing or commissioned
- Experience in similar projects of other jurisdictions
- Experience and data held by government departments
- Consultants and peer reviewers
- Academic literature
- National statistics on economic indicators.

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<sup>1</sup> In 2010, the Productivity Commission published [Valuing the Future](#), a research paper on discount rates.

## Conclusions

A CBA reports whether the benefits of a proposal are likely to exceed the costs, and which option, amongst a range of options, will result in the highest net benefit.

The preferred measures of the net benefit of a project include:

- Net Present Value (NPV) – The difference between the present value of benefits and the present value of costs.
- Benefit Cost Ratio (BCR) – The ratio of the present value of total benefits to the present value of total costs.

A sensitivity analysis examines how the NPV, total cost or other outcomes vary as individual assumptions or variables are changed.

The applicant should consider engaging a consultant/expert to prepare the CBA if it is outside the organisation's expertise.

## Contact us

For more information, visit [www.business.gov.au](http://www.business.gov.au) or call 13 28 46.

<sup>2</sup> In 2014, the Office of Best Practice Regulation (OBPR) recommended the use of a 7% discount rate with sensitivity analysis using discount rates of 3% and 10%.