



Infrastructure
and Projects
Authority

Business Case Development for Infrastructure Projects

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Infrastructure and Projects Authority

- **Who we are:**
- The IPA is the UK government's centre of expertise for infrastructure and major projects.
- We support the successful delivery of all types of infrastructure and major projects; ranging from railways, schools, hospitals and housing, to defence, IT and major transformation programmes.

Our purpose

Our purpose is to continuously improve the way infrastructure and major projects are delivered, in order to support government priorities and improve people's lives.

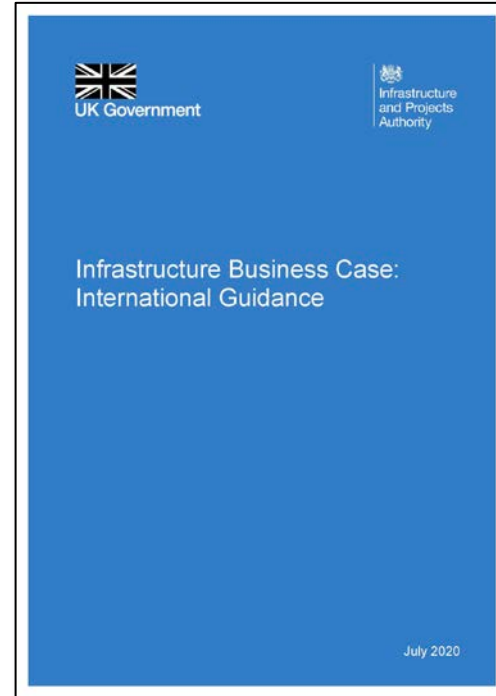
We aspire to create the best performing project system of any country in the world.

IPA International Team:

- Provide **support on international infrastructure-related matters** to the HM Treasury, Cabinet Office, FCDO, DIT and broader HM Government ministers and senior officials;
- **Providing fee earning commercial support** to relevant overseas governments, regional development banks, multilateral groupings and think tanks;
- **Promoting internationally UK infrastructure expertise and standards;** and
- **Supporting UK government, companies and industry bodies abroad.**

Infrastructure Business Cases (The 5 Case Model) for Programmes and Projects - International Guidance

G 20 Statement of Best Practice in Project Business Case Preparation adopted the 5 case approach in 2018 as world standard.



*** Part of the FCDO - Prosperity Fund's "Global Infrastructure Programme"**

Current City Challenges post Covid-19:

- Change in working habits implying reprioritization of:
 - Transport projects vs Broadband investment?
 - Housing and local Education plans
 - Commercial and mixed use plans
 - Recreational planning in cities
- Change in Environmental regulations
 - Health, Safety and Social considerations.
- This all in light of Resource constraints in:
 - Financial (Central Government Grants, Business and Household Taxation, Borrowing limits.)
 - Labour (Departure of workforce impacting construction.)

Need for Robust and Bankable Business Cases!

Barriers to successful projects

We heard from our IFC colleague that these are:

- Inadequate urban planning
- Lack of technical expertise
- Low private sector participation
- Creditworthiness & understanding of business models
- Projects not designed according to best practice
- Limited funds for project preparation

Need for structured project planning.

Why is a Business Case Important?

A framework for scoping and planning spending proposals leading to efficient and effective spend

An artefact for internal and external approval

Accountability for funds/resources invested

Common structure, using international best practice

Repository for information and contribute to an evidence base

Enables post evaluation & audit



But often...

Business cases:

Are viewed simply as a vehicle for gaining approval rather than a 'thinking document'

Have different standards/methodology applied which are often 'not fit for purpose'

Are often poorly presented

Are inherently optimistic with sub-optimal VfM

'Pet Projects' are often prioritised and there is a tendency to ignore past experience



The five questions to ask when preparing Business Cases:

1. Is there a **strategic need** for the project?
2. Is the project economically and socially **desirable**?
3. Is the project commercially **viable**?
4. Is the project **affordable**?
5. Can the project be practically **delivered**?





Is there a strategic need for the project?

- Project rationale
- Fit with wider policy/strategy
- Sets scope and boundaries
- Clear project objectives
- Summarises environmental and social risks and benefits



Economic Case

Is the project economically and socially desirable?

Choice – a wide range of options has been considered

The preferred option delivers value for money and represents the best balance of costs, benefits, dis-benefits and risks

Opportunity cost: the art of the 'good enough'



Is the project commercially viable?

- Demonstrates the supply side can deliver requirements on an efficient market basis
- Details the procurement strategy
- Sets out the (potential) Deal and proposed contract structure and allocation of risk



Is the project affordable?

Affordability – are capital and operating costs affordable? Has allowance been made for risk management?

Funding – agreed sources of funding and support

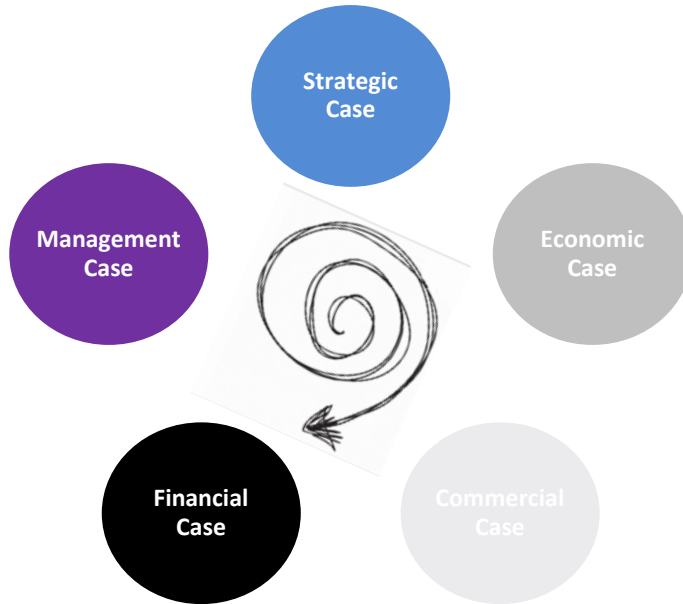


Can the project be practically delivered?

Delivery – governance structures, plans and resources are in place for successful implementation and post evaluation

Should include plans for stakeholder engagement, risk management and benefits realisation

Environmental considerations are mainstreamed throughout the five cases



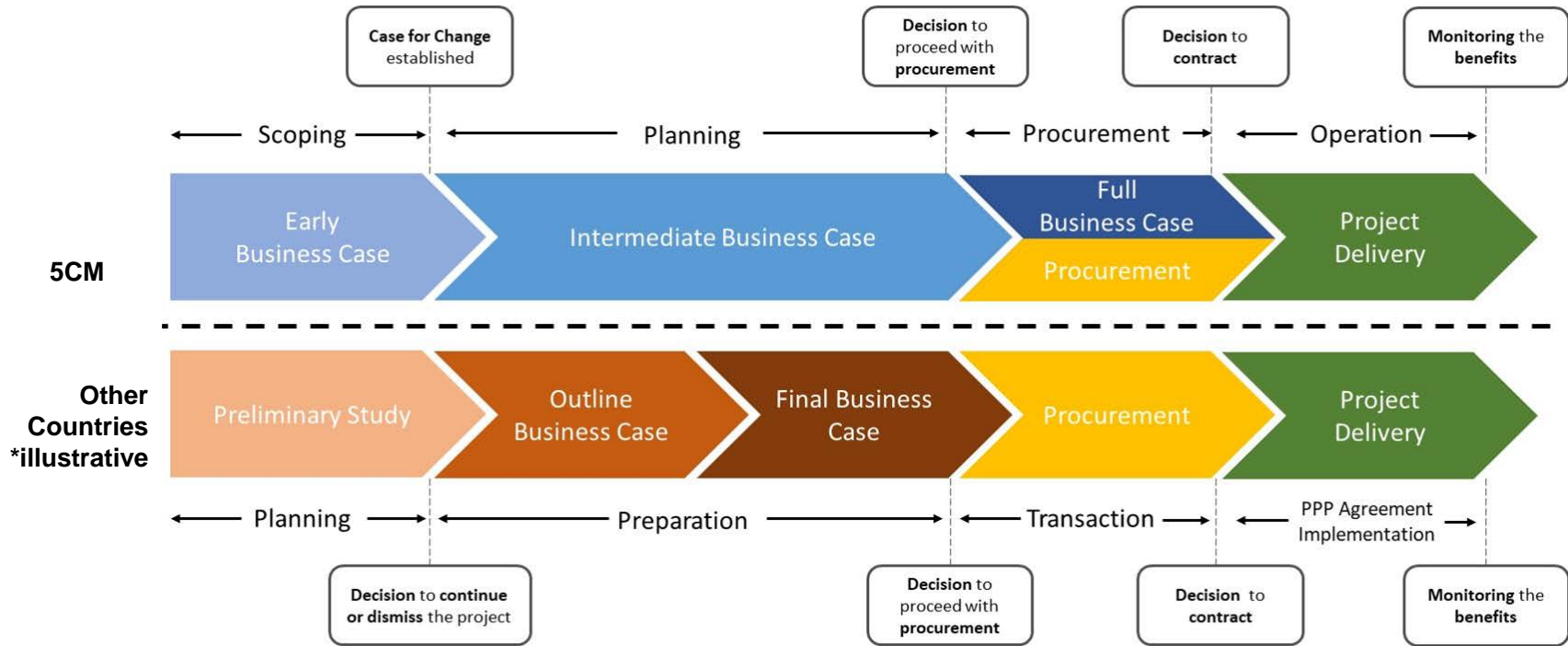
1. What is the project's link to **Sustainable Development Goals**?
2. Is the project **economically and socially desirable**?
3. Can the market deliver the project **sustainably and with due care to social inclusion**?
4. Can the project draw on relevant **green finance** options?
5. How will the project report against expected **environmental and social benefits**? What about risks?

Business Case Development Process



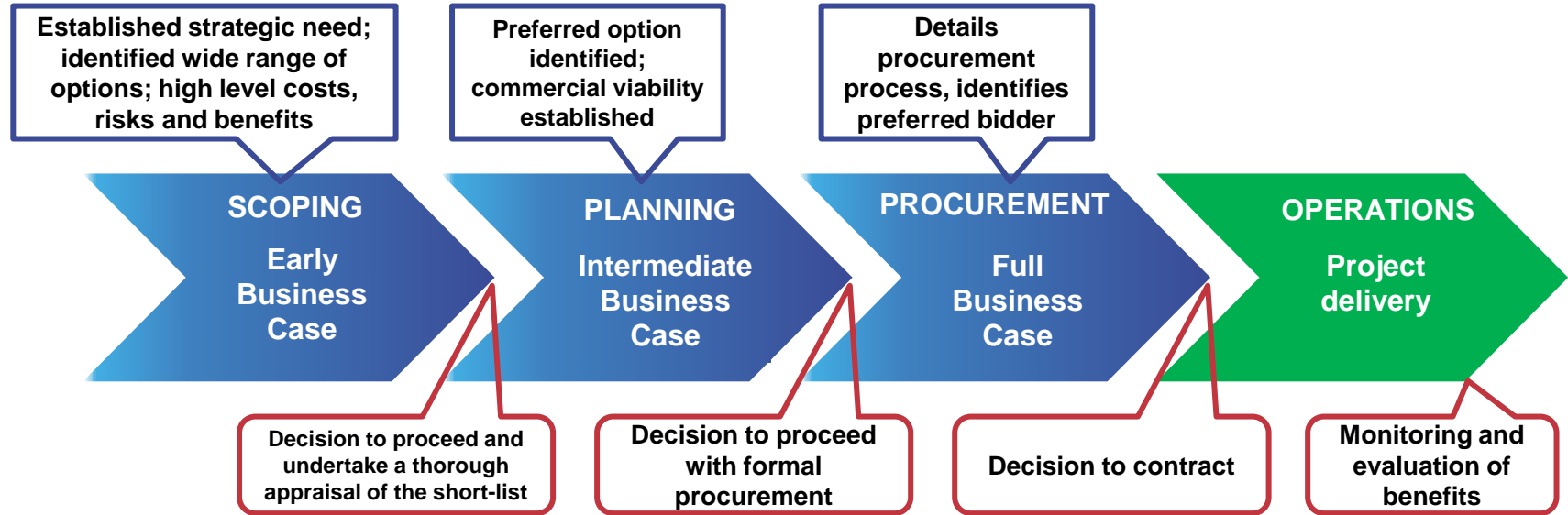
Single business case typically developed in three stages

Key difference between the UK's Five Case model and development processes in some other countries



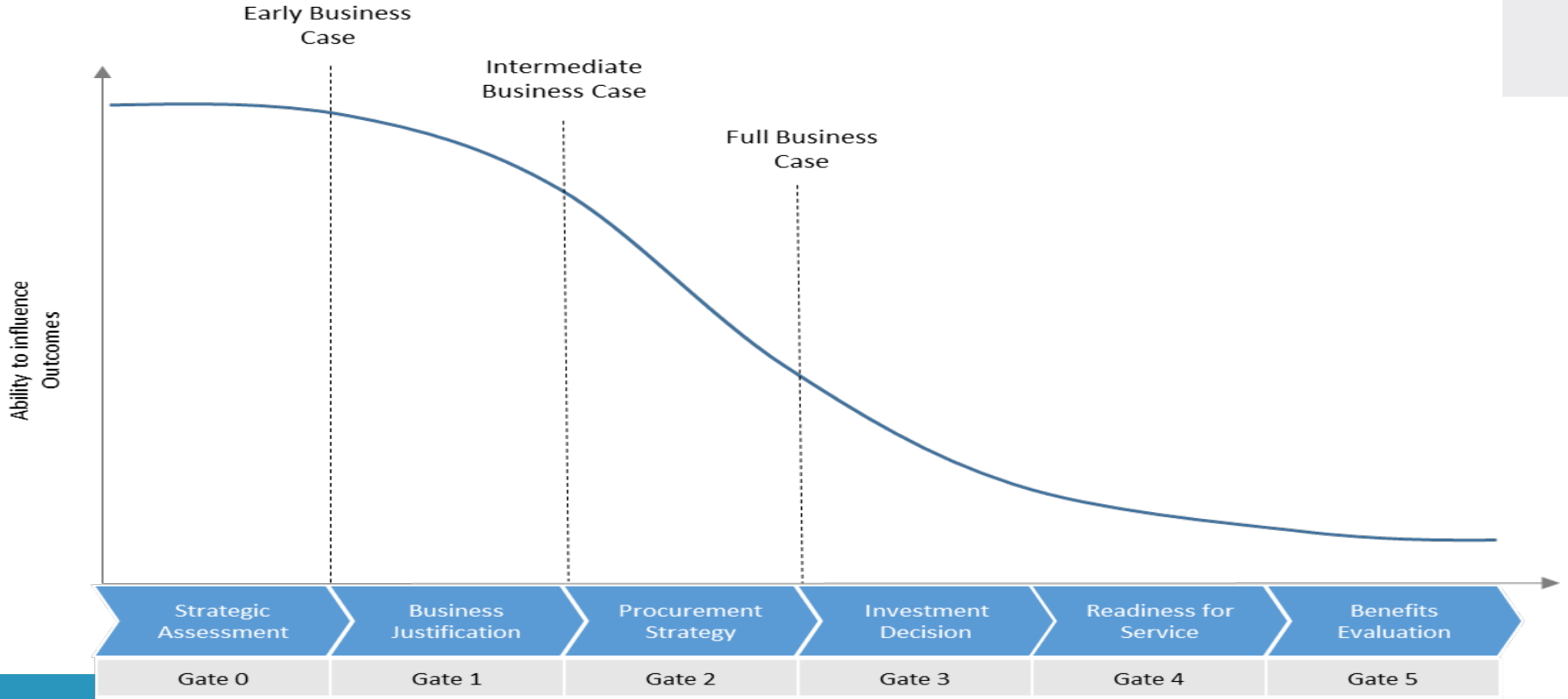
*For some projects, the OBC and FBC can be combined into one stage.

Stages of development



Development can be stopped at any stage

The importance of early stage thinking



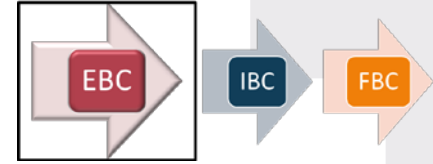
Cities projects business cases:

- Some projects may in fact be Programs with a portfolio of projects
- Some may not be suitable for a 3 stage Business Case process, but a single evolving one
- Funding approvals may depend on a approvals from the city, regional and central government sources, involving complexity in governance and differing political/policy considerations.
- Priorities may change swiftly due to local rather than regional long term national planning.

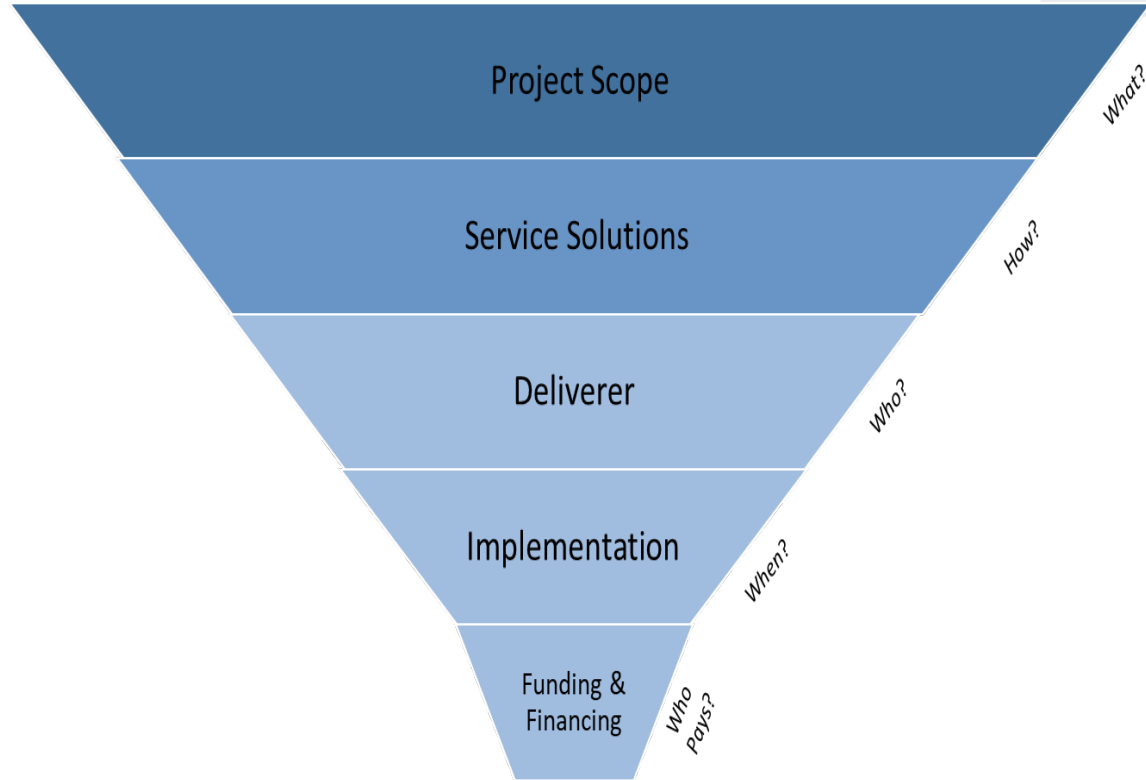
The Business Case and Risk

- High level strategic risks should be considered and listed at an early stage as part of the Strategic Case
- These risks can then be taken into account as part of the assessment of each of the different options in the Economic Case, and priced as part of their economic evaluation
- The Commercial Case should consider risks in more detail and allocate them as between the public and private sector in developing the contract and its payment mechanism
- The Management Case should develop a risk management strategy, tracking and monitoring project risk in a “risk register” as part of its programme management function

Options Framework – developing a wide range of options



- Consider five elements of choice:
- **Project scope** – potential coverage of services
- **Service solution** – possible technical solutions
- **Delivery** – who could deliver the required services?
- **Implementation** – when could services be delivered and how could delivery be phased?
- **Funding and financing** – where might funding and financing for the project come from?



Do you have a robust Assurance & Approvals process?

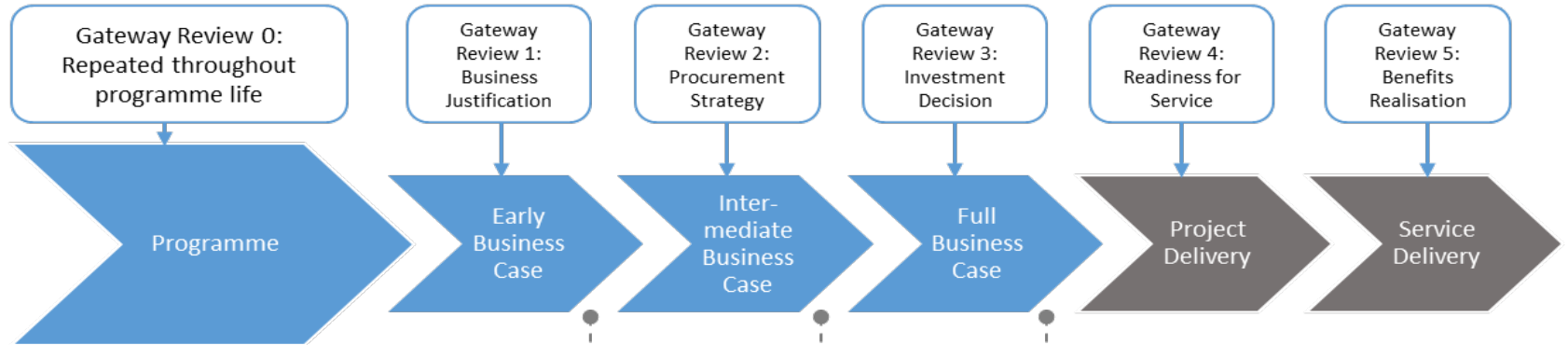
Assurance is the system of reviews and checks designed to assure the project sponsor. An assurer (or appraiser) is a person or body who reviews and tests a business case to make recommendations on the condition of the project to proceed

Approval is a pass/fail test as to whether the project should proceed or budget be released to it.

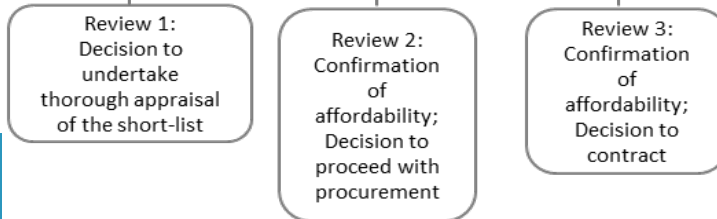
Both processes are needed and should be kept separate to ensure adequate challenge to new projects

Assurance and approval overview

Assurance



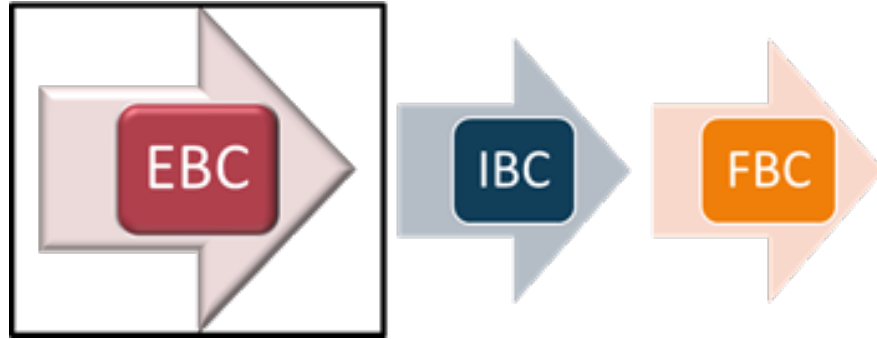
Approval



Gateway Reviews

- Used in UK as best practice ‘programme and project assurance’
- Detailed review of project at key stages of development/maturity
- Independent team
- Clear recommendations and delivery confidence assessment based on ‘traffic light’ system:
 - **GREEN** –the project is fit to proceed to the next stage
 - **YELLOW** –the project is fit to proceed subject to specific conditions/ addressing recommendations
 - **RED** –the project is not fit to proceed without further re-scoping or analysis

As part of the “**Get to Green**” initiative, the framework is currently being reviewed and refreshed by IPA



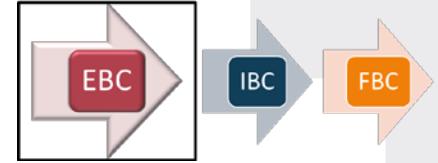
The Strategic Case

In the Early Business Case

Strategic case:

1. Project description, strategic context and strategic aims
2. Project objectives
3. Existing arrangements
4. Identify the gap between 'project objectives' and 'existing arrangements'
5. Define potential scope
6. Describe project benefits, risks, constraints and dependencies

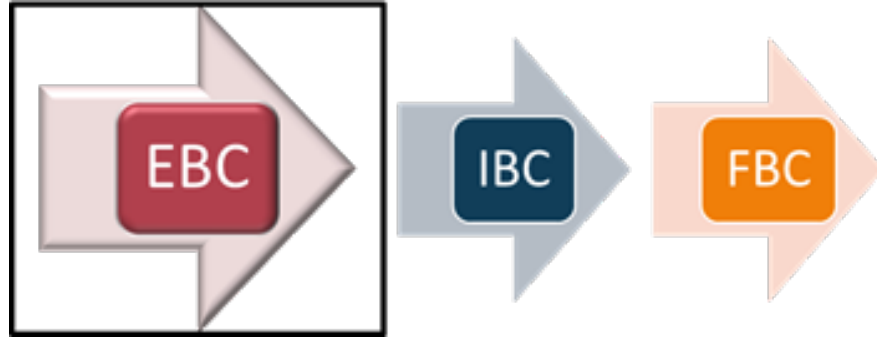
Project Objectives (Investment objectives)



- Determine **SMART** investment objectives for the project
- Consider key reasons for investment of public funds, which are:
 - **ECONOMY** –reducing cost
 - **EFFICIENCY** –improving productivity
 - **EFFECTIVENESS** –improving quality, including environmental, social and economic resilience
 - **COMPLIANCE** –satisfying statutory or lender requirements
 - **REPLACEMENT** –replacing services about to expire

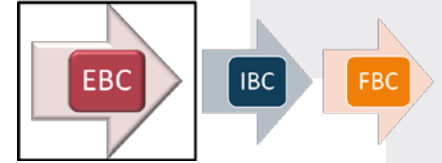
Examples of Objectives for Cities:

- **PRODUCTIVITY:** Improving labour & capital productivity, Integrating land use and infrastructure, improving efficiency of urban infrastructure.
- **SUSTAINABILITY:** Protecting & sustaining natural built environments, reducing greenhouse emissions and improving air quality, managing resources sustainably and increasing resilience to climate change, emergency events and natural hazards.
- **LIVEABILITY:** Facilitating supply of mixed income housing, support affordable living choices, improving accessibility and reducing dependence on private vehicles, and supporting community wellbeing.
- **GOOD GOVERNANCE:** Improving the planning and management of the cities, streamlining administrative processes and evaluating progress.



The Economic Case

In the Early Business Case



Economic case

- In the Early Business Case –to demonstrate that a **wide range of Options** has been assessed to settle on a short-list of viable options
- Key considerations:
 - Critical Success Factors
 - Applying the Options Framework
 - Environmental and Social impact assessment

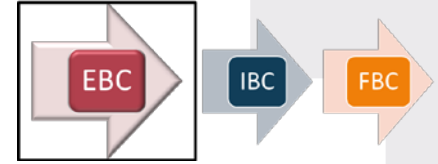
Critical Success Factors (CSFs)

CSFs provide an assessment framework to objectively consider the trade-offs of different options and ask: how well does the option meet/deliver:



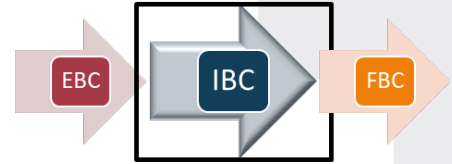
CSFs can be amended and made more specific. For example, 'Compliance' might include strength of fit with UN sustainable development goals

Applying the Options Framework – key principles

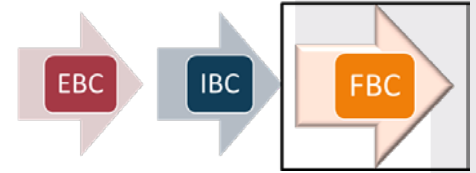


- To generate a wide range of potential options to deliver the Project Objectives
- To undertake a critical review of these options through relevant stakeholder engagement
- To conclude which options are VIABLE and REALISTIC and could potentially be delivered using stakeholder experience and discretion (a QUALITATIVE process)
- To explain in the business case, which options are PREFERRED, which options are CARRIED FORWARD and which options are REJECTED and why.

Optimism Bias

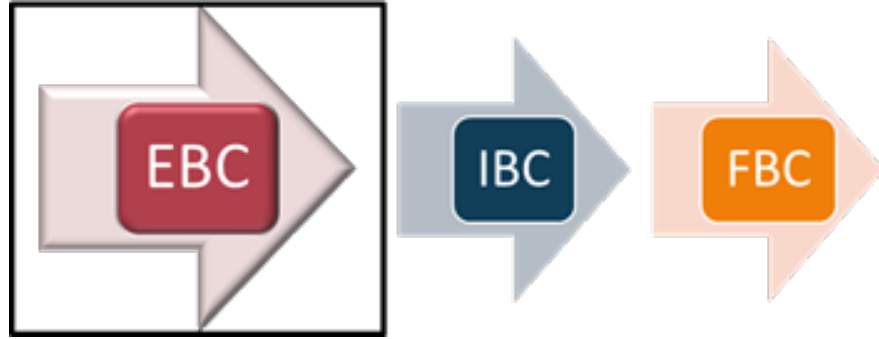


- People are over-optimistic about a project's costs and delivery timetable, undervaluing costs and overvaluing benefits
- If we are aware of this, we should adjust project cost and benefit estimates to reflect this uncertainty
- Optimism bias represents 'unknown unknowns' and **should be reduced as specific risks ('known unknowns') are identified**
- Guidance in the UK is available from the HM Treasury Green Book, but the best optimism bias estimates come from reference project data (outturn costs and reports of benefits realised).



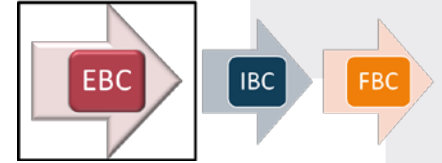
FBC: update Economic Case

- Review the original **short-list options**' cost and benefit assumptions in light of any new intelligence and if any of the key assumptions have changed (i.e. confirm the preferred option is still valid)
- Update the economic appraisal of the **preferred option** and the alternative approaches to deliver the required services as set out by contractors in their tender responses



The Commercial Case

In the Early Business Case



Developing the Commercial Case

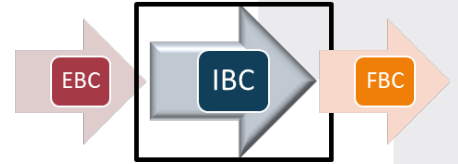
- The commercial case describes the procurement process for the preferred option and the detail of the 'deal' in terms of the formal contract
- Note – at EBC stage, a preferred option has not been selected so the commercial case is high-level and:
 - **Identifies the likely required services to be procured**
 - **The potential route to market to procure these services**
 - **Considers the bidder market** using techniques such as soft market testing to understand potential bidders and financiers' interest in the project and start to explore high level costs and timelines
 - **The potential contract structure**

Consider route to market

What are the procurement routes legally available to purchase the required services?

Consider three key questions:

1. Can you demonstrate the Authority has met WTO principles of equal, fair and transparent conditions of competition?
2. Can the Authority meet the requirements of MDBs who may be required to provide finance?
3. Will the procurement route reflect the complexity of the project?

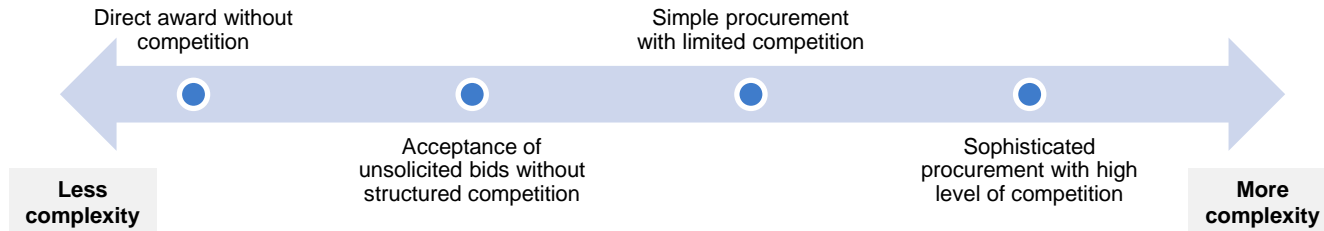


Assessing the value of a PPP option

- PPP options should be considered against a 'public sector comparator' (PSC)
- PSC option = the value of an option that is fully publicly funded
- PPP option = the identical option that is privately funding through a PPP arrangement
- Use the World Bank PPP screening tool to examine the suitability of a proposal to use PPP funding

Structured procurement process options

Different standards apply in different countries, with a range of complexity and competitiveness:



Infrastructure projects often require more sophisticated processes. These can:

- Include a “prequalification phase”
- Prioritise ‘value for money’ over ‘cost’
- Better share and manage risk between the parties
- Provide a detailed audit trail to meet the required standards for MDB lending.

Consider bidder market

Bidder market review – who are the potential bidders for the project?

1. Will there be sufficient interest and competition to drive innovation?
2. What is the potential for small and medium enterprises to participate?
3. Will the project attract national and international suppliers?
4. Is the project likely to be financeable (is PPP an option)?

Gather information by:

1. Using local knowledge and reference projects
2. Informal discussions with potential suppliers
3. Considering a soft market testing exercise

Consider contractual structure

How can the contract articulate the project scope?

Who will the contracting parties be?

Who will be responsible for Design, Build, Finance, Operate, Maintenance services?

What is the market likely to accept? What does the Authority wish to maintain control of?

How might risk be allocated between the contractor(s) and the Authority?

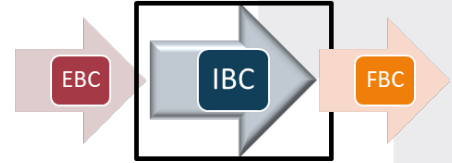
What payment principles could apply?

How could the Authority incentivise performance? How might this be reflected contractually?

Are there any challenging issues to deal with? (e.g. land ownership, personnel issues, ground conditions, external interfaces/approvals)

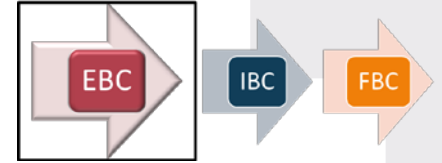
Whose balance sheet might the assets sit on?

Payment Mechanisms



- As part of Heads of Terms consideration, consider the following payment mechanisms:
 - Availability based payments
 - Revenues
 - Performance based payments
 - Traditional structure for payment against work done
- A key tool to manage the optimum balance of risk between private and public sectors
- A key tool to incentivise delivery of KPIs (e.g. on gender and social inclusion, equal wage rates, community participation plans, etc)

Unsolicited Bids



- Some governments allow unsolicited proposals and private offers, which could bypass early planning stages. This may result in the wrong projects being done or projects being done which do not offer best value for money.

If unsolicited bids are allowed, ensure a clear framework is in place, considering:

- Timeframes/windows for accepting unsolicited bids
- Limiting sectors where unsolicited bids will be considered
- Requiring a format for unsolicited bids consistent with business case best practice
- Methods of subjecting unsolicited bids to wider competition

Typical Project Lender Concerns

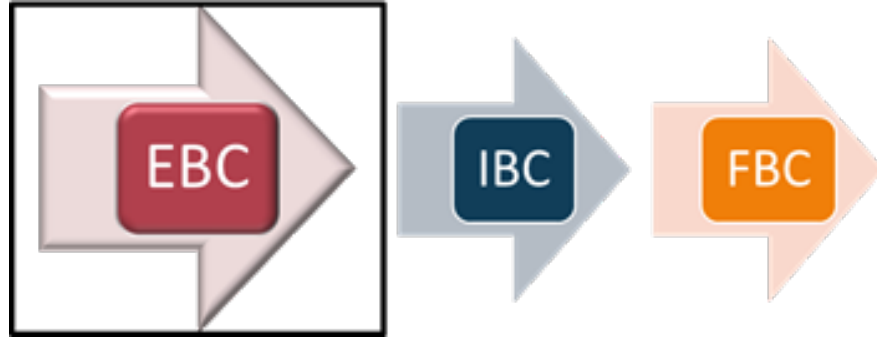
1. Certainty of project cash flows to meet debt service requirements;
2. Bankability of public-sector obligations;
3. Effectiveness and enforceability of PPP contract and related agreements;
4. Rights to step-in in the event of project failure and availability of alternative contractors;
5. Ability of contractors to perform/ quality of their management;
6. Bankability of contractors and quality of contractor guarantees;
7. Risks that are understood, controllable, finite and appropriately allocated;
8. Reputation (environmental, social);
9. Effectiveness of insurance cover where needed.

Typical Contractor and Investor Concerns ...1

1. Cost/time/quality of the PPP bid process —are major approvals still awaited?
2. What bid evaluation criteria will be used?
3. Fairness of competition
4. Quality of the public-sector project team and their advisers;
5. Security of the project income stream (demand, bankability of public-sector obligations);
6. What they will be expected to deliver and how their performance will be measured;
7. Availability and cost of long-term debt funding.

Typical Contractor and Investor Concerns ..2

8. Status and availability of connecting infrastructure / availability of inputs
9. Effectiveness and enforceability of the PPP contract and related agreements
10. Potential foreign-exchange risks
11. Allocation of risks both between the public and private sectors
12. Returns commensurate with the risks they are asked to assume
13. How effectively the public-sector will manage the contract and take decisions;
14. Opportunities to refinance the debt or sell their investment.



The Financial Case

In the Early Business Case

Developing the Financial Case

The financial case identifies the resources required to deliver a project and associated affordability. At EBC stage, the financial case should not be very detailed, since there is no preferred option.

However, considering potential affordability issues at EBC will help more detailed consideration of the options in latter stages of development.

At EBC, the two main things to consider in the financial case are:

Affordability

Sources of
finance

Estimating Revenue, Cost & Affordability:

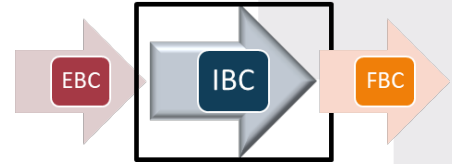
1. Are there any sources of income? How robust are the forecast? (e.g. Traffic data).
2. What are the potential project costs, including environmental and social risk remediation costs?
3. Can data be drawn from an existing service?
4. Is reference project data available for similar projects?
5. Can intelligence from the marketplace be used to estimate potential costs (e.g. from a soft market testing exercise)?

AVOID OPTMISM BIAS!

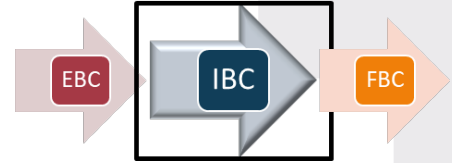
Estimating Creditworthiness:

1. Traditional procurement (the publicly financed reference project or “Public Sector Comparator”) and, if relevant, a privately financed alternative
2. Potential sources of finance for the project include:
 - **Government sources** - direct government funding; bonds; loan (federal and/or state), debentures which give investors tax benefits to make investment in domestic projects more attractive
 - **Multilateral bank(s)** (MDBs)
 - **Commercial sources**, including: investment banks; commercial banks.

Build Financial Model

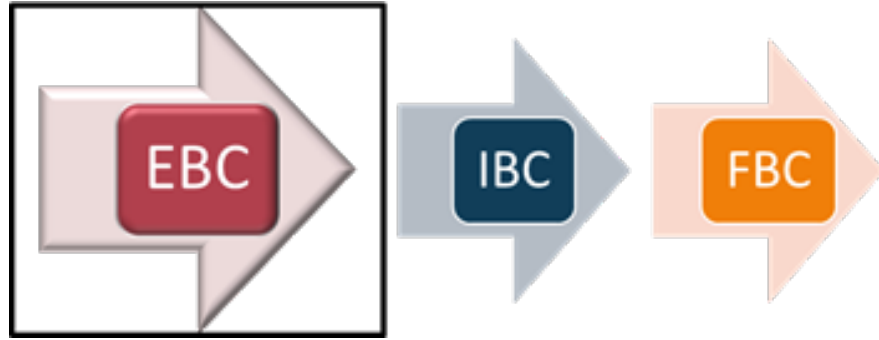


- Estimate costs and potential revenues for the preferred option, detailing all sources and assumptions –using reference projects and intelligence from soft market testing
- Consider optimism bias and risk –both inform the consideration of appropriate contingency for the project
- Demonstrate agreed flow of funding for the projects as required over the asset life span and source of that funding (grant, farebox, etc.)
- Apply inflation and include all relevant taxes (real costs)
- Include:
 - Cash Flow, Profit & Loss and Balance Sheet
 - Funding schedule
 - Taxation schedule



PPP Financial Models

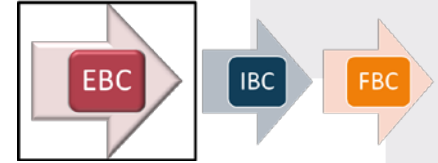
- Set out projected PPP service payments (unitary charge)
- Show how payments are built up from basic capital and revenue inputs
- User payment revenue assumptions should be specified along with any shortfalls and how these will be covered (e.g. government capital contributions)



The Management Case

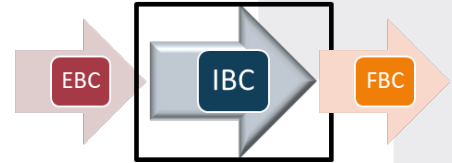
In the Early Business Case

Developing the Management Case



- Sets out the delivery arrangements for the project including:
 - Identifying the project team and advisors
 - Developing a project plan
 - Identifying stakeholders, stakeholder engagement and change management
 - Benefits Realisation Plan
 - Risk management strategy and plan
- At EBC stage, no preferred option has been selected, therefore this section is high-level as detailed analysis cannot be undertaken

Consider use of special advisors



- Clarify who the advisors are and put in place arrangements to secure their services (if not already employed)
- Record this in the management case and ensure the costs are accounted for in the financial case:

| Specialist Area | Function | Contractual arrangements | Costs |
|--|----------|--------------------------|-------|
| Financial | | | |
| Technical | | | |
| Procurement and Legal | | | |
| BIM (building information modelling) – if used | | | |
| Environmental and social | | | |
| Other (e.g. Insurance) | | | |

The Benefits Realisation Plan

Develop a more detailed plan building on the work undertaken at EBC stage including:

1. Benefit class and category
2. Activities required to manage benefit delivery and by whom
3. Responsibility for benefit monitoring
4. How the benefit will be measured
5. Benefits realisation profile

Details should be updated in the benefits register prepared and maintained by the project management team

Risk Register

The risk register should become a tool for identifying and managing:

1. risks to delivery of the business case;
2. a full range of social and environmental risks
3. risks associated with delivery of the contract. The nature and allocation of risks may change as negotiations with bidders progress and may change further as the Preferred Bidder is selected.
4. Should have responsible owners and be kept up to date.

Common pitfalls

- Projects progressed from IBC to FBC with outstanding IBC-actions
- Organisations having parallel internal governance/ approval processes
- Change in commercial approach not accompanied by wholesale review of strategy (e.g. may end up with entirely wrong KPIs)
- Focus on benefits that are easily quantified/ monetised rather than those the project really needs to deliver
- Poor 'change control' on scope changes
- Poor benefits realisation
- Lack of effective monitoring or evaluation (means lessons aren't learned by future projects)

Main Messages:

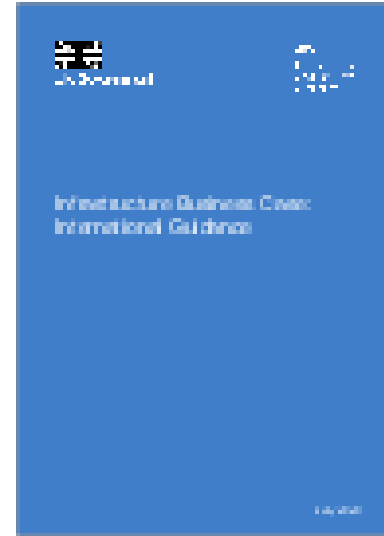
- Have a **robust methodology** for developing your Business Cases.
- Prepare your Business Case on *Outcomes based solutions*, based on the whole life cost of the project.
- Have the **mechanism for change** and update the Business Case if conditions change, as in the current Pandemic.
- Provide the **evidence support** clearly, so as to make the approvals process easy.
- Engage with your key stakeholders early.

CITIES CAN SET THE STANDARDS!

For further information:

"Infrastructure Business Case International Guidance"*

On HM Treasury's website



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