BUILDING QUEENSLAND

BUSINESS CASE DEVELOPMENT FRAMEWORK

SOCIAL IMPACT EVALUATION GUIDE

SUPPLEMENTARY GUIDANCE

RELEASE 2 | DECEMBER 2016

BUILDING QUEENSLAND BUSINESS CASE DEVELOPMENT FRAMEWORK

Building Queensland has been established under the *Building Queensland Act 2015* to provide independent expert advice to the Queensland Government about infrastructure.

This document forms part of the Building Queensland Business Case Development Framework, as follows:

OVERARCHING FRAMEWORKS

- Business Case Development Framework
- Benefits Management Framework

GUIDANCE MATERIAL

- Strategic Business Case
- Preliminary Business Case
- Detailed Business Case

SUPPLEMENTARY GUIDANCE MATERIAL

- Investment Logic Mapping Guide
- Social Impact Evaluation
- Cost Benefit Analysis

RELATED DOCUMENTATION

- Project Assessment Framework
- Engaging with Building Queensland Guides

Building Queensland thanks members of the Building Queensland Reference Groups for their assistance and support in developing the Business Case Development Framework documents.

V2.1 December 2016

CONTENTS

AMENDMENTS FROM RELEASE 1

- Explanation of why an SIE should be conducted
  - elaborates on the relationship between SIE and CBA
  - explains the relationship between SIE, risk management, benefits management, sustainability and reference design
  - includes diagram illustrating the relationship between SIE and other elements of the Business Case
  - includes updated decision tree linking SIE processes to CBA, risk register, and benefits management.
- Enhanced emphasis on social impact baseline and guidance on risk
- Elaboration of the social return on investment approach to monetising impacts
- Updated Building Queensland three step process
  - includes updated impact risk assessment
  - includes approach to assumptions and key drivers
  - includes approach to quantifying social impacts
  - includes sensitivity analysis.
- Provision of menu of social impact categories and sub-categories (Appendix 1)
- Inclusion of worked SIE example (non-Transport)
  - application of SIE three step process to a hypothetical stadium project
  - provides detailed step-by-step approach to SIE
  - example provided in the SIE Guide is available in a spreadsheet.

ABBREVIATIONS

AST	Appraisal Summary Table
ATAP	Australian Transport Assessment and Planning
BCR	Benefit Cost Ratio
CBA	Cost Benefit Analysis
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
IAIA	International Association for Impact Assessment
IRA	Impact Risk Assessment
SIA	Social Impact Assessment
SIB	Social Impact Baseline
SIE	Social Impact Evaluation
SROI	Social Return on Investment

1. INTRODUCTION

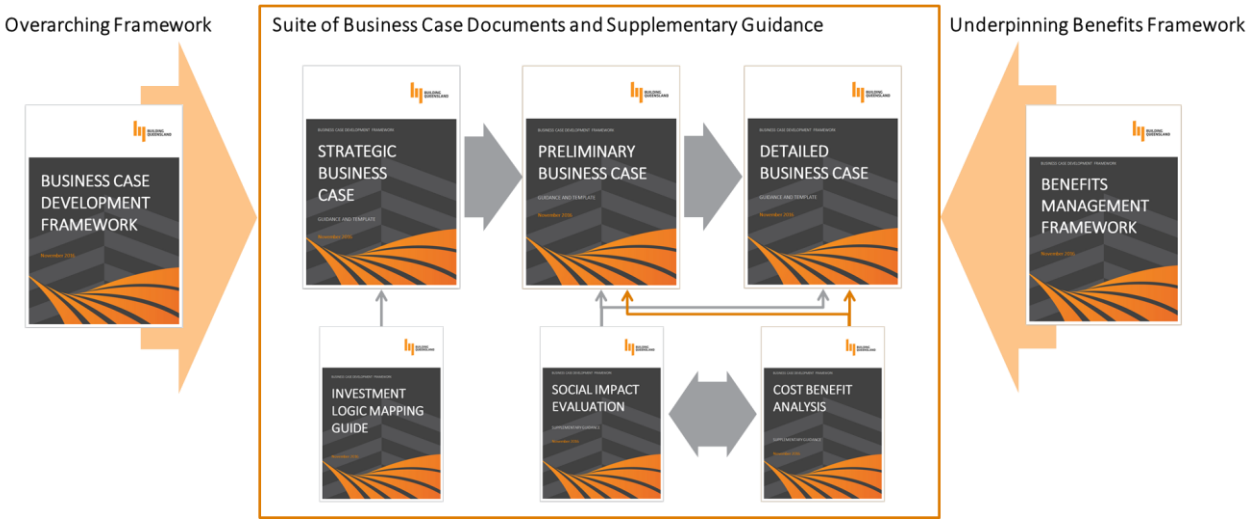
Infrastructure investment decisions have a direct impact on Queensland's economic and social domain. Good decision making relies on quality proposals, well-developed Business Case documentation and robust review processes. In line with the requirements of the *Building Queensland Act 2015,* Building Queensland's Business Case Development Framework (BCDF) aims to enhance the way in which infrastructure proposals are developed in Queensland to support improved infrastructure outcomes. The BCDF focuses on the development of the following core Business Case documents:

- Strategic Business Case (SBC)
- Preliminary Business Case (PBC)
- Detailed Business Case (DBC).

The BCDF is also supported by the Social Impact Evaluation (SIE) Guide and Cost Benefit Analysis (CBA) Guide. CBA is a mandatory element of the assessment of projects in Business Cases led by Building Queensland. SIE should be conducted for projects that do not have an Environmental Impact Assessment (EIA) that includes a Social Impact Assessment (SIA). If an SIA has been conducted, the results of the SIA should be reported in the SIE chapter of the Business Case, a full SIE is not required. Social impacts that cannot be incorporated in the CBA must be considered as part of an SIE and it is recommended that social impacts included in the CBA should also be assessed using SIE. SIE is separate but complementary to CBA.

SIE within the BCDF aims to ensure that material[1] social impacts are identified and appropriately considered during development of a Business Case. This includes consideration of hard to monetise but socially significant impacts associated with infrastructure development and operation. Building Queensland's BCDF includes key points at which social impacts may need to be considered. The relationship between the BCDF documents is illustrated in Figure 1.

Figure 1: The Business Case Development Framework



1.1. Purpose of the Business Case Development Framework

The BCDF has been developed to provide detailed, section-by-section guidance on the requirements for Building Queensland Business Cases. Specifically, the BCDF aims to:

- reduce the costs of developing Business Cases

[1] The concept of materiality is discussed later in this Guide.

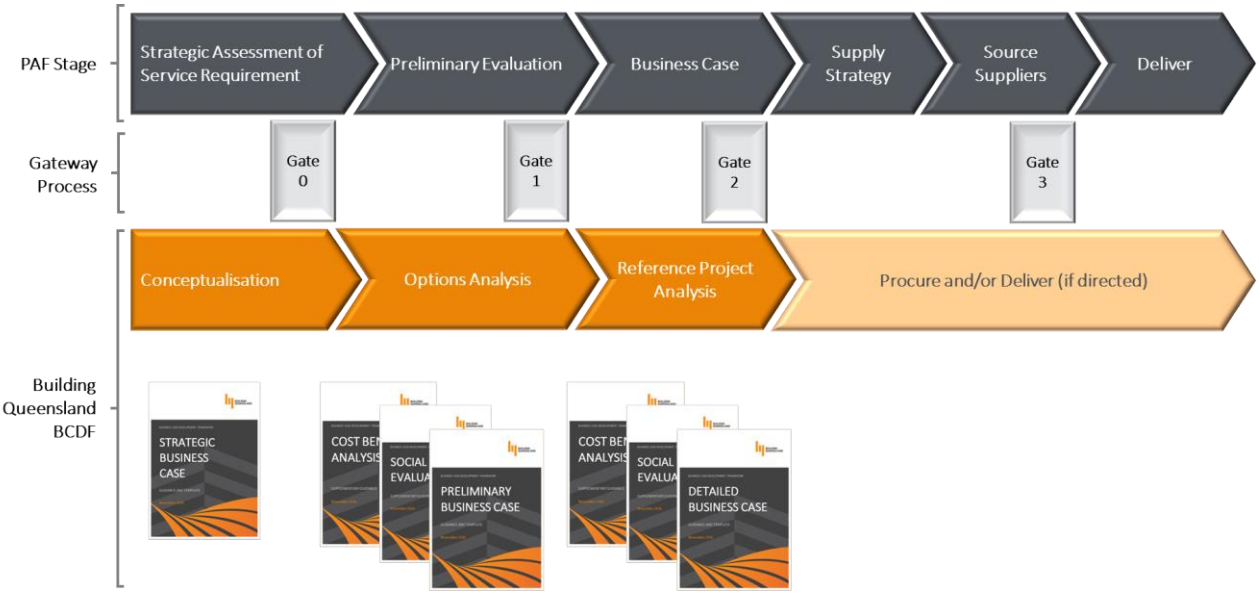
- reduce the time taken to develop Business Cases
- align with best practice to ensure Business Cases meet state and federal government requirements (e.g. Queensland Government's Project Assessment Framework (PAF) and Gateway Reviews)
- enable government to assess Business Cases consistently and compare investment opportunities
- clarify Building Queensland's expectations for Business Cases (including those contained in the Infrastructure Pipeline Report).

The BCDF progresses a proposal from conceptualisation (Strategic Business Case), to options generation and analysis (Preliminary Business Case), and finally to the detailed analysis of the preferred option/s (Detailed Business Case).

1.2. The Business Case Development Framework and the Project Assessment Framework

The foundation for the BCDF is the Queensland Government's Project Assessment Framework (PAF). The BCDF supplements the PAF process by providing guidance on **how** to complete the assessments required to develop robust Business Cases. The alignment between the BCDF and the PAF is illustrated in Figure 2.

Figure 2: Alignment of the BCDF with the PAF



The BCDF differs slightly from the PAF at the Strategic Business Case (SBC) and Preliminary Business Case (PBC) stages. In the BCDF, the SBC culminates in identifying high-level initiatives only, leaving the identification of detailed options and shortlisting to the PBC. This is designed to minimise the work required in the SBC before a decision is made to progress it. It also encourages authors to focus on articulating the service need rather than potential solutions.

Gateway Reviews are included in the BCDF as an important aspect of assurance.

The Building Queensland SIE approach is compatible with the Department of State Development, Infrastructure and Planning's Social Impact Assessment Guideline (2013) and international best practice methodologies from the United Kingdom and United States of America.

1.3. Purpose of the Social Impact Evaluation Guide

This guide details the application of SIE within the Building Queensland BCDF. It provides practitioners with a standard methodology and approach to conduct an SIE for significant Queensland projects.

The guide is structured to outline the:

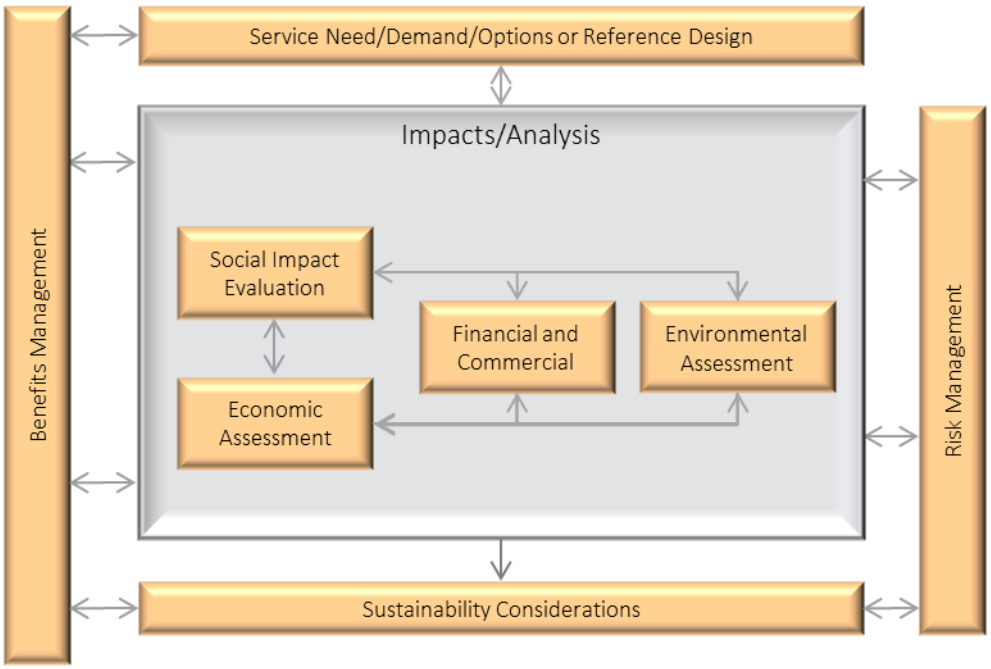
- role of SIE in the BCDF—describe how SIE is integrated into Building Queensland's BCDF
- key concepts that apply to SIE—define the social impact baseline (SIB), social impacts, utility derived from impacts, and materiality of impacts
- Building Queensland's three step process—identify social impacts, conduct impact risk assessment, and summarise results
- Example SIE—provides a hypothetical example of a sports stadium (Appendix 3)

SIE is a developing field. It is expected that future applied research will refine the subject matter and recommended approaches. This guide will be amended to reflect further research and recommendations based on practical experience from Building Queensland and other stakeholders.

1.4. Reasoning and Logic for Conducting a Social Impact Evaluation

The SIE enables the identification of all relevant social impacts relating to an option, project or program[2]. The SIE informs decision-makers of all key social impacts and risks. The SIE plays a key role in Business Case development as outlined in Figure 3.

Figure 3: Relationship between SIE and other elements of the PBC/DBC



[2] The SIE should be informed and supported by Regional Planning processes.

The SIE is conducted early in PBC and DBC development as other elements of the Business Case draw on the information provided by the SIE. The identified monetisable impacts can be included in the CBA, hence improving the completeness of the CBA. Identified social impacts are further investigated using a risk matrix. The risk matrix can help inform the project risk register and vice versa. The SIE provides input into the overarching social principle of the sustainability assessment. The outputs from the SIE can be used to address the five social components of the sustainability assessment[3]. The SIE provides input into the benefits management process and can be informed by the outcomes of benefits management of similar projects. SIE also provides input into options design filtering and assessment and, in the DBC, reference design by highlighting the effect that changes in design might have on the significance of identified impacts.

SIE should play a significant role in service need identification. The development of the SIB involves a detailed investigation of the business as usual circumstances and problems that require or will be required to be addressed. A well scoped and documented SIB can inform decision-makers of the extent of the problem and provide input into the extent of investment that would be feasible to address the identified problems.

The SIE supports the identification of the sensitivity of identified impacts to particular aspects of proposed options or preferred project/s reference design. Information gathered from the SIE can be used to refine the scope of proposed options/reference design. For example, the growth in complementary business activity in the vicinity of a project could produce noise pollution, reduce social cohesion, and reduce amenity in surrounding neighbourhoods. The options can be refined to facilitate the growth in business activities in a way that does not negatively impact the surrounding neighbourhoods. The SIE can also help identify interrelated impacts and the key drivers behind these impacts which can enhance sensitivity testing, improve risk management, design, options selection and filtering, and reference design.

Building Queensland recommends that an SIE workshop should be conducted to adequately encapsulate the interrelatedness of SIE to other elements of the Business Case such as options identification/specifications and reference design. The SIE workshop gathers ideas from relevant stakeholders who are involved in other areas of the Business Case such as CBA, risk management, or benefits management. A thorough consideration of social impacts can also improve the social licence of a project as social impacts that matter the most to society can be addressed, therefore, a project can increase social acceptance. Appendix 1 contains a detailed list of impacts that could be considered and discussed in the workshop.

1.5. Approach to Social Impact Evaluation

The development of the SIE has been predominantly influenced by three key documents. These documents are Queensland Government's Project Assessment Framework, A Guide to Social Return on Investment (SROI), and the Department of State Development, Infrastructure and Planning's Social Impact Assessment Guideline. Appendix 2 provides more information regarding which elements from each of these documents have been incorporated in SIE.

Building Queensland has developed a three step process for evaluating the social impacts to be included in the development of Business Cases. The three step process is illustrated in Figure 4.

[3] For more information on sustainability, see Section 13 of Building Queensland's Detailed Business Case Template and Guidance.

Figure 4: The SIE Three Step Process

Step 1a: Develop an Social Impact Baseline (SIB).	Step 2a: Identify likelihood and severity of social impacts.	Step 3a: Identify metrics for quantifiable material social impacts.
Step 1b: Identify and describe social impacts for options.	Step 2b: Use the Impact Risk Impact (IRA) to identify material social impacts.	Step 3b: Complete the Appraisal Summary Table (AST).
Step 1c: Identify key drivers and assumptions.	Step 2c: Apply mitigation or enhancement strategies to identified material impacts.	Step 3c: Conduct sensitivity analysis.
Step 1d: Identify all social impacts that can be monetised for inclusion in the CBA. Identified social impacts should be incorporated in benefits management.	Step 2d: Repeat IRA. Outputs from IRA should be used to inform benefits and risk registers, and economic and financial analyses.	Step 3d: SIE Reporting.

1.5.1. Application of the Three Step Process to the PBC and DBC

The three step process should be applied across the development of PBC and DBC. Steps may need to be revisited subject to the significance of identified relevant changes to circumstances surrounding the project. Figure 5 provides further detail regarding how an SIE integrates with the PBC and DBC.

Figure 5: Integration of Social Impact Evaluation within the Business Case Development Framework

Purpose:

- Provide key input into options analysis.
- Provide key input to the CBA, financial analysis, risk register, benefits identification, and sustainability consideration.
- Identify impacts that can be mitigated or enhanced.
- Identify and describe social impacts of project option.
- Provide a broad picture of economic, social, and environmental impacts and risks..

Application of SIE: Yes
Approach: Building Queensland three step approach

- Step 1: Identify Social Impacts
  - Establish a clear SIB against which options can be considered.
  - Identify and describe current and expected social impacts.
  - Identify key drivers and assumptions defining the relationship between key drivers and identified social impacts.
  - Identify social impacts that can be monetised. These social impacts should be included in the CBA.
- Step 2: Impact Risk Assessment
  - Use IRA to assess likelihood and impact of identified social impacts for all project options.
  - Apply mitigation or enhancement strategies to identified social impacts.
  - Repeat the IRA process.
- Step 3: Summarise results
  - Develop AST's for all shortlisted options. The AST should include outputs from the SIE, CBA and environmental assessment.

Output:

- List of likely social impacts and risks for all shortlisted options.
- Detailed qualitative descriptions of social impacts and risks.
- List of social impacts that can be monetised for inclusion in the CBA.
- List of material social impacts that should be considered for further analysis in the DBC.
- Chapter for the PBC.
- SIE Report which includes outputs from all 3 steps.

Alignment: PAF Preliminary Evaluation

Purpose:

- Provide key input into DBC.
- Provide key input to the CBA, risk register, benefits management, sustainability assessment.
- Inform reference design of projects.
- Measure social impacts that cannot be monetised.
- Provide a broad picture of economic, social, and environmental impacts and risks.

Application of SIE: Yes
Approach: Building Queensland three step approach

- Repeat steps 1 and 2 outlined for the PBC
- Step 3: Summarise results
  - Identify and assign metrics to social impacts that have been identified as material.
  - Determine a method to measure the change in metric values of the project's social impacts.
  - Report the quantitative differences in respect to the SIB.
  - Develop an AST. The AST should include outputs from the SIE, CBA and environmental assessment.
  - Sensitivity test social impacts in respect to identified key drivers.

Output:

- Table presenting the quantified changes in social impacts.
- AST outlining all identified social impacts (qualitative and quantitative).
- SIE Report which includes outputs from all 3 steps.

Alignment: PAF Business Case

1.5.2. Stakeholder Engagement

Stakeholder engagement is a very effective method of identifying social impacts. Stakeholder engagement is recognised as a key element in the SIA literature and is one of the key principles of the SROI Analysis approach. Stakeholder engagement is an important element in understanding the relationship between activities relating to options or reference project/s (during construction and subsequent operation phases) and the impacts experienced by stakeholders.

Engaging with stakeholders may include consideration of the following:

- What is the purpose/s of the engagement?
- Who are the relevant stakeholders?
- What level of engagement is necessary to achieve the purpose?
- What method would best achieve the purpose?
- When should engagement take place?
- Who is responsible for the engagement?
- What are the key messages?
- What are the risks associated with the engagement and how will they be managed?
- How will success be measured?

The responses to these questions should be documented in a Stakeholder Engagement Plan. For more information on developing a Stakeholder Engagement Plan see the PBC and DBC.

Stakeholder engagement can be further enhanced through SIE, benefits or risk workshops. These workshops can improve collaboration between different stakeholder groups and improve the quality of the SIE. Table 1 illustrates where stakeholder engagement may add value to developing an SIE.

Table 1: Stakeholder Involvement

STAKEHOLDER INVOLVEMENT			
		Recommend Involvement	Could be involved
Plan	Establishing scope		✓
	Identifying stakeholders	✓	
	Decide how to involve stakeholders		✓
Develop analysis	Identifying SIB	✓	
	Identifying social impacts	✓	
	Clarifying social impacts	✓	
Data collection	Collecting social impact data		✓
	Establishing duration of social impacts		✓
Conduct analysis	Impact Risk Assessment	✓	
	Determine materiality of social impacts	✓	
	Establishing metrics for social impacts		✓
	Quantifying social impacts		✓
	Verify results of analysis	✓	
Results	Using the results	✓	

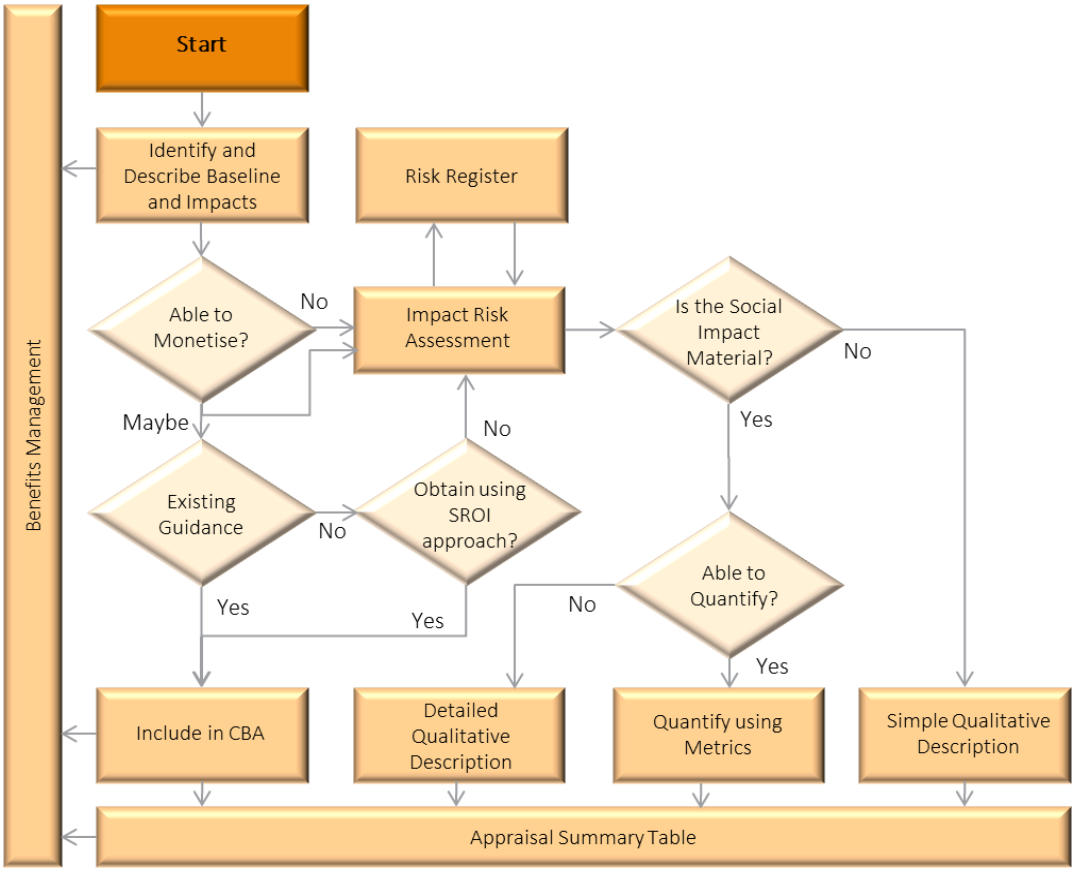
Source: adapted from SROI Network, UK (2012).

1.6. Assessment and Consideration of Social Impacts for Business Case Development

When assessing social impacts it is important to apply the appropriate depth of analysis and level of detail[4]. This ensures that sufficient information is available for options/reference design and for options filtering and selection.

The decision tree in Figure 6 explains how identified social impacts should be evaluated using either CBA or SIE. If the defined social impact can be monetised using existing guidance it should be included in the CBA. If there is no existing guidance, it might be possible to use contingent valuation, revealed preference, or hedonic pricing methods (SROI approach)[5] to determine a monetary value for the social impacts. If the monetary value cannot be or is impractical to determine, the social impact must be included in the IRA. The IRA will determine if the impact is material or not; it is also recommended that social impacts identified for inclusion in the CBA are also included in the IRA. The IRA should also inform and be informed by the Benefits and Risk Registers.

Figure 6: Social Impact Evaluation Decision Tree



[4] Please consult Building Queensland regarding the depth of analysis that should be applied.
[5] Contingent valuation, revealed preference, and hedonic pricing methods are explained in Section 2.5.

Social impacts that can be monetised but overlap with social impacts that are already included in the CBA (double counting of impacts) should be excluded from the CBA. For example, wider economic impacts can often be monetised but inclusion in the CBA normally results in double counting of efficiency benefits which are included in other benefit categories such as time savings.

For material social impacts, an investigation is required to determine if it is possible to quantify these impacts. If quantification is possible, the change in quantitative value should be included in the SIE. If quantification is not possible, a considered and defensible discussion as to why not and detailed qualitative description is required. All monetisation and quantification of impacts needs to be defensible and requires adequate sourcing. Immaterial social impacts require just a simple qualitative description also discussion as to why it is considered immaterial. The SIE should include an AST. The AST should include monetised, quantified, and non-quantified social impacts. Benefits identification should utilise outputs from the SIE and CBA.

2. KEY CONCEPTS IN SOCIAL IMPACT EVALUATION

The following concepts define how the social impacts should be approached and provides input into how they should be assessed.

2.1. Definition of Social Impacts

In the context of Building Queensland, social impacts have been defined as the effect investment in infrastructure[6] has on the well-being of society (both beneficially and detrimentally). These impacts include impacts to government agencies, external stakeholders and society as a whole. Social impacts from a project option or reference project must be compared with a SIB.

2.2. Social Impact Baseline

The SIB is the social environment in the absence of the project. The SIB spans across the life of the project, and is not a snapshot of a particular point in time. The SIB is the benchmark that all identified social impacts should be compared against. The SIB needs to be as realistic as possible. This implies that the SIB should at least reflect business as usual activities and if necessary include required investment to maintain a reasonable level of service.

The SIB is a similar concept to the base case outlined in the CBA. SIB differs from the base case in regards to scope. The scope considered for the SIB should be larger than the scope considered for the base case. This scope should include the broader social environment and include elements that cannot be easily quantified or monetised such as social wellbeing, civil liberties, and heritage.

2.3. Utility

Utility is a term used by economists to describe the measurement of "satisfaction" that an individual experiences from any good, service or event. Utility can be used to measure how much an individual enjoys a movie, or the comfort obtained from a reclining armchair. The concept of utility explains an individual's behaviour and their preferences for goods and services. Every decision that an individual makes in their daily life can be viewed as a comparison between the utility gained from pursuing one option over another. Some examples include the additional utility from eating a pizza rather than a burger, or the additional utility from owning and driving a sport utility vehicle rather than a sedan. Individuals can also experience negative utility or disutility. Some examples include the disutility from exposure to air pollution, from suffering from poor health, and from the discomfort of overcrowded facilitates. Utility is a very important concept to consider when conducting an SIE. Every impact included in the SIE should impact utility either positively or negatively.

Utility generally cannot be measured directly but is instead measured through the observation of individuals' preferences and behaviour. Revealed preference theory elaborates on how this can be done; see Section 2.5 for more information on revealed preference theory.

2.4. Materiality

Materiality can be defined in terms of significance and relevance to stakeholders. The expected social impacts should be sufficiently large that upon realisation could influence option design/filtering or reference design. Significant social impacts can potentially alter the circumstances of stakeholders, which may result in behavioural changes. For example, a loss of access to amenities during the storm season may require the stockpiling of food and essential supplies while rendering the risk of running out in the event of a more serious or prolonged storm season.

[6] In general terms, infrastructure refers to the fundamental facilities and systems serving a country, region or city including the services and facilities necessary for its society to function. It can be defined as the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions.

Social impacts often have a non-linear (quadratic or exponential) relationship with the duration of impact. A social impact, which results in a small savings or cost in time, often does not alter behaviour in any significant way, such as, starting an activity slightly earlier or finishing it slightly later. Such a social impact is less likely to be material.

A social impact that results in large savings or costs in time might alter behaviour, which might result in different or new activities taking place. Such a social impact is likely to be material. For example, work has been done in the transport sector regarding the materiality of small travel time savings[7].

CBA takes into consideration all benefits and costs that can be monetised but might not necessarily fully consider the materiality. CBA may calculate benefits and costs using linear unit values. This relationship between the duration of impact and cost is demonstrated in Figure 7 in the context of flood events.

Figure 7: Relationship between Materiality of Social Impact and Duration of Impact

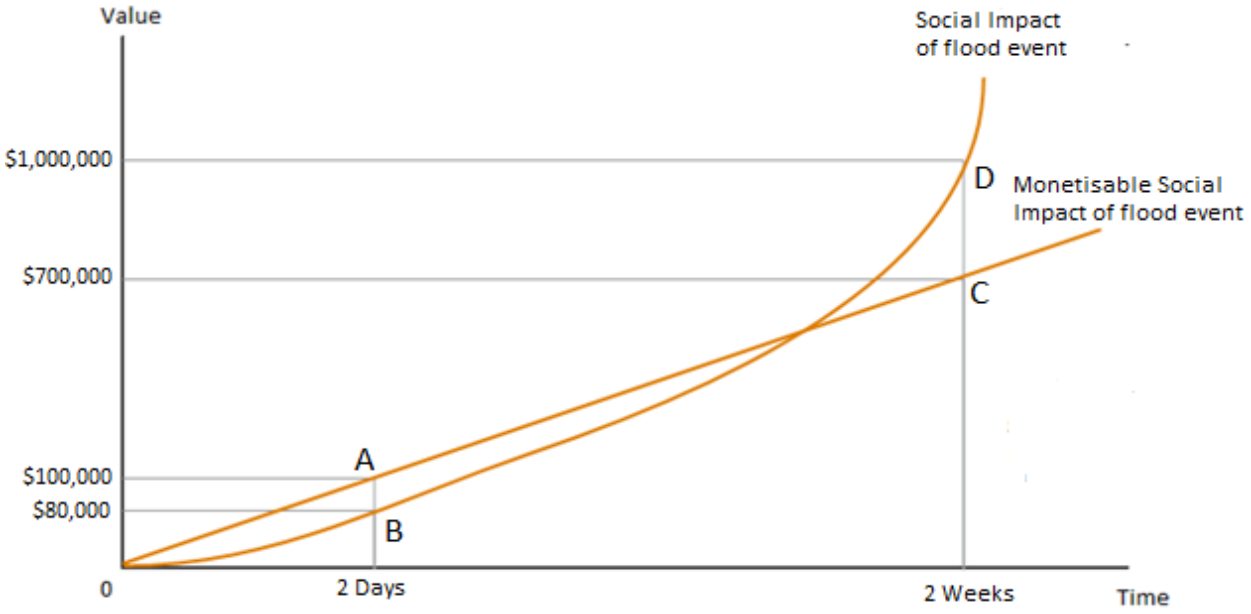


Figure 7 contains an example of two flood events, a two-day flood event and a two-week flood event. The impacts of the two flood events have been monetised using a linear approach. The two-day flood event costs $100,000 and the two-week flood event costs $700,000 ($100,000 × 14/2). The linear approach, if adopted in the CBA, is likely to overstate the costs for short road closures, which most likely does not consider people's preparedness for short more frequent flood events. In the example, costs have been overstated by $20,000, which is the difference between A ($100,000) and B ($80,000). The CBA is also likely to understate the costs of long road closures not factoring costs such as shortages of essentials, physical and mental health risks, and emergency evacuations. In the example, costs have been understated by $300,000 which is the difference between D ($1,000,000) and C ($700,000). SIE can be used to bridge the gap between monetised impacts included in the CBA and actual impacts to society, some of which may not be included in typical CBA methodology.

Project options can also be informed by the application of the materiality concept. Some options may not eliminate an impact completely but reduce it to the point where it can be considered immaterial. For example, a project option costing $800,000 that produces $920,000 ($1,000,000-$80,000) worth of benefits (net improvement of $120,000) by reducing road closure times from two weeks to two days is a

[7] See, Austroads AP-R392-11, Small Travel Time Savings: Treatment in Project Evaluations.

better investment than a project option costing $900,000 that produces $1,000,000 worth of benefits (net improvement of $100,000) by eliminating road closures.

Table 2 provides some guidance on how to determine whether a social impact is likely to be material.

Table 2: Determining Materiality of Social Impacts

SIGNIFICANT SOCIAL IMPACTS			
		No	Yes
Relevant social impacts	Yes	*Potentially material*. Determine if there is data to establish significance. If not, the impacts remain immaterial. Document reasons these impacts are considered neither significant nor relevant.	*Material to the analysis* of the option. Compare against the SIB (status quo).
	No	*Immaterial*. No further investigation of identified impacts. Document reasons these impacts are considered neither significant nor relevant.	*Potentially material.* Determine if data can establish relevance. If not, the impacts remain immaterial. Document reasons these impacts are considered neither significant nor relevant.

2.5. Social Return on Investment Approach to Monetising Social Impacts

The Guide to Social Return on Investment outlines several approaches to monetising social benefits. These approaches are contingent valuation, revealed preference theory, hedonic pricing, and time value method. These approaches are necessary to determine monetary values of social impacts that do not have values readily available in existing guidelines or literature.

2.5.1. Contingent Valuation or Stated Preference

Contingent valuation is a non-market survey-based economic technique for the valuation of specific changes from the status quo, such as social impacts and environmental impacts. These impacts provide people with either utility or disutility. These impacts might not necessarily have a market price as they are not purchased directly. For example, people receive benefit from improved social cohesion but social cohesion is difficult to value using price-based models. Contingent valuation surveys are one technique that can be used to value these impacts. Contingent valuation is often referred to as a "stated preference" model. Contingent valuation surveys typically ask people how much money they are willing to pay to accept or avoid certain impacts.

2.5.2. Revealed Preference

Revealed preference is a method of analysing choices made by individuals. It is typically used for comparing the influence of policies or projects on human behaviour. The method assumes that the preferences of people can be revealed by their expenditure patterns. For example, an individual pays $10 to book a table at a restaurant so as to avoid not getting a table on arrival. From this behaviour we can conclude that the individual values the dining experience at this restaurant at least $10 above the price of the service provided.

Revealed preference theory is based on the assumption that people make consumption decisions to maximise their perceived utility. Revealed preference theory can be used to define utility functions from observed behaviour. For example, the same model of car may come with or without extra safety features. The difference in prices between the two cars and the quantity of sales of each car provides, through revealed preference, evidence of how much people value motor vehicle safety.

2.5.3. Hedonic Pricing

Hedonic pricing, is a revealed preference method of determining value or demand. The method breaks down the item into its constituent characteristics, and estimates the contributory value of each characteristic. This approach is only possible if the good or service being valued can be reduced to its constituent parts and that the market values those constituent parts. Hedonic pricing is typically applied to house prices to determine the value of externalities. For example, the change in house prices from reduction in noise pollution can be used to determine the cost of noise pollution[8].

2.5.4. Time Value Method

Time value method considers the amount of time people are willing to sacrifice to obtain a good or service. For example, two similar goods may have the same price. If someone is willing to travel an extra 10 minutes to obtain one of these goods, we can conclude that this good must be worth more to that person than the good that requires less travel time. The Australian Transport Assessment Planning (ATAP) guide provides recommended dollar values for travel time for transport; these values could be adopted by other sectors.

[8] See CBA Guide for more information on revealed preference theory.

3. BUILDING QUEENSLAND'S THREE STEP PROCESS

3.1. Step 1–Identify Social Impacts

Step 1 of Building Queensland's three step process is divided into four parts. These components are as follows:

- identify and develop a clear SIB
- identify and describe social impacts for options
- identify key drivers and assumptions
- identify social impacts that can be monetised for inclusion in the CBA.

3.1.1. Develop the Social Impact Baseline

The SIB is the social environment in the absence of the project. The SIB spans across the life of the project, and is not a snapshot of a particular point in time. The SIB must be clearly defined in the context of the identified problem, opportunity or service need. It is important to establish a clear SIB that social impacts of different options can be compared against. It is essential that the baseline is defined as realistically as possible; the baseline should not be treated as an end of the world scenario.

Social indicators can be used to help define the SIB. There are a number of different types of social indicators, which can be used to monitor social change. Such indicators may include: crime rates, unemployment data, labour force participation rates and poverty measures. The five main types of indicators that have been identified are as follows (New South Wales Government 2005):

- **informative indicators** are used to describe the social system and the changes taking place within a system
- **predictive indicators** are informative indicators which fit into explicit predictive models of social systems, for example indicators such as unemployment and industrial diversity may be used in a model attempting to describe and predict the social resilience of a community
- **problem-oriented indicators** address specific policy situations and actions on specific social problems
- **program evaluation indicators** are used to monitor the progress and effectiveness of particular policies and programs
- **target delineation indicators** describe the demographic, environmental, pathological or service provision characteristics of populations.

The Australian Bureau of Statistics, Queensland Government Statistician's Office, and Australian Institute of Health and Welfare are good sources for obtaining data to measure social indicators. Social indicators can provide evidence of the existing social environment and help identify current and emerging social trends. Social indicators should also be linked to their key drivers. For example, a driver for unemployment could be mechanisation of tasks through improvements in technology. The identification of some key drivers may be an onerous task but is necessary to determine the causes of social change. Early and effective stakeholder engagement is a critical approach that can be used to effectively define the social environment that makes up the SIB. Stakeholder engagement can also help to determine the material aspects of the existing social environment, improve social license, and reference design.

The SIB needs to be continuously updated as more social impacts are identified for each option or as the reference design changes.

3.1.2. Identify and Describe Social Impacts

For all options considered, social impacts need to be identified and described in detail for comparison with the SIB. Several sources and approaches to identifying social impacts of project options have been included in this guide. These sources and approaches are as follows:

- make use of internationally defined categories of social impacts
- reference previous projects and explore existing literature
- engage identified stakeholders or representative groups
- categorise social impacts that can or cannot be monetised.

Internationally Defined Categories of Social Impacts

Building Queensland recommends grouping social impacts into categories, The United Nations Environment Programme (2006) along with other international literature recognises the following social impact categories:

- **Community impacts**—on infrastructure, services, voluntary organisations, activity networks and cohesion
- **Cultural impacts**—on shared customs, obligations, values, language, religious belief and other elements which make a social or ethnic group distinct
- **Health impacts**—on mental, physical and social wellbeing
- **Intergenerational impacts**—where people have perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children
- **Lifestyle impacts**—on the way people behave and relate to family, friends and cohorts on a day-to-day basis
- **Personal and property rights**—particularly where people are economically affected, or experience personal disadvantage, which may include where their civil liberties are infringed
- **Political systems**—the extent to which people are able to participate in decisions that affect their lives, the level of democratisation taking place, and the resources provided for this purpose
- **Quality of life impacts**—on sense of place, aesthetics and heritage, perception of belonging, security and liveability, and aspirations for the future

These categories should not be considered as definitive but treated as a guide to the types of social impacts that projects are likely to generate. Appendix 1 contains a detailed list of potential social impacts that should be considered.

Reference Previous Projects

When proposed options and projects are not completely unique, the investigation of previous projects can offer some useful insight into the social impacts that might apply to the currently proposed project options and how they these impacts can be managed. This exercise could be very useful for some of the more generic road and transport, education and utilities projects which may have many similarities.

If there are not similar projects in Queensland or even Australia, exploring existing literature for projects conducted overseas or research relating to similar projects could inform the identification of likely social impacts. Information about other projects can be obtained from documented ex-post evaluations or benefits management reports. For more information see Benefits Management Framework.

Stakeholder Engagement

Stakeholder engagement is the most effective method of identifying social impacts. The use of effective stakeholder engagement can greatly improve the identification and definition of social impacts. Stakeholder involvement is essential for conducting effective SIE workshops. Section 1.5.2 contains more information about the level of stakeholder engagement required for an SIE.

Categorising Social Impacts

Social impacts can be divided into three categories:

- Social impacts that can be quantified and monetised
- Social impacts that can be quantified and not monetised
- Social impacts that cannot be quantified or monetised

A table of benefits that clearly defines the categories that each identified social impact falls under can inform the treatment and approach to be adopted for each impact. Practitioners need to avoid double counting by ensuring that a social impact is not considered in more than one category. Social impacts that are to be included in the CBA should also be included in IRA. The IRA can be used to predict the likelihood and severity of social impacts to be included in the CBA.

Social impacts may have also been identified in the risk register, these impacts should also be categorised as described above and included in the IRA. This can be used as a cross-preference to the CBA and also provide some comparison to social impacts which are not included in the CBA[9].

3.1.3. Identify Key Drivers

Every social impact identified, should be influenced by at least one key driver. It is important that key drivers are identified, as most key drivers influence more than just one social impact. For example, population growth may influence social impacts such as crime, amenity, noise, crowding, and quality of life. Likewise, some social impacts are influenced by more than one key driver. For example, access to essential services is influenced by weather and transport network. A good understanding of the key drivers can inform the steps required to mitigate negative impacts and enhance positive impacts. Key drivers can also be used for sensitivity testing, which can improve the treatment of risk relating to social impacts.

Identification of key drivers needs to be informed by broader stakeholder views and not just the experience and views of the project proponent. Some key drivers can be influenced by the project proponent such as location of services and others cannot be influenced by the project proponent such as average income. Acquiring a good understanding of the key drivers behind each impact can inform Business Case project teams of the areas that project options can be tweaked or refined.

3.1.4. State and Define Assumptions

Clearly articulate logic and key assumptions underlying the analysis and methodology. Assumptions are made when there is incomplete information or data. Assumptions are required to determine the extent of the relationship between key drivers and social impacts. These assumptions should be informed by supporting evidence such as documented stakeholder engagement, relevant literature and data, and primary research. Assumptions should be clearly articulated and documented to improve transparency of the SIE and CBA. Assumptions are required as an input into the IRA discussed in Step 2 and sensitivity testing discussed in Step 3.

[9] If you have any questions regarding which social impacts should be monetised please consult Building Queensland.

3.2. Step 2–Impact Risk Assessment

3.2.1. Identify Likelihood and Severity of Social Impacts

The IRA approach proposed is derived from the Queensland Government Social Impact Assessment Guideline. The IRA should be used to assess and determine the materiality of identified social impacts. The IRA can be used to compare the social impacts of each project option and provide input into decision-making.

Figure 8 contains an example risk matrix to assess social impacts. Social impacts that fall into high risk (red boxes) should meet the materiality criteria of 'significant and relevant' outlined in Section 2. Medium risk (yellow boxes) social impacts might be considered material but will require further investigation. Low risk (green boxes) social impacts are not material and require no further investigation. Low risk social impacts may still need to be considered if the scope of the option or project changes.

Figure 8: Impact Risk Assessment[10]

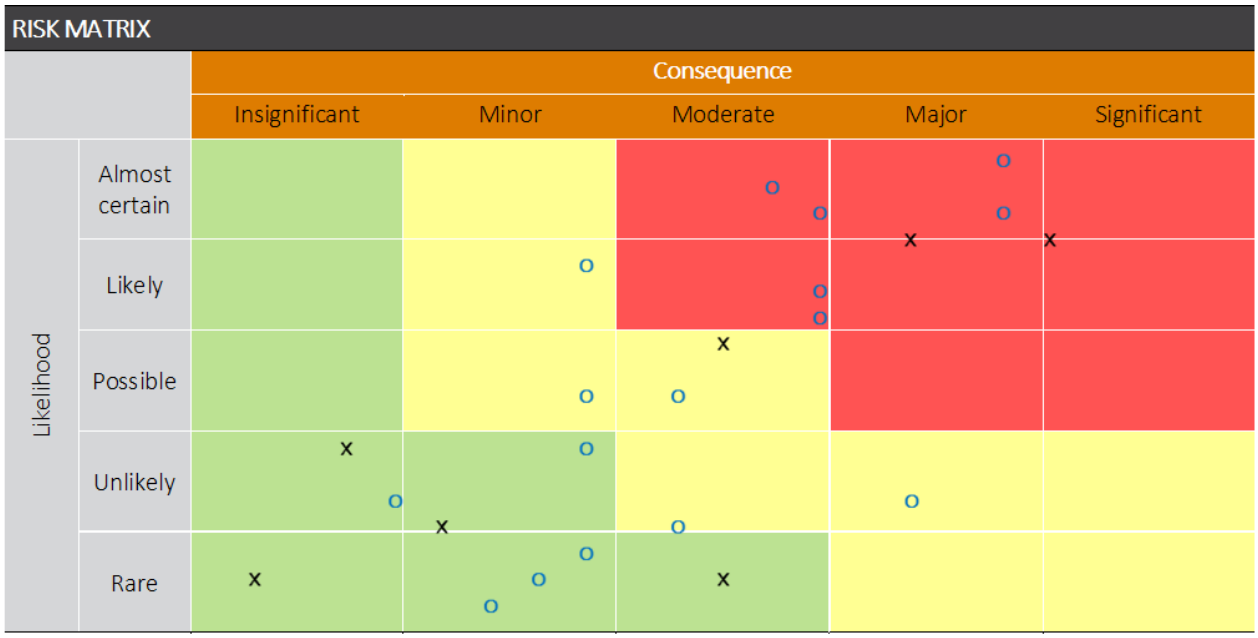
RISK MATRIX						
		Consequence				
		Insignificant	Minor	Moderate	Major	Significant
Likelihood	Almost certain					High
	Likely					
	Possible			Medium		
	Unlikely					
	Rare	Low				
Legend		Local and small-scale social impacts. These social impacts provide limited value or costs to society. These social impacts may require future consideration if, for example, there is change to the option reference design.	Short-term and mostly local social impacts. Positive social impacts provide some value to society. Negative social impacts can be easily adapted to by society.	Medium-term social impacts. Positive social impacts can be enhanced to provide substantial value to society. Society has the capacity to adapt and cope with the negative social impacts.	Long-term and potentially far reaching social impacts. Positive social impacts will provide substantial value to society. Society has limited capacity to adapt and cope with the negative social impacts.	Long-term, high magnitude and far reaching social impacts. Positive social impacts will provide enormous value both locally and regionally. Society has no capacity to cope with potentially catastrophic negative social impacts.

[10] All social impacts must be measured in respect to the SIB.

The results from the IRA will indicate the number and significance of material social impacts, both positive and negative. IRAs of different options show which options have the most positive or least negative predicted social impacts. The development of the IRA should ideally consider the views of all the key stakeholder groups; a quality stakeholder engagement process is essential for improving the reliability of the assessment.

Figure 9 contains an example of the application of the IRA to a hypothetical option. The black X's denote negative social impacts and the blue O's denote positive social impacts. Alternatively, codes can be used to distinguish between the different impacts identified. For example, cultural values can be represented by the code "CV". The example in Appendix 3 contains SIE codes.

Figure 9: Impact Risk Assessment Scatter Diagram (Worked Example: Option 1)

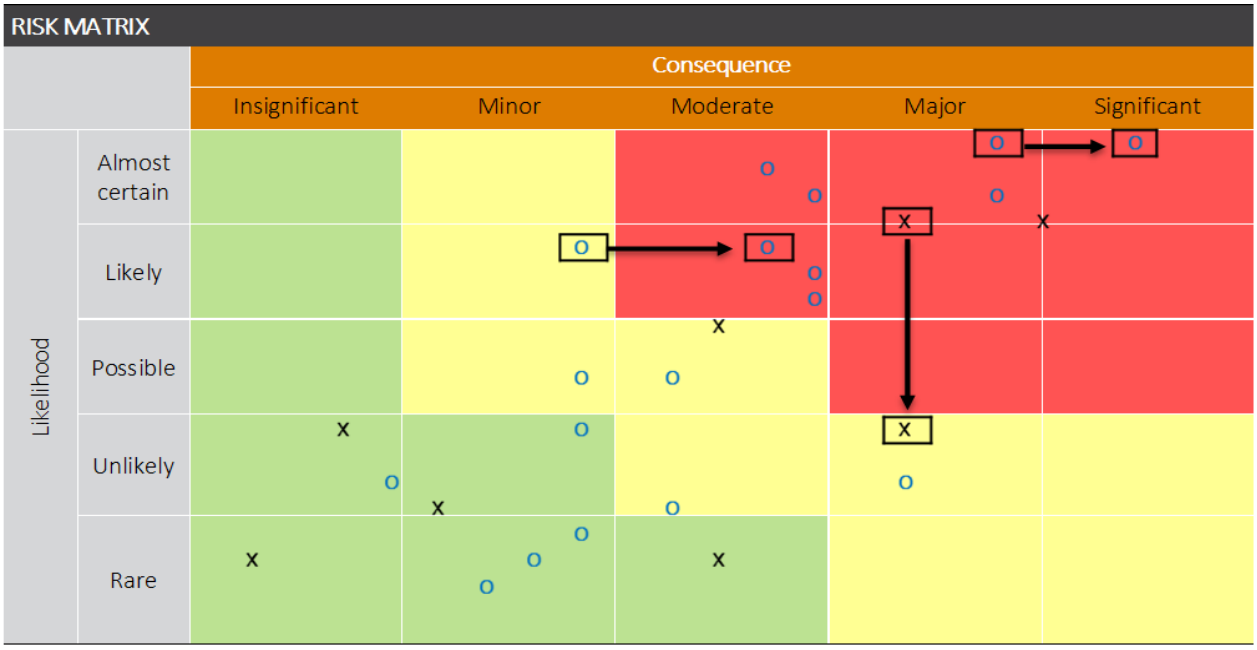


In Figure 9, Option 1 has two high negative and six high positive social impacts, these social impacts are material. Option 1 has one medium negative and five medium positive social impacts, the collection of additional information or data may determine that these impacts are material. Option 1 has four low negative and five low positive social impacts, these social impacts are not material. This process should be repeated for the remaining options.

On completion of the IRA, strategies can be used to mitigate predicted negative social impacts and to enhance potential positive social impacts. After the strategies have been implemented, the practitioner should redo the IRA. Figure 10 shows how the IRA scatter diagram can be used to demonstrate how mitigation and enhancement strategies can improve the outcomes of an option or reference design; the X's and O's in boxes represent the social impacts subject to mitigation or enhancements strategies. After mitigation and enhancement strategies have been put in place, the number of high positive social impacts has increased to seven and the number of high negative social impacts has decreased to one.[11]

[11] Please contact Building Queensland if you have any queries regarding the application of the risk matrix to the identified social impacts.

Figure 10: Impact Risk Assessment Scatter Diagram after Mitigation and Enhancement Strategies (Worked Example: Option 1)



IRAs are subjective; hence there is a risk of inconsistency between assessments of options. The IRA for all options needs to be informed by adequate stakeholder engagement. Conducting SIE and risk workshops will improve the consistency of approach to the IRA. For both the PBC and DBC, the IRA should only be conducted for the reference project/s. In the DBC, the role of the IRA is to inform the risk register, reference design, benefits register and AST[12].

3.3. Step 3–Summarise Results

Step 3 of the Building Queensland SIE process is required for both the PBC and DBC. The DBC is expected to be more detailed and include greater quantification of social impacts as well as sensitivity testing. Figure 5, on page 9 of this guide, summarises the differences in requirements of Step 3 for the PBC and DBC.

Step 3 involves taking the results of the IRA, described in Step 2, for the options or Reference Project/s. Step 3 can be broken down into three stages. These stages are as follows:

- identify metrics for quantifiable material social impacts
- complete the Appraisal Summary Table
- social impact evaluation reporting, which includes adjusting risk and benefits registers and reference design.

[12] As IRAs are subjective, it is generally not recommended that the IRA is compared to IRAs of other projects. However, if projects form part of a program, greater consistency between projects can be achieved, hence comparisons between IRAs of projects may be possible.

3.3.1. Identify Metrics for Quantifiable Material Social Impacts

The results from the IRA can be enhanced by monetising material social impacts for inclusion in the CBA using methods such as contingent valuation, revealed preference theory, or hedonic pricing. If the social impacts cannot be monetised, where possible, an alternative metric should be applied. For example, the impact on biodiversity can be measured by the change in number of species within an effected area. If an appropriate metric cannot be assigned to a social impact, a proxy metric measuring the effect of the social impact should be used instead, for example, absenteeism rate used as a proxy for workplace satisfaction.

Any attempt to quantify a social impact needs to be supported by evidence. This evidence should include referencing of relevant literature and data, and documentation of any primary research. Primary research may include surveys, questionnaires or studies conducted. The metrics applied to quantifying social impacts needs to be clearly stated. Social impacts should be measured in respect to the SIB. A positive impact could be an enhancement to an existing positive occurrence identified in the SIB or a reduction or elimination of an identified existing negative occurrence in the SIB. A negative impact could be the erosion of an existing positive occurrence identified in the SIB or the escalation of an identified negative occurrence in the SIB.

3.3.2. Appraisal Summary Table

The identified qualitative and quantitative social impacts can be combined with the results of the CBA and the environmental assessment into an AST. An AST is a summary of key consequences relating to the environmental, economic and social impacts of a project. It is used to help decision-makers compare project options and/or projects. The AST approach has been adopted from the UK Transport Analysis Guidance (2013).

The AST contains economic, environmental, and a wide range of possible social impacts that could be relevant to a project. In the AST, the practitioner should include the list of social impacts, which have been identified for the project in Steps 1 and 2. Table 3 contains the framework for an AST; the types of impacts have been populated as an example. The 'Monetised in CBA' cells in Table 3 have been shaded orange for economic, environmental, and social impacts, which should be monetised and included in the CBA. The AST in Table 3 allows practitioners to identify if the social impacts occur in the short-term, medium-term, or long-term. Small, medium, or large can be inserted in the relevant boxes if a quantitative value is unobtainable.

Table 3: Example of Appraisal Summary Table

NAME OF PROJECT					
Problem					
Description					
Impact Baseline					
Strategic Plan Targets					
Identified Impacts	Qualitative Description	Quantitative Assessment			Present Value (Monetised in CBA)
		Short	Medium	Long	
ECONOMIC					
Capital Costs					
Operating Costs					
Productivity					
Efficiency					

Identified Impacts	Qualitative Description	Quantitative Assessment			Present Value (Monetised in CBA)
		Short	Medium	Long	
Reliability					
Employment					
Property Values					
Other Wider Economic Impacts					
ENVIRONMENTAL					
Noise					
Local air quality					
Water Pollution					
Greenhouse Gases					
Nature and Landscape					
Biodiversity					
Urban Separation					
CULTURAL					
Cultural Values					
Cultural Integrity					
Commercial Exploitation of Culture					
Natural and Cultural Heritage					
HEALTH AND SOCIAL WELLBEING					
Loss of Life					
Physical Health					
Nutrition					
Fertility					
Mental Health					
QUALITY OF LIVING ENVIRONMENT					
Access to Essential Services					
Access to Leisure and Recreational Facilities					
Aesthetic Quality					
Availability of Housing Facilities					
Crime and Violence					
FAMILY AND COMMUNITY IMPACTS					
Alterations in Family Structure					
Obligations to Living Family Members					
Family Violence					
Social Networks					
Social Differentiation and Inequity					
INSTITUTIONAL, LEGAL, POLITICAL, AND EQUITY IMPACTS					

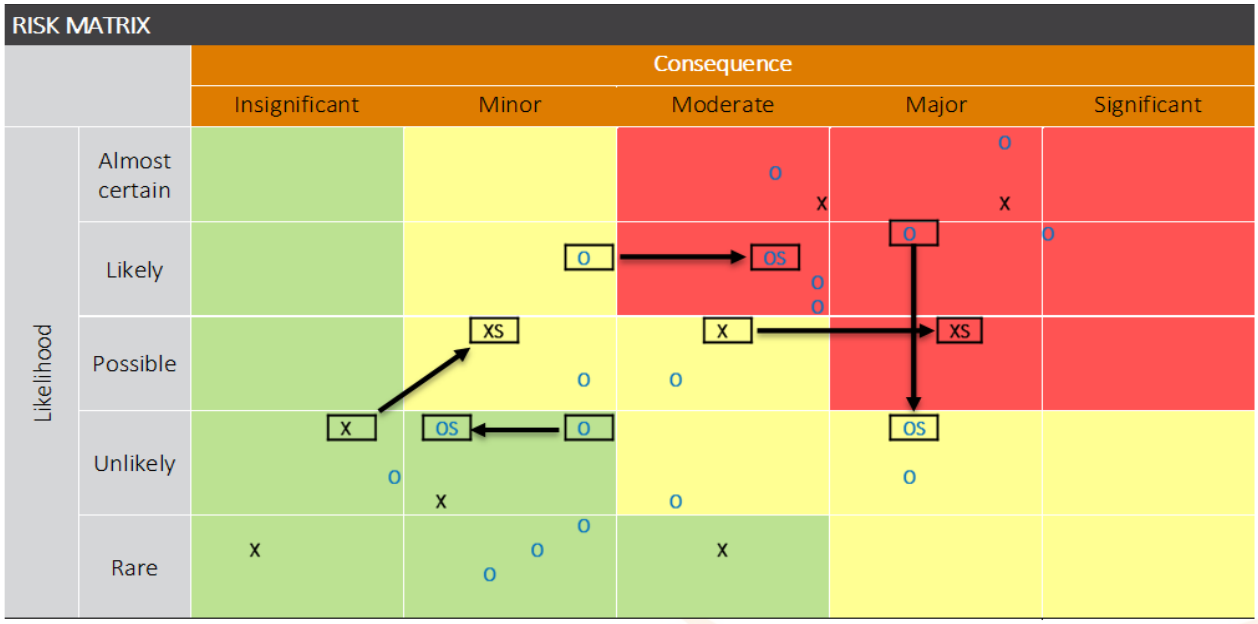
Identified Impacts	Qualitative Description	Quantitative Assessment Short	Medium	Long	Present Value (Monetised in CBA)
Functioning of Government Agencies					
Human Rights					
Social Differentiation and Inequity					
Participation in Decision-making					
Impact Equity					
GENDER RELATIONS					
Gendered Division of Production-orientated Labour					
Gendered Division of Household labour					
Gendered Division of Reproductive Labour					
OTHER:					

3.3.3. Sensitivity Testing

Sensitivity testing can be applied to both SIE and CBA. There are a number of different approaches to sensitivity testing; the CBA Guide provides a detailed description of the types of sensitivity tests that can be applied to an analysis. The SIE recommends sensitivity testing around the identified key drivers of social impacts. For the DBC, this can be done by revisiting the IRA with adjusted key drivers. For example, regional population growth (normally a key driver behind many social impacts) may have been assumed to be 5% in the initial IRA but as a sensitivity test may only be assumed to be 2%.

Figure 11 contains an example of how sensitivity testing can be conducted using the IRA scatter diagram; 'XS' and 'OS' represent the negative and positive sensitivity adjusted social impacts respectively.

Figure 11: Impact Risk Assessment Scatter Diagram with Sensitivity Testing



Sensitivity testing can also be applied to social impacts that have been assigned metrics. Social impacts that are affected by key drivers should be adjusted to reflect changes to assumptions applied to key drivers. The sensitivity tests applied to the SIE should match those or be in sync with those applied to the CBA and financial analysis. Social impacts that have been found to be particularly sensitive to changes in key drivers should be further considered for monetisation and inclusion in the CBA. Refer to Section 2.5 for approaches to monetising social impacts.

3.3.4. Social Impact Evaluation Reporting

SIE reports should include:

- a definition of the stakeholders and communities affected by the construction and operation of proposed options or reference project
- an SIB study of the communities likely to be affected by the construction and operation of the proposed project, e.g. community history, Indigenous communities, culture and key events that have shaped economic and social development, resilience and trends
- the identification and description of potential social impacts
- the key drivers and assumptions linking the key drivers to the identified social impacts
- an explanation of methods used to gather information including a description of how stakeholders were engaged during the development of the SIE
- categorisation of social impacts into those that can be monetised and should be included in the CBA, and those that cannot be monetised
- brief description of how the SIE approach has been utilised to inform other elements of the Business Case such as CBA, risk register, benefits management, and sustainability
- prediction of the significance of any impacts, the duration and extent of each impact and the extent the impact is attributable to the proposed project using the outlined IRA
- an overview of state government legislation and policies that complement the mitigation measures for social impacts that are directly related to the project
- proposed enhancement and mitigation measures
- assignment of metrics to social impacts that are material and can be quantified
- sensitivity analysis around the key drivers of social impacts
- recommended tables such as the AST and IRA
- complete SIE reporting.

Some projects may be subject to an EIA. Part of the EIA process may require a SIA. Building Queensland is not formally assessing social impacts against the requirements of the EIA legislation. In addition, the information analysed in the PBC and DBC may be more provisional in nature than the subsequent social impact analyses that form part of an EIA.

The level of detail to be applied to SIE reports will be influenced by the requirements of any EIA process. The design of the SIE report will take into account the relevant stage of the EIA to ensure that any work or analysis is not duplicated[13].

[13] For more information regarding the level of detail required for an SIE, please contact Building Queensland.

4. REFERENCES

Australian Transport Assessment and Planning (2016), Parameter Values –PV2 Road Transport, available at: atap.gov.au/parameter-values/road-transport/index.aspx.

Austroads, (2011), Small Travel Time Savings: Treatment in Project Evaluations, Austroads Publication No. AP-R392-11, Austroads Ltd

Department for Transport (2013), Transport Analysis Guidance (TAG), GOV.UK, available at: www.gov.uk/government/publications/webtag-appraisal-tables

Department of State Development, Infrastructure and Planning (2013), Social impact assessment guideline, Queensland Government, available at: www.statedevelopment.qld.gov.au/assessments-and-approvals/social-impact-assessment.html

IAIA (2003), Principles and Guidelines for Social Impact Assessment in the USA, Impact Assessment and Project Appraisal September 2003

New South Wales Government (2005), Guidebook on Social Impact Assessment, Comprehensive Coastal Assessment, CCA 27, June 2005

Queensland Treasury (2015), Project Assessment Framework, available at: www.treasury.qld.gov.au/projects-infrastructure/initiatives/project-assessment-framework/index.php

SROI Network, UK (2012), A guide to Social Return on Investment, available at: www.neweconomics.org/publications/entry/a-guide-to-social-return-on-investment

United Nations Environment Programme (2006), A Comprehensive Guide for Social Impact Asssessment, Centre for Good Governance

APPENDIX 1: IMPACTS (SOCIAL, ECONOMIC, ENVIRONMENTAL)

Table 1A: Menu of impacts to be considered in an SIE

Categories	Economic	Environmental	Cultural
Sub-categories	Capital costs	Noise	Cultural values
	Operating costs (Agency)	Local air quality	Cultural affrontage
	Operating costs (Users)	Water environment	Cultural Integrity
	Productivity	Greenhouse gases	Experience of being culturally marginalised
	Efficiency	Nature and landscape	Commercial exploitation of culture
	Reliability	Biodiversity	Loss of language or dialect
	Employment	Urban separation	Natural and cultural heritage
	Property values		
	Wider economic impacts		
	Income		
	Burden of national debt		
	Standard of living		
	Economic dependency		
Categories	**Health and Social Wellbeing**	**Quality of Living Environment**	**Family and Community Impacts**
Sub-categories	Loss of life	Access to essential services	Alterations in family structure
	Loss of life in family or Community	Access to leisure and recreational facilities	Obligations to living family members
	Physical health	Aesthetic quality	Family violence
	Nutrition	Availability of housing facilities	Social networks
	Fertility	Crime and violence	Social differentiation and inequity
	Mental health	Social quality of housing	Community cohesion
	Autonomy	Personal safety and hazard exposure	Social tension and violence
	Stigmatisation or deviance labelling	Adequacy of physical infrastructure	
	Feelings in relation to the project	Quality of life	

Categories	Institutional, Legal, Political, and Equity Impacts	Gender Relations
Sub-categories	Functioning and Integrity of Government Agencies	Gendered division of production-orientated labour
	Integrity of Government and Government Agencies	Gendered division of household labour
	Tenure or legal rights	Gendered division of reproductive labour
	Human rights	Gender based control over, and access to resources
	Participation in decision-making	
	Access to Legal Procedures and Advice	
	Equity	

Source: Adopted from the New South Wales Government (2005) Guidebook on Social Impact Assessment

APPENDIX 2: KEY CONCEPTS INCORPORATED IN SOCIAL IMPACT EVALUATION

This appendix contains the key concepts of PAF, SIA, and SROI that have been incorporated in Building Queensland's SIE approach.

Project Assessment Framework

Benefits identification under the PAF focuses on major benefits that will be actively pursued rather than a list of all benefits that might potentially be achieved[14]. Most benefits are categorised in terms of direct impacts and can include cost related benefits (cost reductions or cost avoidance) or service related benefits (productivity improvements or service enhancements). Additionally, a wider range of social impacts may be addressed and include:

- ecological sustainability (over the time period being assessed)
- education (e.g. literacy)
- effects of unemployment (e.g. morale, business confidence)
- health
- history, heritage, Indigenous matters, the arts and culture
- law and order (e.g. crime rates, recidivism)
- public safety (e.g. road safety, workplace safety)
- quality of life (e.g. access to recreational facilities, beautification of surroundings)
- welfare.

Social Impact Assessment

The approach recommended by the International Association for Impact Assessment (IAIA 2003) for conducting an SIA can be described as follows:

- achieve extensive understanding of local and regional settings to be affected by the action or policy:
  - identify and describe interested and affected stakeholders and other parties
  - develop SIB information (or profiles) for local and regional communities
- focus on key elements of the human environment:
  - identify the key social and cultural issues related to the action or policy from the community and stakeholder profiles
  - select social and cultural variables which measure and explain the issues identified
- identify research methods, assumptions and significance:
  - research methods should be holistic in scope (i.e. they should describe all aspects of social impacts related to the action or policy)
  - research methods must describe cumulative social effects related to the action or policy
  - ensure that methods and assumptions are transparent and replicable
  - select forms and levels of data collection analysis which are appropriate to the significance of the action or policy

[14] The PAF includes the concept of materiality; materiality is discussed in detail in Sections 2 and 4 of this guide.

- provide quality information for use in decision-making:
  - collect qualitative and quantitative social, economic and cultural data sufficient to describe and analyse all reasonable alternatives to the action
  - ensure that the data collection methods and forms of analysis are scientifically robust
  - ensure the integrity of collected data
- ensure that any environmental justice issues are fully described and analysed:
  - ensure that research methods, data, and analysis consider underrepresented and vulnerable stakeholders and populations
  - consider the distribution of impacts (whether social, economic, air quality, noise, or potential health effects) to different social groups (including ethnic/racial and income groups)
- undertake evaluation/monitoring and mitigation:
  - establish mechanisms for evaluation and monitoring of the action, policy or program
  - where mitigation of impacts may be required, provide a mechanism and plan for assuring effective mitigation takes place
  - identify data gaps and plan for filling these data needs.

Building Queensland's SIE approach broadly incorporates the concepts described in the SIA process. For further information on SIA, please refer to Department of State Development, Infrastructure and Planning's Social Impact Assessment Guideline.

Social Return on Investment (SROI) Principles

SROI is a principles-based method for measuring extra-financial value (i.e. environmental and social value not currently reflected in conventional financial accounts) relative to resources invested. Building Queensland proposes the adoption of the underpinning principles behind SROI. The principles underpinning SROI are as follows:

- involve stakeholders
- understand what changes
- value the things that matter
- only include what is material
- do not over-claim
- be transparent
- verify the result.

The SROI approach can be used to monetise social impacts that are not valued in existing guidelines and literature. SROI Network UK (2012) explains in detail how social impacts can be monetised using the SROI methodology. Building Queensland proposes that the monetised value of the social impacts should be included in the CBA and that the SIE should include a qualitative description and/or non-monetary quantification.

APPENDIX 3: HYPOTHETICAL WORKED EXAMPLE

Appendix 3 contains a hypothetical worked example of an SIE for a new sports stadium option. Table 1C contains the project option description.

Table 1C: Description of Project Option

PROJECT OPTION	
Name of Project/Option	Stade De La Davies
Problem/Opportunity/Need	Identified unfulfilled community need for live sporting activities and cultural events
Description of Project Option	State-of-the-art Sports Stadium, Capacity 20,000 sitting, 10,000 standing
Strategic Plan Targets	All residents should not need to travel more than 100km to reach a sporting venue

Step 1 – Identify Social Impacts

Develop Social Impact Baseline

Table 2C provides a description of the SIB and highlights existing problems and opportunities and the key drivers behind them.

Table 2C: Summary of Social Impact Baseline

SUMMARY OF SOCIAL IMPACT BASELINE		
Social Impact Baseline (Summary)	Amateur sporting events are held at the local secondary school, nearest professional team play 100km away, cultural and social events are held in the big field or place of worship.	
Social Impact Baseline (Brief Descriptions)	Problems/Opportunities/Service Need Identified in the Social Impact Baseline	Key Drivers
	Sporting activities are limited to the local secondary school	No permanent venue for sports, strong community interests in sports
	There are no permanent venues for cultural activities	Strong community desire to be involved in cultural events
	Avid sports fans travel approximately two hours to watch live professional sports events	Strong community interests in sports
	There are no local sports facilities for young local athletes to train	Population growth, youth interest in sports
	Sporting clubs struggle to gain membership without a local sports team	No sports team
	Rising number of cases of juvenile crime relating to vandalism of property	Youth population growth, number of available activities for youth
	The community has no landmarks of any note or significance	Community pride
	Limited number of jobs opportunities in the community	Population growth

Identify and describe social impacts

There are many approaches to identifying social impacts; in this example, international categories and sub-categories of social impacts have been used. Table 3C contains eight general categories. Table 4C contains positive social impacts with descriptions. Table 5C contains negative social impacts with descriptions.

Table 3C: Social Impacts identified using International Categories

Impact Category	Number of Positive Social Impacts Identified
Economic	3
Environmental	0
Cultural	1
Health and Social Wellbeing	1
Quality of Living Environment	3
Family and Community Impacts	2
Institutional, Legal, Political, and Equity Impacts	1
Gender Relations	1
Total	12

Table 4C: Identified Positive Social Impacts with Codes and Brief Descriptions

SIE Code[15]	Social Impact	Description
PE1	Employment of stadium staff	The new stadium will employ 500 staff
PE2	Utility from Live sporting events	Community enjoyment from attending live sports events
PE3	Promotes sports related industries	Merchandise will be more readily available for purchase
PC1	Cultural values from cultural events in stadium	Stadium will regularly hold cultural events
PH1	Fitness through sports	Stadium will have a multi-purpose gym
PL1	Access to local sports events	Local sports team will have an opportunity to join the sports league
PL2	Aesthetically pleasing structures	Statues of sporting legends will be erected at each entrance
PL3	Reduced juvenile crimes	Young people can engage in sports instead of vandalism
PFC1	Community cohesion amongst sports fans	Sporting events should unite the community with common interests
PFC2	Sporting social networks	Sports clubs and interest groups will form
PILPE1	Equitable use of facilities	Sports facilities are available to all

Table 5C: Identified Negative Social Impacts with Brief Descriptions

SIE Code	Social Impact	Description
NEn1	Noise	Noise from vehicles and rowdy sports fans
NEn2	Air pollution from vehicles	Emissions from vehicles polluting the community
NEn3	Reduced natural landscape	New stadium will slightly reduce the size of the forest
NL1	Restricted access to the hospital	More vehicles on the road might reduce access to the hospital
NL2	Alcohol related violence	Higher alcohol consumption might increase tension between fans
NFC1	Social tension between supporters	Conflicting allegiance to teams might create tension between fans

[15] SIE codes are used to identify impacts in the risk matrix, e.g. PE1 is used to identify positive economic. Social impacts PC1, PFC2, NE3 and NL1 are explained in more detail in Table 6C.

Identify key drivers

Key drivers can be linked to each social impact.

Identify social impacts that can be monetised

The SROI approaches described in the guide can be used to monetise some of the identified social impacts. For this example, it has been assumed that the identified social impacts are not monetised. Table 6C contains a sample of identified social impacts. This table outlines the recommended changes to the SIB, key drivers, assumptions and source of assumptions for each social impact.

Table 6C: Sample of Identified Social Impacts (focus on: key drivers, updated SIB and monetisation)

Category\SIE Code	PC1	PFC2	NE3	NL1
Social Impact Category	Cultural	Family and Community Impacts	Environmental	Quality of Living Environment
Social Impact Sub-Category	Cultural values	Social networks	Nature and landscape	Access to essential services
Social Impact	Cultural values from cultural events in stadium	Sporting social networks	Reduced natural landscape	Restricted access to the hospital
Description	Stadium will regularly hold cultural events	Sports clubs and interest groups will form	New stadium will slightly reduce the size of the forest	More vehicles on the road might reduce access to the hospital
Updated Social Impact Baseline	Existing number of cultural events in the community	No formal sporting networks	Several open areas and forests	Good access to the hospital with zero congestion
Key Drivers	Number, nature, type, and quality of events that can be held at the stadium	Population, interest from general population, coordination of activities	Size of the stadium, location of the stadium	Size of stadium, public transport access to stadium, general access to stadium
Assumptions	Events held at the stadium are assumed to enhance cultural values	Existing and new sports fans will want to join a group	Larger stadium has a larger physical footprint	The presence of more vehicles will obstruct the hospital entrance
Social Impact Identified By	Community	Community	Community	Key Stakeholder
Can this Social Impact Be Monetised?	No	No	No	No

Step 2 – Impact Risk Assessment

Use the IRA to determine which social impacts are material. The scatter diagram in this example uses codes to identify social impacts. Blue codes are positive social impacts and black codes are negative social impacts.

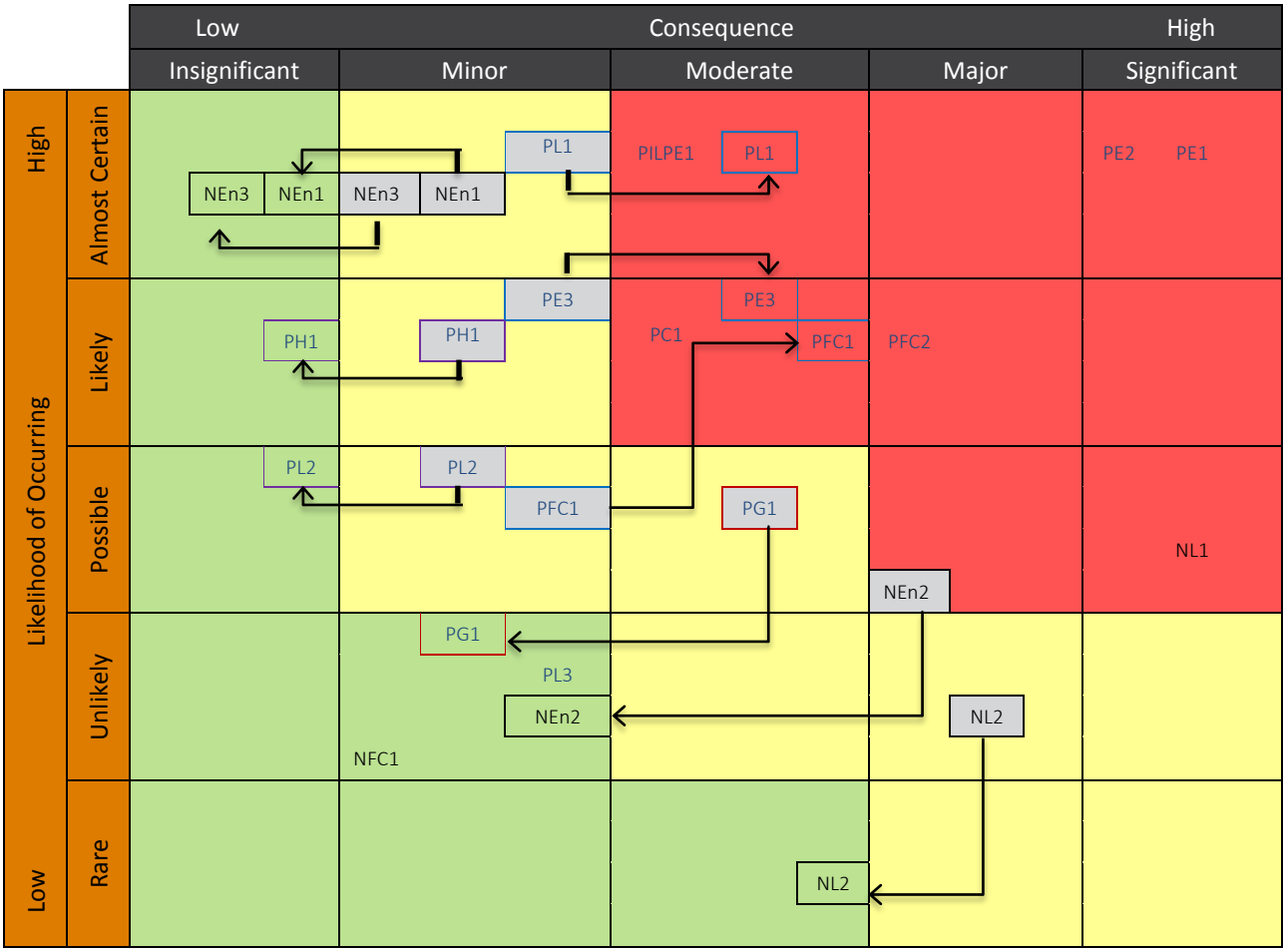
Figure 1C: Impact Risk Assessment Scatter Diagram

Likelihood of Occurring		Consequence: Low	Minor	Moderate	Major	High
		Insignificant	Minor	Moderate	Major	Significant
High	Almost Certain		PL1 NEn3 NEn1	PILPE1		PE2 PE1
	Likely		PE3 PH1	PC1	PFC2	
	Possible		PL2 PFC1	PG1	NEn2	NL1
	Unlikely		PL3 NFC1		NL2	
Low	Rare					

Further investigate possible material impacts, perform mitigation and enhancement strategies, and update risk matrix.

The scatter diagram can be used to show the changes in social impacts after mitigation and enhancement strategies have been applied. Social impacts assessed in Figure 1C are revisited in Figure 2C.

Figure 2C: Impact Risk Assessment Scatter Diagram after Further Investigation, Mitigation, and Enhancement Strategies



Legend:

Blue boxes represent enhanced positive impacts.

Purple boxes represent positive not expected to be material upon further investigation.

Black boxes represent mitigated negative impacts.

Greyed boxes are impacts prior to mitigation/enhancement/further investigation.

Arrows indicate the change to the assessment of impacts after mitigation and enhancement strategies have been applied.

Step 3 – Summarise Results

Identify metrics and source (material impacts)

In this worked example, data has been assumed to be readily available for most identified material impacts. Table 7C provides a description of the metric and how it was sourced.

Table 7C: Identifying and Defining Metrics for Social Impacts

Material Social Impacts	Metric (description)	Methodology and Source
Employment of stadium staff	Number employed in sector	Australian Bureau of Statistics
Utility obtained from live sporting events	Attendance at events	Conduct demand modelling
Promotes sports related industries	Projected sales	Industry Surveys
Cultural values from cultural events in stadium	Number of cultural events in community	Regional Council
Access to local sports events	Time taken to reach nearest stadium	Traffic modelling
Community cohesion amongst sports fans	Could not find an appropriate metric	N/A
Sporting social networks	Formal and informal club memberships	Review existing research or surveys
Equitable use of facilities	Wealth index for usage of social infrastructure	Review existing research
Air pollution from vehicles	Tonnes	Existing literature and guidelines
Restricted access to the hospital	Delays in minutes	Traffic modelling

Report change in metrics

Changes in metrics should be reported in the short-term, medium-term and long-term. For this example the short-term, medium-term and long-term have been defined as years 6, 12, and 24 respectively.

Table 8C: Evaluating using Identified Metrics for Social Impacts

Material Social Impacts		Unit Change (Actual or Percentage)		
Duration	Metric	Short-term	Medium-term	Long-term
Year		Year 6	Year 12	Year 24
Employment of stadium staff	Employment	3,000	3,500	5,000
Utility obtained from live sporting events	Attendance	28,000	38,000	38,000
Promotes sports related industries	Sales	250,000	450,000	450,000
Cultural values from cultural events in stadium	No. of events	4	8	10
Access to local sports events	Minutes	110	120	165
Community cohesion amongst sports fans	Qualitative	Medium	Medium	Small
Sporting social networks	Memberships	9,550	13,500	15,400
Equitable use of facilities	Index (%)	43%	43%	43%
Air Pollution from vehicles	Tonnes	25,000	36,000	32,000
Restricted access to the hospital	Minutes	6	8	9

Note: Negative social impacts are in red font.

Appraisal Summary Table

The AST summarises all relevant information considered so far in the SIE. It also includes outputs from the CBA and environmental assessment. For this example, the CBA column has not been populated.

Table 9C: Appraisal Summary Table

Identified Impacts	Quantitative Assessment - Change in Units or Percentages				Present Value (CBA)
	Metric	Short-term	Medium-term	Long-term	
Economic		Unit	Unit	Unit	
Employment of stadium staff	Employment	3,000	3,500	5,000	
Utility obtained from live sporting events	Attendance	28,000	38,000	38,000	
Promotes sports related industries	Sales ($)	250,000	450,000	450,000	
Environmental					
Noise		#N/A	#N/A	#N/A	
Air pollution from vehicles	Tonnes	25,000	36,000	32,000	
Reduced natural landscape		#N/A	#N/A	#N/A	
Cultural					
Cultural values from cultural events in stadium	No. Events	4.00	8.00	10.00	
Health and social wellbeing					
Fitness through sports		#N/A	#N/A	#N/A	
Quality of living environment					
Access to local sports events	Minutes	110.00	120.00	165.00	
Aesthetically pleasing structures		#N/A	#N/A	#N/A	
Reduced juvenile crimes		#N/A	#N/A	#N/A	
Restricted access to the hospital	Minutes	-6.00	-8.00	-9.00	
Alcohol related violence		#N/A	#N/A	#N/A	
Family and community impacts					
Community cohesion amongst sports fans		Medium	Medium	Small	
Sporting social networks	Memberships	9,550	13,500	15,400	
Social tension between supporters		#N/A	#N/A	#N/A	
Institutional, legal, political, and equity impacts					
Equitable Use of Facilities	Index	0.30	0.30	0.30	
Gender relations					
Balanced gender work adoption		#N/A	#N/A	#N/A	
Other:					
CBA Summary				NPV:	$$$
				BCR:	$/$

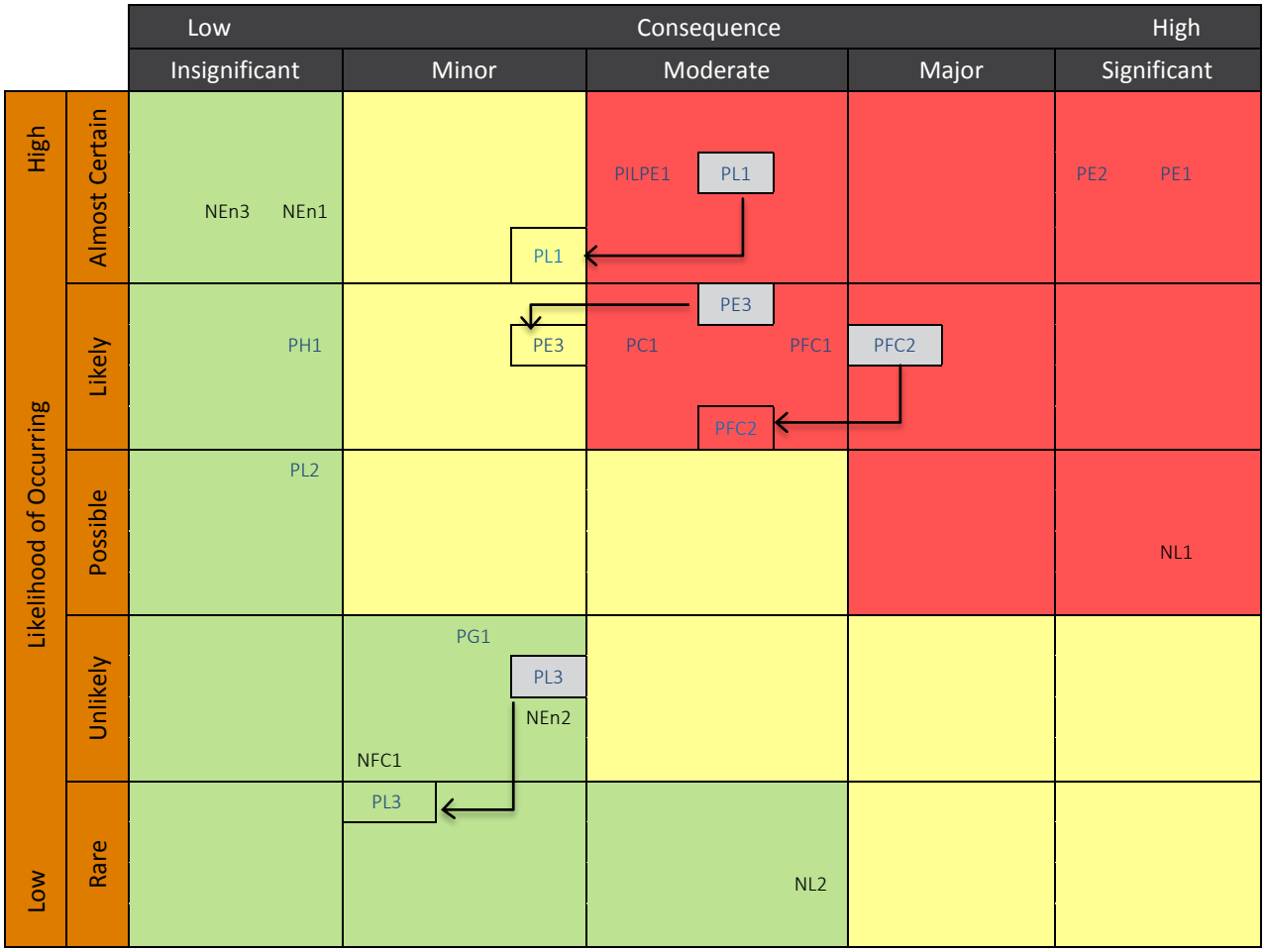
Sensitivity Testing

Sensitivity testing has been applied to both the IRA and quantitative SIE. The population growth key driver has been assumed lower for the sensitivity test in this example, i.e. 5% down to 3%.

Table 10C: Social Impacts influenced by changes in Key Drivers (population growth)

Positive Social Impact	SIE Code	Direction of Changes
Promotes Sports Related Industries	PE3	Negative
Access to Local Sports Events	PL1	Negative
Reduced Juvenile Crimes	PL3	Negative
Sporting Social Networks	PFC2	Negative

Figure 3C: Impact Risk Assessment Scatter Diagram used for Sensitivity Testing



Legend:

Black boxes represent impacts after sensitivity testing has been conducted.

Greyed boxes are impacts prior to sensitivity testing.

Sensitivity testing can also be conducted by altering the unit change of quantified social impacts. Supporting evidence should be provided to justify any changes in recorded values. The quantified changes in the SIE sensitivity test can be used to inform the CBA. Table 11C provides the sensitivity adjusted quantified social impacts for the example.

Table 11C: Evaluating using identified Metrics for Social Impacts

Material Social Impacts		Unit Change (Actual or Percentage)		
Duration	Metric	Short-term	Medium-term	Long-term
Year		Year 6	Year 12	Year 24
Employment of Stadium Staff	Employment	3,000	3,500	5,000
Utility Obtained from Live Sporting Events	Attendance	28,000	38,000	38,000
Promotes Sports Related Industries	Sales	250,000	380,000	400,000
Cultural Values from Cultural Events in Stadium	No. events	4	8	10
Access to Local Sports Events	Minutes	110	120	140
Community Cohesion Amongst Sports Fans	Qualitative	Medium	Medium	Small
Sporting Social Networks	Memberships	9,550	12,500	14,000
Equitable Use of Facilities	Index (%)	0	0	0
Air Pollution from Vehicles	Tonnes	25,000	36,000	32,000
Restricted Access to the Hospital	Minutes	6	8	9

Legend:

Red boxes represent impacts that are lower after sensitivity testing has been conducted; compare with Table 8C.

The SIE outputs described in this Appendix were produced by a spreadsheet model. This model is under development and will be made available on request.

T 07 3237 7500 E enquiries@bq.qld.gov.au
Level 30, 12 Creek St, Brisbane QLD 4000

buildingqueensland.qld.gov.au