CAPITAL PROJECTS APPRAISAL UNIT

APPRAISAL OF INFRASTRUCTURE GUIDELINE

APPRAISAL TOOLS AND METHODOLOGIES

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APPRAISAL OF INFRASTRUCTURE GUIDELINE

Introduction

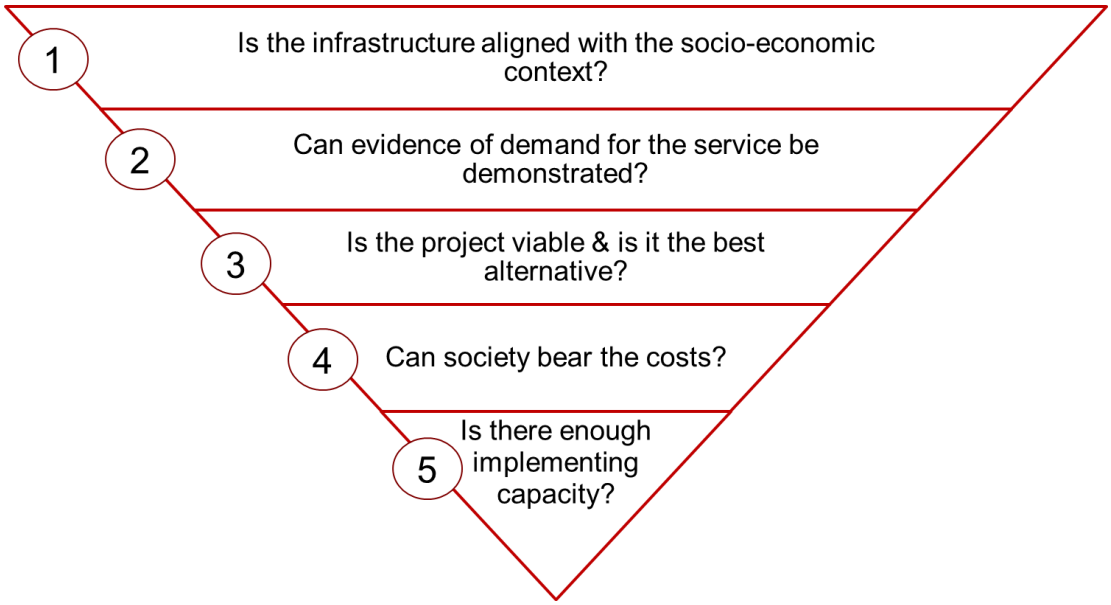
The current socio-economic climate in South Africa is characterised by the need for greater investment in infrastructure to support higher levels of economic growth and social welfare. However, the challenge is that available fiscal resources are inadequate to support all proposed public infrastructure investment projects, necessitating prioritisation. This guideline suggests using a consistent and transparent approach against which the desirability of projects can be compared, thus assisting the decision-making process and increasing accountability. To do this, a set of principles are proposed to guide infrastructure investments in a manner that maximises value for money and contributes significantly towards creating a better life for all South Africans.

The ultimate goal is to improve the quality of infrastructure expenditure and support a better allocation of fiscal resources across government. These sentiments are also shared in the Capital Planning Guidelines published and updated annually by the National Treasury (available at http://www.treasury.gov.za/publications/guidelines).

Principles for assessing and prioritising infrastructure projects

The suggested approach to evaluate the desirability of capital projects is by asking five key questions. In responding to these questions, project sponsors should invest significant effort in the early planning phase, and ensure that investment decisions are done in a principle-driven and methodologically sound manner.

The project filter as shown below is the core of the guideline and graphically represents the five key questions that need to be asked when assessing an infrastructure investment. It helps to ensure that the most feasible and beneficial projects are chosen.



It is important to understand that infrastructure has little intrinsic value; its value is derived through the economic and social activities it supports. This premise is important when analysing the aggregate infrastructure spending of government. It means that although infrastructure expenditure can raise the country's welfare in the short-term (through construction activities), it may not necessarily translate into long-term benefits unless done effectively. For example, construction of a road to nowhere will temporarily boost economic activity but will not result in long-term and sustainable social or economic development. On the contrary, the project will consume scarce economic resources and result in a liability instead of an asset. Therefore, South Africa needs to invest in the right projects at the right time for investment-led growth to achieve intended long-term outcomes.

The guidelines will go through the project filter step by step, identifying the key questions that need to be asked as well as explaining the relevant methodological tools that can be used in answering them.

Key question 1: Is the infrastructure aligned to the socio-economic context?

Infrastructure provision is an intervention meant to alleviate certain societal problems and needs. Understanding the context of the infrastructure assists in identifying the drivers that created the

need for the project and will allow clearly spelled out and unambiguously motivation. The National Development Plan articulates many of the socio-economic challenges in the country. However, project-specific studies are also important to contextualise the infrastructure, clarify the extent and urgency of the need. This is crucial for assessing the project's ability to generate long-term benefits.

In general terms, South Africa's social context can be summarised as being characterised by structural poverty, high levels of inequality and unemployment, an insufficiently educated workforce, increasing levels of urbanisation, growth in the share of poverty in urban areas and the continued need to support the welfare of the rural population. The Constitutional commitments to address the education, health and housing needs are reflected in the Bill of Rights, and well understood by citizens. The economic context is characterised by low growth, supply-side constraints and continued exposure to fragile global economic conditions, amongst others.

To align infrastructure investment to the socio-economic context is the first step in a project's feasibility analysis and will allow for the following common mistakes to be avoided:

1. Building infrastructure to treat the symptom, instead of the root cause;
2. Building infrastructure to solve one problem, while creating another;
3. Believing that infrastructure is the magical solution for all the problems in a community; and
4. A copy-paste approach of successful infrastructure (imitations).

Practical examples:

Upgrading a water treatment plant's infrastructure because it is not performing according to standards while the actual reason for the under-performance is the lack of professionals to run the plant.

Constructing affordable housing on the far outskirts of economic centres might solve a housing issue but may create a public transport problem or further entrench an apartheid spatial planning patterns.

Upgrading and expanding a national highway that runs through a poor rural area will solve transport problems but it cannot by itself solve all other economic issues.

Constructing a 'Limtrain' in the Limpopo province solely justified by the success of the Gautrain while the demand pattern and cost structure are likely to be very different.

The overall socio-economic context of South Africa should guide infrastructure investment as it assists in pinpointing the actual problems communities face, thereby enabling the prioritisation of the appropriate infrastructure to deal with the identified need. However, this requires constantly monitoring and understanding the changing social and economic context of the country. Infrastructure that is appropriate in other countries might not work in South Africa, and the same holds for different locations within South Africa.

Methodological tips:

The needs and contextual analysis identifies the service (infrastructure) need. The analysis should contain the following elements:

An unambiguous description of the problem that the project is attempting to solve,

Data (statistics, surveys, pictures, engineering reports, etc.) quantifying the problem,

A description of the extent and urgency of the need.

Key Question 2: Can demand for the service be demonstrated?

Given the limited fiscal resources and the strong but competing demands on it to fulfil many needs, investments should prioritise those projects where there is the strongest demand for the service. This calls for close observation of the economy and communities to understand their needs, and hence how the demand for different services is evolving.

In assessing new infrastructure investments, a realistic estimation of current and future demand is paramount. Government needs to be wary of speculative and potentially wasteful investments. This is tantamount to building 'roads to nowhere' in the hope that some activity will generate demand. The less certain demand for an infrastructure asset is, the riskier the investment as the demand may not materialise, resulting in the infrastructure being under-utilised and potentially unable to generate the financial, economic and social returns that were projected. A project with limited demand might be premature, although it could merit close monitoring for its future potential for viability and implementation. Infrastructure where demand can already be observed or confidently predicted should be prioritised, as the project might already be overdue.

Practical examples:

Growing townships demonstrate demand for social infrastructure such as water and electricity provision as well as health care and educational infrastructure. The growth prospects of the township should be analysed and the demographics must be predicted over a 30-40 year horizon. The future demographics determine the future demand for utilities, health care and education.

Consider a public transport connection between a suburb and the city centre. The cost of postponing this project (in terms of the financial burden on commuters of having to invest in private transport, the environmental burden of increased emissions and other societal costs such as congestion and reduced access for people that cannot afford private transport) can be higher or lower than the cost of proceeding with the investment and ensuring a reliable and affordable public transport solution for the suburb.

Demand for economic infrastructure

Economic infrastructure can be considered as infrastructure that is key to the economic development of the country, serving different industries with those crucial inputs they need to continue to produce efficiently. Good quality economic infrastructure creates an enabling environment for industries and provides a platform for continued private investment.

Demand for economic infrastructure is likely to be highest where there are existing constraints or bottlenecks. These need to be urgently addressed in order to unleash economic potential. This means aligning our plans to build supporting infrastructure in areas where economic activity is trying to develop, but private investment is constrained by missing public services.

The South African economy faces many supply constraints particularly in electricity, water, transport and trade facilities. Potential identifiers of a growing demand include traffic congestion, increasing property prices at access points to public transport, rising input prices to production, the inability to fulfil export orders, delayed industrial plant investment due to lack of power, high take-up of new communication technologies such as mobile phones.

Demand for social infrastructure

Social infrastructure is infrastructure that is paramount for the well-being of the citizens. Social infrastructure should allow South Africans to be healthy, safe, productive and mobile.

In the social context, demand is high for basic services such as healthcare, schools, higher education facilities, prisons, courtrooms, police stations and affordable housing. Proof of the pent-up demand for this infrastructure can often be observed at the community level.

Methodological tips:

The demand analysis is a crucial part of the feasibility analysis of an infrastructure project. The demand forecast underpins the entire investment as it motivates the scope of the project, the required service levels as well as the financial viability and sustainability of the infrastructure. Unfortunately, demand numbers are easily manipulated and often exaggerated due to 'optimism bias'. A careful assessment of the assumptions and forecasting methodology are warranted.

Optimism bias can be spotted when:

- *The project sponsors consistently use the most optimistic assumptions available in the industry*
- *Demand is projected to increase substantially overnight once the infrastructure is constructed*
- *The analysis is built on the best case scenario, with other scenarios being under-reported*
- *The chosen parameters cannot be sufficiently substantiated*
- *A historic growth trend is chosen, but it's based on years of exceptional growth*

Certain methodological approaches are encouraged:

1. The quantification of future demand should be based on forecasts of the driving underlying variables.
The exploration of growth in demand in the past is an important starting point, but a historic trend cannot simply be assumed to continue into the future. The analysis must discover what is driving the demand, and forecast the future demand based on those underlying variables. Continued urbanisation and the growth in affordable housing opportunities in cities for example, might in the future decrease demand along long distance commuting corridors. Infrastructure provided for the current demand should therefore preferably have flexible capacity.

2. The definition of a worst case, normal case and best case demand scenario.
Defining 3 scenarios allows for sensitivity analysis to be undertaken throughout the feasibility study. If a project remains viable even if demand would be lower than expected, it is a less risky investment.

A couple of guidelines on how demand and investment relate are summed up below:

1. A strong and growing demand for an essential service merits priority investment.
2. A weak but growing level of demand justifies monitoring, so as to provide the infrastructure timeously, but not necessarily immediately.
3. An unproven and uncertain demand provides for a risky investment, which might not yield the hoped for benefits.
4. Infrastructure investment should be prioritised in cases where proceeding with the project would generate higher benefits than postponing it.
5. A phased approach to infrastructure provision can ensure that investment only takes place as and when sufficient is demand is generated for a service.
6. Maintenance of valuable existing assets must always be prioritised, as their demand has already been established.

Key Question 3: Is the project viable and is it the best alternative?

In order to determine if a project is viable and the best alternative, different kinds of analyses need to be undertaken. An options analysis is essential as it lists all the possible solutions that could alleviate the identified need. These options are then analysed at a high level on their technical, financial, economic, environmental and social viability, amongst others in a pre-feasibility study. The result of this preliminary analysis is a shortlist of a few preferred options (two or three) which will then be analysed in a more detailed feasibility study.

The difference between the pre-feasibility and the feasibility lies in the level of detail and rigor applied in the analysis. The former uses secondary estimates and draws information from desktop research to give a first impression of the viability of all the options. The actual feasibility study will then use the same methodological tools but on more accurate estimates that are based on primary data sources, engineering costing models, international best practice, etc.

Financial Analysis

Financial analysis is concerned with the viability of a project from a financial perspective, meaning the ability of the project's revenues to cover costs. This is typically done through the project's incremental cash flows method (discounted cash flows) over the life of the project. On the receipts side, cash inflows will be determined by revenues generated (that is, prices multiplied by quantity demanded) as well as any other income that the project might generate.

On costs, cash outflows will include initial capital costs, operating and maintenance costs, indirect costs and any other costs that the project might incur. Assumptions applied to project future values need to be sound and justifiable.

Net cash flows are then determined by subtracting revenues from costs on a periodic basis (typically annual) and thereafter an appropriate discount rate, which reflects the cost of capital is applied to convert future values into present values. To gauge whether a project is financially viable or not, discounted net cash flow are used to determine the Net Present Value (NPV) or the Internal Rate of Return (IRR). A project will be deemed financially viable if the NPV is positive and the IRR is above the discount rate. In the case of a choice between multiple projects, the project with the highest NPV or IRR is better.

However, some public infrastructure projects are rarely expected to be financially viable. In these cases, the project may still be undertaken provided that the economic viability assessment (see section below) is favourable. Thus, the outcome of the financial analysis is useful to gauge the extent to which there exists a funding gap under these circumstances.

Cost-Benefit Analysis

Different methodologies are available for analysing the economic viability of a project; the most appropriate tool for the analysis of economic infrastructure (or any project where the economic value of proceeding needs to be ascertained) is the Cost-Benefit Analysis (CBA).

A CBA seeks to establish whether a particular investment is the most efficient use of society's resources. A CBA does this by systematically categorising the impacts directly associated with a project as either benefits or costs and assesses whether the net impact will add or subtract from national welfare. This is different from a financial analysis in the sense that it looks at economic costs and benefits, which could include non-financial items such as externalities (e.g. environmental costs) or non-monetary costs or benefits (e.g. time savings). Only when the economic benefits are larger than the economic costs should the project be considered viable and welfare-enhancing. A CBA indicates whether or not it is a worthwhile use of resources.

Below is a more detailed explanation of the correct usage and technicalities of a CBA.

Who has standing?

In the context of public infrastructure investment, the analysis should always be done from a societal point of view (national perspective). This means the analysis and CBA constructed will need to monetise all impacts that affect citizens.

Which impacts are analysed?

A CBA takes all the direct economic, social and environmental impacts into account, but ignores any secondary, indirect or induced, growth effects. Direct impacts are those impacts that are directly related to the project and the market in which the project intervenes. Indirect impacts are those that occur in upstream or downstream markets.

Direct impacts include impacts which are very straightforward and are already priced in the market such as construction costs (these are always treated as costs in a CBA) or the price of the output produced (these are treated as benefits in a CBA). Some direct impacts that need to also be taken into account are those that are not priced (because they are non-monetary, such as time savings), are incorrectly priced, or have been priced in the wrong market due to a market failure. These impacts are known as (positive or negative) externalities, and can include items such as congestion, pollution or agglomeration. Congestion, for example, is not priced in the transport market but does impose costs on other markets such as the real estate market (properties with good access roads are more expensive) or the logistical sector (congestion reduces efficiency and

decreases capital utilisation). A CBA seeks to take all these impacts into account, as they are directly related to the project proposed and all have an impact on social welfare. Correctly identifying the key direct impacts associated with a project and distinguishing them from other indirect impacts is the first crucial step in a CBA.

Indirect impacts are those that have growth impacts on secondary markets. A new road for example, might create opportunities for new petrol stations or coffee shops along the route. However, these impacts are not measured as a direct economic benefit of the road. This doesn't mean they are not important, and these impacts should be analysed in an impact assessment, a separate study. The difference between externalities and indirect effects is sometimes subtle but important. Externalities are impacts that are not correctly priced by the market; they are market failures. Indirect impacts are growth impacts on other markets, through economic linkages upstream and downstream.

Practical example:

An independent power producer provides electricity to a rural community which previously had none.
The direct costs of the project include the straightforward costs such as land purchase, construction costs for the generation plant and operations and maintenance costs over the life of the project. The costs also include externalities such as any significant disturbance to the environment caused by the plant.
The direct benefits are the value of the electricity generated. This can be estimated by using the market price for electricity and multiplying it by the volume of electricity provided. Arguably, there will be some external benefits if the electricity allows the community to stop using dangerous paraffin stoves that are bad for the health as well constitute a fire hazard. The value of this additional health benefit and the reduction in fires require careful monetisation.
Once electricity is delivered, it might open up the community for further agricultural or manufacturing development. However, the growth of these sectors (measured in contribution to Gross Domestic Product) are indirect impacts that occur in downstream industries and thus do not form part of the CBA. Remember that CBA only measures impacts in the market which it directly impacts, as it is assumed that indirect impacts can also be prompted by investment in other projects and it is not automatic that they will result from the project analysed by the CBA. The reason is the underlying assumption that the project is not directly responsible for these impacts, as they could have also occurred due to other projects, for example the proliferation of diesel generators or the construction of a new road into the community. These impacts however are not irrelevant, and they will be analysed in the impact assessment studies (see below).

Methodological tips:

1. *Ensure that the CBA only measures direct impacts:*

- *All monetised and non-monetary impacts and externalities, both negative and positive must be identified.*
- *The indirect growth effects from a Social Accounting Matrix (SAM) analysis (see later) cannot be included as a benefit.*
- *Job creation in supplier industries is not a benefit measured in a CBA.*

2. *Ensure that the CBA measures costs realistically:*

- *Costs must be full lifecycle costs that include maintenance.*
- *Ensure contingencies are included as well as costs to cover potential operational risks.*
- *It is good practice to compare cost estimates with similar projects nationally or internationally and be able to explain the cost difference due to contextual differences.*
- *Note that there is no need to include the costs of the feasibility study and other consultancy fees during the planning stage as these are sunk costs that are incurred independent of whether or not the project goes ahead.*

How are impacts monetised?

If direct costs or benefits have associated market prices, this is always a good starting point for monetising the impact. In an undistorted market, prices perfectly reflect the opportunity cost of production as well as the value experienced from consumption, which is exactly what a CBA tries to measure. However, taxes and duties distort prices. In order to address this, prices net of taxes or duties should be used.

Additionally, shadow prices can be used. Shadow prices are the prices that would have occurred if the market would have been undistorted. The practice of shadow pricing however is not yet common in project appraisal in South Africa and an extensive set of recommended shadow prices to be used for different commodities has not yet been developed for common use. This calls for precaution and careful consideration of the methodology if shadow pricing is used, as the values used could be highly variable, subjective or methodologically unsubstantiated if they are not based on accepted outcomes from academic literature and research.

If direct costs or benefits do not have easily identifiable market prices because the impacts are either non-monetary (such as time savings) or externalities (such as congestion) other

methodologies need to be used to proxy these impacts. It is recommended that values used to monetise these impacts are in accordance with international best practice.

Methodological tips:

1. *Ensure that the values used for monetisation are straightforward and properly explained:*

- *When monetising pollution, the proposed emissions tax by National Treasury is a good starting point, but international literature can give further guidance.*
- *When monetising time, the national average wage is the first starting point but accuracy can be increased by distinguishing between different reasons for travel (work, commute or leisure) and different wages in different geographical areas and income categories.*

2. *Ensure that values are based on academic research conducted by independent institutions:*

- *A good resource for transport-related projects is the Victoria Transport Policy Institute.*
- *The Water Research Commission together with Conningarth Economists developed a CBA guide for South Africa with a focus on water infrastructure.*
- *International research guides on CBA have been developed by the UN, EU, World Bank, etc.*
- *Academic authors on CBA include Prof. G. Jenkins, A. Harberger and K. Chun-Yan, A. Boardman, D. Greenberg, A. Vining, D. Weimer and others.*

How are costs and benefits compared?

A CBA identifies and monetises every direct impact and predicts their timing and scope over the same horizon as the economic lifetime of the asset. This is best presented as an economic (value) flow on a timeline, quantifying the economic costs and benefits on a periodic basis (usually annually). These values are then discounted back to their present values using a social discount rate. This discount rate does not only take the cost of capital into account, but also the time preference of society. A society that prefers (smaller) benefits in the near future to (larger) benefits in the distant future will have a higher social discount rate.

Every preferred option identified in the feasibility study will be subject to this approach. The result will then be a comparison of all options with the base case “do minimal” scenario and a ranking of the different options in accordance to their net welfare benefit to society.

The result of a CBA can be reported either in the form of NPV which are the costs subtracted from the benefits; or in the form of a Benefit-Cost Ratio (BCR) which is the ratio of the benefits over the costs. A viable project will have a NPV larger than zero and a BCR larger than one.

Cost effectiveness analysis

Cost-effectiveness studies are appropriate where project options must be compared by looking at relative costs, where assigning a monetary value to the desired outcome would not be appropriate. This usually applies to projects that do not represent an economic activity, such as social, health or human rights projects, and where the 'do-nothing' scenario is simply not conceivable as the need is informed by a defined social necessity.

Cost-effectiveness studies do not, therefore, answer the question of whether a project constitutes an overall increase in national welfare or not. Decision-making in these cases is focused on finding the solution that is either the most efficient in realising the desired project outputs, or, for a given level of investment, would produce the most benefits. The results of the studies are therefore expressed as a ratio (cost per 'unit' of benefit).

The cost-effectiveness study analyses the costs of a project in exactly the same manner as a CBA. However, the benefits are described in a very specific non-monetised way such as 'number of HIV tests conducted' or 'number of lives saved per year' or 'number of children vaccinated'. The results are then presented as the cost per 'unit' of benefit (1 HIV test, 1 life saved, or 1 child vaccinated). The project with the best ratio is the one with the optimal scale that uses the resources the most efficiently. In certain instances, however, there is a particular threshold (minimum of 10,000 vaccinations) that needs to be reached before comparing projects on the efficiency ratio.

Economic Impact Assessment

A CBA analyses the direct impacts of a project, but ignores macro-economic growth effects, spill-over effects and distributional impacts. In other words, a CBA indicates if society as a whole would win or lose, but it does not show who in society wins and who loses, and exactly how big the net gains will be in terms of Gross Domestic Product (GDP) growth or any other macro-economic

indicators. In order to assess these aspects of both economic and social projects, an economic impact assessment should be used.

The results of the CBA assist policy makers in separating the viable from the unviable projects. The results of the impact assessments can assist in prioritising between the viable projects in order to ensure social goals such as rural development, industrial expansion or reduction in inequality can be achieved.

Certain projects may have an impact on exchange rates, balance of payments, inflation, GDP growth or specific sectorial impacts such as rural regeneration, industrial renewal or greening of the economy. Methodological tools for analysing these impacts are Social Accounting Matrices (SAMs), Input Output tables (I/O), Computable General Equilibrium models (CGE) on a macro-economic level as well as simple surveys and public consultation on a micro-economic level.

Economic impact assessments can identify which sectors will win and which ones will lose, where job creation will occur and where jobs will be lost. If the distribution of these growth impacts is politically or socially unacceptable, the project may need to be redesigned or reconsidered.

Methodological tips:

1. *Ensure that the results of a SAM-analysis are never incorporated into the benefit-side of a CBA.*

2. *Ensure that the project sponsors use and interpret the SAM results correctly:*

A SAM is a powerful methodological tool, yet its results should always be interpreted as indicative. A SAM tracks inputs across the economy by analysing how past expenditures in one sector affected output and employment in others. A SAM reflects the basic underlying interlinkages in an economy. Using a SAM as an analytical tool implicitly assumes that the structure of the economy, reflected by the SAM, does not change overnight.

Using a SAM to analyse an investment injection into the economy will produce a quantitative indication of the short-term impacts on GDP and employment creation. The resulting figures are based on linear predictions and fixed multipliers per sector. This means that by construction, the larger the investment injected into the economy via a SAM, the bigger will be the resulting growth. This doesn't necessarily mean that larger investments are always better. In addition, the true structure of the economy is likely dynamic and nonlinear. Hence, for small investments, the SAM is accurate enough, but not for larger investments, which may change the structure of the economy.

Although they are useful for comparing impacts on growth and employment across different sectors SAM results do not indicate if an investment is a good and efficient use of resources.

Professional analysis

Legal and technical issues need to be identified during the early planning phase of a project in order to predict potential risks and problems that might occur during execution. The up-front identification of these risks is important as planning properly for them can prevent unexpected expenses being incurred later on during execution.

Technological discussion

This is an important step that seeks to determine the optimal scale, design, location and technology that should be adopted by the proposed project. For projects where the technology to be employed is fairly standard and off-the-shelf, the technical assessment can be relatively brief. In this case, an introduction to the chosen technology and design as well as a proven track-record of this technology in other projects would be sufficient.

For technically more challenging projects, however, the technical assessment is crucial. Different technology choices for the project, including designs and the need for prototyping should be assessed to determine whether a more economical solution is available, whether it is viable for delivering the desired project outputs, and the major risks that may be associated with the technology.

The technological choice has a significant impact on both costs and benefits of the project, and is therefore inherently linked to the economic assessment of the investment.

Environmental Impact Assessment

Every project involving new construction or substantial rehabilitation of an existing structure is required to undertake an Environmental Impact Assessment. The extent of this assessment is defined by the relevant legal regulations with which the project needs to comply. Outcomes from this analysis include:

1. An Environmental Impact Analysis report
2. Mitigation or displacement costs

3. Identification of necessary approvals and permits

Legal and Regulatory requirements

A legal and regulatory due diligence study should confirm that the project will comply with all regulatory requirements, identify any associated risks and obligations that could increase costs or decrease benefits, and ensure that there are no external impediments to implementation.

Practical example:

In 2011 the necessary legislation that would regulate and facilitate the introduction of Independent Power Producers was put in place, thereby allowing this sector to develop in a stable environment. This regulatory certainty lowered the risks and thus the costs of this industry and facilitated fast and effective delivery of large infrastructure investment.

Typically the analysis will include an assessment of the following:

1. Sector legislation, policies and regulations
2. Tax, labour and empowerment legislations
3. Locational issues: Heritage legislation, geography, town planning, site ownership, etc.
4. Local procurement requirements
5. Foreign exchange requirements
6. License requirements

Methodological tips:

Check if a legal due diligence was completed by an independent legal advisory firm and ensure that potential risks were identified and mitigating actions proposed and budgeted for.

Key Question 4: Can society bear the costs?

Even if a project appears to be able to increase the welfare of society, the affordability of the project needs to be established up-front. Projects are paid for either by the users (customers) of the service, or by the fiscus (taxpayer) or by a combination of both. For more detailed information on this analysis the 'Guideline for Using Infrastructure User Charges' has been developed.

The appropriate level of user charges and/or tax payers' contributions to a project (i.e. subsidies) is influenced by two factors:

1. For user charges, the level of direct benefits generated by the project that will accrue to users, and for taxpayer contributions, the direct level of benefits that will accrue to society in general. The repayment burden should be aligned with the extent of these benefits and to whom they accrue (i.e. users or society).
2. The affordability level of the additional user charges or fiscal contributions, in the context of their incremental impact on disposable income of users and fiscal sustainability, relatively.

Practical example:

Investment in public transport such as buses or trains can be repaid either through taxes, through user charges (such as bus tickets or train fares) or through a combination of both. In determining this balance, the balance between benefits that accrue to the users (such as savings from not having to operate a private vehicle or reduced travel time if buses/trains operate on faster routes) and the tax payer (such as alignment with a policy of redistribution or providing a 'social wage') needs to be established and the repayment burden balanced accordingly.

Those projects for which the repayment mechanism does not endanger household or fiscal affordability should be prioritised as they will not pose an unacceptable financial burden on the user or the tax payer.

***Methodological tips**:*

1. Check whether a repayment strategy is included in the feasibility study and whether it's aligned with the direct benefits that were identified in the CBA.

2. Ensure that, if user charges are relied upon for repayment that the affordability of these charges has been analysed and potential risks regarding unaffordability and public rejection of charges are identified and mitigation strategies are put in place.

3. Surveys of potential customers that indicate willingness to pay and give an overview of which user groups would be the most affected by the proposed charges, indicate good planning and should be encouraged.

Key Question 5: Is there enough implementing capacity?

Even if a project has the theoretical potential to generate substantial welfare gains and society is able to bear the costs, there might still be impediments to cost-effective implementation.

These factors relate to the delivery mechanism that is responsible for the implementation of the project. If the proposed delivery mechanism does not have sufficient capacity to deliver the project

on time, on budget and to specifications, the costs could escalate or the benefits could not materialise as envisaged, making the project less economically and socially viable as was projected. Factors to consider are:

1. Does the institution responsible for the project have the appropriate mandate, to undertake this type of project, as well as the proper incentives and capacity to deliver the project on time, on budget and to specification?
2. Are accountability and risk division between the different parties involved in implementation of the project appropriately determined?
3. Are arrangements to promote good governance by all implanting parties in place?
4. Is there sufficient planning, procurement and contract management capacity as well as technical expertise at the institution responsible for the project?

Methodological tips:

1. *Check if the proposed project sponsor has identified the institutional capacity needed to ensure the project is delivered on time, on budget and to specifications. If this requires a capacity building within the implementing institution, ensure that the cost of this capacity building is estimated and included in the costing exercise in the feasibility study, or that an alternative plan to use another implementing agent or to outsource the project, has been identified.*

2. *Check if the project sponsor has an implementation plan, stipulating responsibilities, deadlines and procurement strategies.*