

Guide on Economic Analysis in Planning, Appraisal and Selection of Infrastructure Projects



Pacific Region Infrastructure Facility

An Introduction to the Guide

Introduction to Polis Partners



- Polis Partners is a boutique government advisory focused on applying economic and commercial analysis to assist government strategy and policy positions for the betterment of the community
- We support government in the delivery of infrastructure, housing and social services policy.
- Previously assisted in the setup of guidelines, economic evaluation methodology and gateway assessment frameworks as well as various government businesses in the Asia-Pacific.



Introduction to the project



- We were engaged by the PRIF to develop a guide on the role of economic analysis in the infrastructure lifecycle. This is to be used in conjunction with the Guideline to Preparing National Infrastructure and Investment Plans, as well as other relevant technical resources.
- **This is a practitioner's guide, not a technical guideline:**
 - It is designed to assist those involved in managing and reviewing economic evaluations, not the technical practitioners undertaking them.
 - It is tailored for Pacific Island governments and their technical advisers –noting challenges associated with completing this work in the pacific.
- The purpose is to provide practitioners with a deeper understanding of economic evaluation and best practices.
 - There was a strong focus on practical advice, tips, pitfalls
 - Our aim is to navigate the process, highlighting key activities and using relevant case examples.



Economic analysis within the Infrastructure Lifecycle?

- The infrastructure lifecycle sets out the key stages for developing infrastructure projects within the National Infrastructure Investment Planning process.
- It contains decision points that act as gateways for the progression of the infrastructure project:
 - Decision Point #1 (Strategize, Initiate, Plan); and
 - Decision Point #2 (Develop)
- Multi-criteria analysis aids decision-making in the lead up to Decision Point #1 (Strategize, Initiate, Plan).
- Cost-benefit analysis becomes crucial in the Develop phase leading to Decision Point #2 (Develop).



STRATEGIZE	INITIATE	PLAN	DEVELOP
Consider...	Review...	Introduce...	Integrate...
<ul style="list-style-type: none"> ▪ macroeconomic trends ▪ national vision and strategic goals ▪ historic expenditure 	<ul style="list-style-type: none"> ▪ sector and/or institutional plans ▪ asset management plans ▪ master plans 	<ul style="list-style-type: none"> ▪ project concept notes ▪ multi-criteria prioritization ▪ linking project priorities to investment strategy 	<ul style="list-style-type: none"> ▪ technical and economic assessment ▪ project and costing approval

Guide Structure



1 Introduction to economic analysis in the infrastructure lifecycle

Significance of economic analysis of infrastructure projects and the different forms of analysis.

How economic assessment fits within the infrastructure lifecycle and the National Infrastructure Investment Plans (NIIPs).

2 The fundamentals of cost-benefit analysis

The user is guided through the key steps of a CBA, with the aim of then being able to manage a CBA delivery process.

3 The outputs and outcomes of a cost-benefit analysis

What does CBA reporting look like in practice and how should economic analysis results be interpreted?

Roles, responsibilities and review processes.

4 Best practice management of cost-benefit analysis

Sets out the tools, tips and tricks to best manage the CBA process.

Examples of what the guide covers



Guide material:

Introduction of Concepts

Scope and limitations of data and analysis

Roles & responsibilities

Questions/Considerations for the Manager

Toolkit material:

Checklists

Cost-benefit analysis reporting

Evaluation tools and examples

Practitioner notes - references and further material

An example of the guide...

2.4 Step 2: Identify the base case and project case options

Considerations

- Considerations for the manager**
- Is the base case representative of what would happen to the problem if the government maintained its *current level* or a '*do-minimum*' expenditure now and into the future?
 - How does the project case option(s) address the problem definition?
 - Have a range of options for the project been considered, including built and non-built options?

Definition

2.4.1 Establishing a base case

An economic cost-benefit analysis is incremental by nature, that is, the costs and benefits associated with a project are measured against those that would *otherwise be expected to occur without the project*. Defining this 'counterfactual' or 'base case' is therefore a critical step in the cost-benefit analysis process.

Context

2.4.1.1 What should be considered in a base case?

A base case is most accurately defined as what would happen to the problem or issue if the government maintained its *current level* or a '*do-minimum*' expenditure such that the current level of service provision is maintained into the future (i.e. minimum operational expenditure with no capital expenditure other than pre-approved works or works and costs required to maintain the asset over the evaluation period to its current standards and service levels).

It is important to note that any project infrastructure enhancements designed to improve upon service or increase capacity would not be included in a base case.

The base case needs to be considered over the full evaluation period. Therefore, not only should service levels be considered as they currently stand, but also what those service levels would look like under the continuation of a 'do-minimum' approach into the future.

Generally, a business-as-usual continuation of current service levels would become insufficient over time, particularly if the number of users or frequency of use of the infrastructure was to increase in line with population or commercial and economic growth, or indeed the impacts of climate or the environment on infrastructure was to change. Alternatively, business-as-usual continuation of the current asset may become insufficient over time as it comes to the end of its useful economic life.

Special notes

2.4.1.2 Committed funding

Future funding which has already been committed for the infrastructure asset in question (but separate to the project), that will have an impact on its service provision into the future, should also be considered when defining the base case. It may be that the government (or infrastructure provider/operator) has already committed to improvements on the asset which will impact its service provision over the evaluation period.

Other committed funding on the network that may impact service provision indirectly may also be considered when defining the base case. An example of this might be other road projects that have been approved but not yet built. There may be a situation whereby the benefits of pursuing the particular project in question is contingent on the other committed funding being delivered.

Figure 2.2 Example of what a base case might look like

Example of a 'do-minimum' base case – sealing of a rural gravel road

A government-operated rural gravel road is shared by freight trucks, light commercial vehicles and vehicles making private trips. In the absence of a project to seal the road, it continues to be operated as an unsealed gravel road over the course of the evaluation period.

Over time we would likely see an increase in the number of trips made on the road asset. This may be through:

- population growth leading to more private trips
- higher number of households with cars
- economic growth leading to more commercial trips (freight and otherwise)

The government implements the following 'do-minimum' expenditure in order to maintain the current level of service provision:

- routine and periodic maintenance – fixing of potholes
- essential safety works – signage
- asset renewal – refurbishing of road shoulder to meet original design standard
- any committed upgrade spending for the road outside of the project

We would expect a deterioration in road conditions over the evaluation period through:

- congestion
- greater wear and tear
- less resilience
- higher vehicle operating costs.

The worsening conditions in the Base Case would lead to higher costs of travel on an individual trip basis, and overall.

Example

What tools do I have available to help me in the process?

- In addition to the guide a range of initial tools were developed for practitioners for the use in delivering economic analysis for their projects:
 - Checklists/evaluation tool
 - Practitioner notes
 - Case study reviews
 - Introductory presentation material

Guideline On Economic Analysis in Planning, Appraisal and Selection of Infrastructure Projects Compliance Checklist

Date of Assessment: Thursday, June 1, 2023

Country:

Name of Project:

Project ID:

Consultancy Used:

Assessor Name:

Peer-Reviewer Name:

Overall compliance met? Compliant

Instructions: For each item below, please select a ranking based on whether the CBA process has met compliance

Compliant - The item is compliant with the Guideline On Economic Analysis in Planning, Appraisal and Selection of Infrastructure Projects

Non-compliant - unsatisfactory or inadequate completion of the item. Recommendations need to be addressed for compliance

Item	Included?	Select Ranking	Comments	Recommendations
The Base and Project Case Options				
Is the base case representative of what would happen to the problem if the government maintained its <i>current level</i> or a 'do-minimum' expenditure?	<input type="checkbox"/>	Compliant		
Do the project case options address the problem definition?	<input type="checkbox"/>	Compliant		
Have a range of options for the project been considered, including built and non-built options?	<input type="checkbox"/>	Partially-compliant		
Identify Costs & Benefits				

Next Steps

- Release of the guide
- Workshop with key stakeholders
- Use of tools and guidance material (in a training and non-training environment)
- Continual review and feedback (including the development of additional tools and practitioner notes etc.)
- Next step in improving the quality of project development, reporting and analysis of projects seeking funding (i.e. grant application reporting)



Pacific Region
Infrastructure Facility

theprif.org