

Leading Practices in Governmental Processes Facilitating Infrastructure Project Preparation

A practical guide for governments, informed by a country-lens review of leading practices

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Foreword

Global infrastructure gaps remain large, and tackling these gaps is a key priority for governments in their quest to drive inclusive growth and poverty reduction.

The *Global Infrastructure Outlook* report prepared by the G20 Global Infrastructure Hub (GI Hub) estimates the global infrastructure investment need between 2015 and 2040 at US \$94 trillion. Past studies have pegged project preparation costs at between 5-12% of investment needs and even if the lower end of this range is considered, financing needs for project preparation translate to US \$4.7 trillion over this period, or US \$188 billion annually. Yet, the scale and rigour of infrastructure project preparation needed to make projects bankable, sustainable and implementation-ready remains inadequate and requires escalated attention.

The G20 Infrastructure Working Group (IWG) has identified *improvement in project development* as one of three overarching pillars needed to develop infrastructure as an asset class, along with *improving the investment environment* and *promoting greater standardisation*. The IWG also formulated the *G20 Principles for the Infrastructure Project Preparation Phase*, aimed at improving assessments of project rationale, options appraisal, commercial viability, long-term affordability, and deliverability.

This *Reference Tool on Governmental Processes Facilitating Infrastructure Project Preparation* (or the 'reference tool' hereinafter) seeks to complement global initiatives in this regard and is structured as a guidance tool to support governments in implementing infrastructure projects and in their efforts to strengthen the building blocks for project preparation.

The reference tool reinforces conceptual aspects and approaches covering the formulation of infrastructure plans, project pipeline creation, feasibility evaluation, project reviews and approvals, project marketing and stakeholder communication, with the focus of the tool being on the stages of project preparation which occur prior to project procurement. A country-lens approach, involving a review and profiling of project preparation processes in 15 countries (which can be found in *Appendix A*), was adopted to identify and incorporate leading practices and lessons learned contained herein.

The reference tool is designed for use by policy-makers and practitioners responsible for developing infrastructure projects. While it is aimed specifically at those involved in project preparation, it provides instructive lessons on a wider set of activities, including linkages with country-level infrastructure plans and project pipelines, and their prioritisation and screening, for a broader audience including other government officials, financial institutions and private infrastructure developers and contractors.

The reference tool will be a useful aid for governments in their quest to improve project preparation practices and their capacity for preparing bankable and sustainable projects, and to usher in universal delivery of infrastructure services and improved quality of living.



“This tool builds upon the G20 Principles for the Infrastructure Project Preparation Phase. Structured processes and mechanisms for effective early-stage project preparation are binding prerequisites for successful infrastructure projects”.

Mark Moseley
Chief Operating Officer,
Global Infrastructure Hub



“This reference tool seeks to facilitate governments in their quest to build the scale and rigour of project development necessary to realise their infrastructure development ambitions”.

Anand Madhavan
Director Infrastructure
and Public Finance, CRISIL
Infrastructure Advisory

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Executive Summary

Background

Tackling the large global infrastructure gap remains a priority for governments to drive inclusive growth and reduce poverty. The *Global Infrastructure Outlook* report prepared by the Global Infrastructure Hub (GI Hub) estimates that the global infrastructure investment needed between 2015 and 2040 is approximately US \$94 trillion. Past studies peg project preparation costs at between 5-12% of investment needs, and even if the lower end of this range is considered, financing needs for project preparation translate to US \$4.7 trillion over this period, or US \$188 billion annually.

In 2018, the G20's Infrastructure Working Group (IWG) identified the key elements for infrastructure growth under a strategic roadmap, "*Developing infrastructure as an asset class*", organised under three overarching pillars, the first of which is improving project development. In July 2018, the G20 Finance Ministers and Central Bank Governors endorsed the G20 Principles for the Infrastructure Project Preparation Phase developed by the IWG.

The Global Infrastructure Hub (GI Hub) has led the development of this *Reference Tool on Governmental Processes Facilitating Infrastructure Project Preparation* (hereinafter referred to as the 'reference tool') to support the operationalisation of the aforementioned G20 Principles.

This reference tool is intended as a guidance document for governments and practitioners involved in infrastructure project preparation, and is built on a detailed country-lens review of project preparation practices in 15 countries. The reference tool seeks to address challenges faced by governments in early-stage project preparation through providing guidance in five areas, as shown in the following diagram:



Outline of guidance areas

Enabling environment for project preparation

A conducive enabling environment for infrastructure investment is often a key differentiator between countries that successfully scale up infrastructure and those that face challenges in doing so, and nurturing such an environment is largely the responsibility of governments. The reference tool identifies leading practices in two dimensions of government action:

- 1. A robust policy framework:** that signals clarity, consistency and stability of government actions, while providing for agility to adapt and manage changes in the wider infrastructure ecosystem. In developing such a framework, governments should:
 - Establish a stable policy and legislative framework guiding development and private participation in infrastructure that is agile and responsive to tackle evolving infrastructure development needs;
 - Develop guidelines, standards and processes to make the policy framework actionable, together with an aligned cascading of policies at the sub-national government and government contracting authority (GCA) level; and
 - Formulate allied sector-specific policies as necessary to drive infrastructure project preparation.
- 2. Well-governed public institutions:** with a clear role, mandate, and commensurate capacity to operationalise policy into effective and smooth project preparation and implementation. Key 'leading practices' include the following:
 - Establish and empower centralised agencies to institutionalise project preparation capacity and standards;
 - Create sector-specific agencies where investment and/or transformation needs are significantly large;
 - Develop commensurate capacity and mechanisms to address conflicts of interest;
 - Create distinct structures for preparing large complex projects; and
 - Build complementary capacity to equip GCAs with skills and capabilities to manage project preparation.

Financing project preparation

As noted, infrastructure project preparation costs in developing countries typically range from 5-10% of the total project investment, and about 3-5% of project costs in developed countries. While financing for project preparation has, in the past, been largely addressed through government budgetary allocations, increasing use is now being made of national and sub-national Project Development Funds (PDFs), and of Project Preparation Facilities (PPFs) developed by the MDBs and other multilateral entities. Key considerations for governments in utilising each of these three financing sources are summarised below:

- 1. Project Development Funds (PDFs):** Many governments have set up PDFs as a means to provide dedicated financing and bridge capacity gaps faced by GCAs in project preparation. PDFs can be set up at the national and sub-national level, either with government funding or structured so as to recover costs. They may have a thematic focus (e.g. climate mitigation) or a sectoral focus. Critical considerations in the creation of PDFs are summarised below:
 - Ensure clarity of PDF objectives, scope of operation, and interface with GCAs;
 - Support PDFs with effective governance, institutional capacity and sustainable financing;
 - Institutionalise project preparation financing support for sub-national governments; and
 - Develop allied mechanisms, standards and processes for effective operationalisation.
- 2. Project Preparation Facilities (PPFs):** PPFs are a response by the MDBs and other multilateral entities to address the scarcity of bankable, investment-ready project pipelines in many Emerging Market and Developing Economies (EMDEs), and to provide financing support for project preparation. Many of these PPFs have been set up with different arrangements and regional focuses. Apart from financing project preparation activities, PPFs provide technical assistance and capacity building support. To effectively utilise PPFs, the following considerations are crucial:
 - Alignment of government objectives with relevant PPF aims;
 - Seek support from PPFs for the upstream enabling environment and improving public investment efficiency; and

- View PPF support as a ‘stepping stone’ to build and accelerate local capacity creation, and not just as a financing mechanism.
- 3. Government budgets:** Notwithstanding the growth of PDFs and PPFs, a dominant portion of project preparation is financed by public spending from budgetary allocations of GCAs. Even in Africa, where many PPFs are active, 70-80% of project preparation funding comes from government budgets. Given the scale of budgetary spending on project preparation, governments should pay close attention to improving the efficacy and impact of these expenditures. The following actions should be considered:
- Direct a portion of budgets to project preparation while tracking expenditure and outcomes continually;
 - Implement GCA-level reporting and disclosure on project preparation spending; and
 - Set and enforce guidelines with which GCAs must comply to secure budgetary funding.

Infrastructure planning and project prioritisation

Well-planned and prioritised infrastructure investment improves productivity, engenders competitiveness and contributes to long-term sustainable economic growth. Effective project preparation starts with putting in place upstream mechanisms to formulate long-term infrastructure plans, and translating those plans into prioritised project pipelines.

- 1. Formulate medium- and long-term infrastructure plans:** This involves a systematic assessment of critical infrastructure gaps, identification of priorities to drive socioeconomic transformation, setting actionable goals around these priorities, and identifying projects to realise the agreed-upon goals. The formulation of medium- and long-term plans to drive greater focus and commitment to infrastructure development priorities calls for the following set of actions from governments:
- Prepare long-term infrastructure plans that translate a systematic baseline assessment into a committed articulation of priorities, goals and pipeline of projects;
 - Anchor accountability for infrastructure planning within capable and empowered public institutions;
 - Cascade infrastructure planning down to the level of GCAs and sub-national governments;

- Update infrastructure plans periodically to reflect lessons learned and build credibility in planning; and
 - Create linkages of the plan with downstream actions, to operationalise the plans.
- 2. Translate these plans into a prioritised and actionable projects pipeline:** Once long-term plans are in place, they should be translated into a credible and prioritised pipeline of programs and projects:
- Encourage GCAs to prepare master plans, which can serve as useful starting points to build a project pipeline database;
 - Create mechanisms to track and monitor projects of national and strategic importance; and
 - Move to evidence-based analysis to prioritise projects, including through the use of tools such as the World Bank’s Infrastructure Prioritization Framework.

Project feasibility, reviews and approvals

Translating a concept into a bankable project requires rigorous evaluation and appraisal of the project’s feasibility, and often requires a multi-stage evaluation, starting with a strategic case or concept definition, and moving through to pre-feasibility assessment and detailed feasibility evaluation. A structured approach to project feasibility evaluation typically involves three steps:

- 1. Early-stage pipeline screening and pre-feasibility assessment:** Key actions required by central government agencies and GCAs at this stage include the following:
- Strengthen planning processes and capacity of GCAs to translate development priorities into well-scoped project concepts;
 - Implement structured processes and guidelines for early stage screening, project identification and scoping; and
 - Create institutional support for independent unbiased pre-feasibility studies and early stage project evaluation.

2. Rigour in feasibility evaluation: This step involves a detailed evaluation of the project's feasibility and seeks to comprehensively facilitate decisions regarding the investment and financing of projects. The following elements should be considered:

- Governments should develop harmonised standards and guidelines for quality feasibility evaluations and build capacity in GCAs to perform them, using external consultants as appropriate.
- While evaluating project feasibility, tools such as the World Bank's PPP Project Screening Tool can help in building comprehensiveness of evaluation and suitability for implementation using the PPP model of procurement.
- Governments need to strike the right balance between qualitative and quantitative approaches in determining which model of procurement to use, especially in the early stages where there is limited data to inform assumptions, even though they ultimately seek to integrate comprehensive Value for Money analyses into overall public investment planning.

3. Periodic review and approvals: Mechanisms to consistently build robust project reviews and appraisals in a multi-stage manner can help to avoid missing key requirements early on and getting blindsided by challenges later in the project preparation process. The following elements should be built into project reviews.

- Implementing well-defined and time-bound work flows to balance rigour and efficiency considerations;
- Embedding a process audit into project preparation to build transparency, accountability and efficiency; and
- Ensuring that key stakeholders are involved during project preparation and reviews.

Project communication

Stakeholder engagement during infrastructure project preparation assumes tremendous significance given the multi-faceted nature of large infrastructure projects and the complex stakeholder interfaces they tend to cut across. Communication during the course of infrastructure project preparation should be viewed as a strategic action that takes into account the importance and disposition of all key stakeholder groups towards the project; tailors timely and

appropriate communication actions to inform and engage them; and fosters a supportive environment through the course of project preparation and implementation. Governments should:

1. Formulate and deliver a stakeholder engagement action plan to:

- Map stakeholders and their preferences, and assess the intensity of communication efforts required;
- Assess stakeholders' behaviour, influence and importance while identifying their needs, expectations and concerns; and
- Develop and deliver an appropriate communication plan to address the various stakeholder groups.

2. For potential PPP projects, evaluate market interest early in the project preparation phase

through the market sounding of projects to potential developers and investors. To prepare for market soundings, the GCA should:

- Identify and engage as wide a set of potential bidders as possible; and
- Identify positive aspects of the project that position it as an attractive investment opportunity, and position the GCA as a credible partner in the PPP transaction.

Concluding remarks

The reference tool synthesises lessons and practices from global, national, and sub-national level experiences to support governments in making project preparation processes more effective. The reference tool has been finalised with inputs and contributions from government officials in over 15 countries, multilateral agencies, and private organisations, who have helped to inform its final development.

The reference tool blends conceptual inputs with country case examples and best practices, distilled from the country-lens reviews undertaken during the preparation of this tool, and also includes a referencing of other tools and frameworks used in project preparation.

The reference tool is designed to complement the *G20 IWG Principles for the Infrastructure Project Preparation Phase* and the *MDB Guidance Note on Project Preparation Facilities (PPF): Structure and Operations*.

1. Introduction

1.1. BACKGROUND

The G20 has had a long-standing commitment to promoting sustainable infrastructure development as a key mechanism for supporting economic growth, in both developed countries and emerging markets.

As part of this commitment, the G20 Infrastructure Working Group (IWG) identified, in 2018, the key elements for infrastructure growth under a strategic roadmap, “*Developing infrastructure as an asset class*”, organised under three overarching pillars: (i) *improving project development*; (ii) *improving the investment environment for infrastructure*; and (iii) *promoting greater standardisation*. The first of these pillars, i.e. **improving project development**, is particularly crucial and involves enhanced efficacy of upstream activities in the infrastructure project lifecycle to make projects ‘procurement-ready’.

In July 2018, the G20 Finance Ministers and Central Bank Governors endorsed the *G20 Principles for the Infrastructure Project Preparation Phase* developed by the IWG, which identifies five principles to be considered while creating infrastructure project pipelines, namely *project rationale, options appraisal, commercial viability, long-term affordability, and deliverability*. The G20 has also welcomed the work of the Multilateral Development Banks’ (MDB) *Infrastructure Cooperation Platform*, which has prepared guidance on good practices to inform MDB approaches on and efficiency of support for project preparation.

The G20 has recognised that, for these steps to be effective, a robust institutional framework is necessary to build the foundation of quality project preparation. While governments the world over have attempted to strengthen their project preparatory activities by using frameworks, specific guidance, structured processes, capacity building initiatives and financing mechanisms, there is a strong need for continued support in this regard.

The **Global Infrastructure Hub (GI Hub)**, created as an initiative of the G20 to facilitate knowledge sharing and multi-institutional coordination to help increase the flow and quality of global infrastructure development, is committed to support initiatives to build capacity for effective infrastructure project preparation.

It has led the development of this *Reference Tool on Governmental Processes Facilitating Infrastructure Project Preparation* (hereinafter referred to as ‘reference tool’). The information contained in both the G20 Principles for the Infrastructure Project Preparation Phase and the MDB’s Infrastructure Cooperation Platform was used to inform the preparation of this reference tool, and **the tool has been designed to support the operationalisation of the project preparation principles endorsed by the G20**.

This reference tool follows an intermediate publication, the *Initial Report – National¹ processes facilitating project preparation illustrated by country examples*, published by the GI Hub in August 2018, which provided a high-level perspective on the current global infrastructure project preparation landscape, its challenges and possible approaches to solutions. It distilled lessons learned for effective project preparation processes from national (and sub-national) perspectives and was intended to provide a holistic assessment of important leading practices from the lens of country-level governance and implementation.

This reference tool is intended as a guidance document for governments and practitioners involved in infrastructure project preparation. It is built on a detailed review of critical success factors underlying successful project preparation, which have been distilled from an extensive analysis of prevailing leading practices globally through a country-lens perspective. The reference tool is designed to be complementary to the *G20 IWG Principles for the Infrastructure Project Preparation Phase* and the *Guidance Note on Project Preparation Facilities (PPF): Structure and Operations* prepared under the Project Preparation Workstream of the MDB Infrastructure Cooperation Platform, so that national governments may be better placed to utilise the Principles.

¹ Available at <https://www.gihub.org/resources/publications/initial-report-national-processes-facilitating-project-preparation/>. Title of final reference tool since changed to governmental processes, instead of national processes, to take sub-national processes into account.

1.2. INFRASTRUCTURE PROJECT PREPARATION CONTEXT

Global infrastructure needs are massive

The GI Hub's *Global Infrastructure Outlook* estimates that **US \$94 trillion** will be needed by 2040 to meet global infrastructure needs. In terms of regions, Asia will require the lion's share of this investment, with over half of the global investment needed, followed by America, Europe and Africa. The roads and power sectors will continue to demand the highest share of investment need, followed by water and other forms of transport.

Meeting these investment needs will entail increasing the overall average spend on infrastructure from **3.0%** of global GDP at present, to **3.5%** of global GDP by 2040, and considerably more as a percentage of GDP in many developing countries. However, with global public debt having grown sharply in the last decade (doubling from 2008-levels for most regions in the world), governments are fiscally stretched to be able to make the sharp increment in investment required. Fostering and tapping private sector investment into infrastructure, including through the public-private partnership (PPP) model, to augment resources and complement public spending has therefore become extremely critical. Refer to *Exhibit 1.1*.

While tackling the infrastructure gap requires prioritised project pipelines and well-prepared, bankable projects, capacity to drive effective project preparation at the national and sub-national levels is also crucial and has been woefully inadequate.

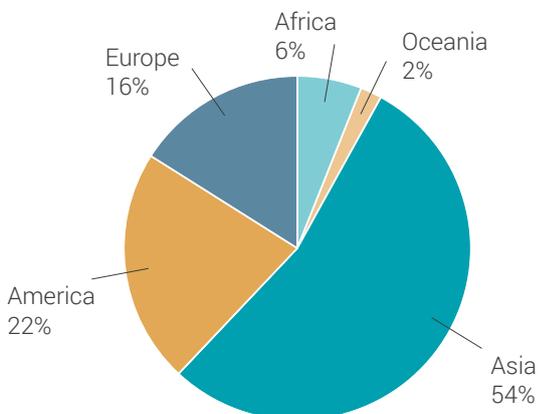
In most cases, demand for infrastructure does not directly result in project implementation and service delivery – an array of inhibiting factors, including unclear policies, poor project fundamentals, inadequate risk-adjusted returns, and lack of institutional capacities to develop and deliver the project, often derail implementation.

Project preparation, which spans activities from conceptualisation and feasibility analysis to deal structuring and transaction support, is integral to creating bankable projects. Inadequate support at the project preparation stage can result in critical projects being scrapped prior to implementation or increasing the cost of implementation to a prohibitive degree. Quality project preparation is thereby an essential step to translate the demand for infrastructure into effective project development and service delivery.

Yet, despite the critical need for project preparation, many countries, especially many emerging markets and developing economies (EMDEs), are often ill-equipped to translate their infrastructure gaps into well-identified and prioritised project pipelines. Even when such project pipelines have been identified, the capacity to undertake follow-up activities in upstream project preparation, in terms of policy, institutional

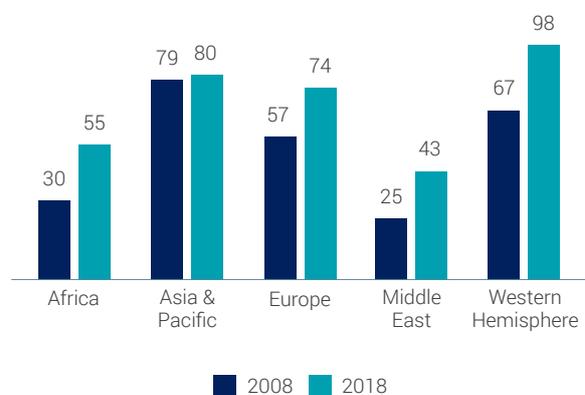
Exhibit 1.1 Infrastructure requires massive investment in the context of growing fiscal challenges

Global infrastructure need by 2040 - US \$94 trillion



Source: *Global Infrastructure Outlook, GI Hub*

Government debt to GDP – Global trends



Source: *International Monetary Fund*

strength, and frameworks and processes, are often inadequately developed. As a result, infrastructure needs are not translated into bankable projects that can deliver infrastructure services efficiently.

This capacity gap is further highlighted as governments seek to attract private infrastructure investment, with significant differences emerging among countries both regionally and in terms of income groups, regarding the maturity of project preparation processes.

Project preparation is thus becoming an increasingly critical enabler of infrastructure development and as noted earlier, has been identified as a key pillar in the G20's strategic roadmap to develop infrastructure as an asset class.

There have also been several MDB-led efforts towards creating project preparation facilities (PPFs), especially in Asia and Africa, that have sought to address the capacity and financing challenges of project preparation. Initiatives include the creation of technical templates or checklists on specific aspects of project preparation (e.g. The Sustainable Infrastructure Foundation's SOURCE², the World Bank's PPP Screening Tool³ etc.).

² Available at <https://public.sif-source.org/>

³ Available at <https://pppknowledgegelab.org/tools/tools-assess-whether-implement-project-ppp#ppp-screening-tool>

Exhibit 1.2 Project preparation – Global and regional deficit

A study conducted by the World Bank Group (WBG)⁴, the *Procuring Infrastructure PPP Report 2018*, assessed the strength of regulatory frameworks and institutional arrangements to prepare, procure and manage infrastructure projects in 135 economies. This study highlights significant regional and income group differences in the maturity of project preparation activities. Among high-income countries surveyed, project preparation activities received an average score of 63 (out of 100), lower than the scores for procurement, contract management and the management of unsolicited proposals. Middle-income and lower-income countries received lower scores on average for project preparation, ranging from 48 (out of 100) for upper-middle income countries, 44 (out of 100) for lower-middle income countries, to 39 (out of 100) for low-income economies.

The top five ranked countries under the framework are the UK (96), Australia (94), Lithuania (92), Canada (90) and Colombia (90).

The report clearly establishes that the gap in project preparation is larger in lower-income countries. On the regional front, while high-income OECD countries scored an average of 65 on project preparation, regions such as Latin America and the Caribbean received only the median score of 50, while South Asia has shown improvement with a slightly higher score of 57. Regions such as Sub-Saharan Africa and the Middle East and North Africa scored considerably lower than their peers for project preparation. However, there are some exceptions (i.e. India, South Africa and the Philippines, who score higher in their income groups).



⁴ Procuring Infrastructure Public-Private Partnerships Report. 2018: <http://pubdocs.worldbank.org/en/256451522692645967/pdf/PIP3-2018.pdf>

⁵ ECA – Europe and Central Asia; EAP – East Asia and Pacific; LAC – Latin America and Caribbean; MENA – Middle East and North Africa; OECD – Organisation for Economic Co-operation and Development; SAR – South Asia; SSA – Sub-Saharan Africa

1.3. ABOUT THE REFERENCE TOOL

1.3.1. Objectives and scope

The reference tool is intended to provide guidance on early-stage activities within the infrastructure project development cycle, and the enablers required to create a conducive environment to prepare sustainable, bankable and procurement-ready infrastructure projects.

The tool specifically seeks to address the challenges faced by governments in early stage project preparation that constrain their ability to prepare well-structured and bankable infrastructure projects. This includes aspects relating to (i) infrastructure planning, project screening, and prioritisation; (ii) project concept definition and feasibility evaluation covering outline business case (OBC) studies, pre-feasibility studies, and detailed feasibility studies; and (iii) project reviews and approvals to initiate project procurement. In addition, a conducive enabling environment, in terms of policy support, capacity of public institutions, and effective mechanisms for stakeholder engagement, is also critical and forms the focus of this reference tool.

The reference tool accordingly does not cover aspects relating to "project transacting" (i.e. the procurement process), given that a number of tools are already available to support this process. Also, much of the challenge occurs prior to projects reaching the point of procurement. This reference tool accordingly seeks to synthesise lessons and practices from global, national, and sub-national level experiences in these areas to support governments in making project preparation more effective.

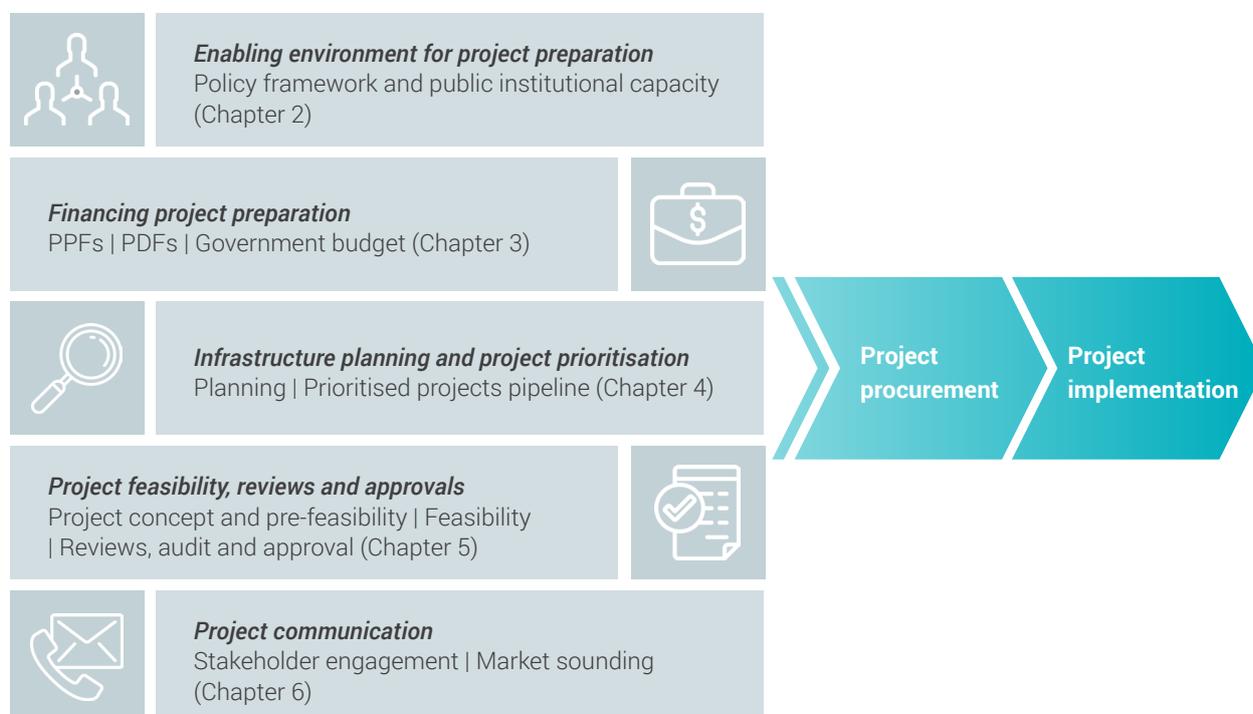
1.3.2. Organisation and coverage

The building blocks and organisation of this reference tool are captured in *Exhibit 1.3* below.

The reference tool is organised in six chapters that provide guidance on leading practices with respect to each of these building blocks of early-stage project preparation, as described below:

- **Chapter 1: Introduction** (this chapter) details the background and context underlying this reference tool, its scope and coverage, and a snapshot of the methodology used for its preparation.

Exhibit 1.3 Infrastructure project lifecycle, enablers and focus modules of this reference tool



- **Chapter 2: Enabling environment for project preparation** discusses the ingredients needed to create a conducive climate for infrastructure development, in terms of policy support and public institutional arrangements necessary to drive project preparation. This chapter also seeks to identify the specific policy and institutional enablers necessary to attract and scale-up private sector participation in infrastructure.
- **Chapter 3: Financing project preparation** addresses the critical aspect of financing for project preparation and identifies the approaches and mechanisms that can be adopted to identify, ring-fence and direct financing towards various aspects of project preparation. The chapter discusses the role of MDB-led initiatives to set up Project Preparation Facilities (PPFs) and their role in supporting governments in project preparation. The chapter also provides guidance on the structures and use of dedicated Project Development Funds (PDFs), which have become increasingly popular, especially in supporting project preparation for projects being executed using the PPP model. However, project preparation for infrastructure is often driven by government budgets through government contracting agencies (GCAs) and this chapter also discusses approaches to improve effectiveness of such budgetary financing of project preparation.
- **Chapter 4: Infrastructure planning and project prioritisation** provides guidance on formulating infrastructure plans and translating them into prioritised project pipelines. The chapter discusses the approaches and processes adopted by governments in preparing multi-year infrastructure plans. It also details the mechanisms and tools available to move from aggregate plans to a screened list of projects, which can then be evaluated for implementation.
- **Chapter 5: Project feasibility, reviews and approvals** discusses the typical steps involved in moving from a pipeline of identified projects through project preparation review and evaluation, starting with project concept definition, outline business case (OBC) or pre-feasibility, and detailed feasibility stages. The mechanisms to impart independence and rigour in the review and appraisal of projects through the various stages of feasibility evaluation are also discussed in this chapter.
- **Chapter 6: Project communication** addresses the critical aspect of comprehensive stakeholder management and adequate market sounding prior to project procurement. It recognises that even well-structured projects can fail if diverse stakeholder inputs and concerns are not adequately addressed through the various stages of the project development lifecycle. This chapter provides a framework and tools for mapping and managing stakeholders through the various stages of project preparation. Further, it also provides guidance on the criticality and approach to expose projects to a broad-based market sounding, and to elicit and factor in feedback on the acceptance of the proposed project design, scope and structure.

In addition to the main guidance provided through these chapters, the reference tool provides useful additional information in the form of the following appendices:

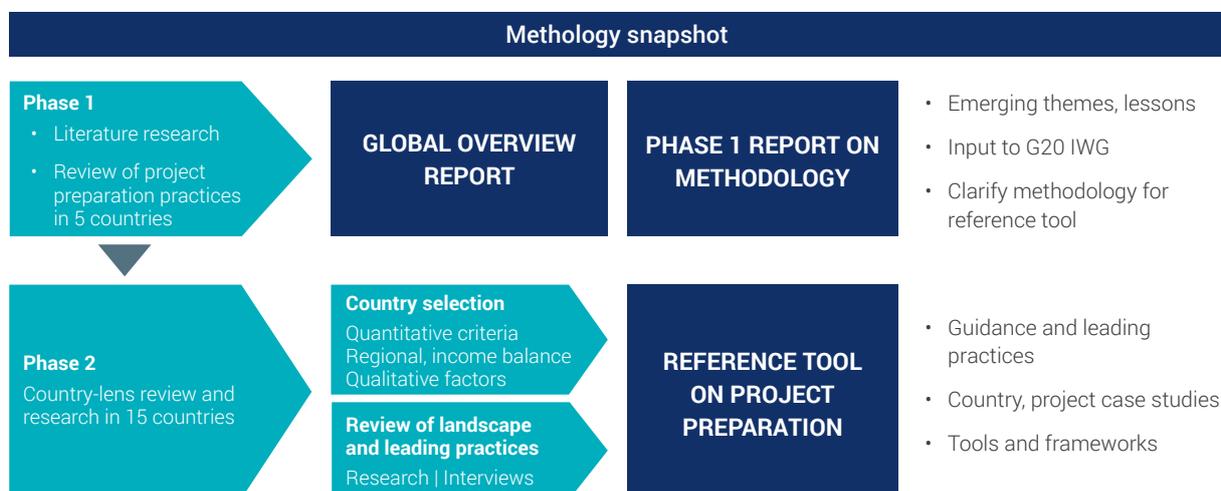
- **Appendix A: Country cases** presents an overview of the infrastructure project preparation landscape in 15 diverse countries from across the globe. The cases start with a snapshot of leading practices in these chosen countries and trace the project preparation landscape in these countries in terms of key policies, institutions and important project preparation outcomes achieved. In addition, Appendix A includes:
 - **Project cases**, which take select infrastructure project case studies from around the world and seek to distil lessons that governments can draw from these experiences in terms of practices for effective project preparation. These cases are interspersed with information on their development costs, timelines and underlying practices and seek to help illustrate application of the concepts covered in the main chapters of the reference tool.
 - **Tools and frameworks**, which summarise the scope and functionality of some useful guidance frameworks and tools already in use across countries globally. These tools and frameworks have been selected based on a review of country-level practices and when applied, taking country-specific contextual factors into account, can potentially help governments to accelerate capacity development for project preparation.

The detailed methodology is presented in **Appendix B**, along with additional relevant reading and a list of organisations which supported the preparation of this tool in **Appendices C and D** respectively. The consultant team is presented in **Appendix E**.

1.4. METHODOLOGY

A snapshot of the methodology involved in preparing this reference tool is captured in *Exhibit 1.4* and further explained below. *Appendix B* of the reference tool sets out the detailed methodology.

Exhibit 1.4 Infrastructure project lifecycle, enablers and focus modules of this reference tool



The preparation of the reference tool was conducted in two phases:

Phase I Global Overview Report and finalising the methodology for reference tool preparation

Phase I involved the following steps:

- Desk research on infrastructure project preparation and review of best practices:** Existing literature and information on infrastructure project preparation and best practices were reviewed to develop an understanding of the global guidance currently available and the gaps. This included a review of frameworks available from MDBs, activities of external project preparation facilities (PPFs) and overall infrastructure investment needs and gaps globally.
- Review of the project preparation landscape and practices in five countries:** This involved a review of the project preparation landscape in terms of enabling policies, institutions and frameworks and processes in place for infrastructure project preparation in five countries, namely Mexico, the Netherlands, South Africa, the Republic of Korea, and the United Kingdom.

- Preparation of Global Overview Report:** The Global Overview Report, published as the *Initial Report – National processes facilitating project preparation illustrated by country examples* by GI Hub in August 2018, provided a high-level perspective on the current infrastructure project preparation landscape, its challenges, and possible approaches to solutions, building on steps 1 and 2 above. It reviewed leading practices and distilled lessons for effective project preparation processes from national (and sub-national) perspectives from the five countries and provided a holistic assessment of important leading practices from the lens of country-level governance and implementation.
- Preparation of the Phase I Report:** The Phase I Report built on the findings from the preparation of the Global Overview Report and clarified the detailed methodology for Phase II of the exercise, i.e. the preparation of the reference tool.

Phase II country-lens review

Phase II involved the following steps:

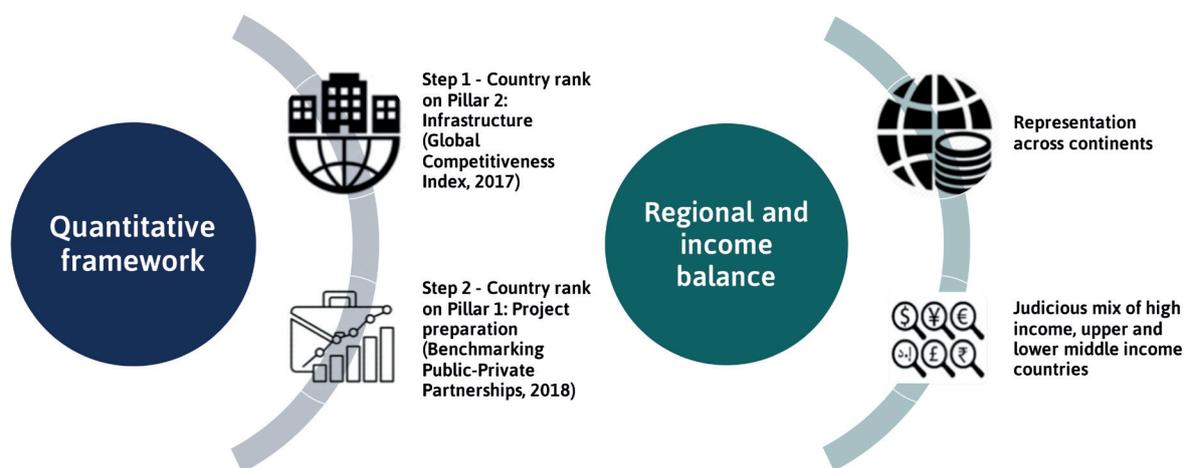
1. **Selection of countries:** The identification of countries for review for the preparation of the reference tool was done through the application of the following filters:
 - **Quantitative criteria and regional and income assessment:** The quantitative framework applied a two-factor criteria for the shortlisting of potential countries: i) *Country rank on Pillar 2: Infrastructure (Global Competitiveness Index, 2017)* and ii) *Country score on Pillar 1: Project Preparation (World Bank's Procuring Infrastructure Public-Private Partnerships, 2018)*. The first level of shortlisted

countries was refined to provide adequate coverage across regions and income groups, to ensure greater adaptability of the reference tool.

- **Qualitative factors:** The shortlisted countries from Stage I were reviewed based on the uniqueness of programs, projects, processes, and elements of good practices in project preparation, to identify the final list of countries, providing for a balance of countries across income, demographics and geographic regions.

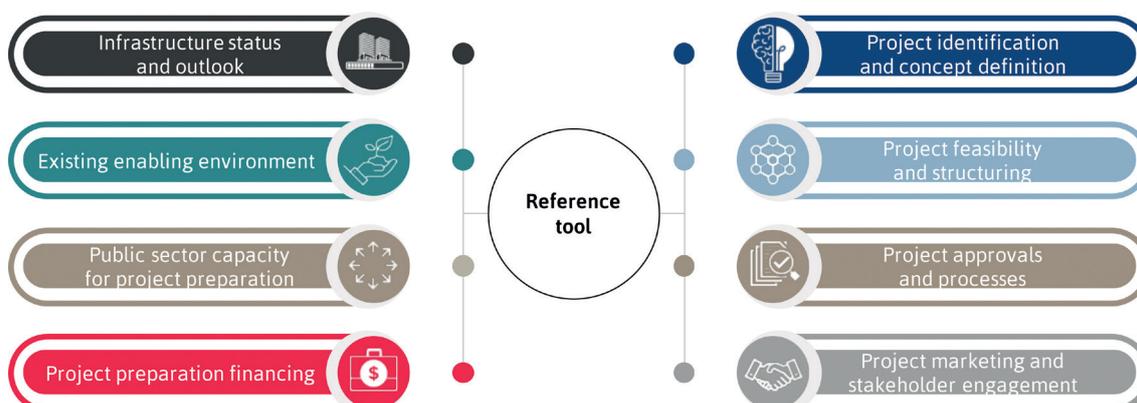
Fifteen countries were selected following this process, namely Australia, Brazil, Canada, Chile, China, India, Indonesia, Kenya, Mexico, the Netherlands, the Philippines, Rwanda, South Africa, the Republic of Korea, and the United Kingdom.

Exhibit 1.5 Framework for country selection



2. **Research:** Following the selection of countries, a detailed review of the project preparation landscape and practices for each of these countries was completed to identify leading practices and lessons to be distilled to develop the reference tool. The research was conducted along eight themes, identified below:

Exhibit 1.6 Themes for country-lens research



3. **Consultation interviews:** The research stage was followed by stakeholder interviews to validate country profiles and case studies. The interviews were also used to capture qualitative insights on country-level practices and to distil inputs for the reference tool in terms of key leading practices.
4. **Creation of reference tool:** As a final step, the reference tool was compiled. The guidance in the chapters has been structured taking into account real experiences from across the globe and feedback from GCAs and other stakeholders. In addition, as noted above, the reference tool has benefitted from the material contained in both the *G20 Principles for the Infrastructure Project Preparation Phase* and the MDB's *Infrastructure Cooperation Platform*, with the tool being designed to support the operationalisation of the project preparation principles endorsed by the G20. While detailed country and project cases studies are provided as a separate section, these have also been interspersed in the main chapters, along with the guidance material, to provide relevant practical insights for better readability and practical application.

1.5. ACKNOWLEDGMENTS

The GI Hub has developed the reference tool under its mandate to develop and promote leading practices in global infrastructure development.

The GI Hub engaged CRISIL Risk and Infrastructure Solutions Limited (CRIS), a leading infrastructure consulting firm and a subsidiary of CRISIL Limited, one of the world's foremost providers of credit ratings, advisory and research, and a 100% subsidiary of S&P Global. CRIS led the preparation of the reference tool, with close engagement with the GI Hub team, led by Morag Baird and Stephanie Barker.

The reference tool also incorporates contributions from various governments, government agencies, multilateral agencies, and private organisations, who took time to assist the project team in collecting data, preparing case studies and providing commentary on issues related to infrastructure project preparation.

The primary data gathering was supported by a full literature review of existing leading practices on the topic of infrastructure project preparation, as well as other unpublished guidance and inputs provided by GI Hub. As noted, this included both the *G20 Principles for the Infrastructure Project Preparation Phase* and the MDB's *Infrastructure Cooperation Platform*.

Support and contributions from other international and bilateral organisations have also informed the development of the reference tool, most notably from the World Bank, and other such institutions.

The reference tool has been finalised with inputs and contributions from government officials in over 15 countries, who have helped to inform the final development of this product.

2. Enabling environment for project preparation

2.1. OVERVIEW

Globally, governments are accountable for the development of infrastructure (both economic and social) and the delivery of basic services in an affordable and inclusive manner. This is irrespective of whether such infrastructure is financed, created and managed by public authorities, or with the involvement of the private sector through public-private partnerships (PPPs).

Nurturing a conducive enabling environment for infrastructure investment is largely the responsibility of governments (both national and sub-national). It is often a key differentiator between countries that successfully scale up infrastructure and those that face challenges in doing so.

1. In the context of infrastructure projects, an effective enabling environment comprises two key ingredients: **A robust policy framework** that facilitates clarity, consistency and stability of government actions, while providing for agility to adapt and manage changes in the wider infrastructure ecosystem. This covers *sector-agnostic cross-cutting policies or legislation* (for instance, public procurement legislation, enabling policy or legislation defining the boundaries and scope of PPP projects in infrastructure), or *sector-specific enabling legislation* underlying the provision of essential infrastructure services (for instance, electricity sector legislation, urban transport policy), including in water supply, electricity, public transport etc.
2. **Well-governed public institutions** with a clear role, mandate, and commensurate capacity to operationalise policy into effective project preparation and smooth implementation. These institutions have to be set up under both the national and sub-national governments in line with the country's constitution. Within the boundaries allowed by the constitution, this could cover different institutional models. For instance, some countries have sought to create *centralised* agencies mandated to catalyse project preparation at the national level, say, under the ministry of finance, or in a *decentralised* manner, where capacity building efforts for improving project preparation are focused on line departments and GCAs.

Stable policy and capable institutions are foundational requirements to support effective infrastructure project preparation and implementation, and have become particularly important as governments increasingly look to attract private investment.

The implementation of infrastructure projects through the PPP model is becoming increasingly necessary and is being driven by a need to (i) bring in efficiency gains, know-how and competition benefits; (ii) tap external financing resources given fiscal pressures and constraints in public investment; and (iii) separate regulator-manager roles in infrastructure delivery for greater accountability.

Projects developed using the PPP model require significant additional evaluation and analysis in terms of viability, bankability, balanced risk allocation, contractual commitments of both parties, value for money delivered by the project, and the assessment of fiscal commitments and contingent liabilities of the government.

While a conducive enabling environment is equally important for projects implemented in a conventional mode with public investment, project preparation is significantly more complex in a PPP arrangement, which makes the underlying enabling environment and stakeholder involvement even more important.

This chapter addresses the aspects of enabling environment for project preparation in two parts:

- **Policy framework (Section 2.1)**
- **Public institutional capacity (Section 2.2)**

2.2. POLICY FRAMEWORK

2.2.1. Summary

Infrastructure projects typically involve large, upfront investment commitments with service delivery and future revenues potentially impacted by a variety of risk factors during the course of the project's full lifecycle.

Other things remaining equal, infrastructure investments are therefore relatively risky. For instance, in urban water supply projects, delays in the provision of targeted household connections in a timely manner, or, even when the construction phase is completed well on time, user resistance and political reluctance to effect tariff increases, can lead to a slower than expected increase in revenues. This could impact service delivery (by constraining resources needed to operate and maintain the network), which, in turn, can further accentuate user dissatisfaction and reluctance to pay.

The ability of governments to mitigate risks, as illustrated above, is key to ensure the efficient use of public investments and attracting private participation in infrastructure projects. A robust policy framework provides a strong signal of the government's recognition of these risks, as well as its commitment to allay concerns that citizens, investors and private developers may have. It is not surprising that many countries, in the early stages of scaling-up infrastructure, tend to formulate an infrastructure or PPP legislation or policy to reiterate this commitment and provide assurance to the concerned stakeholders.

In larger countries, especially those with a federal structure, an aligned cascading of policies to sub-national governments is critical. Further, in addition to cross-cutting policies to create the enabling ecosystem, sector-specific policies and legislation are also often necessary to support infrastructure development and effective project preparation.

Finally, stand-alone policies or legislation are a necessary condition but not sufficient. They need to be followed up with a web of guidelines, regulations, standards and enforcement capacity, coupled with capable and empowered institutions, to operationalise policy intent and to translate the government's vision into action.

2.2.2. Guidance

Key elements of guidance under policy framework are summarised below:

- A. A clear policy and legislative framework signals government commitment to infrastructure development.
- B. While legal and policy frameworks ought to provide stability, they need to be agile and designed to evolve to meet the ever-changing needs of infrastructure development.
- C. Follow-up guidelines, standards and processes are key to make policy actionable.
- D. An aligned cascading of policies and legislation across the national and sub-national levels is important.
- E. Sector-specific legislation or policies may also be necessary to drive infrastructure project preparation, in addition to cross-cutting policies.
- F. Adapting and replicating contextually relevant policies from global experience can accelerate capacity creation for infrastructure development.

A. A clear policy and legislative framework signals government commitment to infrastructure development.

At a fundamental level, a robust policy framework for infrastructure should tackle the following imperatives:

Set priorities and aspirations:

Governments need to articulate, in clear terms, their focus areas, aspirations and shifts in policy with respect to infrastructure development. These are typically influenced by socioeconomic development priorities, political commitments made, and outcomes of mid- to long-term planning processes.

For instance, the Republic of Korea has prepared five-year economic development plans since 1962 that have outlined infrastructure development priorities and the change in these over the decades. Early infrastructure priorities were driven by the need to facilitate industrialisation, including, for instance, development of the Seoul-Busan expressway. Since the mid-1990s, there has been a shift towards rational decision-making, as reflected in the increased adoption of several tools and frameworks, including Total Project Cost Management (TPCM), Pre-Feasibility Studies (PFS), and Value-for-Money, that have since underpinned infrastructure decisions in the country.

Clarify accountability and accompanying resource allocation:

The policy framework should define accountability for various aspects of infrastructure provision, supported by commensurate financial and functional empowerment for the institutions that are mandated with infrastructure development and service provision. In particular, policies to facilitate the clear demarcation of responsibilities at different levels of government (national, provincial, local), and within various government authorities, significantly improve the efficacy of governments in addressing infrastructure deficits.

Inadequate provision of basic services, including water supply and sanitation, is often attributed to diffused accountability among different levels of government, weak decentralisation efforts and inadequate empowerment of local governments.

Facilitate private participation and PPPs:

PPP laws and policies provide an overarching enabling framework to provide a clear institutional framework to develop, procure and implement infrastructure using the PPP model. They define competent authority(ies) responsible for project preparation and implementation, while clarifying investment targets, and the types of PPP envisaged. They define competitive procurement terms and conditions, as well as mechanisms for the treatment of unsolicited proposals. They allow for other enabling requirements necessary to implement PPP projects, including, for example, a harmonised approach to deal with exits and terminations and enabling requirements like lender step-in rights.

A UNESCAP⁶ study of 42 countries in the Asia-Pacific found that over 40% of the countries had enacted PPP legislation, while another 31% of countries had formulated PPP guidelines. In other words, over 71% of countries surveyed had a PPP law or guidelines in place. The World Bank reports that over 45 countries⁷ have enacted some form of legislation with the aim of fostering private investment in infrastructure. Refer to Exhibit 2.1 for a summary of salient aspects of infrastructure and PPP legislation and policy in select countries.

While a PPP legal enactment is seen to provide a stronger basis than a PPP policy, which will provide investors with more certainty and reduce the risk of entering into a new market, PPP policies tend to provide relatively greater flexibility, which may also be necessary in the early stages of an infrastructure PPP program. For instance, while countries like the Republic of Korea and South Africa have enacted PPP laws, other countries, like the Netherlands and the UK, do not have legislation but instead have implemented well-articulated and robust policies and guidelines.

From an investor's standpoint, while specific enabling laws or policies on the government's approach to PPPs are important, investors often look to the wider web of policies to assess if the other two imperatives listed above are addressed, and if sectoral policies provide assurance and authorisation for undertaking an infrastructure project with private capital.

⁶ https://www.unescap.org/sites/default/files/PPP%20Policy-Legal-Institutional%20Frameworks_2017.pdf

⁷ <https://ppp.worldbank.org/public-private-partnership/legislation-regulation/laws/ppp-and-concession-laws>

LEGISLATION OR POLICY: The Netherlands' MIRT policy framework and South Africa's PFMA legislation

The Netherlands' Ministry of Infrastructure and Water Management (MIWM) oversees the policy, implementation and inspection of infrastructure development in the Netherlands. To aid with the development of policies, the MIWM houses separate directorate-generals, responsible for designing overarching policies for development in areas of mobility, water management, aviation and maritime affairs and the environment. For large infrastructure projects, the MIWM has adopted a unique collaborative approach, namely *The Multi Year Programme for Infrastructure, Spatial Planning and Transport (MIRT)* framework. MIRT comprises infrastructure projects and programs in which the national and regional governments collaborate to find a common solution to specific problems, after conducting analysis from different perspectives and development objectives. MIRT projects can be either implemented through public financing or through PPPs on a Design-Build-Finance-Operate-Maintain (DBFOM) basis. Each year, the MIRT is presented to the Lower House as an appendix to the budget of the MIWM and this provides the necessary political and fiscal commitment to the MIRT. The MIRT program has rules, procedures and a framework to direct how a project initiative that needs state funding should be developed and how decisions on project initiatives should be made.

South Africa has a comprehensive legislative framework for infrastructure procurement in the form of the *Public Finance Management Act 1999 (PFMA)*. The PFMA seeks to regulate financial management in the national government and provincial governments; to ensure that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively; and to provide for the responsibilities of persons entrusted with financial management in those governments. It forms an overarching framework for government spending, including in infrastructure. Regulation 16 of the PFMA governs infrastructure PPP projects. This regulation takes the user through the components of the regulation and explains how it applies to the distinct phases of the PPP project cycle, from inception to the management of the PPP agreement. The South African National Treasury's *PPP Manual* complements the provisions of the PFMA. The *PPP Manual* is issued as a National Treasury PPP Practice Note in terms of the PFMA, along with *Standardised PPP Provisions*, issued as National Treasury PPP Practice Note Number 01 of 2004, and *Standards for Infrastructure Procurement and Delivery Management*, effective from 2016. South Africa's legal and policy framework has helped to crowd-in significant levels of private investment in infrastructure, with South Africa planning and executing projects exceeding ZAR 300 billion (US \$22 billion) annually.

Exhibit 2.1 Country lens - National level PPP policies and legislation

COUNTRY	CONCESSION LAW	PPP LAW/ACT	PPP GUIDELINES
Australia			<input checked="" type="checkbox"/> <u>National PPP Policy and Guidelines</u>
Brazil	<input checked="" type="checkbox"/> <u>Administrative / Sponsored Concessions</u> <u>Public Service Concessions</u>	<input checked="" type="checkbox"/> <u>PPP Law</u> <u>Investment Partnership Program</u>	
Canada	<input checked="" type="checkbox"/> <u>Government Contracts</u> <u>Regulations SOR/87-402, 2018</u>		<input checked="" type="checkbox"/> <u>Guidelines to Implementing Budget 2011 Direction on Public-Private Partnerships</u>
Chile	<input checked="" type="checkbox"/> <u>Law and Regulation of Concessions of Public Works</u>		
China			<input checked="" type="checkbox"/> <u>Circular of the General Office of the State Council on Guiding Opinion on Promoting the Public-Private Partnership Mode in the Public Service Fields</u>
Kenya		<input checked="" type="checkbox"/> <u>PPP Act 2013</u>	
India			<input checked="" type="checkbox"/> <u>Guidelines on Formulation, Appraisal and Approval of Central Sector PPP Projects</u>
Indonesia	<input checked="" type="checkbox"/> <u>Government Goods and Services Procurement Policy (LKPP) Regulation No. 19 of 2015</u>	<input checked="" type="checkbox"/> <u>Presidential Regulation No. 38 of 2015 concerning Cooperation Between Government and Business Entities in Procurement of Infrastructure</u>	

Exhibit 2.1 Country lens (continued) - National level PPP policies and legislation

COUNTRY	CONCESSION LAW	PPP LAW/ACT	PPP GUIDELINES
Mexico		<input checked="" type="checkbox"/> <u>PPP Law</u>	<input checked="" type="checkbox"/> <u>PPP Guidelines</u>
Netherlands	<input checked="" type="checkbox"/> <u>Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the Award of Concession Contracts</u>		<input checked="" type="checkbox"/> <u>Public-Private Comparator Manual 2013</u>
Philippines		<input checked="" type="checkbox"/> <u>The BOT Law, as amended by Republic Act No. 7718</u> <u>Executive Order No. 136 Series 2013</u> <u>Executive Order No. 8 Series 2010</u>	<input checked="" type="checkbox"/> <u>PPPGB Guidelines and Issuances</u>
Republic of Korea		<input checked="" type="checkbox"/> <u>Act on Public-Private Partnership in Infrastructure</u> <u>Decree of the Act on Public-Private Partnership in Infrastructure</u>	
Rwanda	<input checked="" type="checkbox"/> <u>Public Procurement Law</u>	<input checked="" type="checkbox"/> <u>Law No. 14/2016 of 02/05/2016 Governing Public Private Partnerships</u> <u>National Investment Policy</u>	<input checked="" type="checkbox"/> <u>Public Private Partnership Guidelines</u>
South Africa		<input checked="" type="checkbox"/> <u>Treasury Regulation 16 to the Public Finance Management Act (PFMA) 1999</u>	<input checked="" type="checkbox"/> <u>Public Private Partnership Manual</u>
United Kingdom	<input checked="" type="checkbox"/> <u>The Concessions Contracts Regulations 2016</u> <u>Infrastructure Act 2015</u>		<input checked="" type="checkbox"/> <u>Public Private Partnerships Guidance</u>

B. While legal and policy frameworks ought to provide stability, they need to be agile and designed to evolve to meet the ever-changing needs of infrastructure development.

Care must be taken to ensure that infrastructure policy and legislation takes into account country-level contextual factors and is aligned with the strategic needs and stages of evolution of the country, in terms of its infrastructure stock and gaps. It is particularly important to ensure that the policy framework provides for adequate agility and flexibility to adapt to and incorporate changes.

There are two ways in which agility can be built into the design of the framework. First, the overarching

policy should ideally articulate ‘principles’ rather than rigid operating processes, which should preferably be defined separately through accompanying guidelines and regulations. Second, given the evolutionary nature of the infrastructure sector, policies governing these principles should be subject to a periodic review (typically about every three to seven years), to provide a window for incorporating changes that may become necessary. Guidelines and regulations issued under policies or legislation should ideally have relatively shorter review periods.

Global experience suggests that countries have found it necessary to make at least some changes to the policy and legislative frameworks for infrastructure from time to time.

CHANGES TO POLICY FRAMEWORK: The cases of the Republic of Korea and Indonesia

The Republic of Korea amended its infrastructure PPP legislation multiple times within a decade of its enactment. Although Korea enacted its first PPP Act (the Private Capital Inducement Act) in 1994, the policy framework provided by this Act did not translate into large investments, owing to limited risk evaluation, inadequate process rigour and limited budgets. Following the Asian Financial Crisis in 1997, a new PPP law, ‘The Act on Private Participation in Infrastructure’, was adopted to remove some of these constraints. This law abolished the former categorisation of infrastructure projects and improved procurement processes. The Private Infrastructure Investment Centre of Korea (PICKO) was created to provide project preparation support, including preparation of feasibility studies, project reviews, bid evaluation, negotiations and concluding concession agreements, and the Project Investment Management Centre (PIMA) was created as an affiliate of the Korea Development Institute (KDI) for the preparation of pre-feasibility studies (PFS). A ten-year plan, with a pipeline of potential PPP projects, was also formulated. These changes led to a significant improvement in the investment climate and an increase in investment activity. By 2002, over ten new road projects were in operation. Encouraged by these improvements, Korea again amended its PPP Act in 2005, which paved the way for the merger of PICKO and PIMA to form the Private Infrastructure Investment Management Centre (PIMAC) under this Act. Since then, the PPI Act 2005 and the PPI Act Enforcement Decree 2005 have provided the overarching legal framework for both public and private infrastructure investments. The PPP Basic Plan and PPP Implementation Guidelines provide the framework for project preparation and implementation. The efficacy of

Korea’s policy framework and project preparation processes is reflected in its infrastructure delivery outcomes. By 2015, an estimated 684 projects involving an outlay of US \$80 billion have been implemented since the framework became operational in 2005.

Indonesia’s new Presidential Regulation 2015 for Infrastructure seeks to improve on its earlier regulation and encourages greater private participation in infrastructure. Indonesia’s progression in project preparation has been founded with a learning-by-doing approach, based on its own challenges and lessons learned. While Indonesia’s PPP regulations date back to 2005, they have recently been updated and replaced by new Presidential Regulations in 2015. New rules governing the establishment and operation of PPPs were put in place by Presidential Regulation No. 38 of 2015, which focuses on collaboration between the government and private sector for the procurement of essential infrastructure. The new regulation repeals the previous PPP regime established by Presidential Regulation No. 67 of 2005. The updated regulation is a reaction to the weak response to PPP projects conceived earlier, and to address other challenges, including gaps in project preparation, delays in land acquisition, lack of long-term project finance, and insufficient policy coordination among various government ministries and agencies in the earlier years. The regulation provides greater assurance relating to timely land availability and greater government support for infrastructure PPPs. Although relatively recent, Regulation 38 of 2015 considers developments in infrastructure and PPPs globally, and is a response to Indonesia’s desire to increase the use of private capital for infrastructure.

C. Follow-up guidelines, standards and processes are key to make policy actionable.

While an overarching policy or legislation for infrastructure development is necessary, it is by no means sufficient. It ought to be accompanied by appropriate guidelines, standards and processes to translate policy intent into action and catalyse infrastructure implementation. While several countries have put such frameworks in place, the United Kingdom (UK) is considered to be a frontrunner, having formulated a web of replicable guidelines, standards and processes across a whole host of areas relating to infrastructure project preparation.

Given that the UK was among the earliest to give a significant push to bring in private participation in infrastructure delivery, it is not surprising that several other countries have seen value in replicating some of the practices adopted here. For instance, Australian state governments have adopted the United Kingdom's Office of Government Commerce (OGC) Gateway Review Process for quality assurance across all jurisdictions, adding modifications to enhance the outcome and make it more relevant to the Australian context.

NUTS AND BOLTS: The United Kingdom's comprehensive guidance for project preparation

The UK has a variety of tools and frameworks that are used at different stages of the project preparation lifecycle, including the following:

Project identification. To support project identification, the UK's project preparation framework provides a multitude of tools:

- **Early Development Pool (EDP) for government major projects and programs (GMPP):** Institutionalised by the Infrastructure and Projects Authority (IPA), the EDP includes projects that could potentially join the GMPP in the future. The inclusion of nationally significant projects in the EDP enables the IPA to provide close support to line agencies at the project initiation stage itself.
- **The Project Initiation Routemap (PIR):** PIR is a best practice guideline prescribed by the IPA, which provides a structured approach to identifying and conceptualising projects through a collaborative approach with line agencies. From 2018, all major projects are assessed for the need and suitability of applying the routemap to guide conceptualisation.
- **Stage 0 of the Five Case Model:** The Five Case Model is a thinking framework recommended by the Her Majesty's Treasury (HMT), which defines a structured approach to developing business cases. Stage 0 of the Five Case Model outlines a method to help identify projects that verify the strategic necessity of the project or program.

Project feasibility and structuring.

- **Five Case Model:** All line agencies must prepare business cases for their spending proposals. These cases are prepared according to a model which views proposals from five interdependent dimensions, prescribed by the Green Book of HMT – known as the Five Case

Model. These dimensions are: strategic, economic, commercial, financial and management. For projects, a strategic outline case is prepared at the conceptualisation stage, thereafter an outline business case (OBC) is prepared at the pre-feasibility stage, which is followed by a comprehensive full business case and its updates prior to implementation. Although individual government departments and local governments are not bound by project preparation guidelines provided by HMT, most departments have designed internal project processes in line with processes followed for major projects.

Project approvals and quality assurance.

HMT recommends the following guidelines for independent review:

- **OGC Gateway Review™:** The Office of Government Commerce (OGC) Gateway Review™ process was introduced in 2000 after several project failures in the UK and the re-evaluation of the government's effectiveness in projects and program delivery.
- **Major Projects Review Group (MPRG):** The MPRG is an independent group of experts from the government and private sector which challenges projects on deliverability, affordability and value for money at key points in the approvals process.
- **IPA Quality Reviews:** In addition, the IPA has enhanced the quality review process with a range of different independent assurance reviews. Depending on the project cost and the department's track record of executing projects of a similar complexity, these reviews range from formal gateways to more bespoke 'critical friend' reviews.

D. An aligned cascading of policies across the national and sub-national levels is important.

In most countries, the responsibility for infrastructure development is distributed across not just different line departments and GCAs, but also among several sub-national governments. Sub-national governments, in many cases, also have independent jurisdiction to legislate for infrastructure provision. It is therefore critical for countries to ensure that policies governing infrastructure project preparation are aligned across different GCAs and among sub-national governments as well, and not just at the level of national governments.

In such cases, even where the national government may not have direct jurisdiction over sub-national governments, it would be efficient to have nationally aligned policies that sub-national governments may apply while framing local regulations.

ALIGNMENT AT THE SUB-NATIONAL LEVEL: Australia and India

State infrastructure units, Australia: In Australia, infrastructure project preparation follows the country's federal system, with each state having its own institutional framework to support project development. Typically, this comprises: (i) the state treasury department, to provide quality assurance, approve projects and prepare annual budgets for government expenditure; (ii) a state level PPP unit that establishes good practice guidelines for project preparation; and (iii) a state level planning agency, which sets the long-term vision and strategic priorities for the development of the state. Some states have also established specialised institutions to support project development. For instance, PPP projects in the state of Victoria are supported by the Office of Projects Victoria. The office provides guidance on technical scope, engineering design, project cost, and financial and contractual risks during project evaluation. In the state of New South Wales, the state treasury department has set up the Infrastructure and Structured Finance Unit, which specialises in providing commercial and financial advice to the state government on infrastructure projects with a cost of over US \$70 million (AU \$100 million).

Sub-national infrastructure development and PPP legislation and policies, India: India's project preparation framework is steered by its line ministries and sub-national governments, who have adopted a streamlined, systematic approach to project development. The states in India are critical for infrastructure development. While at the national level, there is a focus on developing key infrastructure sectors like national highways, telecommunications, power, railways and airports, the responsibility for the development of other sectors, like water and sanitation, health, and education, is shared with the state governments. Project preparation activities in India are decentralised and are largely driven by contracting authorities. Line ministries, state and local governments at the sub-national level are responsible for their own project preparation. To streamline project preparation at the state level, most states have enacted state-specific legislation for PPPs, and instituted central agencies for project planning and development. These central agencies also provide financing support for project preparation. A number of states including Gujarat, Punjab, Bihar, and Andhra Pradesh have already developed specific legal frameworks to enable private partnerships in infrastructure. Other states, including Karnataka, Odisha Maharashtra, and Assam, have specific policy frameworks. States like Tamil Nadu and Gujarat have followed up their state level infrastructure legislation with the creation of Infrastructure Development Boards and formulated detailed attendant regulations and guidelines to implement policy.

E. Sector-specific legislation or policies may also be necessary to drive infrastructure project preparation in addition to cross-cutting policies.

Similarly, cross-cutting initiatives on the overall policy and legal framework for facilitating infrastructure investment may need to be complemented with changes to sector-level policies and legislation. Given that most infrastructure sectors have typically been the domain of governments and managed by GCAs, initiatives to restructure these sectors and introduce private sector participation will frequently require amendments to existing government policy.

Therefore, as countries seek to scale-up their infrastructure investments, they will often need to review sector-specific policies and legislation and make necessary changes to these. For instance, India has seen several transformative policy shifts since the mid-1990s, as it sought to open up various infrastructure sectors. For example, the country's telecom sector was opened up under its National Telecom Policy 1994, which has since been updated multiple times and has paved the way for a near complete transition from a sector entirely managed by the public sector to one where the public sector also plays a role. Similarly, the Electricity Act 2003 provided an enabling framework to delicense generation and paved the way for private investment in power generation.

**COMPLEMENTARY SECTORAL POLICIES:
Energy policy changes behind South Africa's
renewable success**

South Africa's very successful Renewable Energy IPP Procurement (REIPPP) Programme is the product of a firm vision for the country and its power sector, reflected in a multi-year planning framework, backed by a strong political will to achieve the vision's objectives. The consistent and coordinated policy actions to initiate regulatory and institutional reforms and operationalise the recommendations of the Integrated Energy Plan, the Integrated Resource Plan, and the White Paper on Energy and Renewables remain the foundation of the project's success. The successful program was preceded by critical sectoral reforms including the following:

- **A multi-year capital investment planning framework that is consistent with development priorities.** The sectoral planning documents (the Integrated Energy Plan 2003 and the Integrated Resource Plan 2010) were aligned with the nation's commitment to reducing its carbon footprint. The initial impetus to the program was provided in the White Paper on Energy Policy in 1998 (which promoted a greater role for the private sector and diversification of energy sources), and the White Paper on Renewables in 2003 (which envisaged 10,000 MW of energy from renewables).
- **The Electricity Regulation Act [No.4 of 2006]** provided for the establishment of an energy regulator (Section 3); the licensing of activities (Section 7); the ability of the regulator to estimate new generation capacity requirements, establish tendering procedures, and promote private sector participation (Section 34); and regulations on new generation capacity (Section 35). Specifically, Sections 34 and 35 of the Act set the framework for the REIPPP Programme.

F. Adapting and replicating contextually relevant policies from global experience can accelerate capacity creation for infrastructure development.

As countries seek to formulate policies and conducive enabling environments for scaling up infrastructure investment, they would do well to adapt and replicate effective policies that have worked elsewhere. Replicating contextually relevant and appropriate policy frameworks and lessons from experience can help governments expedite the elimination of at least

some of the barriers to infrastructure investment and help create building blocks for a conducive investment environment for infrastructure development. This is particularly important for EMDEs, which are often disadvantaged by weak institutional capacity and baseline infrastructure stock to start with. A concerted effort to benchmark and incorporate best practices in policy formulation from across the globe can be particularly useful.

REPLICATION OF BEST PRACTICES: Experiences of Australia and the Netherlands in adapting the UK's Gateway Review Process

AUSTRALIA - Adoption of the UK's Gateway Review Process: Australian state governments have adopted the United Kingdom's Office of Government Commerce (OGC) Gateway Review Process for quality assurance, adding modifications to enhance the outcomes and make it contextually relevant. The Department of Finance within the Government of Australia recommends a staged escalation within the review process called 'Enhanced Notification', which defines escalation actions based on triggers in project assurance. The Government of Victoria has added additional project assurances for high-value or high-risk projects. Typically, all projects undergo a gateway review process at the state level, based on the UK's Gateway Review Process, that consists of a series of structured reviews to examine procurement at key decision points in the project cycle. These reviews are used to improve on-time and on-budget project delivery and are conducted by dedicated teams housed within the treasury departments of state governments.

THE NETHERLANDS - Dutch Gateway Review Method: Based on the UK's Gateway Program and housed in the Gateway Bureau in the Ministry of Interior and Kingdom Relations, the Dutch Government has reviewed over 50 high-risk projects since 2007, with very positive results. Independent confidential assessments under this initiative have contributed to improved project management and delivery of high-risk projects. Typical project level gateway reviews include:

- Gateway 1 - Purpose and justification is performed at the start of a project to confirm its rationale.
- Gateway 2 - Preparation and procurement are executed once the project approach is firm and when the project's rationale and the intended results are demonstrable and desirable.
- Gateway 3 - Realisation is executed as soon as suppliers are formally approached and seeks to verify if the intended approach will be successful in this realisation phase.
- Gateway 4 - Readiness for implementation is performed before the project team transfers the result to the line organisation(s) or just before the implementation phase.

2.3. PUBLIC INSTITUTIONAL CAPACITY

2.3.1. Summary

The capacity of public institutions to plan, prepare and deliver infrastructure projects is central to effective infrastructure development. Even where infrastructure projects are executed with private sector participation through PPP arrangements, the role of the public sector institutions is crucial.

Within the applicable constitutional boundaries, this will also call for different institutional models for various facets of project preparation, either in a *centralised* manner (namely the creation of a central agency mandated to catalyse project preparation), or in a *decentralised* manner, where the capacity creation efforts aimed at improving project preparation are directed by the government contracting agencies (GCAs).

Broadly, public sector institutions are required to play different roles. The country-lens review done as part of the preparation of this reference tool provides evidence of three types of roles (as explained below) that public institutions play in the context of infrastructure project preparation. Also refer to *Exhibit 2.2*.

1. CENTRAL AGENCY - Infrastructure plans and projects pipeline

e.g. The Philippines – National Economic Development Agency (NEDA), the UK – Infrastructure and Projects Authority (IPA), Indonesia – National Development Planning Agency (BAPPENAS)

Governments are called upon to undertake medium- to long-term infrastructure plans, and the aggregation of these plans and presentation of a consolidated national infrastructure plan is often a critical requirement in the project preparation value chain. Apart from preparing the country-level infrastructure plan, there is also a need to translate this multi-year infrastructure plan into a pipeline of projects, which are then prioritised for development. Typically, the task of preparing such multi-year plans is done by an infrastructure authority in the national government. Some of these agencies are also entrusted with the role of translating the multi-year infrastructure plan into a pipeline of projects. In some countries, the task of preparing multi-year plans is handled by respective line departments or GCAs responsible for sector-level planning and implementation.

2. CENTRAL AGENCY or PPP UNIT - Project preparation

e.g. Indonesia - PPP Unit, Kenya – PPP Unit, Republic of Korea – PIMAC

In most countries, GCAs are called upon to play the role of project preparation and procurement (starting with project concept definition, feasibility, and procurement), especially where projects are implemented by public authorities themselves. However, wherever projects are implemented using the PPP model, governments have typically created central agencies or PPP units that handle project preparation responsibilities.

The central agencies or PPP units typically created under the national PPP legislation or policy are responsible for issuing and developing guidelines and processes to implement the policy or legislation, and in many cases, are also vested with an overall responsibility for project preparation and project preparation financing, typically as a custodian of a dedicated Project Development Fund (PDF). In some cases, development institutions set up to provide infrastructure financing also play the role of supporting GCAs in project preparation, primarily to set standards and guidelines for project preparation and reviews. In some cases, like PT SMI in Indonesia and FONADIN in Mexico, infrastructure financing institutions also play a role in supporting GCAs with project preparation.

3. GOVERNMENT CONTRACTING AGENCIES (GCAs)

In most countries, a large part of the project preparation mandate resides with GCAs. In the early stages of a country's infrastructure scale-up, the capacity of GCAs to prepare and implement complex infrastructure projects is often weak, especially when it comes to structuring and managing PPP projects. A scale-up of infrastructure will require a commensurate scale-up of the capacity of GCAs, notwithstanding the presence of apex institutions that may have been set up to bridge this gap with close support early on. It is important that the capacity of public institutions is commensurately strengthened, not just at the national level but also at the level of sub-national governments.

Exhibit 2.2 Institutions at the national level involved in infrastructure project preparation

Country	PROJECT PREPARATION ACTIVITIES					Other support institutions
	Long-term strategic planning	Setting policies and guidelines	Project identification, screening and prioritisation	Quality assurance and approvals	Project preparation financing	
AUSTRALIA	Infrastructure Australia	Department of Finance, Government of Australia	Line ministries and sub-national government departments, Infrastructure Australia	Department of Finance, Commonwealth Government	Line ministries and sub-national government departments	National PPP Working Group – Jurisdictional cooperation and process improvements for PPPs
BRAZIL	Ministry of Planning, Budget and Management	Ministry of Planning, Budget and Management	Line ministries and sub-national government departments	Ministry of Planning, Budget and Management	Line ministries and sub-national government departments	Secretariat of Investment Partnership Program (SPPi) involved in long-term strategic planning, setting policies and guidelines, project screening, quality assurance and project preparation financing for national priority projects <i>(The Ministry of Planning, Budget and Management will be integrated with the Ministry of Finance after 1 January 2019. The new ministry will be called the Ministry of Economy).</i>
CANADA	Infrastructure Canada	Treasury Board Secretariat, Government of Canada	Line ministries and sub-national government departments	Treasury Board Secretariat, Government of Canada	Line ministries and sub-national government departments	Canada Infrastructure Bank – Procuring authority, investment and centre of expertise for PPPs Canada Environmental Assessment Agency – Environmental impact assessment appraisals and policy development
CHILE	Ministry of Public Works (Sectoral long-term plans)	National Investment System (administered by the Ministry of Social Development and Ministry of Finance)	National Investment System (administered by the Ministry of Social Development and Ministry of Finance)	National Investment System (administered by the Ministry of Social Development and Ministry of Finance)	Line ministries and sub-national government departments	The National Regional Development Fund (FNDR) may be accessed for Socially Recommended (RS) projects

Country	PROJECT PREPARATION ACTIVITIES					Other support institutions
	Long-term strategic planning	Setting policies and guidelines	Project identification, screening and prioritisation	Quality assurance and approvals	Project preparation financing	
CHINA	National Development and Reform Commission	Ministry of Finance China PPP Center	Line ministries and sub-national government departments	National Development and Reform Commission	Line ministries and sub-national government departments	
KENYA	National Treasury	National Treasury, PPP Unit for PPP projects	Line ministries, PPP unit assists in screening and prioritisation	National Treasury for public projects, PPP committee for PPP projects	Line ministries and sub-national government departments MDB-supported project development funds	
INDIA	National Institute for Transforming India	Ministry of Finance	Line ministries and sub-national government departments	Ministry of Finance	Line ministries and sub-national government departments	Project Monitoring Group – To fast-track priority projects
INDONESIA	BAPPENAS	BAPPENAS, Ministry of Finance	BAPPENAS, line ministries and sub-national government departments	Ministry of Finance	PT SMI, Ministry of Finance	KPPIP – Debottlenecking efforts for priority projects IIGF – Provides guarantees for government actions/inactions PPP Joint Office – Coordination for PPPs LMAN – Land acquisition support and financing
MEXICO	Secretariat of Finance and Public Credit (SHCP)	SHCP	Line ministries and sub-national government departments	SHCP	Fondo Nacional de Infraestructura (FONADIN), individual line ministries and sub-national government departments	
NETHERLANDS	Ministry of Infrastructure and Water Management (MIWM)	MIWM	Rijkswaterstaat, sub-national government departments	MIWM	Line ministries and government departments	

Country	PROJECT PREPARATION ACTIVITIES					Other support institutions
	Long-term strategic planning	Setting policies and guidelines	Project identification, screening and prioritisation	Quality assurance and approvals	Project preparation financing	
PHILIPPINES	National Economic and Development Authority (NEDA)	PPP Center	Line ministries and sub-national government departments, NEDA	NEDA	Line ministries and sub-national government departments	
REPUBLIC OF KOREA	Ministry of Economy and Finance (MOEF)	Public and Private Infrastructure Investment Management Center (PIMAC)	PIMAC	PIMAC – Quality assurance MOEF – Approval	Individual line ministries and sub-national government departments	
RWANDA	Ministry of Finance and Economic Planning (MINECOFIN)	MINECOFIN	Line ministries	Public Investment Committee - MINECOFIN	MINECOFIN	MINECOFIN
SOUTH AFRICA	National Treasury (NT)	NT	Line ministries and sub-national government departments	Government Technical Advisory Centre (GTAC, within National Treasury) performs quality assurance; Approval by NT	Line ministries and sub-national government departments, MDB-supported project development funds	Presidential Infrastructure Coordinating Commission (PICC) prepares the National Infrastructure Plan (national priority projects) Project Development Account (by GTAC) facility for project preparatory financing of PPP projects
UNITED KINGDOM	National Infrastructure Commission	Infrastructure and Projects Authority (IPA)	Line ministries and government departments	HM Treasury	Line ministries and government departments	National Infrastructure Commission (NIC), which provides independent, strategic thinking, analysis and advice to address the UK's long-term infrastructure needs.

2.3.2. Guidance

Key elements of the guidance framework under public institutional capacity are summarised below:

- A. Empowered central agencies can institutionalise project preparation capacity and standards.
- B. Sector-specific agencies may be needed when investment and/or transformation needs are significantly large.
- C. When central agencies are vested with multiple roles, capacity and conflicts need to be handled carefully.
- D. Distinct governance structures may be necessary to prepare and implement large complex projects.
- E. Building complementary capacity in GCAs is crucial for project preparation effectiveness.

A. Empowered central agencies can help institutionalise project preparation capacity and standards.

In the last few decades, as governments have increasingly looked to the private sector not just for infrastructure construction but also its management and service delivery through PPP arrangements, GCAs have been found wanting on many of the skills necessary to handle such arrangements. Further, in EMDEs with severe infrastructure gaps, GCAs typically do not have the institutional and financial capacities necessary to implement some of the larger infrastructure projects which are deemed necessary for development.

Therefore, as governments embark on large-scale infrastructure projects to correct this historical lag, the responsibility and capacity to drive this effort is often vested in a central agency as a means to provide focus for project preparation and implementation, as well as to build necessary capacity and institutional empowerment. The central agency, in some cases, is empowered by the specific PPP legislation.

Such an institutional intervention helps expedite the creation of standards, build institutional capacity to support GCAs in project preparation, and ensure a threshold level of quality project preparation. Such agencies are also often vested with driving the PPP agenda and attracting private sector investment through a focused development of capacity, both within themselves and within the GCAs they work with.

Central agencies, therefore, are often called upon to play a variety of roles, in putting into place institutional enablers for PPPs, including setting up and managing Project Development Funds (PDFs); enacting processes for engaging consultants and transaction advisors; supporting GCAs in project preparation and transaction advisory activities; managing the overall PPP program under the direction of the government; and capacity building of other public institutions. When equipped with commensurate capacity and empowerment through the delegation of powers, central agencies and PPP units can play a vital role in expediting infrastructure creation.

CENTRAL AGENCY MODELS: The Infrastructure and Projects Authority (IPA) in the United Kingdom and the Public and Private Infrastructure Investment Management Center (PIMAC) in Korea

The Infrastructure and Projects Authority (IPA), UK

Established in 2015, through the merger of Infrastructure UK (IUK) and the Major Projects Authority (MPA), the IPA has a long history of managing and delivering major infrastructure projects through its founding institutions. The merged IPA combines expertise in delivery, assurance and financing, helping to manage major infrastructure projects within one government entity, defined as the "UK government's centre of expertise for infrastructure and major projects." The IPA establishes the overarching framework for project preparation in the United Kingdom and formulates guidance that serves as standards for UK GCAs to prepare and implement projects. The IPA also undertakes quality assurance reviews for major projects, and supports capacity development and delivery support. It reports to Her Majesty's Treasury (HMT) and the Cabinet Office, and oversees general policy on project delivery and quality assurance of specific business case proposals.

The IPA does not implement projects but focuses on the overall project delivery system, which includes the projects, people and processes that together create the right environment for successful delivery. It is part of a wider institutional framework for infrastructure planning and delivery. HMT and IPA provide a variety of support tools to guide project preparation in the UK. While these are binding only on major projects that require HMT approval or projects that also solicit an independent review from IPA, most line agencies have aligned their project preparation activities with the best practice guidelines prescribed by HMT and IPA. The contributions of IPA and its predecessor entities include the following:

- **Setting project standards and good practice guidance.** This includes documentation related to all major aspects of project preparation and project evaluation, such as project initiation routemaps, independent assurance methodology and other technical guidance documents and templates.
- **Infrastructure delivery support:** The IPA has a team of commercial specialists that provide direction to the government and GCAs on all aspects of infrastructure delivery. The specialists can be deployed alongside project teams to strengthen client capability. The IPA also provides HMT and the Cabinet Office with commercial advice on business case approvals for specific projects.
- **Training and leadership development:** The IPA has partnered with Oxford Saïd Business School to create the Major Projects Leadership Academy (MPLA). MPLA aims to improve the ability of senior civil servants to lead major projects and is regarded as the gold standard for project leadership training. Over 400 professionals have enrolled in the MPLA, and 250 have graduated to date. In addition, the IPA has launched other project leadership training, apprenticeship and future leaders' programs.
- **Project leadership development:** In 2017, the IPA launched the Project Delivery Capability Framework (PDCF), which outlines a common language for the profession and defined career paths to help manage their careers. This framework is now being used by all major departments to help drive professionalism. In addition, the Government Online Skills Tool (GOST) supports the roll-out of PDCF by allowing individuals to assess their skills and competencies against any project role, and to identify development options. It is being used by over 4,000 project professionals and this number will grow following full roll-out.
- **Independent quality assurance:** The IPA uses independent experts for peer review and quality assurance of projects at critical stages, against a clear set of project standards. During 2017-2018, the IPA conducted 230 independent assurance reviews on the Government Major Projects Portfolio (GMPP) projects. The IPA has created an assurance review pool of over 1,600 independent assurance reviewers from across government and industry.
- **Performance review:** The IPA undertakes the Infrastructure Performance Review to identify ways the government, working with industry, can improve the quality, cost and performance of UK infrastructure, building on the Infrastructure Cost Review 2010–2014. The IPA supports the preparation of the National Infrastructure Development Plan, which brings together all of the government's infrastructure delivery priorities over the next five years, and the National Infrastructure Construction Pipeline, which is a forward-looking pipeline of planned projects and programs in economic and social infrastructure and housing.

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Public and Private Infrastructure Investment Management Center (PIMAC), the Republic of Korea

The role of the Public and Private Infrastructure Investment Management Center (PIMAC) in the project preparation process presents a case of continuous learning and adaptation. Created to enable the comprehensive and systematic management of both traditional public investment projects and PPPs, PIMAC is organised along three divisions, namely (i) the public investment division; (ii) the public-private partnerships division; and (iii) the policy and research division.

- The public investment division conducts and manages Pre-Feasibility Studies (PFS), supports policy research on public investment management and undertakes program evaluation and performance management of public investment projects.
- The PPP investment division formulates PPP Annual Plans and develops PPP guidelines, conducts evaluation of PPP projects, undertakes research on PPPs, supports financing and refinancing of PPPs, and undertakes capacity building and training.
- The policy and research division supports research on project evaluation methodology and project appraisal, and manages the Reassessment Study of Feasibility (RSF).

It has spearheaded multiple policy and process interventions to improve the quality of project preparation including the following:

- **Independent review process for project approval:** The PIMAC provides an independent review for project preparation by conducting various studies and evaluations including the PFS, RSF, Reassessment of Demand Forecasts (RDF) and Value for Money (VfM) analysis (for PPP projects). While the PFS provides an initial filter for project selection, the RSF and RDF reformulate and independently check outcomes of feasibility studies and demand forecasts. PIMAC assembles a multi-disciplinary expert team along with its in-house staff for these evaluations. The review leverages PIMAC's multi-sectoral internal know-how and brings in expertise from external stakeholders, including from KDI (project management), university professors (transportation demand analysis), and private engineering firms (cost estimation).
- **Stakeholder engagement in project development:** PIMAC's PFS studies are guided by a transparent stakeholder engagement process and follow a 'five meeting rule'. The five meeting rule includes i) Progress check meeting; ii) KDI 1st Check meeting; iii) MOEF 1st Check meeting; iv) KDI 2nd Check meeting; and v) MOEF 2nd Check meeting. The review covers MOEF, line ministries, PIMAC and field specialists from private and public sectors.
- **Mapping guidelines for preparatory activities:** PIMAC has formulated guidelines for all major project appraisal and approval processes, including the Basic PPP Plan, VfM test guidelines, RfP preparation, tender evaluation, Build-Transfer-Lease (BTL) project management, etc. In a bid to standardise output quality, PIMAC has also prepared standard output specifications by facility (schools, military housing, and integrated school facilities) and standard guidelines for PFS in general, road and railway sectors.
- **Risk distribution frameworks and cost management:** PIMAC has evolved revised risk-sharing mechanisms, including, for instance, incorporating lessons from the former Minimum Revenue Guarantee scheme, to enhance private interest while rationalising government support. PIMAC also undertakes resource (cost and time) reviews for large projects at each stage of the project lifecycle under its Total Project Cost Management (TPCM) framework.
- **Capacity building program:** PIMAC offers periodic capacity building programs for elected officials and technical staff. This includes domestic programs sponsored by PIMAC and MOEF or international programs by multilaterals or donor agencies. The objective is to inculcate learnings from PPP processes globally.

B. Sector-specific agencies may be needed when investment and/or transformation needs are significantly large.

While central specialised agencies can help create wider harmonisation of project preparation practices and guidelines, in many cases, sector-specific entities may need to be created or empowered, especially when large ambitious sector-wide programs need to be rolled out.

Sector-specific entities are particularly crucial when investment commitments are large, and where such investments are being managed as a multi-year long-term program. While such entities are typically vested with a project implementation role, strengthening their capacity to build rigour in project preparation becomes particularly crucial for consistently bringing high-quality projects to market.

SECTOR-SPECIFIC AGENCIES – EPL BRAZIL AND NHAI INDIA

EPL Brazil's role in project preparation for multi-modal transportation

While Brazil's national planning process resulted in alignment in project selection, project preparation was constrained by unclear criteria for project appraisal and independent reviews. To address this gap, the Brazilian Planning and Logistics Company (EPL), a public company, was set up in 2012, to support project planning and preparation for multimodal transportation. EPL works in coordination with the Ministry of Transportation and the Ministry of Planning and its key areas of support include:

- **Preparation of the National Logistics Plan and multi-modal plans** – EPL prepared a multi-year *National Integrated Logistics Plan 2035 (PNL)* identifying a portfolio of projects and a priority list of actions to debottleneck the sector. The PNL is prepared based on global best practices and simulates scenarios based on a dynamic four-step model, a tool that estimates inter-zonal traffic flows considering trip generation and distribution, modal choice and flow allocation.
- **Preparation of support studies for transportation projects** – EPL provides support to line departments in undertaking technical and financial studies for projects. EPL may hire external transaction advisors for the studies and ensures monitoring and quality review of these studies.

- **Driving innovation and quality assurance** – EPL has also brought in methodological and technological innovations to project studies, including the use of an updated transport matrix for viability assessment. EPL is developing an independent business case model for transport projects with technical assistance from the Government of the UK and the IPA. It has long-term arrangements with the International Finance Corporation (IFC) for technical and financial support.
- **Transparency in project preparation** – EPL mandates that detailed project information and project documents prepared by the entity shall be uploaded in the project portal. Further, every project is required to go through a public hearing process and make disclosures with respect to the changes in the project studies post public hearing. The cost of project studies for EPL may be reimbursed by the winning bidder in the case of PPP projects.

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NHAI India – Scaling up India’s national highways in a bankable and programmatic manner

The National Highways Authority of India (NHAI) was established in 1988 to develop, maintain and manage national highways in India. It came to prominence after it was mandated to develop 50,000 km under the National Highways Development Project (NHDP) and more recently an additional 75,000 km under the Bharatmala program. The NHAI has been instrumental in mobilising private funding for the development of highways and has pioneered a transition in infrastructure financing from traditional public procurement to PPPs within a very short period.

In the mid-nineties, PPPs in the highways sector received a lukewarm response from the private sector, owing to poor project preparation and a lack of standardised contractual frameworks. NHAI was among the first to introduce model concession agreements (MCAs) for national highways, under the Build-Operate-Transfer (BOT) model. Subsequently, NHAI has standardised MCAs for different modes of project execution, thus improving efficiency and transparency of risk-sharing.

Concurrently, NHAI has also developed and maintained a standardised set of procedures to be followed while undertaking project preparation activities.

NHAI also routinely hires external consultants or experts to prepare project preparation documents. To enable quality assurance, NHAI undertakes independent reviews of project feasibility studies, through a specialised team within NHAI or through the empanelment of peer consultants. As the apex agency for national highways projects in India, NHAI also routinely undertakes market consultation exercises, to glean feedback from developers, investors and bankers on the challenges faced by national highway projects and redressal mechanisms to be explored. As of 2018, NHAI has awarded more than 610 projects, of which approximately 300 projects were undertaken as PPPs.

C. When central agencies are vested with multiple roles, capacity and conflicts need to be handled carefully.

Central agencies often handle multiple roles, and this can create potential capacity and conflict of interest challenges.

The sheer size of the infrastructure challenge alone in most countries can overwhelm infrastructure agencies. Many of the agencies are vested with a multi-sectoral role and to deliver on their mandate, they have to deal with multiple GCAs, government departments and other stakeholders, often across different sectors and geographies. Second, in terms of their functional roles, these agencies are required to handle a variety of functions, including the formulation of guidelines and standards, procurement of consultants, planning for project preparation, oversight of feasibility evaluations and, in many cases, supporting GCAs through time-consuming PPP transactions. Therefore, there is a real possibility that the agency’s role can become diffused. With a diverse mandate, it can very quickly become overwhelmed, in terms of the sheer expectations and workload relative to its capacity.

Similarly, the possibility of conflicts of interest arising within such agencies is very real, given that they may often be called upon to play a role in identifying and preparing projects, while also being asked to provide inputs into the project reviews and approval process. Effectively, there could be a situation where the agency is asked to develop a project while also evaluating its feasibility. Conflicts may also arise when they have some form of public-private arrangement and where success fees are paid for closing transactions. Handling such situations becomes particularly challenging in the early stages, when capacity constraints may limit their ability to create safeguards in the form of separation across functions⁸.

To address these challenges, governments need to ensure that appropriate measures are put in place in respect of the creation and management of these central agencies.

1. **Clear mandate and business plan:** Central agencies should prepare annual and multi-year business plans to clarify the scope of their operations and activities under different categories of activities, for instance, under project preparation, and support to GCAs in transaction advisory.

⁸ http://web.worldbank.org/archive/website01021/WEB/IMAGES/311DUTZ_PDF

2. **Clear ring-fenced revenue streams:** The agency should be provided with clear and ring-fenced revenue streams commensurate with the scope of their mandate and operations.
3. **Transparent governance:** The agency should ideally have a corporatised structure and be governed by an independent board.
4. **Organisation and staffing:** Organisational structure and staffing should be commensurate, in terms of number and quality of staff, complemented with external experts as appropriate.
5. **Conflict management:** A well-formulated policy should be implemented to identify and address potential areas of conflict, including through clear functional separation and, wherever possible, avoidance of conflict by assigning the conflicting function to a different agency. Also, any policy-making roles that conflict with the nature of work done by the central agency should be ideally housed outside the agency, for instance, in the Ministry of Finance.

MANAGING CONFLICTS AND CAPACITY CHALLENGES

The Netherlands – separation of policy and project preparation roles

In the Netherlands, the policy and implementation functions are housed under separate distinct entities. While the Ministry of Infrastructure and Water Management (MIWM) oversees the drafting of policies for infrastructure development, project preparation and procurement is undertaken by Rijkswaterstaat, the implementing agency of MIWM. Rijkswaterstaat is responsible for the construction and maintenance of the main roads network, the waterway network and major water systems.

D. Distinct governance structures may be necessary to prepare and implement large complex projects.

The more complex a project, the more necessary it becomes to create an enabling structure operating outside of the government's bureaucratic framework. This helps with the compartmentalisation of efforts and financing, culminating in effective project delivery. In some cases, special agencies are set up for implementing such large complex projects, under which project preparation capacity is also undertaken.

DISTINCT 'PROJECT LEVEL' STRUCTURES

South Africa – REIPPP Programme

The Department of Energy (DoE) and the National Treasury's PPP Unit established the DoE IPP Unit to implement South Africa's ambitious Renewable Energy IPP Procurement (REIPPP) Programme. This unit functioned outside of the departmental structure and was staffed with cross-functional experts from both departments.

United Kingdom – Crossrail Ltd.

In the UK, major projects are often implemented through special agencies with their own budgets. For example, Transport for London (TfL), the local government transport body for Greater London, set up Crossrail Ltd. to implement new railway lines in London. Once completed, these lines will be transferred to TfL for operations.

India – Delhi Metro Rail Corporation Ltd. (DMRC)

The Delhi Metro Rail Corporation Limited (DMRC) was set up as a joint venture between the Government of India and the Government of the National Capital Territory of Delhi (GNCTD) in 1995 to construct a metro rail network for Delhi and the National Capital Region. This special agency was responsible for preparing and implementing projects to provide the city of Delhi and adjoining areas with metro rail connectivity. Phase I of the Delhi Metro covered 65 km and was constructed at a cost of US \$2.1 billion. The network of Delhi metro has since been expanded to over 350 km.

E. Building complementary capacity in GCAs is crucial for project preparation effectiveness.

Traditionally, the responsibility for infrastructure project preparation and implementation has been vested with the respective line departments and GCAs. However, even GCAs with relatively strong organisational and technical capacity have often relied on traditional public procurement processes and are often short on capacity and know-how to undertake PPP transactions.

As a result, a number of countries have created PPP units to address these gaps and to create a centre of excellence wherein such capacities are nurtured and housed. However, unless such capacities are widely created, a large-scale expansion of infrastructure could be severely constrained.

This is also evident in how countries like the United Kingdom and Korea, which were relatively early movers in creating central agencies (Infrastructure UK and its successor IPA in the United Kingdom, and PIMAC in Korea), continued paying considerable attention to strengthening capacity across a range of GCAs in different sectors. In both these countries, the agencies were not only responsible for individual project feasibility reviews, but for creating standards, guidelines and tools that were eventually adopted by other GCAs, including at the level of sub-national governments, leading to a harmonised replication of leading practices.

To sum up, a robust policy framework that provides stability, certainty and consistency of government commitment to infrastructure creation, coupled with an empowered and well-governed institutional framework that is able to effectively translate policy goals into bankable and implementation-worthy projects, forms the backbone of infrastructure project preparation. Nurturing an enabling environment for infrastructure project preparation starts here. The following chapter looks at another crucial enabler, the sustained and diversified availability of financing for project preparation.

3. Financing project preparation

3.1. OVERVIEW

The preparation of infrastructure projects often requires intensive work across multiple stages to get from an identified project need or concept through to feasibility evaluation, project structuring, reviews, and approvals, before it becomes procurement-ready.

There is a growing realisation that what is needed is a full lifecycle approach that examines aspects of the project throughout the construction and operations stages, as opposed to an overriding focus solely on asset creation, along with a sharper crystallisation of outcome specifications to be delivered.

Further, many projects require an assessment to determine whether to deliver the project using the PPP model, which calls for the evaluation of additional elements during preparation. These include an analysis of project risks, structuring options for optimal risk allocation and transfer, Value for Money analysis, and level of government support required, along with implications on fiscal costs and contingent liabilities, wider stakeholder engagement and market sounding, and greater rigour in contract documentation.

As a result, project preparation becomes significantly more multi-disciplinary, requiring an array of deep and diverse skills and expertise across technical, economic, social, environmental, and financial aspects. Yet, GCAs mandated to implement infrastructure projects are often not fully equipped with these skillsets and have to source assistance from consulting firms, subject-matter experts, legal firms, academic institutions, and research institutions to prepare projects effectively. This increased complexity and need for access to specialised external expertise leads to an increase in the costs of infrastructure project preparation.

Infrastructure project preparation costs in developing countries typically range from 5-10% of the total project investment, and about 3-5% of project costs in developed countries. Also refer to *Exhibit 3.1*.

Exhibit 3.1 Indicative estimates of project preparation costs (as a % of total project cost)

Source	Range of costs
Global Infrastructure Basel: Unleashing private capital investments for sustainable infrastructure greenfield projects, 2014	3-5% in developed markets, could go up to 10% in frontier markets
United Nations: Catalysing early stage investment, 2011	5%
Global Green Growth Institute: Infrastructure finance in the developing world, 2015	5-10%
World Bank	3-5% in developed economies; 10-12% in emerging economies
InfraCo Africa	10% in small-scale energy projects

These cost figures are only indicative, as project preparation costs vary widely, based on factors such as:

- the project size and complexity;
- the project's development as a standalone project or as part of a wider program;
- if the project is in a single geographic location or across several regions;
- the extent of technical detailing needed;
- the severity of social and environmental impacts;
- the duration of the preparation process; and
- the extent of upstream preparation.

In many instances, capacity-constrained GCAs, especially in EMDEs, are either unfamiliar with the nature of project preparation requirements or lack adequate financing for project preparation. This typically results in projects being taken to procurement without the requisite readiness, which leads to cost and time overruns during implementation.

Establishing adequate ring-fenced resources for financing project preparation is, therefore, yet another critical enabling requirement to effectively implement infrastructure projects. The country-lens analysis suggests that governments have typically addressed financing for project preparation through three streams, as described below:

1. **Dedicated PROJECT DEVELOPMENT FUNDS (PDFs)**

Many countries have set up project development funds or facilities (PDFs) as dedicated financing vehicles supported by the requisite oversight and staffing for conducting feasibility studies and transaction advisory support for infrastructure projects. Typically, these PDFs are supported with a revolving fund and focus mostly on developing PPP projects, where the costs of project preparation are typically higher. The PDFs also help to set processes and standards in procuring advisors, in developing terms of reference for studies, and in ensuring rigour in feasibility evaluations through multi-stage reviews.

2. **External PROJECT PREPARATION FACILITIES (PPFs)**

As a response to infrastructure project preparation needs, external project preparation facilities (PPFs) have been created by MDBs as another source of financing for governments to prepare bankable infrastructure projects. While some facilities have reached operational maturity and are seeking resource replenishment and expansion, others are in the early stages of development. Such external facilities are also being created by bilateral Development Finance Institutions (DFIs) and global non-government organisations and foundations.

3. **GCA BUDGETS**

Notwithstanding these dedicated funding avenues through PDFs and PPFs, project preparation financing for infrastructure is dominated by government budgetary allocations to GCAs. Therefore, even as governments seek to create dedicated PDFs and to tap external PPFs, they will still do well to use higher levels of financing from budgetary allocations, while also making their deployments more efficiently.

This chapter addresses the salient aspects of these streams of financing available for project preparation:

- **Project Development Funds (Section 3.1)**
- **Project Preparation Facilities (Section 3.2)**
- **Government budgets (Section 3.3)**

3.2. PROJECT DEVELOPMENT FUNDS

3.2.1. Background

Many governments have set up central Project Development Funds (PDFs) as a means to provide dedicated financing for project preparation and also to counter capacity gaps among GCAs in developing complex infrastructure projects. While projects implemented with public financing are also supported, these funds tend to have a relatively greater focus on developing PPP projects.

At the same time, PDFs are often more than pots of money. They are generally accompanied by institutional mechanisms to create public capacity. PDFs have typically been set up under PPP units, housed in the Ministry of Finance, or under dedicated central agencies mandated to handle project preparation (discussed earlier in *Chapter 2* under

Public institutional capacity). These agencies are typically mandated to create processes, guidelines, and standards to undertake project development activity and to build capacity.

PDFs can be set up in an array of different forms at the national and sub-national government levels. They can be set up with government funding and can be structured to recover costs (especially for PPP projects, where the costs of project preparation are often recovered from the winning private bidder). They can also be created with a thematic focus (e.g. environmentally-friendly green infrastructure projects, such as renewable energy), or a sectoral focus (a transportation or water and sanitation fund). The table below presents an overview of key design considerations that must be addressed during the establishment and operations of PDFs.

<i>Purpose and role of PDFs</i>	<p>Sector focus – e.g. Transport, energy, social infrastructure</p> <p>Thematic focus – Green projects, projects with climate resilience impacts</p> <p>Coverage of assistance – Upstream enabling policy formulation, OBCs, pre-feasibility, feasibility, PPP transaction advisory, contract management support</p>
<i>Institutional framework for PDFs</i>	<p>Governance and approvals</p> <p>Operating framework and processes for disbursement to implementing agencies</p> <p>Cost recovery framework</p> <p>Guidelines for engaging consultants</p>
<i>Eligibility criteria</i>	<p>Sectors</p> <p>Nature and size of projects</p> <p>Eligible GCAs</p> <p>Project preparation work already undertaken</p> <p>Sharing of project preparation costs by GCAs</p> <p>Project preparation activities for which PDF support can be used</p> <p>Recovery of PDF support</p>
<i>Limits of PDF support</i>	<p>Overall limit of PDF support</p> <p>Limit to individual projects</p> <p>Limits at various stages of project preparation</p> <p>Sector caps, if any</p>
<i>Sources of funding for PDFs</i>	<p>Government budgetary allocation</p> <p>MDB and donor contribution</p> <p>Cost recovery</p>
<i>Risk management</i>	<p>Risk management and monitoring procedures</p>

3.2.2. Guidance

Key elements of the guidance framework under Project Development Funds are summarised below:

- A. Clarity of PDF objectives, scope of operation, and interface with GCAs is critical.
- B. PDFs should be backed by effective governance, institutional capacity and sustainable financing.
- C. Support to project preparation financing for sub-national governments should be institutionalised.
- D. Allied mechanisms for project preparation need to be developed alongside PDFs.

A. Clarity of PDF objectives, scope of operation, and interface with GCAs is critical.

For PDFs to be effective, clarity on the strategic objectives underlying their creation, their scope of operation and their interface with GCAs is crucial. Key considerations while setting up PDFs are discussed below:

- **Sectoral and thematic focus:** It may be prudent for governments to direct financing to high priority sectors and projects above a threshold investment scale, especially in the initial years, to achieve better value for money and create the required demonstration effect. For example, Mexico has been able to scale up its toll road program and mass transit program supported by sectoral focused facilities under FONADIN and PROTRAM.
- **Scope of support:** Spelling out the scope and boundaries of project preparation of PDFs is equally critical. For instance, in some cases, access to financing from PDFs is made available only for feasibility studies, and pre-feasibility and outline business case studies are excluded. This creates challenges when GCAs do not have capacity to handle these early-stage preparatory studies. PDFs may need to be designed to provide flexibility to support project preparation activities across the wider spectrum.
- **PPP vs. traditional public procurement:** This study indicates that the majority of PDFs being set up are housed in or administered by PPP units, have been enabled by the country's PPP law (for example, in Kenya and Indonesia), and tend to have a relatively greater focus on projects amenable to the PPP model. It is also important to recognise the limitations in making decisions on financing sources early in the project preparation lifecycle. PDFs should ideally allow for the decision on financing sources to evolve through the course of project preparation if necessary and should remain open to different structures during early stage project development.
- **Voluntary vs. compulsory:** Access to PDFs is typically provided on a voluntary basis, and GCAs that are reluctant to opt for the PPP model of implementation sometimes opt out of project preparation through the PDF. However, the use of PDFs can be incentivised, for instance, by creating clear criteria for budget support based on the rigour of early stage project preparation and the threshold quality of feasibility reports. This will incentivise GCAs to use the PDF route.
- **Approach to handling conflicts:** Two areas deserve attention in terms of potential conflicts of interest. The first one pertains to the linkage of cost recovery of PDFs with project completion. While faster project completion is a legitimate objective to be incentivised, this could sometimes lead to a compromise in project preparation for faster project implementation. Conflicts may also arise when the management of PDFs is entrusted to entities involved in project financing or if the private partner involved in the operation of the PDF also handles downstream project implementation. While care must be taken to avoid such conflicts by design, it may not be possible to eliminate all. Checks and balances, in the form of independent reviews, transparent disclosure by PDFs and GCAs on project preparation activities, and restrictions on private partners involved in project preparation from downstream implementation, should be built into PDF guidelines and enforced diligently.

INDONESIA'S PROJECT DEVELOPMENT FUND

In Indonesia, the Ministry of Finance (MoF) established its own Project Development Facility (PDF) under its Director of Government Support and Infrastructure Financing Management, to assist government contracting agencies in hiring transaction advisors and undertaking feasibility studies and PPP procurement. Since it was set up under the PPP Unit, the PDF activities largely focus on preparing infrastructure projects to be developed using the PPP model.

Indonesia's PDF has generally been used to provide support to mid-stage activities in terms of detailed feasibility studies and subsequent transaction advisory, and so far has not been used for early-stage outline business case preparation and pre-feasibility studies, as these have been financed by GCAs or other institutions, such as BAPPENAS. Additionally, actual project preparation is supported by institutions like PT SMI, a public infrastructure finance institution. Recently, access to funds for project preparation under the PDF has been opened up to other agencies, such as the Indonesia Infrastructure Guarantee Fund (IIGF), in a bid to accelerate the scale and pace of

B. PDFs should be backed by effective governance, institutional capacity and sustainable financing.

PDFs need to be supported by effective institutional mechanisms that are well-governed, adequately staffed and financially sustainable. Key considerations in managing PDFs from an institutional perspective are discussed below:

- **Governance and oversight:** PDFs are typically governed by independent boards that approve project preparation financing requests from GCAs and issue well-laid out guidelines for financing approval. The funds are typically disbursed to a central project development agency or GCAs that are mandated to prepare projects under these guidelines. Procurement practices and guidelines for engaging consultants, experts and transaction advisors are also typically prescribed for the utilisation of funds from the PDF.
- **Institutional models:** An arm's length separation of responsibility needs to be ensured between project preparation financing and actual project preparation. PDFs should be managed like corporatised entities, such that they are responsive and agile to the needs of GCAs and private investors. There are multiple models for institutionalising PDFs and project preparation capacity:
 - *PDFs administered under a PPP unit* within the Ministry of Finance, which operates as a gatekeeper for the approval of funds for project preparation, while actual project preparation (including engaging consultants and transaction advisors and conducting studies) is performed by another central project preparation agency or GCA. This model is prevalent in Indonesia.
 - *PDFs administered under a board or committee*, which also oversees the central agency responsible for project preparation, as is the case in the Philippines.
 - *PDFs administered under an SOE or a development finance institution (DFI)*, as in the case of FONADIN in Mexico.
- **Organisation and staffing:** The agency(ies) charged with project preparation must be staffed commensurately. This should include the procurement of technical experts that are well-versed in PPP policy, transaction requirements and contract structures. They also need to be capable of formulating and applying guidelines for engaging consultants and transaction advisors on behalf of line agencies. A good understanding of infrastructure procurement policies and enactments at the national and sub-national levels, including guidelines and regulations governing PPP projects, is also a critical requirement.
- **Sustainable financing:** PDFs need to be financially sustainable and are often set up by governments with support from MDBs. For instance, the PDF in Kenya was set up using World Bank technical assistance, while the Philippines PPP Center was set up with the assistance of the Asian Development Bank (ADB). PDFs are often set up as a revolving fund that supports both conventional and PPP projects, where project development costs are reimbursed by the successful bidder(s). Even where such cost recovery is attempted, PDFs tend to have lower success rates in the early years. Therefore, committed budgetary support, especially in the early years, is crucial to keep the PDF sustainable.

THE PHILIPPINES PPP CENTER AND ITS PROJECT DEVELOPMENT AND MONITORING FACILITY (PDMF)

The Philippines PPP Center

The PPP Center serves as the central coordinating and monitoring agency for all PPP projects in the Philippines. It champions the country's PPP program by enabling implementing agencies in all aspects of project preparation, managing the Project Development and Monitoring Facility (PDMF), providing project advisory and facilitation services, advocating policy reforms to improve the legal and regulatory framework for PPPs and providing technical assistance in project preparation and implementation.

Through Executive Order No. 136, the PPP Center acts as the Secretariat of the PPP Governing Board (PPPGGB). The Board is the overall policy-making body for all PPP-related matters, including the administration and management of PDMF. Thereby, PPPGB is responsible for creating an enabling policy and institutional environment for PPPs in the Philippines.

As part of its mandate to further develop PPPs in the country, the PPP Center also undertakes various initiatives to educate and train the implementing agencies on the general principles and processes of PPPs. It conducts trainings and workshops on PPP basics for GCAs and sub-national governments. At present, there is an increasing emphasis on improving the capacities of sub-national governments. The PPP Center supports pre-investment activities through the PDMF to create a pipeline of viable PPP projects.

The Philippines Project Development and Monitoring Facility (PDMF)

The PDMF is a revolving fund created with an investment of US \$84⁹ million from the Philippines Government and US \$18 million from the Australian Government.

PDMF is under the administration and management of the Philippines PPP Center and its funding is an integral part of the PPP Center's operations and at the core of the PPP Center's ability to deliver on its mandate. The aim of setting

up the PDMF is to provide funding and facilitate PPP project preparation and monitoring. It provides financing to engage external consultants and transaction advisors to assist implementing agencies in their pre-investment activities for potential PPP projects and develop a pipeline of viable, bankable projects. PDMF can also be tapped by implementing agencies for probity advisory during the bid process, and engagement of independent consultants to monitor the implementation of PPP projects.

Following the approval of assistance by the PDMF Committee for a specific PPP project, the PPP Center sets up a Special Bids Awards Committee, which is tasked with the selection of consultants, and the Project Study Committee/Project Monitoring Committee/Project Implementation Committee, which evaluate the deliverables of consultants and advisors, ensuring quality outputs.

One of the key features of the PDMF is the establishment of three panels of consultants (both international and national firms) that are pre-qualified under ADB procurement guidelines, namely the Panel of Project Preparation and Transaction Advisory Consultants with 22 members, the Panel of Probitry Advisors with six members, and the Panel of Independent Consultants with 10 members. ADB procurement guidelines ensure that there is a quick and effective process for pre-qualification and selection of advisors. The actual process of the selection of consultants and transaction advisors is a two-stage process. The first stage comprises of the pre-qualification, selection and retention of a panel of consulting firms under an indefinite delivery contract (IDC) facility for a duration of three years (which may vary each time depending on the discretion of the PPP Center). The second stage of the process is the actual selection of an advisor or consultant from the panel on a competitive basis. The selected consultant is then responsible for pre-feasibility, project preparation and transaction execution; probity advisory; and/or monitoring of project implementation.

⁹ As of December 31 2018.

C. Support to project preparation financing for sub-national governments should be institutionalised.

The focus on infrastructure development is increasingly moving to sub-national governments. Many countries are now seeing greater participation in infrastructure investment by sub-national governments, vis-à-vis the dominating presence of national governments in this sector from years prior.

This shift in government involvement must be handled with extreme care – where national governments have had relatively deeper experience to build capacity and support project preparation activities, contracting authorities at the sub-national level could have limited resources to prepare bankable projects or even enhance development capabilities. Therefore, it becomes imperative to ensure that contracting authorities at the sub-national level have adequate access to the resources required to prepare projects.

One of the ways to achieve this is for national governments to provide budgetary support by way of grants to sub-national governments for project preparation. Typically, these funds are not ear-marked

for preparation activities alone, and are provided for infrastructure development within the state or province as a whole. In this arrangement, it is up to the sub-national government to manage expenditure efficiently, and ensure contracting authorities have access to financing for project preparation.

Alternately, some PPFs that assist sub-national governments have also established dedicated funds to assist project preparation at the sub-national level. For example, the Public-Private Infrastructure Advisory Facility (PPIAF), a multi-donor PPF financed by over 11 multilateral and bilateral donors and housed within the World Bank Group, has a Sub-National Technical Assistance (TA) program, under which PPIAF provides technical assistance activities to sub-national governments by way of capacity development initiatives.

In some countries, sub-national governments have also developed sophisticated mechanisms to address this issue, by way of setting up project preparation funds specific to the state or province.

FACILITIES TO SUPPORT SUB-NATIONAL PROJECT PREPARATION

National interventions

Governments have established national funds to support project preparation and support public sector capacity in sub-national governments. Two examples of such facilities are Brazil's Supporting Fund to Partnerships Structuring (FAEP) and Mexico's National Infrastructure Fund (FONADIN). A unique example covered within the Mexico country case study (see *Appendix A*) is the Government of Mexico's federal mass transit program (PROTRAM), which was created in 2009 within FONADIN, to drive scale and efficiency in the mass transit sector, in line with the national objective of a low-carbon growth plan. Under PROTRAM, facilities for financing preparatory studies and driving investment in mass transit projects were provided to local governments. PROTRAM is funded by national toll road revenues and financed partly by MDB loans from the World Bank and the Inter-American Development Bank. The local governments provide the project plan and request preparatory financing from PROTRAM. The project goes through strict eligibility criteria and superior standards of project appraisal and review, until it is finally approved by the relevant committees in PROTRAM and FONADIN.

Sub-national interventions

Select sub-national governments in India have established project development facilities to support project preparation, especially in the urban infrastructure sector. One unique example is the establishment of the Project Development Grant Fund (PDGF) in the State of Tamil Nadu. The fund has been financed with government assistance and development agencies such as the World Bank, KfW and JICA. The PDGF is used to provide grants to carry out consultancy assignments, to operate and manage resource mobilisation programs, and to implement capacity building, development and training. The Government of Orissa has also established a state level project development fund, in partnership with KfW, to finance project preparation and the development of bankable projects. In addition to funding project feasibility studies, it supports the preparation of city development plans and pre-feasibility studies for infrastructure projects.

D. Allied mechanisms for project preparation need to be developed alongside PDFs.

PDFs do not operate in a stand-alone manner and need to be supported with sustained actions and mechanisms to ensure smooth project implementation. As discussed in *Chapter 2* above, elements of a conducive enabling environment include a favourable policy framework and effective public institutional capacity.

In general, PDFs in most countries have been created as part of a wider enabling mechanism for catalysing PPPs, including the formulation of PPP laws, frameworks for providing Viability Gap Funding (VGF), and for managing fiscal costs and contingent liabilities (FCCL) arising out of government support requirements for PPP projects. Additionally, wider reforms, such as sector-specific policies, tariff reforms, restructuring of state-owned enterprises (SOEs), land management and labour reforms, are a critical requirement to facilitate effective project preparation.

ENABLING FRAMEWORK FOR PPPS IN KENYA – Multiple interventions

The Government of Kenya collaborated with the World Bank in February 2013 under the Infrastructure Finance Public-Private Partnerships (IFPPP) Project to establish a stable, predictable and transparent investment environment, along with a pipeline of finance-worthy projects. The US \$40 million program is aimed at three key areas of development: i) enabling environment; ii) project pipeline; and iii) project financing. As of September 2018, the program is supporting over 71 projects at various stages of development. Key features of the enabling framework are summarised below:

- After the enactment of the PPP Law in 2013, the IFPPP strengthened the central PPP Unit and created over 57 PPP nodes¹⁰. Under the IFPPP Project, hands-on, skill-based and project-based training was offered to strengthen the capacity of the PPP Unit staff and the project teams. Officials could also undertake the APMG's PPP Certification Program¹¹.

- The Project Facilitation Fund (PFF) was created to support project preparatory studies for PPP projects. The PFF was established as a multi-purpose fund to provide financial assistance to: i) support GCAs in the preparation, appraisal and tendering phases of PPP projects; ii) support activities of the PPP Unit; iii) extend Viability Gap Funding to PPP projects; and iv) provide a source of liquidity to meet contingent liabilities arising from PPP projects.
- The Public Debt Management Office (PDMO), a department within the National Treasury, manages a progressive two-stage Fiscal Commitment and Contingent Liabilities (FCCL) Framework, which is built on both quantitative and qualitative methodologies to evaluate risks arising from PPPs.
- The PPP disclosure portal provides considerable literature on the existing PPP processes and all non-confidential information related to PPP projects, and the PPP Unit is mandated to act as a central repository of PPP projects and undertake continuous monitoring and comparative assessment (ranking) of PPP projects.

¹⁰ A contracting authority that intends to enter into a PPP arrangement with a private party must establish a PPP node, which is headed by the accounting officer of the contracting authority.

¹¹ The APMG PPP Certification Program is an initiative of the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IDB), the Islamic Development Bank (IsDB), the Multilateral Investment Fund (MIF), the World Bank Group and the Public-Private Infrastructure Advisory Facility (PPIAF), to provide infrastructure practitioners with a formal accreditation demonstrating alignment with international PPP good practice.

3.3. PROJECT PREPARATION FACILITIES¹²

3.3.1. Summary

Project Preparation Facilities (PPFs) are a response to address the inadequate availability of a bankable, investment-ready project pipeline in many EMDEs.

PPFs seek to provide financing support to EMDE governments for investing in early stage project preparation and to help them in improving the efficacy of project preparation practices with the eventual goal of reducing time span from project development to financial closure considerably. A number of MDB-led PPFs have been set up with different arrangements and regional focuses. The following are examples of the forms PPFs can take:

- **PPFs that pool resources and are jointly managed:** These include the EU PPP Project Preparation Facility for the Southern Neighborhood (MED 5P), funded by the European Commission and led by the European Investment Bank (EIB), in partnership with the European Bank for Reconstruction and Development (EBRD), the African Development Bank (AfDB), Kreditanstalt für Wiederaufbau (KfW) and the Union for the Mediterranean; and the Arab Financing Facility for Infrastructure (AFFI) Technical Assistance Facility, funded by the World Bank Group (WBG), the Islamic Development Bank (IsDB), the EIB, the International Finance Corporation (IFC) and the Arab Fund for Economic and Social Development (AFESD).
- **Regional, sub-regional or country-focused PPFs:** These include the Inter-American Development Bank's (IADB's) InfraFund, and the New Partnership for Africa's Development Infrastructure Project Preparation Facility (NEPAD-IPPF). The AfDB's Africa50 initiative provides project preparation capacity within a development-oriented, yet commercially-operated innovative entity. The innovativeness of the Africa50 lies in its integrated approach of being a "one-stop shop" which combines early stage project preparation and development work with long-term debt funding.
- **Relatively recent initiatives:** PPFs, including the EBRD's Infrastructure Project Preparation Facility (IPPF), the ADB's Asia Pacific Project Preparation Facility (AP3F) and the World Bank Group's Global Infrastructure Facility (GIF), have been launched relatively recently.

Apart from financing project preparation at different stages of the project preparation lifecycle, including pre-feasibility, feasibility, and design, most PPFs provide technical assistance and capacity building support. PPFs are also diverse in terms of thematic areas, sectoral focus, and geographic scope. They operate in a non-reimbursable mode through grants, or in a reimbursable mode, where a portion of costs are either recovered from governments or from the winning bidder.

FINDINGS FROM A RECENT SURVEY ON MDB-LED PPFs

A survey on PPFs operating under 10 MDBs in May 2018 made the following observations informing the development of the MDB Infrastructure Cooperation Platform's *Guidance Note on PPF Structure and Operations*:

- **An increase in the number of PPF initiatives:** All MDBs surveyed had at least one PPF in operation, and five of them operated multiple PPFs. Over 80% of PPFs had been created after 2015, reflecting the ramp-up of PPFs in recent years.
- **Sustainability and cost recovery:** Eight of the 10 PPFs are funded with a mixture of internally retained earnings and external donor support. Seven of 10 PPFs provided project preparation support on a partially reimbursable model.
- **Support beyond PPPs:** Seven out of 10 PPFs support the preparation of both PPPs and public sector projects.
- **Scale:** An estimated US \$600 million has been committed to PPFs across the MDB landscape since 2015, ranging in size from US \$7 million to US \$107 million. Nearly 200 project preparation initiatives have been launched since 2015 across primary PPFs, supported by over 200 MDB staff, who are typically structured finance and/or PPP specialists. The total value of projects collectively under preparation under the MDB-led PPF initiatives since 2015 is estimated at US \$50 billion.

¹² With inputs from the MDB Infrastructure Cooperation Platform's Project Preparation Workstream 'Guidance Note on PPF Structure and Operations' (November 2018), and 'Partnering to build a better world: MDBs' common approaches to supporting infrastructure development', prepared by MDBs for circulation to the G20 Development Working Group and G20 Infrastructure Working Group in September 2015.

3.3.2. Guidance

Key elements of the guidance framework under PPFs are summarised below:

- A. A clear alignment between government objectives and PPF offerings is crucial to derive value.
- B. Countries in the early stage of infrastructure scale-up should seek support in upstream activities and in improving public investment efficiency.
- C. EMDE governments should see PPF support as a means to accelerate local capacity creation.

A. A clear alignment between government objectives and PPF offerings is crucial to derive value.

PPFs address various different facets of project preparation and it is important for governments to align and set clear objectives of their engagement with PPFs early on.

The nature and scope of engagement between PPFs and governments is contingent on the stage of readiness of the country's enabling environment for a ramp-up in infrastructure implementation. For instance, in countries where the enabling environment, in terms of clear policy frameworks and institutional mechanisms (described in *Chapter 2*), is not in place, governments should engage with PPFs to strengthen upstream activities. Similarly, when infrastructure plans and project pipelines are not yet in place, the focus of support should be on articulating a clear infrastructure vision, creating sectoral plans and developing a credible projects pipeline to be taken through the various stages of implementation.

Only when these prerequisites are in place does it become effective for governments to utilise the downstream project preparation support offered by PPFs. Governments may need to make a judicious choice of the PPF with which it wishes to engage, based on the fit of the PPF's service offerings, sector focus, priorities and needs of the government.

PROJECT PREPARATION SUPPORT FROM PPFs: Kigali Bulk Water Supply project

The Kigali Bulk Water Supply project is one of the first PPP projects in water supply in Sub-Saharan Africa. The project was prepared in line with the Government of Rwanda's national plans, including the Economic Development and Poverty Reduction Strategy 2008 (EDPRS) and Vision 2020, with an objective to achieve universal access to water by 2020.

The Government of Rwanda introduced a range of measures to facilitate project planning:

- i) the establishment of a specialised institution for managing water supply projects (the Water and Sanitation Corporation Ltd (WASAC);
- ii) facilitating close coordination between the Rwanda Development Board (RDB), WASAC and IFC, and private sector stakeholders; and
- iii) securing IFC's support as a lead transaction advisor along with the Infrastructure Development Partnership Fund (DevCo)¹³ and Public-Private Infrastructure Advisory Facility (PPIAF).

The institutional reforms, departmental coordination and quality in technical assistance were critical enablers of the project's success. The uniqueness of the project (as one of the first PPP projects) and its alignment with the national vision was one of the major reasons for project ownership at the highest levels of government and technical assistance from the IFC.

¹³ DevCo is a multi-donor facility managed by IFC and is funded by the Private Infrastructure Development Group (PIDG) with support from the Austrian Development Corporation (ADA), the Austrian Federal Ministry of Finance, the Ministry of Foreign Affairs of the Netherlands (DGIS), the Swedish International Development Cooperation Agency, and the UK Department for International Development (DFID).

B. Countries in the early stage of infrastructure scale-up should seek support in upstream activities and in improving public investment efficiency.

PPFs are often ideally placed to support governments in upstream policy and institutional support, and to advise on regulatory reforms to unlock infrastructure potential. As a strategy, MDB-led PPFs may need to supplement their offer of downstream project preparation support with upstream technical assistance to create a conducive enabling environment for PPPs. Combining upstream policy advice and support to sector reforms with downstream project preparation efforts can help countries to overcome barriers to sustainable infrastructure delivery.

Capacity gaps can constrain EMDE governments in selecting the appropriate methods of project preparation. They can expend considerable efforts, costs and time to develop stand-alone PPP projects, which could then be abandoned and implemented as a traditional public project owing to frustrating delays in tendering it as a PPP. They also require capacity and expertise to design and implement national frameworks for project preparation. Therefore, PPFs focusing on PPP preparation should seek support to make public investment efficient, as an interim step towards the successful implementation of PPPs.

PPFs also ought to support governments in demonstrating the efficacy of PPP frameworks, to optimise value for money for the government on a lifecycle basis, and to facilitate a transition to PPPs and market-led project structures.

UPSTREAM-DOWNSTREAM INTEGRATION: The Public-Private Infrastructure Advisory Facility and Global Infrastructure Facility

The World Bank's Public-Private Infrastructure Advisory Facility (PPIAF) is a global facility for technical assistance grants dedicated to strengthening regulations and institutions that enable sustainable infrastructure with private sector participation. Through its global collaboration platform comprising of donors, EMDE governments, MDB technical partners and private sector advisory partners, the Global Infrastructure Facility (GIF) helps governments to develop well-structured, bankable infrastructure projects and bring them to market, and expands the market for private infrastructure finance in EMDEs.

PPIAF's upstream focus on the enabling environment facilitates GIF's end-to-end support for programs and projects seeking to mobilise private capital. From project inception through to implementation, this programmatic support focuses on improving project outcomes, sustainability, and affordability by: (i) instituting sector and SOE reforms that improve enabling environments; (ii) drawing on specialist experience and best practices to develop and execute transactions; and (iii) harnessing standardisation and knowledge to reduce project risk and the cost of preparation. PPIAF and GIF support the successful delivery of infrastructure investments through a range of products and tools that promote the delivery of specific projects, as well as the scaling-up of investments to program and sector levels. Although the facilities can engage independently, they can offer the greatest impact when deployed together. For example, they may work in parallel when a project transaction requires further policy-level enabling work, or sequentially, where PPIAF can support upstream work before GIF adopts a project for final preparation and procurement.

C. EMDE governments should see PPF support as a means to accelerate local capacity creation.

As the experience of developed economies, such as the United Kingdom and the Republic of Korea, demonstrates, activities and processes leading to effective infrastructure project preparation are resource intensive but need to be pursued continuously over time to produce results.

MDBs have come together under the Infrastructure Cooperation Platform established during the G20 Argentinian Presidency in 2018 to reinforce their role in supporting the global efforts in the preparation and financing of infrastructure investments. The Platform seeks to complement the overarching *G20 Principles for the Infrastructure Project Preparation Phase* and facilitate greater cooperation among MDBs towards effective project preparation in the future.

Engaging with MDB-led PPFs provides EMDE governments with an opportunity to accelerate local capacity creation for infrastructure project preparation. By working together on an integrated program to tackle critical enabling interventions, along with select demonstration PPP project preparation initiatives, EMDE governments can potentially accelerate local capacity creation, and signal their commitment to investors, citizens and other stakeholders. For instance, the ADB and other partners, including the Government of Australia, have played a key role in the formation of the Philippines PPP Center and the Project Development and Monitoring Facility (PDMF). Similar collaborative efforts with MDBs have seen the creation of enabling PPP frameworks in several other countries.

Further, EMDE governments should better synergise technical assistance (TA) funding streams of MDBs with those available from PPFs. Often, the value of TA funding streams is multiple times the amounts accessed from PPFs, and unlocking these synergies will be critical to deliver impact from MDB assistance. When used well, MDB support can help EMDE governments to absorb and apply leading practices in a contextually relevant manner, to nurture a conducive enabling environment and to create requisite capacities to drive their infrastructure agenda more effectively.

UPSTREAM SUPPORT TO PPP INSTITUTIONS AND DEVELOPING LOCAL CAPACITY: The World Bank's Infrastructure Finance and PPP (IFPPP) Project

Early involvement of the World Bank through the IFPPP project was instrumental in building upstream support to PPPs in Kenya. Under the project, the Government of Kenya created a legal and institutional framework to support PPPs and, specifically, the Ministry of Transport and Infrastructure in its first-mover PPP program for the road sector through financing the project preparation. The PPP Act 2013 and the guidelines developed under the IFPPP project served as guidance for the transaction advisors, as well as the Kenya National Highway Authority (KeNHA) in undertaking project studies and review for Nairobi-Nakaruru (one of the first-mover projects). The preparatory studies for the project were financed using the World Bank facility, which helped KeNHA hire quality transaction advisors for undertaking the project studies. The project also supported the strengthening of the internal capacity of public officials in KeNHA and the PPP Unit through specific hands-on skill-based and project-based training.

3.4. GOVERNMENT BUDGETS

3.4.1. Summary

Notwithstanding the growth of PDFs set up by governments (both national and sub-national) and PPFs set up by MDBs, a dominant portion of project preparation is financed by public spending from budgetary allocations by GCAs and line departments¹⁴. This is likely to still be the case in the foreseeable future. Yet, very often, granular information on spending and outcomes of project preparation from such budgetary allocations is difficult to obtain in most countries.

Given the scale of spending on project preparation that occurs using this route, governments should pay attention to improve the efficacy and impact of budgetary spending by GCAs and line departments on project preparation. This section provides guidance on the key principles and actions that governments could take in this regard.

3.4.2. Guidance

Key elements of the guidance framework under government budgets are summarised below:

- A. Direct a portion of budgets to project preparation and track expenditure.
- B. Require GCAs to report and disclose spending on project preparation as a separate line item.
- C. Set and enforce guidelines with which GCAs should comply to access financing for capital spending.

A. Direct a portion of budgets to project preparation and track expenditure.

Often, governments do not have the ability to track infrastructure project preparation costs, as these are not reported under traceable line items in the budget. Therefore, governments should specifically track budgets and spending for infrastructure project preparation by creating line items in their budgets for expenditure incurred on project preparation. Incorporating clear traceable budgetary line items helps create the foundation for consolidating and reporting expenditure incurred on project preparation, and in establishing a baseline for project preparation expenditures. This will also help governments to track and direct budgetary allocation commensurate with the scale of future infrastructure spending.

¹⁴ For example, in Africa, approximately 20-30% of total project preparation funding is through PPFs, whereas this figure is significantly lower in many high-income countries.

SEPARATE BUDGET FACILITY FOR PROJECT PREPARATION – Budget Facility for Infrastructure, South Africa

The Budget Facility for Infrastructure (BFI) is a budgetary reform initiated by the National Treasury to address the weaknesses in project preparation and the delivery of large infrastructure projects in South Africa. The BFI serves as a financing facility that is fully integrated into the national budget system. The facility is established and managed jointly by the National Treasury, the Presidential Infrastructure Coordinating Commission (PICC) secretariat, and the Departments of Planning, Monitoring and Evaluation (DPME) and Economic Development (EDD). The facility has also established the Joint Technical Committee (JTC), comprised of senior officials from the National Treasury, the PICC secretariat and the DPME, which manages the detailed technical assessment process. The facility provides specific information on the funds utilised towards project preparation and financing and ensures that fiscal resources are committed in a transparent manner.

For the financial year FY 2018-19, the BFI received 64 large infrastructure project submissions and an estimated funding requirement of US \$10 billion. Of these, 38 projects that met submission requirements were assessed for their Value for Money, socioeconomic rationale and readiness to implement.

B. Require GCAs to report and disclose spending on project preparation as a separate line item.

The next step is for GCAs to report and disclose project preparation spending annually, with the infrastructure spending plan and actual capital expenditure incurred reported on a periodic basis. This way, trends in spending on project preparation can be tracked in a consolidated manner by policy-makers and officials involved in infrastructure development. This will also help to build the case for stepping up project preparation financing commensurate with the scale of infrastructure spending targets and project preparation needs.

C. Set and enforce guidelines with which GCAs should comply to access financing for capital spending.

Very often, GCA capital budgets are approved with little concern for the efficacy for project development costs. Governments ought to formulate and enforce guidelines for handling various stages of project preparation and back this up with a multi-stage review process during the course of project preparation. By making compliance to these guidelines a necessary condition for access to capital budgets, and by creating multi-level reviews by independent and outside agencies and experts, governments can potentially nudge GCAs into improving the rigour and standards in the project development process.

**GOVERNMENT BUDGETARY FUNDS
ACCESSED THROUGH CLEARLY ESTABLISHED
PROCEDURES – The case of Chile’s National
Fund for Regional Development (FNDR)**

The Government of Chile’s FNDR serves as a sustainable source of project preparatory funding for sub-national governments. The FNDR is a separate fund created to channel budgetary funds to sub-national government (especially local government) entities for project preparation and implementation financing. It is managed by the Subsecretaría de Desarrollo Regional (SUBDERE) of the Ministry of the Interior and allows regional governments to prioritise investments. FNDR pools in governments’ budgetary financing and has been supplemented by multilateral assistance.

The FNDR is a systematic process for allocating funds to municipal governments based on objective criteria for resource allocation. Funds are allocated between regions following a formula that includes the institutional complexity of the regional government, size of services offered, volume of investments etc. The FNDR lays out specific guidelines and eligibility criteria for project selection for pre-investment funding, clear procedures for the allocation of funds across sectors and programs, and the methodology for distributing the resources across the regions. For example, only the projects which have been approved as Socially Recommended (RS) or those which have a positive Economic Technical Analysis Results (RATE) score by the competent authorities will be supported under the FNDR facility. The project preparatory support includes financing of the pre-feasibility, feasibility and technical studies, as well as capacity building and training assistance for sub-national government staff. The country’s annual budget law captures the funds allocated and utilised for specific purposes under FNDR.

4. Infrastructure planning and project prioritisation

4.1. OVERVIEW

Well-planned and prioritised infrastructure investment improves productivity, engenders competitiveness and contributes to long-term sustainable economic growth. Studies suggest that a dollar spent on infrastructure yields an estimated GDP increase of US \$0.05 to US \$0.25¹⁵ (i.e. generating an economic return of between 5% and 25%).

Nevertheless, the extent of realising the economic benefit from infrastructure investment varies considerably across sectors, by regions and by level of regulatory and institutional maturity. Countries at different stages of economic progress have different infrastructure priorities and relative impacts of investment to economic growth, and it is important that infrastructure investment is well-planned and efficiently delivered.

Typically, developing countries and countries transitioning to a more competitive “efficiency-driven”¹⁶ stage of development need to build new capacity to address major deficits in access to infrastructure, and often see fairly large incremental benefits of infrastructure investment. However, as countries mature and become more innovative, basic functional infrastructure is more likely to be already in place, and therefore, other factors become bigger competitiveness drivers. In such countries, the challenge moves more towards providing resources to sustain infrastructure, while making investments for de-bottlenecking where needed.

Further, the level of investment in infrastructure required to support growth varies widely across regions; in Sub-Saharan Africa, countries require an infrastructure spend of 10% of GDP on average (reaching over 25% of GDP in the poorest nations) to address infrastructure gaps and facilitate growth, while Asia and Latin America would need 4-5% of GDP for new investments¹⁷. When poorer countries invest in infrastructure and this is accompanied by

reforms to strengthen institutions and regulation, they experience relatively stronger impacts on productivity and economic growth.

Producing the greatest impact for infrastructure investment requires governments to:

- **Formulate medium- and long-term infrastructure plans:** This involves a systematic assessment of critical infrastructure gaps, identification of critical priorities to drive socioeconomic transformation, setting actionable goals around these priorities and identifying projects to realise the goals.
- **Translating these plans into a prioritised and actionable projects pipeline:** While a systematic assessment of gaps and identification of solutions through the formulation of long-term plans is a good starting point, it is by no means sufficient. While global estimates of infrastructure investments required to support economic growth and human development lie in the range of US \$94 trillion by 2040 (the GI Hub’s 2017 *Global Infrastructure Outlook*), the pool of available funds is limited. Governments must therefore decide how to allocate their limited resources for infrastructure development, particularly given that financing gaps are likely to grow in the coming decades. This requires putting in place frameworks and processes for translating the long-term priorities and goals into a credible, prioritised and potentially viable pipeline of programs and projects.

This chapter covers infrastructure planning and translating such plans into a prioritised pipeline of projects under two sections:

- **Infrastructure planning (Section 4.1)**
- **Translating infrastructure plans into a prioritised projects pipeline (Section 4.2)**

¹⁵ Strategic Infrastructure Steps to Prioritize and Deliver Infrastructure Effectively and Efficiently. World Economic Forum. 2012.

¹⁶ According to the World Economic Forum’s (WEF) Global Competitiveness Report, ‘factor driven’ countries are dominated by subsistence agriculture and extraction businesses, with a heavy reliance on unskilled labour and natural resources, whereas ‘efficiency driven’ economies are increasingly competitive, with more efficient production processes and increased product quality.

¹⁷ IFC Economics Notes. Note 1 The impact of infrastructure on growth in developing countries. April 2012

4.2. INFRASTRUCTURE PLANNING

4.2.1. Summary

Governments are largely responsible for the provision of infrastructure and delivery of services in an affordable, inclusive and efficient manner. Within governments, infrastructure development is dealt with by different departments and GCAs.

Given this context, it is quite likely that project initiatives of different line departments end up addressing the same end-user service need. For instance, government departments in charge of national highways and railways may be seeking to address traffic demand on the same corridor through a new greenfield expressway and a high-speed rail project respectively, when one of these projects could suffice. On the other hand, situations also arise where critical development priorities are missed between two departments with overlapping mandates. Further, government budgets are limited and there is often a need to prioritise one need or one sector over another.

Putting in place a framework and processes to formulate long-term infrastructure plans is therefore crucial to clarify development priorities in an integrated and holistic manner, and to identify appropriate programs and projects to drive development impact. The process of preparing and periodically reviewing and updating infrastructure plans is an important prerequisite to drive greater focus and commitment to infrastructure development priorities.

4.2.2. Guidance

Key elements of the guidance framework under infrastructure planning are summarised below:

- A. Governments should prepare long-term infrastructure plans that translate a systematic baseline assessment into a committed articulation of priorities, goals and pipeline of projects.
- B. Infrastructure planning needs to be anchored in a capable and empowered public institution.
- C. Infrastructure planning needs to occur at all levels of government and cascade among GCAs and sub-national governments.
- D. Periodic updating of infrastructure plans, reflecting lessons learned, builds credibility.
- E. Linkages of the plan with downstream actions is key to effective implementation.

A. Governments should prepare long-term infrastructure plans that translate a systematic baseline assessment into a committed articulation of priorities, goals and pipeline of projects.

At a basic level, an infrastructure plan starts with a systematic review of a country's existing infrastructure baseline, and seeks to give concrete shape to the country's infrastructure aspirations through the identification of key thematic focus areas, important development priorities and specific goals along each of these thematic areas.

The World Economic Forum's Strategic Infrastructure Planner Framework is a useful tool to assess a country's infrastructure readiness. It comprises 14 parameters, split into four main groupings: (i) *infrastructure quality*; (ii) *government readiness*; (iii) *societal readiness*; and (iv) *market readiness*.

Infrastructure Quality	<ul style="list-style-type: none"> • Quality of land transport (road and rail) • Quality of ports and air transport • Availability and reliability of energy grids and power supply • Availability and reliability of telecommunications • Quality of water and waste-water infrastructure
Government Readiness	<ul style="list-style-type: none"> • Rule of law and effectiveness of law-making bodies • Government openness and impartiality • Government track record of infrastructure projects • Government willingness to engage with private sector
Social Readiness	<ul style="list-style-type: none"> • Maturity of civil society • Government or public willing to pay
Market Readiness	<ul style="list-style-type: none"> • Competitiveness of construction industry and supply chain • Access to labour and materials • Access to finance

Source: *Strategic Infrastructure Steps to Prioritize and Deliver Infrastructure Effectively and Efficiently*, WEF, 2012

By evaluating a country's infrastructure readiness against these metrics, governments can obtain a comprehensive overview of the current state of infrastructure readiness in the country, which can then be used to assess and plan future requirements. In addition, the framework can help visualise where the country wants to be with respect to each of these parameters and to zero-in on the thematic areas of focus, qualitative priorities and quantitative goals underlying its infrastructure vision.

Infrastructure investments, especially on large complex programs and projects, need to be steered over long periods of time that go beyond election cycles. The presence of an infrastructure plan, developed in consensus by the government agencies involved, helps to set priorities, and identify programmatic initiatives that go beyond election

cycles, and bring certainty and assurance to stakeholders.

When prepared under the backdrop of a stable and progressive policy framework, infrastructure plans support the development of an agile and supportive private sector ecosystem, comprising developers, contractors and investors, that responds positively to opportunities for investment.

Infrastructure plans provide directional momentum to address infrastructure deficits and signal priority reforms and the institutional actions required to remove barriers to infrastructure investment. They force a holistic and integrated view of infrastructure needs, beyond the boundaries of line departments and GCAs within the government, and potentially help resolve overlaps and gaps in policies, institutions and programs to tackle infrastructure deficits.

Exhibit 4.1 Country-lens review: Practices relating to the preparation of infrastructure plans in select countries

Country	Institution mandated to prepare infrastructure plans	Latest infrastructure plan
Australia	Infrastructure Australia	Australian Infrastructure Plan (15 years)
Brazil	Ministry of Planning, Budget and Management	Plano Plurianual PPA (2016-19)
Canada	Infrastructure Canada	Investing in Canada 2016 (12 years)
Chile	Ministry of Public Works	Infrastructure, Development and Inclusion Agenda – Chile 30-30
Kenya	National Treasury of Kenya	Vision 2030
Indonesia	State Ministry of National Development Planning/National Development Planning Agency (BAPPENAS)	Long-Term National Development Plan of 2005-2025
Mexico	Secretariat of Finance and Public Credit (SHCP)	National Development Plan (NDP) and National Infrastructure Programme
Netherlands	Ministry of Infrastructure and Water Management (MIWM)	Structural Vision on Infrastructure and Spatial Planning (to 2040)
Philippines	National Economic and Development Authority (NEDA)	Philippine Development Plan (2017 – 2022)
Rwanda	Ministry of Finance and Economic Planning (MINECOFIN)	Vision 2020; Seven-year government programme
South Africa	National Treasury of South Africa	National Development Plan 2030
United Kingdom	National Infrastructure Commission	National Infrastructure Assessment (30-year Vision document)

B. Infrastructure planning needs to be anchored in a capable and empowered public institution.

Given the complexity, importance and cross-cutting aspect of infrastructure plans, the task of formulating, updating and reviewing these plans should be handled by empowered and capable public institutions. A key institutional design challenge is to make planning institutions credible, independent think-tanks and yet be able to foster political commitment for the plans and the directional advice coming from them¹⁸.

Governments have typically mandated the responsibility of preparing infrastructure plans with a central planning authority or a planning board. Despite its sub-national governments having the primary responsibility for infrastructure provision, Australia

set up Infrastructure Australia (IA) in 2008 to support a top-down planning approach. IA has, since 2014, had its mandate and independence strengthened.

In some cases, the task of preparing the long-term and medium-term plans are vested with different organisations. For instance, in the UK, the National Infrastructure Commission (NIC) provides expert, independent analysis on pressing infrastructure issues, and is charged with preparing the National Infrastructure Assessment (NIA) to set an overarching, long-term vision and recommendations taking a 30-year perspective, while the Infrastructure and Projects Authority (IPA) prepares medium-term plans for a five-year period and also manages and provides regular updates to the National Infrastructure Pipeline.

INFRASTRUCTURE PLANNING IN THE UNITED KINGDOM: Roles of the National Infrastructure Commission (NIC) and Infrastructure and Projects Authority (IPA)

The National Infrastructure Commission

The National Infrastructure Commission (NIC) was set up in October 2015 to produce a clear picture of the UK's future needs for nationally significant economic infrastructure, to help maintain the UK's competitiveness amongst the G20 nations, and to provide expert, independent analysis and advice on pressing infrastructure issues. Although funded by the Her Majesty's Treasury, it functions at arm's length and provides independent advice and progress monitoring. It engages independent experts and has industry leaders as its commissioners.

The NIC has prepared its first National Infrastructure Assessment (NIA) in 2018, which analyses the UK's long-term economic infrastructure needs, outlines a strategic vision over the next 30 years and sets out recommendations for how the identified needs should be met. The NIC will monitor progress on the government's implementation of the NIA.

In addition to the NIA, the NIC also undertakes detailed studies on critical infrastructure needs. For instance, it has completed detailed studies on *Smart Power*, covering interconnection, storage and

demand flexibility, which could save consumers up to £8 billion a year by 2030; *Transport for a World City*, on taking Crossrail forward as a priority, with the aim of submitting a hybrid bill by Autumn 2019; and *High Speed North*, for the development of a long-term strategy for High Speed 3 (HS3), beginning with the Leeds-Manchester corridor, combined with more immediate action to improve the performance of key road and rail links in the north.

The Infrastructure and Projects Authority (IPA)

The IPA will track and report regularly on the progress of the government's infrastructure priorities, including the commitment to invest £100 billion in infrastructure to 2020-2021. The IPA prepared the five-year National Infrastructure Development Plan 2016 (NIDP 2016) as a follow-up to the National Infrastructure Plan 2010 (NIP 2010), and is responsible for tracking and reporting on the progress of the government's infrastructure priorities, including the commitment to invest £100 billion in infrastructure to 2020-2021, and for publishing regular updates to NIP and NIDP, alongside the Government Construction Pipeline.

¹⁸ Strategic Infrastructure Planning: International Best Practice. International Transport Forum. 2017

C. Infrastructure planning needs to occur at all levels of government and cascade among GCAs and sub-national governments.

Though the preparation of national infrastructure plans is handled by national institutions, all key government stakeholders, including critical government departments and GCAs, need to be involved in the process. The national infrastructure plans must reflect the status, roles, and imperatives of sub-national governments. This calls for creating structured coordination and facilitation mechanisms for the coordination and exchange of information, insights and priorities during the course of the consultations phase for plan preparation.

INTEGRATING INFRASTRUCTURE PLANNING AT NATIONAL AND SUB-NATIONAL LEVELS: The case of Canada

Infrastructure planning in Canada is guided by long-term perspective plans across tiers of the government. At the federal level, the *Investing in Canada Plan*, a 12-year plan for infrastructure development, has identified US \$135 billion of investments on five priorities – public transit, green infrastructure, social development, trade and transportation, and rural and northern communities.

Integrated bilateral agreements (IBAs) that are signed between the federal and provincial governments are an integral part of the planning process in Canada. These IBAs function as collaborative documents, establishing the terms and conditions through which infrastructure funding would be delivered to the provinces and territories over the period. Planning for projects under IBAs requires provinces and territories to develop and submit multi-year plans that identify potential projects.

With emphasis on the outcomes within IBAs, and with predictable, long-term funding, the provinces and territories can structure their investments in a way that achieves meaningful long-term results. In response to the *Investing in Canada Plan*, provinces and territories have also, in turn, identified their long-term priorities for infrastructure development through exhaustive provincial plans, using, as a reference, the priorities identified in collaboration with the federal government.

To further integrate planning, provinces use the *Investing in Canada Plan* and the strategic plans of other sub-national governments. For instance, Ontario's Long-Term Infrastructure Plan 2017 has been prepared based on plans created by provincial governments in Ontario, such as the Greater Golden Horseshoe (2017), the Provincial Policy Statement (2014) and the Greenbelt Plan (2017), as well as other plans that are under consideration, such as Metrolinx's draft 2041 Regional Transportation Plan.

D. Periodic updating of infrastructure plans, reflecting lessons learned, builds credibility.

While infrastructure plans have a time horizon of several years (the horizon for long-term plans is often at least 20 years), the planning process needs to be agile to reflect progress and changes, and should include timely reviews and periodic updating. For instance, a five-year plan may be reviewed annually, and the preparation of the update of the plan for the next five years may need to be initiated in the fourth or early in the fifth year of the previous planning period.

It is also good practice to track and review progress on key milestones identified in the plan. In particular, dashboards identifying progress on select indicators can be a good way to track and report progress. Such dynamic monitoring and tracking on the commitments and goals made will help strengthen the planning process and contribute to closer linkages between the plan and its delivery.

Such linkages and dynamism are crucial to build ownership and credibility to the plans prepared, and this continuous and positive feedback loop enriches and enhances the likelihood of improved outcomes from the planning process.

AUSTRALIA: National Infrastructure Audits by Infrastructure Australia

Until recently, Australia had a tradition of project-based planning, without sectoral master plans. As a federal nation, Australia's sub-national governments retain primary responsibility for infrastructure provision. The Australian Constitution grants the Commonwealth Government jurisdiction on areas of national interest, such as defence and regulation of corporations, while states retain control on most of their infrastructure.

Responding, in part, to a perception that there was insufficient involvement in infrastructure planning at the national level, the Commonwealth Government has taken a more top-down planning approach in recent years with the establishment of **Infrastructure Australia (IA)** in 2008, and with its independence and mandate strengthened in 2014, IA now has a mandate to prioritise and progress nationally significant infrastructure projects and reforms.

In 2015, the Commonwealth Government mandated Infrastructure Australia to prepare its first ever national audit (the National Infrastructure Audit), which is an independent assessment of Australia's infrastructure needs. The audit will be conducted every five years and is aimed at providing recommendations on the governance and policy reforms required to meet the infrastructure needs identified by the audit. The Australian Infrastructure Audit created an evidence base to analyse the challenges pertaining to Australian infrastructure.

A key recommendation of the audit was to draft a 15-year Infrastructure Plan, which IA subsequently released in 2016, along with an Infrastructure Priority List in 2016. The Infrastructure Plan is a rolling plan, which provides a vision and roadmap to address existing infrastructure gaps in Australia and lays

out a comprehensive package of reforms focused on infrastructure planning, delivery, investment and management. The plan identified four high-level aspirations for Australia – enhancing productiveness of its cities and regions; ensuring infrastructure markets are robust, efficient and well-regulated; developing sustainable infrastructure; and establishing a culture of robust and transparent decision-making and delivery across all infrastructure sectors.

The Australian Infrastructure Plan is also a reform document, detailing major changes required across the energy, telecommunications, water, and transport sectors to meet forward infrastructure and growth challenges, while the Infrastructure Priority List develops a forward perspective on the specific investments that will be required to meet demand. Both documents are informed by Infrastructure Australia's 2015 National Infrastructure Audit. The Australian Infrastructure Plan and the Infrastructure Priority List are underpinned by a detailed 'place-based' analysis to provide a 'top-down' planning perspective and involve roadshows and consultations with diverse stakeholders.

The Infrastructure Audits complement the Australian Infrastructure Plan and the regularly updated Infrastructure Priority List, and taken together, these frameworks and processes add greater transparency and visibility to the process of project selection and a more comprehensive, integrated and long-term strategic approach to infrastructure development.

Source: Strategic Infrastructure Planning: International Best Practice. International Transport Forum. 2017

E. Linkages of the plan with downstream actions is key to effective implementation.

In addition to periodic reviews, infrastructure plans need to be linked and synchronised with downstream activities, including preparation of a pipeline of priority projects. It is important to ensure that the priority projects identified for implementation under various GCAs are synced with the development priorities and programs identified under the national infrastructure plans. This ensures the infrastructure projects that are implemented are in line with the priorities identified.

This linkage is established or incentivised in several ways. In some countries, the linkage of project ideas with national priorities outlined in the infrastructure plan is a criterion for access to project preparation financing from PDFs. Government support for PPP projects may require the project to be featured in the national priority projects pipeline. Linking annual budgets to medium-term plans is another possibility, although experience from Brazil, which mandates such a linkage, points to the challenges in reaching this level of alignment.

BRAZIL: Challenges in linking infrastructure plans with annual budgets

In Brazil, the overall infrastructure planning process at the federal level is guided by the Pluri Annual Plan (PPA – a four-year plan), the Budget Directives Law (LDO – annual) and the Annual Budget Law (LOA). Apart from the PPA, multi-year plans are also prepared by the planning departments in each line ministry, such as the National Transport Infrastructure Department (DNIT), or by specialised planning agencies, like EPL. The PPA is prepared by the Strategic Planning and Investments (SPI) of the Ministry of Planning, Budget and Management (MPOG), and provides a long-term pipeline of projects.

The LDO is prepared by the MPOG and the Secretary of the Federal Budget (SFB) as part of the budgetary process, and is supposed to link the PPA and the LOA, the final law which establishes the annual budget. However, there are weaknesses in alignment between expenditure allocations set in multi-year plans, annual budgets, and the amounts of investment effectively executed.

The PPA's programmed investments are sometimes not based on accurate estimates of macroeconomic and fiscal variables defining resource availability and do not adequately take

into account the execution capacity of executing agencies. Also, indicative budget allocations for investment projects are often not realistic, limiting the prioritisation and effectiveness of resource allocation. Although the LDO revenue, expenditure, and fiscal balance targets are spelled out in a three-year rolling framework, this framework does not, in practice, link the PPA and annual budgets, as revenue forecasts are often unrealistic, forcing adjustments of expenditure allocations to meet fiscal targets.

Although budget legislation states that programs and projects that are not in the PPA cannot be included in the budget, the PPA is easily changed to include new expenditure items. Therefore, new projects tend to surface late in the cycle and be included into the annual budget before it is submitted to congress. Also, individual parliamentary amendments introduced during budget approval further distort the link between strategic planning and budget allocation.

With inputs from Back to Planning: How to Close Brazil's Infrastructure Gap in Times of Austerity. World Bank 2017

4.3. TRANSLATING INFRASTRUCTURE PLANS INTO A PRIORITISED PROJECTS PIPELINE

4.3.1. Summary

The first step in translating the vision and objectives from an infrastructure plan into the realisation of service delivery goals involves identifying and screening potential projects to create a prioritised projects pipeline that can produce the highest development impact for investment made.

Identification of projects can be made more efficient through the formulation of similar sub-national infrastructure plans, and by mandating GCAs to prepare their multi-year plans mirroring the priorities identified in these national and sub-national infrastructure plans, and to identify the group of projects required to address infrastructure deficits in their respective areas.

Typically, resources available within governments are limited relative to infrastructure spending needs, and therefore, frameworks to prioritise strategically important national projects for support from governments through the project preparation and implementation stages are critical. Governments also need to create frameworks that can help them create, track and monitor the progress of preparation and implementation of these projects through their lifecycle.

4.3.2. Guidance

Key elements of the guidance framework are summarised below:

- A. GCA-level master plans, linked to the priorities in national plans, are useful starting points to build a projects pipeline.
- B. Mechanisms to track and monitor projects of national and strategic importance are critical.
- C. Governments should move to evidence-based analysis for prioritising projects.

A. GCA-level master plans, linked to the priorities in national plans, are useful starting points to build a projects pipeline.

Having a strong projects pipeline allows governments to track and consistently achieve progress on infrastructure development priorities. It also provides certainty and assurance to investors, developers and contractors to support the creation of a supply-side ecosystem.

Many governments require GCAs to prepare their respective plans and these form a good starting point to build a national projects pipeline. At the level of GCAs, project identification typically starts with the identification of an infrastructure gap and service need. Translation of the gap and service need can be in the form of discrete projects (e.g. a greenfield international airport for the capital city) or through programs (e.g. development of trunk highway corridors).

GCA-LEVEL PLANS AS A SOURCE FOR THE PROJECTS PIPELINE – Mexico, South Africa and Rwanda

In **South Africa**, the GCAs are required to prepare their five-year strategic plans and an annual performance plan, and receive guidance and support in project preparation from national level public institutions, such as the National Treasury, Presidential Infrastructure Coordinating Commission (PICC) and the Government Technical Advisory Centre (GTAC).

In **Mexico**, GCAs are similarly required to prepare a five-year project roadmap, which must be aligned to the national plan. These GCA-level plans feed into the projects pipeline at the national level.

In **Rwanda**, project planning is guided by various national level plans, including the National Vision 2020; the Economic Development and Poverty Reduction Strategy (EDPRS 2); the National Medium-Term Strategy for Development; sector-specific strategic plans; and the seven-year government development program. Projects identified by the GCAs and disclosed for a three-year period as part of the budget planning and approval processes are also reflected in the national Public Investment Program. The project pipeline, after the due approval process, is also updated in the Public Investment Management System, which serves as a credible pipeline of projects ready for feasibility or investment funding.

B. Mechanisms to track and monitor projects of national and strategic importance are critical.

As governments build a projects pipeline, they ought to put in place mechanisms to track and monitor the

progress of these projects in a systematic manner. Many countries have created dedicated institutional frameworks to create, update and monitor progress on strategically important projects pipelines.

PROJECTS PIPELINE: Institutional roles for tracking and driving implementation

Committee for Acceleration of Priority Infrastructure Delivery (KPPIP), Indonesia

By virtue of the mandate promulgated in Presidential Regulation No.3 of 2016, and Presidential Regulation No.58 of 2017, on the Acceleration of National Strategic Projects, the Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) evaluates and monitors the progress of National Strategic Projects (PSN).

KPPIP monitors the PSN through various processes, covering tabulation data systems and IT systems, the preparation of Cabinet meeting agendas for the PSN by the Cabinet Secretary, the preparation by the provinces of Cabinet meeting agendas for the PSN led by the President, and the preparation and facilitation of follow-up meetings for the PSN by the provinces.

In monitoring and managing information related to the PSN, KPPIP utilises the Dashboard of Information Technology System located on the servers of the Office of the Presidential Staff. This dashboard is accessible to all ministries and agencies that are in charge of the PSN to update data and project issues.

Infrastructure and Projects Authority, United Kingdom

The IPA holds the government of the UK to account on the progress of the National Infrastructure Plan in its annual report. Each year, the IPA reports on the projects which are in the Governments Major Projects Portfolio (GMPP), a list of the most complex and strategically significant projects and programs. Projects on the GMPP receive independent scrutiny, support, and guidance from the IPA, and are required to provide regular data returns on delivery progress.

Further, the IPA assesses the likelihood of a project delivering its objectives primarily through independent assurance reviews and its engagement with the project. This is reflected in its Delivery Confidence Assessment (DCA) rating assigned by the IPA. DCAs are the IPA's evaluation of a project's likelihood of delivering on its objectives, to time and on budget. DCAs are reviewed quarterly and change depending on the challenges projects are facing, the outcomes of focused independent assurance reviews, and the actions taken.

Apart from driving accountability through institutional frameworks as discussed above, governments also need to put in place systematic processes to capture, monitor and disclose information on the infrastructure projects pipeline. Establishing a standardised online database and using it to drive efficiency through automating workflows along the project preparation approval cycle can be beneficial. Chile, for instance, has its projects data bank created in the form of a digital registry, with workflows to facilitate and track progress through the various stages of preparation and approvals.

CHILE: The Banco Integrado de Proyectos or Integrated Project Bank (BIP)

Chile's Integrated Project Bank (BIP) forms the underlying backbone for its National Investment System (SNI), which is recognised as one of the best public investment systems applying standard and uniform methodologies.

Under this system, the GCA that is responsible for promoting the project enters the project's background online on the SNI. This information is available to the public via the open digital registry, BIP. Upon submission of a project to SNI, it is assigned a unique project ID within BIP. After the creation of the project profile, the project ID enters the SNI, where a project goes through various stages of project appraisals.

During project application stage, the GCA must gather all the required information on the project, such as justification for the investment proposal, conduct a social appraisal (either a CBA or a CEA depending on the type of project), verify that the investment is not duplicated in the SNI, and prepare a pre-feasibility funding application form in the BIP. At this stage, admissibility of the project is appraised. The Ministry of Public Works appoints a project investment analyst to assess the completeness of information for evaluation and whether the funding institution has the required funds in its budget to finance the initiative. This activity needs to be completed within five days.

The project record thus created on the BIP is used to track the project development, from initial proposal through to ex-post project evaluation. Once the project has been declared admissible, it formally enters the SNI and goes through a multi-stage evaluation with various filters depending on the complexity of the project.

C. Governments should move to evidence-based analysis for prioritising¹⁹ projects.

In many countries, including the US, New Zealand, England, Australia, Singapore, Chile, Ireland, and several others, Social Cost Benefit Analysis (SCBA) is used extensively to assess and prioritise alternative infrastructure projects, particularly those that demand significant investments.

The ability to perform legitimate, evidence-based prioritisation by governments and GCAs is constrained, however, by existing capacity and resource limitations and, in many cases, conflicting stakeholder expectations. Many governments make infrastructure decisions with only basic elements of project appraisal at hand. As governments seek to prioritise and select projects under conditions of limited information and capacity, rather than revert to an ad hoc unsystematic selection, it may be useful for governments to develop and apply multi-criteria analysis, while clearly mapping and addressing stakeholder expectations and concerns, to enable systematic prioritisation, avoid mistakes and identify missing information to improve project preparation going forward.

When GCAs and subnational governments propose projects to national governments for funding, they do not always include a full-fledged SCBA or feasibility studies. Faced with budgetary constraints and demand for funds from a large number of project proposals, governments are often in need of decision-making support within the existing limitations of the infrastructure planning system, as well as guidance on improving data for better project appraisal in the future.

For situations like this, the World Bank has proposed the use of the Infrastructure Prioritisation Framework (refer to box on following page) as an interim decision-structuring tool, until more sophisticated pre-selection analyses are available. This 'stepping stone' approach informs decision-making on project prioritisation, compares projects passing strategic pre-screening and which have been subject to basic appraisal, makes space for technical deliberation, and structures the decision-making process when capacity and information is limited but nevertheless sufficient for systematic comparison. The framework encourages better appraisal by fostering discussion of key decision factors for which project data should be improved or gathered in the future. However, the approach does not deliver a definitive list of projects for selection, replace best practices in project appraisal (particularly Social Cost Benefit Analysis), or consider current data deficiencies as acceptable for the long-term.

¹⁹ Based on *Prioritizing Infrastructure Investment: A Framework for Government Decision Making*. World Bank Group. 2016

TOOL FOR PRIORITISATION: The World Bank's Infrastructure Prioritization Framework

The **Infrastructure Prioritization Framework (IPF)** is a quantitative multi-criteria prioritisation approach that synthesises project-level financial, economic, social, and environmental indicators into two indices, *social-environmental* and *financial-economic*, and considers these alongside the public budget constraints for a particular sector.

The IPF differentiates from other multi-criteria decision tools in four ways. First, it systematically incorporates policy goals, social and environmental sustainability considerations, and long-term development aims, alongside traditional financial factors. Second, it is predicated on economic prudence and pragmatism. Third, results are displayed graphically on an intuitive, graphical interface by which decision-makers can compare alternative investment scenarios. Fourth, it facilitates active deliberation of key decision criteria and priorities to improve project appraisal looking forward.

The construction and ongoing development of IPF has been motivated by four factors. First, there are significant challenges facing governments in infrastructure planning, wherein large numbers of infrastructure projects identified in development plans are to be implemented under the constraints of scarce public resources, limited institutional capacity, and time. Second, these difficult decisions are to be made based on available or attainable information. Third, given the imperfect appraisal, projects need to be evaluated for “social (including environmental) and economic value”, in addition to financial impacts, which may be difficult to monetise. Fourth, there is a desire to balance analytical efficiency, derived from standardisation, with policy and political responsiveness, derived from the selection of decision criteria.

As such, this support framework explicitly accommodates policy responsiveness in two ways: through criteria selection, and by leaving a degree of freedom in decision-making through multiple references for judgement (i.e. two indices). In addition to building space for political deliberation, consultation, and professional judgement, the following design ideals were incorporated:

- Strategic relevance of a project at the sector level and within the appropriate tier of government;
- Systematic project comparison based on quantitative measures, to the greatest extent possible;
- Standard indicators of social value and financial return to drive project comparisons; and
- Transparent output allowing for a clear audit trail.

A key strength of IPF is that it may be flexibly applied. The framework can incorporate elements from other common methods, such as expert judgement and cost-benefit analysis. Expert judgement and deliberation come into play via the selection and definition of criteria, as well as in the selection of projects within the budget constraints. IPF can also take advantage of financial or partial social CBA components that are more easily quantified, measured, and monetised (e.g. net present values of market-based costs and revenues). Nevertheless, IPF's most important value-add is in relieving some of the burden of determining and justifying the assumptions required to monetise all benefits and costs.

Source: Prioritizing Infrastructure Investment: A Framework for Government Decision Making. World Bank Group. 2016

Ad-Hoc / Uninformed Project Selection	Infrastructure Prioritization Framework	Advanced Project Appraisal
<ul style="list-style-type: none"> • Limited project-level information • Inconsistent use of information • Decisions frequently based on non-technical, political considerations • Subjective assessment 	<ul style="list-style-type: none"> • Limited institutional and/or technical capacity • Partial project-level information • Project costs known • Some information on social, environmental, and other economic effects • Decisions based on minimum relevant information 	<ul style="list-style-type: none"> • High technical and institutional capacity available • Detailed project-level information available • Extensive quantified and monetised social, environmental, financial and economic effects known • Decisions based on extensive information

5. Project feasibility, reviews and approvals

5.1. OVERVIEW

The previous chapter reviewed leading practices with respect to preparing infrastructure plans and translating them into a list of project ideas that can be taken through to project preparation and implementation. This chapter identifies frameworks, processes and mechanisms for translating identified project concepts into procurement-ready projects.

Translating a project need into a bankable project requires rigorous evaluation and appraisal of the feasibility of project implementation, and often requires a multi-stage evaluation - starting with a strategic case or concept definition and moving through to a pre-feasibility assessment and detailed feasibility evaluation. The G20 *Principles for the Infrastructure Project Preparation Phase* list out five critical aspects to consider for effective project preparation: project rationale, options appraisal, commercial viability, long-term affordability, and deliverability.

It is important for governments to establish holistic project preparation guidelines and standards for project feasibility evaluation, reviews and approvals through the various stages of feasibility evaluation and to build rigour in project preparation.

For instance, the Netherlands' Multi-Year Programme for Infrastructure, Spatial Planning and Transport (MIRT) facilitates a holistic and harmonised approach to project feasibility.

END-TO-END PROCESS AND GUIDELINES FOR PROJECT FEASIBILITY – Multi-Year Programme for Infrastructure, Spatial Planning and Transport (MIRT)

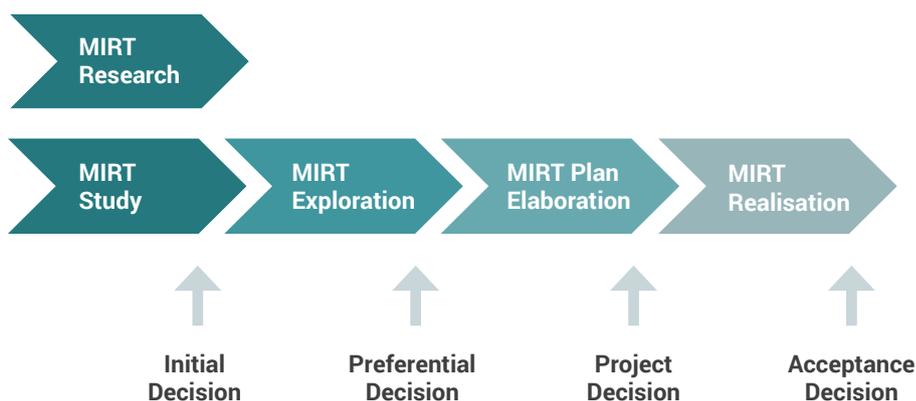
The Multi-Year Programme for Infrastructure, Spatial Planning and Transport (MIRT) framework provides a holistic and integrated framework and process to address project feasibility from the early concept definition stages to the final stages of approvals for infrastructure and water investments. Projects under MIRT can be either implemented through public financing or through PPPs on a Design-Build-Finance-Operate-Maintain (DBFOM) basis. In a MIRT track, parties work as the MIRT Committee in a phase-by-phase manner to substantiate the project, with each phase ending with a decision on the subsequent phase. The starting point is the Initial Decision to launch a MIRT Exploration, which stipulates stakeholder roles and requires identification of financing sources for 75% of the cost of the most obvious solution identified. As options are evaluated, the MIRT Committee may reach a Preferential Decision and the chosen option is documented with legal requirements and financing methods. At the Project Decision phase, the design is finalised to enable procurement at the Acceptance Decision stage.

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Project initiation and concept definition: The exploration phase of the MIRT framework follows a collaborative approach that requires project initiation through a series of political and administrative meetings that discuss the development needs, fixing strategic goals, and the initiatives to meet these goals. The exploration phases typically comprises the following activities: evaluating the strategic alignment of the proposed concept; options evaluation; and selection of the preferred alternative to undertake the detailed project study.

Project feasibility and structuring: The process of preparing detailed feasibility studies occurs in the 'plan elaboration' phase. Here, the identified solution at the end of the exploration phase is further detailed, evaluating the design, compliance with legal regulations, financial viability and cost benefit analysis, and the socioeconomic impact of the project. At this stage, the project study must culminate into a 'project decision', to move to procurement and funding approvals. Here, a final impression of planning, scope and budget is presented to the market.

Project approvals and processes: The Dutch Gateway Review Method is based on the Gateway Program in the United Kingdom. Since 2007, over 50 high-risk projects and programs in the Netherlands have been reviewed with very positive results. The Gateway Review is performed as a confidential peer review assessment and provides an independent view on the project progress. The MIRT project preparation framework is steered by good practice procedural guidance and tools, such as social cost benefit analysis, preparation of business cases, risk management, project governance, gateway reviews etc. The Ministry of Infrastructure and Water Management (MIWM) has also deployed a learning portal, with published guidance documents on the MIRT process, as well as a platform for practitioners to share their experiences and engage in discussions.



A structured approach to project feasibility evaluation typically involves three stages:

- **Early-stage pipeline screening and pre-feasibility assessment:** GCAs, especially in EMDEs, often lack capacity to translate infrastructure needs into well-defined project concepts that are strategically linked to development priorities. Frameworks and mechanisms to support GCAs through early stage concept definition and project screening are immensely useful in building a 'development-worthy' projects pipeline.
- **Standards for feasibility evaluation and Value for Money assessment:** Harmonised standards for carrying out feasibility assessments help build threshold standards and quality in project preparation. It is therefore important for governments to develop guidelines that define what constitutes good feasibility evaluation and build capacity in GCAs to develop a shared understanding of the same.
- **Periodic review and approvals:** Mechanisms to consistently build rigour and independence in project reviews and appraisals in a multi-stage manner can help to avoid missing key preparatory requirements early on and getting blindsided by critical challenges later in the project preparation process. An independent review process can help build quality project preparation and often contributes immensely to efficient project procurement and implementation.

Accordingly, this chapter is organised under three sections:

- **Project concept and pre-feasibility stage (Section 5.2)**
- **Feasibility stage (Section 5.3)**
- **Reviews, audit and approval (Section 5.4)**

5.2. PROJECT CONCEPT AND PRE-FEASIBILITY STAGE

5.2.1. Summary

At the very early stages, complete information on many elements of feasibility evaluation is not available. The key objectives of early stage project evaluation therefore are to:

- Ascertain the project need's linkage with overall development priorities identified in the long-term plans, and establish the boundaries and scope of the project;
- Spell out the envisaged service outcomes and access benefits in clear terms, and identify the range of technical options to address the service need; and
- Identify the information and level of project preparation efforts required to build a case and to establish different elements of the project feasibility.

Early stage project ideas and concepts are identified from strategic plans or from aspirational commitments made by political leaders. Passing these project ideas through early stage screening and pre-feasibility assessments helps to clarify the project concept, scope and boundaries. Such assessments also help with the evidence-based prioritisation of projects which have greater impact regarding the development priorities identified under long-term infrastructure plans. Key dimensions of this concept definition and pre-feasibility assessment cover market and demand assessment, technical options, normative estimates of capital costs and operating costs, potential revenue streams and an initial analysis of financing options for the project.

Governments should put frameworks in place for GCAs to translate long-term plans into clearly defined project concepts to aid decision-making, and to facilitate evidence-based screening at this stage, specifically with respect to strategic fit and related considerations.

5.2.2. Guidance

Key elements of the guidance framework under the project concept and pre-feasibility stage are summarised below:

- A. Planning processes and the ability of GCAs to populate the project pipeline with high-priority projects should be strengthened.
- B. A structured process and guidelines for early stage screening and project identification should be put in place.
- C. Independence in pre-feasibility and early stage evaluation is recommended.

A. Planning processes and the ability of GCAs to populate the project pipeline with high-priority projects should be strengthened.

Identification of early stage project concepts and their subsequent evaluation is effective when the process of preparing long-term plans to identify infrastructure gaps and medium- to long-term priorities are in place.

The practice of formulating such long-term plans should help ensure that projects are systematically prioritised based on an assessment of baseline service delivery and the gaps vis-à-vis the goals and priorities set in such long-term plans. For instance, in the case of urban water supply projects, the level of access deficit in terms of connection, duration of supply, volume of water supplied, and prevailing user charges can help GCAs in identifying and detailing specific project ideas that seek to accurately address gaps and access needs.

The central agencies that are charged with creating and tracking project pipelines need to engage with GCAs at national and sub-national levels to refine and build quality into project proposals. For instance, Infrastructure Australia works closely with subnational governments in building a projects pipeline that can be taken through the various stages of project evaluation and also maintains a well-updated Infrastructure Priority List (IPL).

IMPORTANCE OF SUB-NATIONAL PLANS AND EVIDENCE-BASED ASSESSMENT – Role of Infrastructure Australia

Australia has some very good practices that help in building a healthy pipeline of project concepts, which are then taken through a structured evidence-based process including multiple stages of preparation and evaluation to make them implementation-ready.

- **Sub-national plans which feed into the national project pipeline:** Australia's sub-national governments have a strong planning tradition in place, with long-term visions and strategy prepared at the state and regional levels. For instance, the 20-year Infrastructure New South Wales' State Infrastructure Strategy and Infrastructure Victoria's Infrastructure Plan are comprehensive plans prepared at the state level, while the Greater Sydney Region Plan 2018, Plan Melbourne 2017–2050, ShapingSEQ 2017 for the South East Queensland region and the 2017 Perth @ 3.5 million Strategy provide comprehensive sub-regional land use planning and infrastructure frameworks. All the plans identify projects and feed into the national projects pipeline tracked by Infrastructure Australia.
- **Infrastructure Australia's Infrastructure Priority List tracks projects at the conceptualisation stage:** Infrastructure Australia tracks and updates a pipeline of nationally significant projects – the Infrastructure Priority List (IPL). Projects and initiatives which aid in addressing nationally significant challenges are included in the national IPL and are given focused attention and debottlenecking to move forward. To support projects at the conceptualisation stage, Infrastructure Australia also permits 'initiatives' to be added to the IPL, which are essentially priorities that have been identified to address a nationally significant need, but require further development and rigorous assessment to determine and evaluate the most appropriate option for delivery.

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Projects are then evaluated in stages through a well-defined framework, the Assessment Framework, which details the process and criteria against which projects are evaluated.

- **Disclosure of information on the projects pipeline at multiple levels:** Australian governments regularly monitor and disclose details of ongoing and proposed infrastructure projects through multiple mechanisms. While state and national individual statutory authorities publish updates in their annual reviews, the National Infrastructure Construction Schedule is an online portal which also provides information on major infrastructure projects committed to by governments across the country in a dynamic, easy-to-use manner.

B. A structured process and guidelines for early stage screening and project identification should be put in place.

Governments should develop and disseminate very clear and relatively simple frameworks for early stage screening and project identification. In most countries, early stage screening and project identification is often the responsibility of GCAs and hence building their capacity to handle this task effectively is critical.

GCAs can create guidance tools and capacity building programs for early stage project evaluation and to form well-defined project concepts. For instance, the United Kingdom launched the Project Initiation Routemap in 2018 as a structured approach to support early stage project definition and conceptualisation.

It originated from the improvements in project performance achieved by the Highways Agency since 2006 through a review and staged improvements of their governance and program structure, supported by improved data and strengthening capability.

The Routemap is an aid to strategic decision-making. It supports the alignment of the sponsor and client organisation’s capability to meet the challenges during initiation and delivery of a project. It provides an objective and systemic approach to project initiation founded on a set of assessment tools that help determine the complexity and context of the delivery environment, and the capability of current and potential sponsors, clients, asset managers and the infrastructure market.

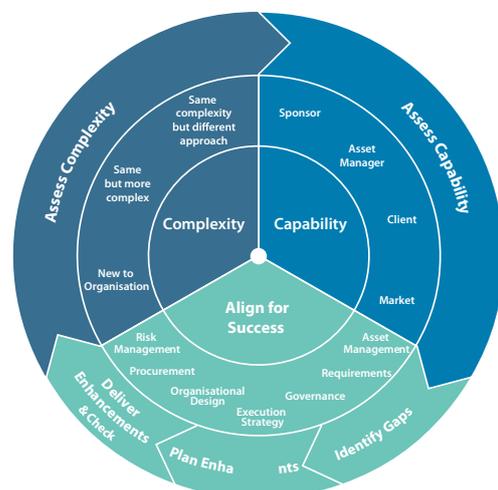
The Routemap contains detailed checklists to use during the initial assessment steps, advice on how to perform the gap analysis, and advice about what to include in the plans for an enhanced project environment. The components of the Routemap are:

- **Complexity Assessment:** through the Delivery Environment Complexity Analytic, a set of 12 factors that determine complexity.
- **Capability Assessment:** of the sponsor, asset manager, client, and market.
- **Align for Success:** covering governance; execution, organisation design, and procurement; risk management; and asset management.

STRUCTURED APPROACH FOR PROJECT INITIATION – The Project Initiation Routemap, the United Kingdom

The Project Initiation Routemap is a structured approach to setting up projects for success and is the IPA’s primary tool in supporting the initiation of projects across government. From 2018, all major projects are assessed for their need and suitability for applying the Routemap to guide conceptualisation. The Routemap is a response to the recognition that sponsors and clients of infrastructure projects have to establish an appropriate delivery environment, to avoid the causes of failure and to create foundations for project success.

Components of the Project Initiation Routemap



C. Independence in pre-feasibility and early stage evaluation is recommended.

As projects move from concept definition into the pre-feasibility level of evaluation, it may be useful to separate the project sponsor and feasibility evaluator or reviewer to build independence and expertise into project evaluation.

Where the GCA has strong capacity to undertake project preparation, such separation of project development and implementation roles can be done within the GCA by getting different departments to handle these functions. However, in some cases, it may be useful to have independent agencies handling early stage feasibility assessments.

For instance, Korea's approach to assign accountability for the conduct of pre-feasibility studies to an independent agency (see case example below) has led to positive outcomes. Two useful lessons emerge from the Korea experience which have implications for establishing systems for project preparation. Firstly, using an external agency, i.e. independent think-tanks, academic institutions, consultants or even a central project development agency, appears to bring benefits in terms of expertise and independence in project feasibility evaluation. Secondly, having multi-stakeholder reviews at different stages of the project evaluation process allows for greater rigour in evaluation, something that is discussed separately later in this chapter under the section on project reviews and approvals.

IMPACT OF RIGOUR IN EARLY STAGE EVALUATION – Pre-Feasibility Studies (PFS) by PIMAC, Republic of Korea

The Republic of Korea's project preparation framework has evolved rapidly since the 1997 Asian Financial Crisis, with emphasis on strengthening its public investment management processes to incorporate independent transparent reviews and a sharp focus on total cost management, including the use of robust quantitative frameworks for Value for Money analysis. While line departments largely drive project feasibility and implementation, setting up and vesting powers in PIMAC to conduct pre-feasibility studies has helped to augment capacity and create necessary guardrails to facilitate greater rigour and integrity in project preparation.

Pre-Feasibility Studies (PFS) for large-scale projects were introduced in 1999 and formalised in 2006 to improve rigour in project preparation. The PFS involves a short and brief evaluation of the projects as an input to the budget decision. All new projects with total costs amounting to 50 billion KRW (about US \$50 million) or more must have a PFS.

The PFS initiative was a response to the criticism against the feasibility studies prepared by line ministries. Prior to the establishment of the PFS program, projects were approved without a proper check on the project's viability or cost considerations. This is evidenced by a study undertaken of the feasibility studies prepared during 1994-1998, which found that all but one of the 33 projects had been evaluated as feasible. This, in turn, led to several concerns, including the selection of unviable projects, cost escalation and time delays. For instance, the baseline cost of the Seoul-Busan High Speed Rail (KTX) project had more than tripled from 5.5 trillion KRW (US \$5.5 billion) to 18.5 trillion KRW (US \$18.5 billion).

The PFS is undertaken by PIMAC at the request of the GCAs and/or the Ministry of Economy and Finance (MOEF) and must be completed within a period of six months. The PFS assigns analytical hierarchy process (AHP) weights to different facets of evaluation: economic analysis (35-50%), policy analysis (25-40%), and balanced regional development (25-35%). If the AHP score is ≥ 0.5 , a project is appraised as passing the pre-feasibility test.

The independent review process, with clear and transparent assessment criteria, has helped in the early identification of unviable proposals and has led to significant cost savings. With the introduction of the PFS and stringent guardrails, the share of projects deemed feasible fell in the period following the introduction of the PFS. About 434 of the 685 projects reviewed by PIMAC since then have been deemed feasible. The introduction of the PFS process is estimated to have enabled budgetary savings of KRW 141 trillion (US \$101 billion) to 2017.

5.3. FEASIBILITY STAGE

5.3.1. Summary

This stage involves a detailed evaluation of the project feasibility and seeks to comprehensively facilitate decisions regarding the investment and financing of projects. A full feasibility report typically addresses the following aspects²⁰:

- Project need and boundaries, service outcomes and demand projections
- Technical configuration and feasibility
- Social and environmental impacts
- Policy, legal, regulatory and institutional analysis
- Financial and economic feasibility
- Value for Money analysis and affordability considerations
- Government support requirements and implications for fiscal costs and contingent liabilities (FCCL)
- Project structuring and risk allocation
- Consideration of the use of a PPP form of procurement and the associated project implementation arrangements
- Broad terms of the bid process, documentation and contracting
- Market attractiveness and bidder interest
- Roadmap for implementation

5.3.2. Guidance

Key elements of the guidance framework under the feasibility stage are summarised below:

- A. Frameworks and guidelines should be implemented to facilitate comprehensiveness of the feasibility evaluation.
- B. The PPP model of implementation will need scrutiny and analysis of additional elements in the project feasibility evaluation.
- C. Framework Contracts on the use of consultants can help build efficiency.

A. Frameworks and guidelines should be implemented to facilitate comprehensiveness of the feasibility evaluation.

The use of frameworks and guidelines is a recurring theme in terms of leading practices for feasibility evaluation. Given the breadth and depth of issues that are typically evaluated at the detailed feasibility stage for infrastructure projects, the use of standard frameworks and the adoption of guidelines for the preparation of feasibility reports are crucial enabling aspects to improve scale and rigour in project preparation. Guidelines should, more specifically, cover the approach to each of the five critical aspects listed under the *G20 Principles for the Infrastructure Project Preparation Phase* – project rationale, options appraisal, commercial viability, long-term affordability, and deliverability.

A number of countries have put into place guidelines and templates for harmonising the project feasibility evaluation. For instance, the United Kingdom's Five Case Model enables a shared understanding of both the phases and dimensions of feasibility evaluation. Similarly, several countries, including Australia, Canada, South Africa, and Korea, have adopted similar guidelines and frameworks for feasibility evaluation.

²⁰ Illustrative coverage assuming implementation using the PPP model.

STRUCTURED FRAMEWORK FOR A MULTI-STAGE FEASIBILITY EVALUATION – Five Case Model, United Kingdom

The Five Case Model is the approach for developing business cases recommended by HM Treasury, the Welsh Government and the UK Office of Government Commerce (OGC) and has been widely used across government departments and public sector organisations for over a decade.

The Five Case Model provides discipline and a structure to arrive at the best possible decision for proposed infrastructure projects. In simple terms, the model has five cases and the purpose of each case is to address specific questions and provide evidence to satisfy the approver or funder, as shown below:

The Case	The Question	What the business case must demonstrate
STRATEGIC	Is the project needed	<ul style="list-style-type: none"> • Will it further the aims and objectives • Is there clear case for change
ECONOMIC	Is it value for money	<ul style="list-style-type: none"> • Has the range of options been considered • Is it the best balance of costs, benefits and risks
COMMERCIAL	Is it viable	<ul style="list-style-type: none"> • Is there a supplier who can meet our needs • Can we secure a Value for Money deal
FINANCIAL	Is it affordable	<ul style="list-style-type: none"> • Are the costs realistic and affordable • Is the funding available and supported
MANAGEMENT	Is it achievable	<ul style="list-style-type: none"> • Are we capable of delivering the project • Do we have robust systems and processes in place

The business case evolves as the project preparation for the project progresses along three stages:

- A *strategic outline case (SOC)* is prepared at the conceptualisation stage with the objective of ascertaining a strategic fit and making the case for change. At this stage, a shortlist of potential affordable options is identified, along with management capacity and capability to deliver.
- An *outline business case (OBC)* involves a detailed appraisal of options, determination of Value for Money, preparation for procurement, confirmation of funding and availability, and a detailed management plan for delivery.

- The *full business case (FBC)* is the final technical document at the outcome of the procurement process and provides a final check on affordability and Value for Money, the contract details, a full delivery plan and benefits realisation.

Individual central government departments and local governments undertaking non-major projects are not bound by project preparation guidelines provided by HMT. However, given the benefit of a standardised approach to project preparation, most departments have designed their internal project processes on the basis of the guidelines prescribed under the Five Case Model.

B. The PPP model of implementation will need scrutiny and analysis of additional elements in the project feasibility evaluation.

It is well understood that projects envisaged for implementation as a PPP require scrutiny of additional elements vis-à-vis those that are to be implemented under public procurement. There are two areas where the use of tools and frameworks can significantly help in informing decisions.

PPP project screening

PPP projects are typically more complex than similar publicly procured projects, and require substantial upfront project development expenses. There is, therefore, a need to understand a project as much as possible before making a decision to undertake expensive feasibility studies, project structuring and procurement.

Success in PPP projects is determined by a mix of factors and complete reliance on quantitative techniques to compare Value for Money against other procurement models has not fared well in the successful screening of projects. Many countries now adopt techniques that combine qualitative aspects and methodologies, often based on country specific policy drivers and areas of focus, with quantitative techniques to screen projects for the PPP model of implementation. Based on a review in partnership with the GI Hub and the OECD of screening practices and lessons learned across countries, the World Bank has developed a PPP Screening Tool (PST)²¹ for supporting governments in upstream project selection, with a view to optimise efforts on project preparation and to improve the success rate of projects that go through a bidding process.

²¹ The toolkit may be accessed at: <https://pppknowledgelab.org/tools/tools-assess-whether-implement-project-ppp#ppp-screening-tool>

PPP UPSTREAM PROJECT SELECTION SUPPORT – World Bank’s PPP Project Screening Tool

The PPP Project Screening Tool (PST) is a user-friendly Microsoft Excel-based tool that can be applied by contracting authorities, PPP units and practitioners to evaluate a project’s suitability for procurement through the PPP route. PST evaluates a project both from a qualitative and quantitative basis, and is flexible to the level of information available.

It is designed to be operated at the pre-feasibility study level of information along six dimensions, namely Strategic Suitability, Preliminary Feasibility, Risk Assessment, PPP Suitability (VfM, Market Appetite), Fiscal Affordability and Institutional Capability (details of these six dimensions can be found in the table on the following page). The tool is, however, flexible to be applied in situations where less information is available; e.g. at concept note stage. The tool has a list of questions across six substantive parameters, with some parameters evaluated based on a mix of qualitative and quantitative processes.

The scoring methodology is based on weighted scores to the responses provided. However, to prevent the manipulation of responses, controls are embedded in the tool to ensure scores are moderated if responses were manipulated. PST delivers a score and comments on the project’s strengths and identified areas of improvement. In addition, it provides decision support in the form of identifying pre-requisite actions and potential deal-breakers, and provides other suggestions based on the project’s strengths and weaknesses.

Strategic Suitability	Preliminary Feasibility	Risk Assessment	PPP Suitability	Fiscal Affordability	Institutional Capability
<ul style="list-style-type: none"> Alignment with government priorities Identification of service need Assessment of delivery options Scoping of project 	<ul style="list-style-type: none"> Technical Environmental Social Economic Financial Legal 	<ul style="list-style-type: none"> Market/demand Off-taxer Forex Environmental and social Delay in land acquisition Financing Design and construction Operation and maintenance 	<ul style="list-style-type: none"> VfM Market appetite 	<ul style="list-style-type: none"> Extent and nature of government fiscal support Quantification of fiscal support 	<ul style="list-style-type: none"> Institutional capacity Preparedness of contracting authority Project execution of contracting authority

Value for Money analysis

For many governments, the potential to achieve relatively greater value for money over other public procurement modes is often a guiding factor in the decision to implement projects using the PPP model. However, even in countries with well-established PPP programs, the approach to and use of this analysis is evolving, and is often the subject of debate. Countries trying to move to systematic VfM analysis face challenges in developing and implementing appropriate methodologies. Key lessons from a World Bank Institute study²² on VfM practices are summarised below:

- Governments need to strike the right balance between qualitative and quantitative approaches, particularly in new PPP programs, where there is very limited data available to inform assumptions for quantitative analysis, and in some cases, a lack of capacity to implement complex risk analysis;
- Governments should be realistic about the nature of quantitative VfM analysis. Quantitative analysis can be useful to inform decision-making, but should be understood and communicated more as a tool to consistently and systematically assess the combined result of a set of assumptions than as a scientific process that provides “proof” of VfM;
- Thorough risk analysis is crucial to successful PPPs. Whether or not quantitative VfM analysis is carried out, sound risk analysis is crucial to achieving value from a project both in its design and implementation and to avoid fiscal surprises;

- Better data is needed on PPP and major infrastructure investment project outcomes. Quantitative approaches to VfM analysis and risk analysis more generally could be improved significantly by more systematic collection of data on actual PPP project outcomes, and ex-post assessment of VfM achieved in practice; and
- Ultimately, VfM analysis should be integrated with overall public investment planning.

VALUE FOR MONEY ASSESSMENT – Republic of Korea

The Republic of Korea introduced the Value for Money (VfM) assessment after the introduction of its PPP Act in 2005. PIMAC is entrusted with the task for conducting the VfM test for unsolicited proposals, while for a solicited PPP project, the VfM test is done by a competent authority and reviewed by PIMAC. The VfM test is used to determine if a project is suitable to be implemented as a PPP and is done in both quantitative and qualitative terms. It is conducted in accordance with the *Guidelines for the Implementation of VfM Test/Review of Proposal for Unsolicited Build Transfer Operate (BTO) Projects*.

Under the quantitative assessment, the private finance initiative (PFI) is compared with the Public Sector Comparator (PSC). In a qualitative assessment, the allocation of risks (construction, operation risks, etc.), improvement of service qualities, and other effects and

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²² Value-for-Money Analysis - Practices and Challenges: How Governments Choose When to Use PPP to Deliver Public Infrastructure and Services. World Bank and PPIAF. 2013.

positive externalities, including promoting the financial market, are considered. When the quantification of project risk transfer is not satisfactory, those qualitative effects are not incorporated into the overall VfM assessment.

Objectivity, consistency, and independence, as well as professional expertise, are important elements in conducting VfM tests. The VfM test is carried out by a multi-disciplinary research team under a Project Manager from the Korea Development Institute (KDI), along with experts with relevant skills and expertise in demand forecasting, cost estimation, engineering and accounting. Five interim review meetings are held during the VfM test. The duration of each project's research should take up to six months and the same methodology and procedures are applied both to the VfM test and the Review of Proposal.

The VfM test sets the bottom line to meet the condition of 'VfM \geq 0' for project approval. VfM reports are used as an important reference when the tender evaluation committee conducts their work and provides useful information during the negotiation process. They are also used as reference when ex-post VfM tests are conducted.

C. Framework Contracts on the use of consultants can help build efficiency.

Project preparation in most countries involves the use of external experts and consultants, and it would be useful for governments to build efficiency, transparency and quality thresholds in the process of engaging consultants.

PPP units and central project development agencies in several countries have prescribed guidelines for the engagement of consultants for a variety of project preparation activities, including pre-feasibility and outline business case feasibility studies, full feasibility studies, and PPP transaction advisory.

EMDE countries in the early stages of PPP project preparation that do not have a vibrant domestic consulting market ecosystem tend to face significant challenges in attracting good experts and consulting firms to participate in one-off project development initiatives. A programmatic approach to PPP project development supported by a well-planned consultant engagement framework can help attract international consulting firms to invest in building local capacity and can potentially help in bridging the gap in the local consulting service provider ecosystem.

CONSULTANT EMPANELMENT AND USE OF FRAMEWORK CONTRACTS – The Philippines PPP Center

The Philippines PPP Center, under the PDMF, has established three panels of consultants (both international and national firms) that are pre-qualified under ADB procurement guidelines, namely the Panel of Project Preparation and Transaction Advisory Consultants with 22 members, the Panel of Probity Advisors with six members, and the Panel of Independent Consultants with 10 members. ADB procurement guidelines ensure that there is a quick and effective process for pre-qualification and selection of advisors.

The actual process of selection of consultants and/or transaction advisors is a two-stage process. The first stage comprises of pre-qualification, selection and retention of a panel of consulting firms under an indefinite delivery contract (IDC) facility for a duration of three years (which may vary each time depending on the discretion of the PPP Center).

The second stage of the process is the actual selection of an advisor or consultant from the panel on a competitive basis.

Under the guidelines, consultants for project preparation from the panel are invited to submit a simplified technical proposal. The project is awarded on the basis of the evaluation of the technical proposal, through a quality-based selection process with a fixed budget²³. The selected consultant is then responsible for pre-feasibility, project preparation and transaction execution. The guidelines also provide steps the PPP Center should adhere to for the evaluation of consultants.

²³ Method of procurement in which the cost of the budget is fixed. The consultant which achieves the highest technical score shall be invited to negotiate.

5.4. REVIEWS, AUDIT AND APPROVAL

5.4.1. Summary

A multi-stage review process precedes infrastructure project approvals in several of the countries studied. Although this is necessary given the complexity of infrastructure projects and the number of factors affecting investment decisions, if it is not handled well, it can often lead to administrative delays and increased costs and time for project preparation.

Therefore, there is a need to balance considerations of efficiency and rigour while formulating the review and approval processes underlying infrastructure projects. Further reviews may need to involve appropriate stakeholders taking the country context into account. A process audit should be embedded into infrastructure project preparation as a means to drive transparency, accountability and efficiency improvements.

Key elements of the guidance framework under project reviews, audit and approval are summarised below:

- A. With well-defined workflows, multi-stage reviews help build rigour and efficiency.
- B. Project reviews should involve all relevant stakeholders.
- C. PPP project preparation processes should be subject to audits to drive transparency and improvements.

5.4.2. Guidance

A. With well-defined workflows, multi-stage reviews help build rigour and efficiency.

The challenge of delays in decision-making during the course of infrastructure project preparation is real and needs to be tackled by developing streamlined time-bound processes along with the use of automation where feasible.

The SNI system in Chile is a good example of a rigorous multi-stage process which works on top of the online Integrated Project Bank (BIP). Similarly, in the United Kingdom, the Gateway Review process involves a comprehensive and mandatory peer review process at key decision points in the project lifecycle and is a leading practice that has been replicated in several other countries, including in the Netherlands and among the sub-national governments of Australia.

REVIEW AND APPROVALS WORKFLOW – National Investment System (SNI), Chile and the Gateway Review Process, the United Kingdom

National Investment System, Chile

Chile's National Public System of Investments (SNI), an advanced appraisal system, is a pioneer initiative in strengthening and standardising project approvals. It was created in 1975 and is jointly administered by the Ministry of Social Development (MSD) and the Ministry of Finance (MOF). As per Chile's Law Decree 20530, the capital budget submitted by the Ministry of Finance to congress should consider all projects assessed and approved in the SNI. The objective of the system is to identify the best projects offering the highest social return. The system allows the projects which are tracked on Chile's online project databank (BIP) to compete with each other for budgetary support. At each stage of appraisal, an Economic Technical Analysis Results (RATE) score is issued. Only projects attaining a socially recommended (RS) RATE score move to the next stage. Positives of the review process include:

- **A centralised project information system:** The BIP serves as a central repository of projects, discloses the RATE score assigned to the project at each stage, and aids the appraisal workflow.
- **Facilitates rigour in project evaluation:** The SNI undertakes an independent ex-post evaluation of projects following construction and during operations, where projects are reviewed on adherence to time, cost and the process standards envisaged.
- **Information on social prices:** MSD annually determines the social prices of labour supply, the currency and discount rate, and other prices commonly used in the Cost Benefit Analysis (CBA) or Cost Efficiency Analysis (CEA) to standardise the cost estimation process.
- **Guidance manuals:** The MSD has issued guidance manuals on the process of project preparation, methodology and tools for the CBA and/or CEA assessment, and these are updated regularly based on inputs from the ex-post evaluations of projects.

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The SNI system thus provides a platform for the independent appraisal of projects and reduces conflict of interest of the preparation and approval entities. The MSD undertakes the detailed appraisal, and checks the appropriateness of the methodology applied and the reliability of information used to calculate the RATE score.

Gateway Review Process, the United Kingdom

The UK has instituted a comprehensive and mandatory peer review process at key decision points in the project lifecycle to enhance the quality of project preparation and to set government expectations in project delivery. The Office of Government Commerce (OGC) Gateway Review™ process was introduced in 2000 after several project failures in the UK and the re-evaluation of the government's effectiveness in projects and program delivery. The Gateway Review process aims to deliver a 'peer review' of projects at critical stages in their lifecycle, to provide assurance that they can progress successfully to the next stage. The Gateway Review process covers six 'Gates', numbered from 0 to 5. These gateways cover aspects from strategic assessment of the program to examining the full business case of the project, as well as monitoring the operations of a project. Principles of the Green Book are incorporated in Gates 1 and 2. For all major projects, Her Majesty's Treasury approvals are required at Gates 1, 2 and 3. The standardised and structured approach of the UK's Gateway Review has been adopted in various other jurisdictions (with contextual fine-tuning), including in Australia and the Netherlands.

B. Project reviews should involve all relevant stakeholders.

The review process should be a multi-stakeholder process to ensure that all key issues in the project are dealt with comprehensively. In Korea, for instance, PIMAC, an independent think-tank, is charged with the review of full feasibility reports and conducting VfM analysis for PPP projects. Similarly, the MIRT framework in the Netherlands involves a wider set of stakeholders throughout the project preparation journey by bringing in project owners, citizens, other ministries and regional partners (provinces, municipalities, transport regions, district water boards, NGOs and businesses) during the course of project review and approval.

In Rwanda, given the sensitivity to increases in tariffs and user charges across infrastructure sectors, the utilities regulatory authority (RURA) is involved in decision-making, particularly with respect to tariff design and levels.

WIDER STAKEHOLDER INVOLVEMENT IN REVIEWS – Involvement of regulators in project reviews, Rwanda

In Rwanda, project approvals follow two distinct steps according to the type of project procurement as described below. A key aspect to note is that, in the case of PPP projects, the Rwanda Utilities Regulatory Authority (RURA) is consulted at the feasibility stage on user tariffs and the methods underlying their fixation and revision. RURA's recommendations also form a critical input in the approval of feasibility reports.

- For public investment projects, the project approvals are integrated as part of the planning and budgeting exercise for central government investment. The projects are assessed twice by the Public Investment Committee (PIC) or Local Governments Public Accounts Committee (LGPAC) during the project preparation lifecycle; first, by conducting a full feasibility study and second, in order to proceed with the tender. For sub-national projects, the Local Administrative Entities Development Agency (LODA) acts as a technical secretariat to LGPAC and assists in screening projects. The findings of the screening are submitted to LGPAC, which advises on investment priorities to the District Council (which has the authority for final project approval).
- For PPP projects, the projects are submitted to the Rwanda Development Board (RDB) for evaluation and registration in the PPP database. RDB forms a project-specific Technical Committee (TC) for review of the full feasibility report. The TC comprises representatives from the RDB, a project officer from the contracting authority, representatives from MINECOFIN (to review and provide approvals on fiscal commitment and contingent liability), RURA (which advises on tariffs where user tariffs are to be used), and other relevant ministries and agencies, including the Ministry of Justice.

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Further, the PIC also evaluates the feasibility report from an economic feasibility and strategic investment standpoint. Recommendations from the TC and PIC are submitted to the PPP Steering Committee for projects which are to be delivered using the PPP structure. In the case of local level projects, these are assessed by LGPAC twice, both at the pre-feasibility and full feasibility stage.

C. Project preparation is often subject to process audits to drive transparency and improvements.

A number of countries provide for process audits, generally post procurement, as a means to drive transparency, accountability and compliance with the legal framework and guidelines issued.

The purpose of the audit is to document non-compliance and deficiencies related to the project preparation process. The auditors should verify the key elements of the feasibility study carried out by the GCAs (including demand projections), the efficiency and effectiveness of project structuring, and the steps in project review and approval, including the basis of decisions and intentions. The audit process shall also review whether the GCA has considered different alternatives for implementing the project and selected the most appropriate set-up through a transparent and objective approach. Audits also potentially help in identifying process gaps which, when addressed, can drive efficiency.

An effective audit of the project preparation process, including early stage screening and feasibility evaluation stages, can be useful in mitigating project procurement and implementation risks and rationalising costs. For instance, the Federal Court of Accounts (TCU) in Brazil plays an important role in streamlining the audit process, which is a time-bound, pre-procurement audit process, for national priority projects under the Investment Partnerships Program (PPI).

AUDIT REVIEW OF PROJECTS – The Federal Court of Accounts (TCU), Brazil

Project preparation and approvals processes, especially in developing countries, are prone to litigation due to multiple factors, including corrupt practices, general lack of transparency, and variation in the interpretation of laws and guidelines.

This has been one of the major reasons for delay in project implementation in these countries. Under its Investment Partnerships Program (PPI), the Government of Brazil has created an institutional mechanism to ensure a time-bound audit review of each project prior to project bidding. The Federal Court of Accounts (TCU) conducts accounting, financial, budgetary, performance and equity audits and inspections to verify the legality and legitimacy of governmental actions, as well as the application of subventions, subsidies and exemptions. Under the PPI, the government targets a 90-day window for the TCU approval process.

In the case of the South Integration Highway project, the project studies were submitted for review by the TCU on 31 July 2017. The TCU undertook a detailed assessment of the processes followed by nine months of deliberation with the stakeholders, including the PPI Secretariat (SPPI), National Land Transport Agency (ANTT), the Planning and Logistics Agency (EPL), the Ministry of Transport, Ports and Civil Aviation (MTPA)²⁴ and the transaction advisor. The TCU analysed the parameters related to the concession plan (Law 10.233/2001), the road exploration plan and the technical, economic and environmental feasibility studies of the project. The draft projects agreements were also analysed and the compatibility of these documents with the economic and financial aspects of the studies was determined.

The TCU finally approved the project in May 2018 while providing guidance on specific actions to be taken up by ANTT before initiating the tender notice. Some of the key areas of suggested improvement included the provisions related to scope changes, obligations during contract extension, contractual penalties, criteria for undertaking technical studies, and the preparation of a plan of action to improve project supervision. The analysis of technical, economic and environmental feasibility studies contributed to the reduction of approximately R \$1.5 billion (US \$390 million) in terms of investments and operational costs.

²⁴ From January 1 2019, this ministry will be called the Ministry of Infrastructure.

6. Project communication

6.1. OVERVIEW

Stakeholder engagement during infrastructure project preparation assumes tremendous significance given the multi-faceted nature of large complex infrastructure projects and the multi-dimensional stakeholder interfaces they tend to cut across. Stakeholder groups could have interests and concerns that are very different from each other and, in some cases, conflicting. Mapping and addressing these expectations during the early stages of project preparation therefore becomes critical²⁵.

Communication during the course of infrastructure project preparation should not be treated as a set of isolated actions or as a public relations exercise. Rather, it should be recognised as a strategic activity, which factors in the importance and disposition of all key stakeholder groups towards the project, tailors timely and appropriate communication actions to inform and engage them, and fosters a supportive environment through the course of project preparation and implementation.

In the context of infrastructure project preparation, effective communication should seek to: (i) map stakeholders and their perceptions and disposition towards the project; (ii) help strengthen analysis of options and project design to meet stakeholder needs and expectations; (iii) keep stakeholders continuously engaged through the course of project preparation and implementation using relevant and appropriate communication channels; and (iv) build trust, credibility, and acceptability for the project through transparent two-way communication towards creating a conducive and cooperative environment for project development and implementation.

Effective communication helps to create feedback loops to inform the project development process, and contributes to improving project design, structuring and sequencing. Proactive engagement with stakeholders early on can help identify sources of support and opposition systematically, and facilitate better alignment of project design and configuration, thereby aiding smoother implementation.

Further, the complexity of stakeholder engagement and market sounding multiplies in the case of PPP projects, where substantial risk transfer and asset ownership are often involved. Market sounding of the project to potential developers and investors to evaluate market interest during the project preparation phase becomes particularly important in the context of infrastructure projects to be developed using the PPP model. This chapter accordingly assumes a PPP lens to ensure coverage of the wider spectrum of the aforementioned issues, although many aspects discussed here also apply to projects developed under a traditional public procurement approach.

This chapter addresses two salient aspects of project level communication during project preparation, as shown below:

- **Stakeholder engagement (Section 6.2)**
- **Considerations in market sounding (Section 6.3)**

²⁵ For more information on the importance of stakeholder engagement to address inclusion in infrastructure projects, please refer to the Global Infrastructure Hub's reference tool on Inclusive Infrastructure and Social Equity: Practical guidance for increasing the positive social outcomes of large infrastructure projects (available on the GI Hub website in 2019).

6.2. STAKEHOLDER ENGAGEMENT

6.2.1. Summary

Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively²⁶. Stakeholders, in the context of an infrastructure project, could include locally affected communities or individuals and their formal and informal representatives, national or local government

authorities, politicians, religious leaders, civil society organisations and groups with special interests, the academic community, or other businesses.

Exhibit 6.1 captures priority stakeholders viewed along an infrastructure project development cycle and highlights some of the critical considerations in developing a communication plan, with respect to communication focus areas and channels for engagement along the project development cycle.

Exhibit 6.1 Stakeholder engagement considerations across the project development cycle

Communication Aspects	Project Development cycle		
	Identification	Preparation	Bidding
Priority Stakeholders	<ul style="list-style-type: none"> • Policy makers • Government departments • Users • Employees of project sponsor 	<ul style="list-style-type: none"> • Users • Advocacy groups • Employees • Government departments • Mass media • Prospective bidders 	<ul style="list-style-type: none"> • Bidders • Project sponsor • Media • Financiers
Communication Focus	<ul style="list-style-type: none"> • Project need/benefits • Precedents • Government support • Points of support and concern 	<ul style="list-style-type: none"> • Assess stakeholder needs / concerns • Mobilise support • Assuage concerns • Build credibility of project and sponsor • Key elements of the proposed PPP transaction 	<ul style="list-style-type: none"> • Project attractiveness • Sponsor credibility • Process integrity
Tools and Channels	<ul style="list-style-type: none"> • Interpersonal communication • Consultations • Discussion papers 	<ul style="list-style-type: none"> • Interpersonal communication • Consultations • Peer sharing • Community channels • Internet / Website 	<ul style="list-style-type: none"> • Road shows, Conferences and Events • Websites • Press briefings on project

Adapted from Effective Communication for PPP Projects. Department of Economic Affairs, Government of India. 2011.

Note: (1) The Exhibit lists only stakeholders who are prioritised in a given phase, and may not be exhaustive.
(2) The above framework is generic and may not apply in an identical manner in all projects.

²⁶ As defined in "Stakeholder engagement: a Good Practice Handbook for Companies Doing Business in Emerging Markets". IFC. 2007

Essentially, communication during the course of infrastructure project preparation involves a structured mapping of stakeholders in terms of their preferences, expectations and concerns, prioritising them in terms of importance and influence across different stages of project preparation and implementation, and formulating a communication plan to engage them effectively.

Guidance on stakeholder engagement is organised along the following three steps:

- A. Map stakeholders, and their preferences, and assess the intensity of communication efforts required.
- B. Categorise stakeholders by their behaviour, influence and importance and target them with directed communication messages and themes.
- C. Develop and deliver an appropriate communication plan to engage stakeholders effectively.

6.2.2. Guidance

A. Map stakeholders, and their preferences, and assess the intensity of communication efforts required.

An important first step towards effective stakeholder engagement during project preparation is to identify and map all stakeholders that influence the project or are impacted during the course of project implementation and operations.

This may be done through a Communication Needs Assessment (CNA) exercise. A CNA systematically captures the views of various stakeholder groups on issues pertinent to the project, the benefits expected and possible concerns. The CNA also captures the stakeholders' views on the GCA and other agencies that may be tasked with preparing and implementing the project. The CNA is typically done through a range of qualitative and quantitative methods. The scope and depth of a CNA exercise is project and context specific and may need to be repeated during subsequent phases of a project to confirm the continued validity of findings from earlier CNAs, particularly when project preparation timeframes are long and if new developments induce a change in behaviours.

Illustrative communication issues to be captured for select stakeholders through the CNA²⁷ are summarised here:

- **Users and project beneficiaries:** User needs around infrastructure projects are typically centred around their (i) perceptions with respect to the GCA; (ii) prevailing levels of service; (iii) expected improvements from the project; and (iv) incremental costs of the service provided. GCAs, especially in EMDEs with low capacity, may often face credibility challenges, especially if the service level baseline at the time of project preparation is poor. Under such circumstances, projects structured with sharp user fee increases tend to evoke negative responses, even when service levels after project implementation may be vastly superior. In such cases, early stage CNA can be very useful, as the messaging of benefits and those required to allay user concerns can be appropriately tailored.
- **Opinion leaders:** This category typically includes civil society organisations, activists, and advocacy groups, and often serves as a mouthpiece for society. Though they often form a small subset of intended end-users of the project, they can significantly impact overall perceptions and typically focus on user rights, service delivery assurance and affordability. Understanding the motivations and expectations of opinion leaders is, therefore, crucial.
- **Project Affected Parties (PAPs):** These are stakeholders who could be adversely impacted by the project, such as, for example, people displaced by land acquisition requirements for the project. These categories of stakeholders may not have a positive disposition to start with, as they may fear a loss of assets or be unsure of the level of compensation. In the early stages of project preparation, it is critical to identify such stakeholders, so that assurance relating to redress and compensation can be built into communication. Employees of GCAs implementing a PPP project may worry about job security and hence may have similar concerns that need to be identified and assuaged.

²⁷ Adapted from Effective communication for PPP projects. Department of Economic Affairs, Government of India 2011.

- **Government:** Communication within government is equally crucial given that multiple agencies are often involved in the preparation and implementation of large infrastructure projects, including the GCA, cross-sectoral PPP units, funding agencies, and other departments of the government. When projects require debate and multiple levels of decision-making and approval, formal platforms, such as committees or taskforces, may need to be constituted. This may be particularly required when the policy is evolving or when there is an amendment or clarification to the existing policy (for instance, a change in legislation or an issue of government guidelines etc.). Communication efforts should, therefore, focus on building consensus within the government and should generate trust and confidence among stakeholders within government.
- **Political leaders:** Political leaders should inspire confidence and should seek to strengthen public goodwill potential of the project. Getting political commitment early on helps create wider appeal and mobilise the support of other stakeholders. A key objective of communication should be to create enthusiasm and excitement about the project and thereby win their active support and advocacy.

The diversity of the stakeholder mix that impacts and is influenced by infrastructure projects, as reflected above, means that an early and comprehensive CNA is an important input for project preparation and for stakeholder engagement and communication during the course of project preparation and implementation. The CNA will also help GCAs to assess the intensity of communication actions required.

The areas and intensity of communication actions required during the course of project preparation and implementation can vary significantly. For instance, a PPP project being implemented by a GCA with relatively weak capacity or in a sector with a limited PPP track record will require relatively greater communicative intensity, both within the government and with potential bidders. A project that has high social and environmental impact or an envisaged increase in user fees will also call for greater intensity of communication efforts with project users.

Communication tends to be particularly effective when there are efforts to map and engage stakeholders right from the early stages of project preparation.

EARLY STAKEHOLDER ENGAGEMENT under the MIRT Framework, the Netherlands

Active stakeholder engagement is central to the MIRT framework for project development.

All stages of the MIRT process encourage a collaborative approach to project preparation right from project initiation under the 'exploration phase', by conducting multiple stakeholder consultations through political and administrative meetings, to ensure the involvement of all stakeholders in providing input to the feasibility of the project and in reaching common solutions to address needs.

The plan exploration phase of the MIRT framework follows a collaborative approach that requires project initiation to start with a series of political and administrative meetings. These meetings are aimed at discussing the development needs of an area, and fixing the strategic development goals

and the initiatives to meet these development goals. Thereby, discussion, collaboration and consensus between important stakeholders is set as a requirement for starting a new project concept. The exploration phase typically comprises the following activities: evaluating the strategic alignment of the proposed concept, options evaluation to assess the benefits and impact of each alternative on the economy, environment and society, and selection of the preferred alternative to undertake the detailed project study.

The MIRT framework encourages an integrated approach as national and regional government parties will collaborate, share visions, contribute associated resources, and help to generate a clear picture of the relevant issues with inputs from the communities, NGOs and businesses.

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EARLY STAGE STAKEHOLDER CONSULTATIONS – Thames Tideway Tunnel Project, the United Kingdom

The Thames Tideway Tunnel project is an interceptor sewer constructed in central London to control 39 million tonnes of untreated sewerage that flows in to the Thames River on an annual basis. The sewer tunnel runs 25 kilometres long, from Acton in West London to Abbey Mills in East London, intercepting 34 combined sewer outflows (CSO).

The Department of Environment, Food & Rural Affairs (DEFRA), responsible for the overall policy on water and sewerage in the UK, worked closely with Thames Water, a private company responsible for sewerage infrastructure in London, to develop a solution for the overflows.

While Thames Water undertook the planning, design and tendering of the project, it was also supported by IUK (later IPA) owing to its major project status. The Water Services Regulatory Authority (Ofwat) was the independent economic regulator, responsible for determining the charges to be borne by the customers of Thames Water for funding the tunnel construction.

A key aspect with respect to stakeholder involvement was extensive consultation at the early planning stages. Thames Water carried out two extensive public consultations to refine the route for the Thames Tideway Tunnel. The first round of public consultation took place between September 2010 and January 2011, and the second between November 2011 and February 2012. It also conducted a third targeted consultation on four specific sites between June 2012 and July 2012. Thames Water subsequently revised its plans and submitted its planning application for a Development Consent Order (DCO) to the Planning Inspectorate on 28 February 2013. The Strategic Business Case and Outline Business Case were submitted in September 2013 and September 2014 respectively.

The project was successfully bid out in 2016, and is privately financed by the Bazalgette consortium, supported by the UK Government's fiscal support package, to mitigate the project risks and make the project viable for private financing.

B. Categorise stakeholders by their behaviour, influence and importance and target them with directed communication messages and themes.

Once the key stakeholders and their preferences and expectations towards a project are mapped, it is important to categorise and prioritise them by their behavioural disposition towards the project and their influence and importance with respect to the project implementation. This is critical to gain insight on the extent and intensity of communication needed, and it calls for clarity on three aspects:

1. What are the needs, expectations and views of stakeholders on the project?
2. How can one meaningfully segment stakeholders in the context of the project?
3. How should a practitioner deal with varying degrees of support and resistance from stakeholders and the underlying sources of such behaviour?

While the Communication Needs Assessment (CNA) exercise can help address the first aspect above, a behavioural analysis and an Importance-Influence Grid can be used to systematically analyse stakeholders with respect to questions 2 and 3 respectively.

IMPORTANCE-INFLUENCE GRID²⁸

The Importance-Influence Grid provides a useful approach to practitioners to group and segment stakeholders in a manner that aids communication planning. **Importance** relates to the degree of involvement of stakeholders in the achievement of the project objectives. **Influence** refers to the power that stakeholders could potentially have in controlling the decision-making process directly or by facilitating or resisting the project's implementation. Positioning stakeholders on the grid provides a guide for communication actions. Practitioners should exercise due care and validate their judgement with analytical rigour and inputs from the CNA while categorising and analysing stakeholders on this grid. Generally:

- **Stakeholders of high influence and high importance** should be closely involved throughout the project cycle to promote their participation and ownership.
- **Stakeholders of low influence and high importance** may not have a role in decision-making but may be impacted by the project. Practitioners should ensure that their needs are met.
- **Stakeholders of high influence and low importance** need to be carefully managed. Without adequate information sharing and engagement, influential stakeholders that may not be positively inclined could potentially wear away support from the project.
- **Stakeholders of low influence and low importance** are unlikely to be closely involved with the project. However, they need to be kept informed to avoid misperceptions. Practitioners should take care that vulnerable groups, such as low-income people and women etc., are not assumed to be of low importance.

²⁸ Adapted from Effective Communication for PPP Projects. Department of Economic Affairs, Government of India. 2011 and Strategic Communication for Privatization, Public-Private Partnerships, and Private Participation in Infrastructure Projects. World Bank. 2008.

BEHAVIOURAL ANALYSIS

Behaviour analysis helps practitioners to understand and deal with stakeholders' overall disposition towards the project. The behaviour scale that helps position and analyse stakeholders based on the behavioural disposition to the project is found below.

There are four important behavioural objectives that communication actions should achieve:

- **Deal proactively with extreme perceptions:** Even a small proportion of influential stakeholders, such as political leaders or advocacy groups in extreme positions, namely 'advocating' or 'opposing' stakeholders, can skew overall perceptions about the project. Identifying and engaging with such stakeholders should be a foremost priority for practitioners.
- **Encourage project advocacy by the important and influential:** Practitioners should get the 'important' and 'influential' stakeholders to become project ambassadors. This tends to create a positive perception and helps mobilise wider public support.
- **Address underlying factors leading to resistance:** Communication actions should address underlying sources of resistance. These factors typically include misperceptions, lack of trust, genuine grievances and vested interests.
- **Win support of the neutral and unaware stakeholders:** Neutral and unaware stakeholders should be kept informed of project developments.



C. Develop and deliver an appropriate communication plan to engage stakeholders effectively.

The mapping of stakeholders and their preferences, along with their categorisation based on their behavioural disposition, importance and influence, should form inputs to develop and deliver a proactive communication plan. Communication actions ought to address two aspects, namely the theme or message, and the medium or channel.

Choice of communication themes and messaging:

Communication actions should follow from the stakeholder-wise behavioural objectives and should be consistent with the objectives of the project preparation. There are five possible dimensions²⁹ along which communication themes could be delivered and these are illustrated with examples below:

1. **Benefit-led:** Typically here the focus of communication would cover project benefits and could include investment substitution (comparison vis-à-vis alternate investment proposals for the same objective), lower costs, speedy execution and improved service delivery. Often, this will require looking beyond the obvious. For instance, user charges in public water supply systems are often less than operating costs. A project structured to recover costs could lead to unacceptably high user fees vis-à-vis the existing tariffs. However, if the costs of coping with poor water supply, such as having to resort to private tanker supply, incurred by users are high, then a comparison of the 'proposed user fee' with the 'coping costs', as opposed to the existing tariff, can potentially dampen resistance to higher but legitimate user fees for improved service delivery.
2. **Aspiration-led:** Aspiration-led communication can help get a range of stakeholders on board and involves appealing to the aspirational sense. Messages such as '*world class facilities*' can provide aspirational appeal if they are truthful. Political leaders often respond well to aspirational cues.
3. **Precedence-led:** Communication indicating that a similar project has been executed in the past brings familiarity and comfort. Demonstrating how the project features are similar to another successful project can provide a visible anchor point for stakeholders and a 'see' and 'believe' experience.

4. **Assurance-led:** This mode of communication becomes necessary, particularly when there has been a bad precedent (e.g. a poorly executed project in the recent past). Communication here should highlight how the project is different from the past and the safeguards that have been put in place to avoid a repeat. A strong focus on safeguards, including stringent obligations, performance security requirements, and scope for higher public participation etc., also provides assurance. A good process compliance where the practitioner sticks to a time-bound plan, disseminates progress, and reports deviations in a transparent manner also provides a signal of assurance to stakeholders.
5. **Champion-led:** An important aspect of communication is to create advocates for the project beyond the GCA. Having a charismatic and credible 'face' for communication in the initial stages helps to provide upfront credibility and a good starting point for the project, though over-reliance on champion-led communication without back up from other dimensions could back-fire and is not advisable. Users typically respond well when a trusted political leader or bureaucrat champions the project, however this may be affected by political transitions etc.

Choice of communication medium and channels:

Channels enable the delivery of messages and the exchange of ideas and views amongst stakeholders. A multi-channel approach towards communication improves the odds of achieving the desired behavioural change impact more efficiently and quickly. Key considerations for channel selection, include reach (percentage of audience that will be exposed to the message), frequency (average number of times of exposure) and cost of communication. A variety of options can be potentially used by project development agencies and GCAs to reach out to stakeholders, including the following:

1. **Interpersonal channels** cover one-on-one interactions, group interactions, public consultations, and structured deliberations through committees and task forces. Highly interactive and consultative communication, such as among government agencies, between officials and political leaders etc., is largely through interpersonal channels.

²⁹ Adapted from Effective communication for PPP projects. Department of Economic Affairs, Government of India 2011.

2. **Community-based channels** reach a community or a group of people within a geographic area or based on common characteristics, such as occupation, and include community activities (fairs, concerts, folk dramas, rallies, and parades) and mobilisation (street meetings and consultations). They offer scope for interactivity and tend to be the more preferred channels for communication for the GCA with users and the general public.
3. **Mass media channels** help in reaching large audiences within a short time, and include television, radio, print media and newspapers, outdoor/transit advertising, and direct mail.
4. **Internet and social media** have emerged as an important channel for communication. Apart from social media, websites are often an important source of information disclosure for reporting on project progress. They also provide a cost-effective mechanism to reach a wider audience. The interactive functionality can also support cost-effective consultative processes and help elicit stakeholder feedback among advocacy groups and opinion leaders.
- Putting together a communication plan involves weaving together a coherent and comprehensive set of actions to deliver stakeholder-relevant messaging themes through appropriate communication channels. *Exhibit 6.2* provides an illustrative matrix of objectives, actions and channels for communication with different stakeholder groups.

Exhibit 6.2 Stakeholder communication actions during project preparation

Stakeholder group	Communication objectives	Communication actions	Preferred channels
Users and Advocacy Groups	<ul style="list-style-type: none"> Reinforce users on benefits relating to service quality and affordability of service Dispel misperceptions about the project Receive feedback to further strengthen the project design and safeguards 	<ul style="list-style-type: none"> Showcase benefits to users - service access, quality and affordability Highlight service assurance and contractual safeguards to protect user rights Use audio-visual examples of other successful projects 	<ul style="list-style-type: none"> Community channels Consultations with opinion leaders and advocacy groups Web and social media-based information dissemination and consultations
Employees of Project Sponsors and Labour Unions	<ul style="list-style-type: none"> Provide assurance to employees Disseminate information on the project Encourage participation and involvement 	<ul style="list-style-type: none"> Showcase benefits to employees, namely skill building, better working conditions Disseminate alternatives and redress in case of genuine grievances Initiate ongoing dialogue with unions 	<ul style="list-style-type: none"> Open consultations and hearings Consultations (with labour unions) Employee newsletters for information dissemination Peer experience sharing with labour unions Champion-led communication

Exhibit 6.2 (continued) Stakeholder communication actions during project preparation

Stakeholder group	Communication objectives	Communication actions	Preferred channels
Political Leaders	<ul style="list-style-type: none"> • Provide assurance of public benefits and support • Gain commitment and advocacy • Showcase aspirational aspects 	<ul style="list-style-type: none"> • Showcase benefits to the public and assure them of the political support to the project • Establish precedence of successful PPP projects and alignment with policy goals • Facilitate experience sharing and peer influence to reinforce the above 	<ul style="list-style-type: none"> • Interpersonal communication • Orientation visits to project sites • Interaction with project users • Interaction with agencies experienced in similar projects
Government Officials	<ul style="list-style-type: none"> • Gain commitment • Validate conformance with policy objectives • Facilitate faster decision-making and approvals • Showcase aspirational aspects 	<ul style="list-style-type: none"> • Articulate tangible benefits to government • Highlight alignment with policy objectives and safeguards in case of negative precedence • Facilitate experience sharing and peer influence to reinforce above 	<ul style="list-style-type: none"> • Interpersonal communication • Formal consultation forums (steering group, committees) • Orientation visits to project sites • Interaction with project users • Peer experience sharing
Private Sector	<ul style="list-style-type: none"> • Communicate project terms and PPP structure • Build interest 	<ul style="list-style-type: none"> • Engage early to build confidence, generate interest and participation 	<ul style="list-style-type: none"> • Roadshows as required • Social media engagement and web-based • Pre-bidding conferences

PROJECT STAKEHOLDER CONSULTATIONS: Within government and with the public – Regional Rail Link, State of Victoria, Australia

The Government of Victoria's Regional Rail Link (RRL) project was a large-scale revival project to remove bottlenecks in Melbourne's rail network and expand the regional rail network. The RRL was delivered through six works packages, consisting of three alliances with a total of 16 organisations engaged directly.

Jointly funded by the Australian Commonwealth and Victorian Governments, RRL was one of the most significant and complex infrastructure projects in Victoria, and the largest public transport development in Australia during its construction. Developing and implementing the RRL project involved extensive inter-departmental coordination among the following agencies:

- the Government of Australia, which provided partial funding for the project through the Building Australia Fund;
- the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) within the Government of Victoria, which is the successor to the former Department of Transport (DOT) and the former Regional Rail Link Authority (RRLA), which led the planning and delivery of the RRL project;
- the Department of Premier and Cabinet within the Government of Victoria, which provided a state-wide government policy and leadership function for the project and liaised with the Australian Government;
- the Department of Treasury and Finance (DTF) within the Government of Victoria, which provided financial oversight and project scrutiny through its gateway review process and High Value High Risk (HVHR) Framework;
- Public Transport Victoria (PTV), which was the key coordinator and planner for public transport at the time of the RRL;
- VicTrack, the owner of Victoria's public rail assets and operator of the railway telecommunications and signalling equipment; and
- V/Line, the operator of the rail services on the RRL.

The project also focused strongly in managing public perceptions and expectations of service delivery, right from the planning stages. Proactive stakeholder engagement helped ensure that all parties were kept informed of project progress and any issues were promptly addressed. From July to September 2008, the government sought wide ranging inputs through a stakeholder consultation process, which resulted in over 2000 comments that helped project implementation, and the long-term strategic direction for Victoria's transport infrastructure.

The project was delivered eight months ahead of schedule and approximately AU \$600 million under budget, and won several awards.

6.3. CONSIDERATIONS IN MARKET SOUNDING

6.3.1. Summary

Developing an active private sector engagement strategy to attract private operators from the early stages of project preparation can be crucial in facilitating a keen contest during and prior to the bidding phase of the project.

Especially in contexts and sectors where there is inadequate precedent of PPP projects, and where the local private ecosystem may not have been developed, marketing and market testing a project to industry early in the project preparation cycle is very useful.

The primary focus of the market sounding effort should be to connect with the universe of private developers that could potentially bid for this project. A fair contest among qualified private developers is critical for achieving an efficient price and effective project implementation. Engaging the private sector through an active communication focus is thus critical.

To prepare for the market sounding activity, the GCA should: (a) identify and engage as wide a set of potential bidders as possible; and (b) identify positive aspects of the project that position the project as an attractive investment opportunity and the GCA as a credible partner that will honour its obligations under the project contract.

Guidance in this section focuses on market sounding imperatives during the project development cycle, as follows:

- A. Proactive engagement to market projects and elicit early stage feedback is crucial.
- B. Create dedicated capacity within government to handle stakeholder management and market sounding.

6.3.2. Guidance

A. Proactive engagement to market projects and elicit early stage feedback is crucial.

It is not always necessary to proactively communicate with and market a project to the private sector during the early stages of the project preparation phase in jurisdictions where there is a successful track record of PPP projects. However, in sectors where PPPs are yet to be mainstreamed, interactions with the private sector providers during even the early project preparation phase may be necessary to elicit their views on the project design and structuring options. This may require the GCAs to take steps beyond just identifying and compiling the possible set of bidders and may require an initial round of bidder engagement through roadshows on the project concept and consultations with the private sector, to factor in any potential and genuine concerns they may have with respect to the project. Such consultations should be done in a transparent environment with the outcomes of deliberations disseminated widely, preferably through the project sponsor's website.

As the project reaches a fairly advanced stage of feasibility evaluation and the GCA is ready with reasonably firm proposals on project structuring, it may be useful to have early stage interactions prior to the formal launch of the bid process.

Early state interactions help the GCAs to market the project opportunity to a wide base of potential bidders and also elicit useful inputs on the market's acceptability of proposed project terms, the structure and risk sharing arrangements. Such interactions will help the GCAs to fine-tune their project delivery and implementation arrangements if required, to meet market expectations wherever feasible without negatively affecting users' or its own interests³⁰.

Some key aspects for consideration as GCAs prepare to do market testing are summarised below:

1. It is important that the universe of bidders is identified and compiled during the project preparation phase itself.
2. As the project structuring is being finalised, the GCA must engage with the private sector through a series of pre-marketing efforts. These could include contacting and marketing the opportunity to potential bidders and sharing a Preliminary Information Memorandum of the project particulars through a range of channels, including roadshows and presentations at conferences. The market participants may also utilise support from global development agencies like the Global Infrastructure Hub, which provides a pipeline of projects across major countries³¹.
3. During these interactions, the GCA should highlight the facets of the project that make it an attractive investment opportunity, including a stable policy environment, where this exists, and examples of such successful projects implemented earlier in the local context of the same state or sector, for example. When a project does not have any precedent, GCAs should highlight the innovative nature of the project and/or its potential for replication.
4. An important aspect of information dissemination is the establishment of a data room, where information related to the PPP project is made available to potential bidders. The information should be organised and granted equally and fairly to bidders.
5. While sharing information with bidders and other stakeholders, the more relevant the information shared, the better. GCAs should be empathetic and see the bidders' perspectives while putting together the Preliminary Information Memorandum for a project and the data room. Such an approach sends two positive signals: (i) bidders perceive the project implementation agency to be transparent; and, more importantly (ii) it sends a strong signal that the project implementation agency is well prepared and is carrying out the transaction from a position of strength.

³⁰ For additional information on publishing a transparent project pipeline, please refer to the World Bank tool A Framework for Disclosure in Public-Private Partnership Projects, particularly Chapter 7 on Pre-Procurement Disclosure, available at <http://pubdocs.worldbank.org/en/773541448296707678/Disclosure-in-PPPs-Framework.pdf>

³¹ The GI Hub Global Pipeline may be accessed at <https://pipeline.gihub.org/>

MARKET SOUNDING: South Africa's REIPPP Programme

The REIPPP Programme was a landmark initiative by the Department of Energy (DoE) to rapidly scale-up grid connected renewable energy generation through private participation. The REIPPP Programme was implemented against the historical backdrop of several failed initiatives to contract IPPs, owing to institutional shortcomings, capacity gaps and weak incentive structures. To overcome these limitations and to run the REIPPP Programme as a sophisticated, multi-project, multi-billion dollar international competitive bidding process for renewable energy, the DoE co-opted and took the assistance of the National Treasury's PPP Unit to manage the process. A small team of technical staff from the DoE and the PPP Unit established a project office, known as the DoE IPP unit, which effectively functioned outside the departmental structure and acted as a facilitator for the REIPPP Programme.

Since inception, the REIPPP Programme has received private sector investment of US \$15 billion. Overall, 43% (i.e. 6,376 MW) of the total targeted renewable energy capacity of 14,725 MW has been procured. 62 operational IPPs aggregating to 3,744 MW reached commercial operation by 2017 and created 38,774 job years.

A key underlying factor of the program's success was prioritising continuous engagement with the private sector players and bankers, to ensure that the program design was aligned with the prevailing market environment. Stakeholder engagement was largely driven through consultative workshops organised across major project locations with active involvement of local stakeholders, including the local government. The team also conducted focused interactions with the private sector and ensured periodic and transparent disclosure of project terms. This also helped to allay general concerns related to the PPP model during this period. The presence of an effective and credible project champion also played an important role in streamlining the engagement process. Design factors, including the signing of PPAs early on and implementation arrangements, were an outcome of this engagement process. One of the unique elements of the program was that the bidders were expected to come with lenders already locked in, which helped in incorporating the lenders' concerns into the program design.

B. Create dedicated capacity within government to handle stakeholder management and market sounding.

Traditionally, many stakeholder consultations are managed by GCA staff taking care of the communication aspects on top of their usual duties. However, for complex projects, it may be useful for GCAs to have dedicated, specialist staff with a clear accountability for handling the communication aspects. In some cases, market sounding is handled by a specialised entity. For instance, the Strategic Investment Division of the Rwanda Development Board (RDB), Rwanda's investment promotion agency, also functions as its central PPP unit. The RDB's strong investment promotion focus helps the marketability of projects supported by the PPP unit.

Irrespective of whether a GCA is able to partner with a communication agency, it should designate a communications officer or committee in charge of handling stakeholder engagement and market sounding aspects. In cases where a project is complex or large and communication involves coordination across a number of entities within and beyond the government, a communication committee may be constituted. The communication officer should establish a team that is empowered to undertake various tasks pertaining to the communication for the project. The communication officer should make sure that all implementation activities are in line with the communication strategy, remain within budget, keep on schedule, and ensure involvement of partners as envisaged.

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Australia

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Strong project preparation enabling framework at the sub-national level, ably supported by federal institutions

Australia's project preparation landscape aligns with its devolved constitutional set-up, with sub-national governments at the state level having established their own independent enabling frameworks to aid project development. These institutions assist and address all aspects of project preparation - setting policies and providing guidelines, drafting and monitoring long-term strategic plans and providing approvals, quality assurance, and capacity building support to contracting authorities within the state. These state level institutions are ably supported by those at the federal level: Infrastructure Australia (IA) to assist in the delivery of nationally significant projects; the Department of Infrastructure and Regional Development to provide policy advice and delivery support; the Department of Treasury to conduct independent reviews and appraisals of nationally significant projects, and the National PPP Working Group to ensure consistency and coordination across jurisdictions for PPPs.

Encouraging national collaboration for project development through overarching policies and coordination through the National PPP Working Group

To ensure uniformity across jurisdictions for project delivery, Australia's federal government has drafted national level PPP policies and guidelines, which are applicable for all PPP projects undertaken in the country. The National PPP Working Group, an inter-jurisdictional committee comprising representatives from the federal and all state governments, further promotes and advances coordination efforts. Through a collaborative approach, the committee works to improve the PPP processes and their implementation in Australia.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Dedicated agency to identify and support nationally significant projects from the initiation stage, through a well-defined framework

Infrastructure Australia evaluates projects for suitability and relevance, to be added to the pipeline of nationally significant projects – the Infrastructure Priority List (IPL). This evaluation is done through a defined framework, the Assessment Framework, which details the process and criteria against which projects are evaluated.

To support projects at the conceptualisation stage, Infrastructure Australia also permits 'initiatives' to be added to the IPL, which are essentially priorities that have been identified to address a nationally significant need, but require further development and rigorous assessment to determine and evaluate the most appropriate option for delivery.

Independent audit and long-term planning of country-wide infrastructure delivery landscape

Infrastructure Australia conducts a comprehensive audit of Australia's infrastructure needs and delivery landscape, through the National Infrastructure Audit (NIA). The NIA is undertaken every five years and is an exhaustive document which evaluates the existing infrastructure gap and estimates demand for infrastructure over a 15-year period. It also analyses the sectoral investment and regulatory climate, policy considerations, and other support mechanisms required to realise this demand. In response to this audit, Australia prepares a 15-year rolling plan, the Australia Infrastructure Plan, which provides a long-term strategic direction not only for project delivery, but also for the enabling framework for infrastructure development.



PROJECT APPROVALS AND QUALITY ASSURANCE

Adapting the UK's Gateway Review Process to an Australian context to enhance effectiveness and relevance

Australian state governments have adopted the United Kingdom's Office of Government Commerce (OGC) Gateway Review Process for quality assurance across all jurisdictions, adding modifications to enhance the outcome of the process and make it more relevant to the Australian context. For instance, the Department of Finance within the Government of Australia recommends a staged escalation within the review process called 'Enhanced Notification', which defines escalation actions based on specific triggers in project assurance. Further, the Government of Victoria has built upon the Gateway Review Process and added a series of additional project assurances and checks for high-value or high-risk projects.



PUBLIC MARKETING AND STAKEHOLDER ENGAGEMENT

Transparent disclosure of project development, with real-time reporting through government managed portals

Australian governments regularly monitor and disclose details of ongoing and proposed infrastructure projects through multiple mechanisms. While state and national individual statutory authorities publish updates in their annual reviews, the National Infrastructure Construction Schedule is an online portal which also provides information on major infrastructure projects committed to by governments across the country in a dynamic, easy-to-use manner. Finally, The Australian and New Zealand Infrastructure Pipeline, a central portal developed through a joint initiative between the Australian and New Zealand governments, provides a forward view of public infrastructure activity across Australia and New Zealand.

Soliciting stakeholder support when designing long-term plans for infrastructure development

Unique to Australia's development planning framework is its extensive use of soliciting inputs from a wide range of stakeholders for its long-term strategic plans. Most of Australia's strategic planning documents welcome submissions and suggestions from industry associations, public interest groups, local government bodies and individuals. Planning authorities then work closely with these representatives to incorporate and address their concerns, prior to finalising the planning document.

2. Snapshot of project preparation activities

Australia's infrastructure development environment is amongst the most advanced and mature structures globally. It is defined predominantly by state level institutional and policy frameworks that are guided by overarching national frameworks and guidelines to provide consistency and coherency across all provinces.

INSTITUTIONAL FRAMEWORK

Infrastructure project preparation in Australia follows the country's federal system with each state having its own institutional framework to support project development. Typically, this comprises: (i) the state treasury department, to provide quality assurance, approve projects and prepare annual budgets for government expenditure; (ii) a state level PPP unit that establishes good practice guidelines for project

preparation; and (iii) a state level planning agency, which sets the long-term vision and strategic priorities for the development of the state.

Some states have also established specialised institutions to support project development. For instance, PPP projects in the state of Victoria are supported by the Office of Projects Victoria. The office provides guidance on technical scope, engineering design, project cost, and financial and contractual risks during project evaluation. In the state of New South Wales, the state treasury department has set up its Infrastructure and Structure Finance Unit, which specialises in providing commercial and financial advice to the state government on infrastructure projects with a cost of over approximately US \$70 million (AU \$100 million).

STATE LEVEL INSTITUTIONAL SET-UP FOR PROJECT PREPARATION – THE CASE OF VICTORIA

Infrastructure Victoria is an independent statutory body that guides decision-making on Victoria's infrastructure needs and priorities. It sets Victoria's long-term infrastructure strategies and monitors and reports on its progress. It has delivered a 30-year infrastructure strategy, which outlines the infrastructure challenges that need to be addressed to meet the state's long-term goals and the guiding principles by which the strategy was developed.

The Department of Treasury and Finance (DTF), Victoria is the relevant PPP authority as defined in the National PPP Guidelines. DTF is not responsible for direct project delivery but provides quality assurance for projects. DTF advises implementing agencies on developing project governance arrangements and also participates at all levels of governance at all stages of the PPP lifecycle. It also sets guidelines and makes policy recommendations on infrastructure investments and PPPs in the state.

The Partnerships Victoria team, housed within the DTF, provides a framework for developing contractual relationships through PPPs in the state. It serves as the first point of contact for PPPs in the state and plays a central role in coordination, advisory and facilitation of the procurement process for PPPs. The team also advises Victoria's Treasurer, who presides over the State's PPP policy and approves key PPP project milestones. The Partnerships Victoria team also serves as a conduit for communication between the private sector and government.

The Office of Projects Victoria provides an independent review of the engineering and technical design for projects that undergo the gateway review assurance process with the DTF.

The Office of the Victorian Government Architect provides leadership and strategic advice to government on elements of urban design.

At the national level, the state institutions are supported by the apex agency for nationally significant projects, Infrastructure Australia (IA). Established in 2008, Infrastructure Australia is an independent statutory body which takes a long-term, national approach to infrastructure planning.

Infrastructure Australia is mandated to perform the following functions:

- scope and deliver the national infrastructure audit every five years;
- undertake evaluations of project proposals that are nationally significant or where funding of more than AU \$100 million is sought from the Commonwealth;
- develop a regularly updated Infrastructure Priority List; and
- develop guidance materials for proponents to utilise in preparing initiative and project submissions.

Infrastructure Australia works in conjunction with three government bodies at the federal level – the Department of Finance, the Department of Infrastructure, Regional Development and Cities, and the National PPP Working Group.

The Department of Finance provides approvals for projects which are classified as nationally significant or where Commonwealth funding of more than AU \$100 million is provided. It also provides guidelines for the preparation of business cases for infrastructure projects.

The Department of Infrastructure, Regional Development and Cities is tasked with designing and implementing infrastructure programs in Australia, as well as developing policies and regulations to support their development.

The National PPP Working Group comprises representatives from national and state governments and leads the development of policy and process improvements for PPPs. It is tasked with ensuring value for money in the delivery of PPPs, improving the national PPP policy, guidelines and practices, and ensuring consistency and cooperation across jurisdictions in the application of PPPs.

PROJECT PREPARATION LANDSCAPE

Australia's project preparation landscape is concentrated at the sub-national level, with state institutions prescribing the overarching policy for project preparation in the state.

Project identification and concept definition.

Projects are typically conceptualised and planned by departments and agencies of the government (contracting authorities), based on the long-term development plan set by the commonwealth and state governments, such as Infrastructure Victoria's 30-year infrastructure strategy for the state of Victoria.

Project feasibility and structuring. Each state prescribes detailed guidelines on the overall process to be followed for the preparation of their PPP projects, with templates and toolkits available to assist project proponents through each of the stages. The project planning and preparation process in Australia follows two broad steps. Initially, a strategic case for the project is developed and then at the second stage a full business case is prepared for the investment approval. For contracting authorities who do not have the necessary funding support or in-house capabilities to conduct a full-fledged feasibility study, the state governments also provide external support. For example, Victoria's Department of Treasury and Finance provides project development support for high-risk projects, as well as those projects that have passed the strategic assessment stage but need additional funding for developing the full business case.

Project approvals and quality assurance. All public spending proposals must be approved by the respective state's treasury department. In some states, a separate committee to review public expenditure proposals has been set up within the state government. Typically, all projects undergo a gateway review process established at the state level, based on the UK's Gateway Review Process. Gateway reviews consist of a series of structured reviews that examine procurements at key decision points (or gates) in the project cycle and are used to improve on-time and on-budget delivery of major projects. These reviews are conducted by dedicated teams housed within the treasury departments of state governments.

State treasury departments have also mandated additional checks and balances for projects that have been designated as higher risk projects. For instance, the state of Victoria's High Value High Risk Framework requires that all project proposals must complete preparation of a full business case, require treasury approval for funding decisions, share risk mitigation plans for risks identified through the gateway reviews, and update the treasury department on a quarterly basis as part of the Major Projects Performance Report.

Mapping salient features of Australia's project preparation landscape

Evidence-based strategic planning and vision for infrastructure development at the national and sub-national level. Infrastructure Australia conducts a comprehensive national audit of Australia's key infrastructure and assesses future development needs to project demand for infrastructure over the next 15 years. On this basis, the Australian Infrastructure Plan is prepared on a rolling basis every five years, which encapsulates a reform and investment roadmap to achieve the vision. Projects and initiatives which aid in addressing nationally significant challenges are included in the national Infrastructure Priority List (IPL) and are given focused attention and debottlenecking to move forward. At the state level, long-term visions and strategy are prepared by state counterparts, such as the Infrastructure New South Wales State Infrastructure Strategy for 20 years, and Infrastructure Victoria's Infrastructure Plan. These strategies and plans help in shaping the project pipeline. Long-term planning for infrastructure in Australia is also done at a regional level. For example, the Greater Sydney Commission released the Greater Sydney Region Plan in 2018, setting out a 2056 vision for a metropolis of three cities. Plan Melbourne 2017 – 2050 sets a long-term plan to make Melbourne 'more sustainable, productive and livable.' ShapingSEQ 2017 sets out a 25-year long-term land use plan for the South East Queensland region and in Western Australia the 2017 Perth @ 3.5 million strategy sets out a vision for 2050 based on sub-regional land use planning and infrastructure frameworks.

Using Infrastructure Australia's Assessment Framework to identify and deliver national priority projects.

Infrastructure Australia uses an Assessment Framework to evaluate projects and initiatives that are nationally significant to be included in the Infrastructure Priority List for expedited delivery.

The Assessment Framework recommends a five-stage process for decision-making, starting from project identification and prioritisation, initiative identification and options development, business case development, business case assessment and post completion review. This framework serves as an evidence-based development guide for projects that seek support from Infrastructure Australia.

Periodic auditing and review of Australia's overall infrastructure delivery landscape.

In 2015, the Commonwealth Government mandated Infrastructure Australia to prepare its first ever national audit (the National Infrastructure Audit), which is an independent assessment of Australia's infrastructure needs. The audit will be conducted every five years, and is aimed at providing recommendations on governance and policy reforms required to meet the infrastructure needs identified by the audit. One of the recommendations of the audit was to draft a 15-year Infrastructure Plan. Released by Infrastructure Australia in 2016, this is a rolling plan which provides a vision and roadmap to address existing infrastructure gaps in Australia, and lays out a comprehensive package of reforms focused on all aspects of infrastructure management – planning, delivery, investment and management. The plan identified four high-level aspirations for Australia – enhancing productiveness of its cities and regions, ensuring infrastructure markets are robust, efficient and well-regulated, developing sustainable infrastructure, and establishing a culture of robust and transparent decision-making and delivery across all infrastructure sectors.

Adopting UK's OGC Gateway Review Process for quality assurance. Infrastructure nodal agencies use the UK's Gateway Review Process for quality assurance for infrastructure projects, adapted and modified to suit Australia's institutional and strategic framework. These modifications support greater due diligence on review mechanisms. For instance, Infrastructure NSW has used the gateway process to develop the Investor Assurance Framework, a tiered approach to conducting assurance based on the risk of the project. Infrastructure Victoria has provided additional reviews for high risk projects through its High Value High Risk Framework and added design review to the gateway process through the Victorian Design Review Panel. The Department of Finance within the Government of Australia provides quality assurance through gateway reviews, as well as Implementation Readiness Assessments (IRA). IRAs essentially provide assurance on practical delivery matters for the project.

Extensive disclosure of project pipelines and status updates. Adequate project disclosure is one of the cornerstones of project preparation in Australia. Information on ongoing and proposed projects is easily accessible and provided across multiple portals, depending on the authority responsible for the project. Infrastructure Australia publishes an update on the IPL on an annual basis, as do state infrastructure bodies. Portals such as the National Infrastructure Construction Schedule and the Australia and New Zealand Infrastructure Pipeline provide details on government procured projects. Further, all business cases for appraisal by respective treasury departments are provided to the public for consultation prior to approval. Australian governments also routinely published post-completion reviews (PCRs) on web portals for public information.

Capacity development on project preparation by state institutions. Capacity development for project preparation is provided by the infrastructure bodies and treasury departments of the respective state institutions. These span the provision of guidance on the preparation of business cases, quality assurance, policy framework for fiscal management, and training support to build capacity amongst project proponents and reviewers.

CAPACITY BUILDING SUPPORT FOR VICTORIA'S PROJECT PREPARATION LANDSCAPE

The state of Victoria, through its apex agencies for project development, has released a series of guidance documents covering all aspects of project preparation, to streamline project development in a standardised manner.

Investment management standard (IMS) aids decision-making for project proposals at the strategic assessment case stage, based on a four-stage workshop method.

The asset management accountability framework details mandatory asset management requirements for government agencies in Victoria, along with general, best practice guidance on asset management.

The investment lifecycle guidelines provide practical assistance to proposing investment projects in Victoria.

Partnerships Victoria requirements build on Australia's national PPP guidelines to develop best practice standards for PPPs in Victoria.

The High Value High Risk (HVHR) Framework comprises a series of project assurance checks and processes for HVHR projects to increase the likelihood that they will achieve their stated benefits and be delivered successfully, on time and to budget.

Technical guidelines on project governance, economic evaluations, project risk, sustainability, project budgeting.

In addition, the DTF also delivers formal programs on capacity building through Partnerships Victoria. These formal programs range from workshops on the gateway review process and business case development, to a partnership with Melbourne University to offer programs facilitating leadership development for PPPs. The Government of Victoria is also establishing a state level Major Projects Leadership Academy, to provide high-quality training to ensure that the leaders of complex major projects are at the forefront of current project delivery thinking and are skilled accordingly.

3. Guidance for project preparation

Guidance	ASSESSMENT FRAMEWORK
Owner	Infrastructure Australia (IA)
Project development stage	Identification, feasibility and structuring
Details	<p>The Assessment Framework sets out the process Infrastructure Australia uses to consider initiatives and projects for inclusion on the Infrastructure Priority List, a list of national strategic projects. The framework provides information about how initiatives and projects are assessed by Infrastructure Australia, to enable contracting authorities to develop their submissions. The framework covers five stages: problem identification and prioritisation, initiative identification and options development, business case development, business case assessment, and post completion review. For each stage, the envisaged outputs, assessment to be undertaken, templates and checklists, and detailed technical notes are provided.</p> <p>Link for further details: https://infrastructureaustralia.gov.au/projects/make-a-project-assessment.aspx</p>
Guidance	NATIONAL PPP GUIDELINES
Owner	Department of Infrastructure and Regional Development
Project development stage	Overall PPP lifecycle
Details	<p>The National PPP Guidelines provide a unified national framework on key processes and requirements for the public and private sectors to undertake PPP projects. These guidelines apply across state, territory and national (Commonwealth) PPP arrangements.</p> <p>The guidelines comprise six volumes:</p> <ul style="list-style-type: none"> • Volume 1: Procurement Options Analysis • Volume 2 : Practitioners' Guide • Volume 3 : Commercial Principles for Social Infrastructure • Volume 4 : Public Sector Comparator Guidance • Volume 5 : Discount Rate Methodology Guidance • Volume 6 : Jurisdictional Requirements <p>In addition, there is a National PPP Policy Framework that details the scope and application of the guidelines across jurisdictions.</p> <p>Link for further details: https://infrastructure.gov.au/infrastructure/ngpd/index.aspx#anc_public-private</p>
Guidance	RISK POTENTIAL ASSESSMENT TOOL (RPAT) – RESOURCE MANAGEMENT GUIDE NO. 107
Owner	Department of Finance, Australian Government
Project development stage	Feasibility
Details	<p>The RPAT provides a standardised tool to evaluate project risk for public spending proposals. While it is not an exhaustive risk analysis model, it helps procuring authorities to determine a risk rating for a spending proposal, on the basis of which it is decided whether or not a proposal may be subject to an assurance review.</p> <p>Link for further details: https://www.finance.gov.au/assurance-reviews/risk-potential-assessment-tool/</p>

Guidance	GUIDANCE ON ASSURANCE REVIEW PROCESS – RESOURCE MANAGEMENT GUIDE NO. 106
Owner	Department of Finance, Australian Government
Project development stage	Approvals and assurance
Details	<p>This guide provides a high-level overview of each assurance process for infrastructure projects in the Commonwealth. It also outlines the circumstances and criteria that trigger each assurance process, the general timing that would apply, and where to seek further detailed information and assistance.</p> <p>The guidance comprises the following sections:</p> <ul style="list-style-type: none"> • Example list of documentation required for a review • Skills profile of an assurance reviewer • Handbook for conducting assurance reviews <p>Link for further details: https://www.finance.gov.au/assurance-reviews/guidance-on-assurance-reviews/</p>
Guidance	NATIONAL FRAMEWORK FOR TRADITIONAL CONTRACTING
Owner	Department of Finance, Australian Government
Project development stage	Overall project lifecycle
Details	<p>The National Framework for Traditional Contracting provides a best practice framework and commercial principles for delivering infrastructure through public procurement. It is intended for procuring authorities for project delivery, and central government departments when designing intra-jurisdictional guidelines and policies.</p> <p>The Framework comprises five documents:</p> <ul style="list-style-type: none"> • The Guide: Good Practice and Commercial Principles for Traditional Contracting • Guide 1: Project Definition and Tendering • Guide 2: Development of Project Budgets in Business Cases • Guide 3: Governance and contract management • Guide 4: Performance and continuous improvement <p>Link for further details: https://infrastructure.gov.au/infrastructure/ngpd/index.aspx#anc_public-private</p>
Guidance	INVESTMENT LIFECYCLE AND HIGH VALUE HIGH RISK FRAMEWORK
Owner	Department of Treasury and Finance, Government of Victoria
Project development stage	Overall project lifecycle
Details	<p>The investment lifecycle and High Value High Risk Framework (lifecycle guidelines) apply to all government departments in the state of Victoria and support the development of business cases for capital investments.</p> <p>The lifecycle guidelines provide practical assistance to those proposing investment projects in Victoria. They help shape proposals, inform investment decisions, monitor project delivery and track the benefits that projects achieve. They aim to provide practical guidance and tools that assist in the process of planning, proposing and delivering investments, in turn, promoting the best investment outcomes for the state.</p> <p>Link for further details: https://www.dtf.vic.gov.au/infrastructure-investment/investment-lifecycle-and-high-value-high-risk-guidelines</p>

Guidance	
Investment Management Standard	
Owner	Department of Treasury and Finance, Government of Victoria
Project development stage	Overall project lifecycle
Details	<p>The Investment Management Standard (IMS) Guide provides good practice to support the government to identify and select the investments that provide the most benefit to society. It is aimed at functioning as a key tool for decision-making for shaping new investment proposals, prioritising investments, developing a new policy, and monitoring and evaluating investment proposals and organisational outcomes. The Victorian State Government widely uses the IMS Guide, and it has been adopted (either wholly or in part) in many other jurisdictions, as well as by commercial, academic and not-for-profit organisations.</p> <p>Link for further details: https://www.dtf.vic.gov.au/infrastructure-investment/investment-management-standard</p>
Guidance	
Asset Management Accountability Framework	
Owner	Department of Treasury and Finance, Government of Victoria
Project development stage	Overall project lifecycle
Details	<p>The Asset Management Accountability Framework details mandatory asset management requirements, as well as general guidance, for government agencies responsible for managing assets in the state of Victoria. It provides support and guidance on four stages of an asset lifecycle: planning, acquisition, operations and maintenance, and disposal.</p> <p>The framework applies to non-current (physical and intangible) assets of government departments and is mandatory for the following aspects: developing asset management strategies, governance frameworks, and performance standards and processes to regularly monitor and improve asset management. The requirements also include establishing systems for maintaining assets and processes for identifying and addressing performance failures.</p> <p>Link for further details: https://www.dtf.vic.gov.au/infrastructure-investment/asset-management-accountability-framework</p>
<p>NOTE: This section includes guidance from the national government and the state government of Victoria on a representative basis. All state governments have their own specific guidelines, and have not been included here. They can be easily accessed on the treasury department websites, linked here.</p>	
New South Wales	https://www.treasury.nsw.gov.au/projects-initiatives/public-private-partnerships/policy-guidelines-and-publications
Australian Capital Territory	https://apps.treasury.act.gov.au/infrastructure-finance-and-advisory/ppp
Northern Territory	https://treasury.nt.gov.au/homepage
Queensland	https://www.treasury.qld.gov.au/growing-queensland/project-procurement-and-advisory/ https://www.treasury.qld.gov.au/resource/project-assessment-framework/
South Australia	www.treasury.sa.gov.au/economy/national-initiatives-and-reforms/3rd-level
Tasmania	www.treasury.tas.gov.au
Western Australia	http://www.treasury.wa.gov.au/Treasury/Public_Private_Partnerships/PublicPrivatePartnerships/ www.treasury.wa.gov.au/cms/content.aspx?id=12659

4. Project case example: Regional Rail Link Project

PROJECT BRIEF

The Government of Victoria's Regional Rail Link (RRL) project was a large-scale revival project to remove bottlenecks in Melbourne's rail network and expand the regional rail network.

It involved the construction of 90 kilometres of new rail track, including dedicated regional tracks from the suburbs of West Werribee Junction to Deer Park and along the existing rail corridor from Sunshine to Southern Cross Station in Melbourne's Central Business District. The project also included the construction of two new platforms at Southern Cross Station; new train stations at Wyndham Vale, Tarneit and West Footscray; the upgrade of the Sunshine, Tottenham, Footscray, and Southern Cross Stations and the removal of two level crossings at Anderson Road in Sunshine. RRL was delivered through six works packages, consisting of three alliances, two design and construct (D&C) contracts and one franchisee-managed scope of works. In total, there were 16 organisations engaged directly through these agreements.

Jointly funded by the Australian Commonwealth and Victorian Governments, RRL was one of the most significant and complex infrastructure projects in Victoria, and the largest public transport development in Australia during its construction.

The RRL project demonstrates the superior project planning development practices in Australia – it was delivered eight months ahead of schedule and approximately AU \$600 million under budget, owing to meticulous planning, collaborative culture and persistent, ongoing communications with stakeholders. The project has also won numerous awards for implementation, including Infrastructure Project of the Year 2014 and Australian Construction Achievement Award 2015.

QUICK FACTS



VALUE
(IN US \$ BILLION)

2.69



STATUS

Operational



PROJECT OWNERSHIP

**Regional Rail Link
Authority**



SOURCE OF PROJECT
PREPARATORY FINANCING

Government budgets



SUPPORT AGENCIES

**Infrastructure Australia,
Department of Treasury and
Finance – Government of Victoria**

* Estimated Exchange Rate: A \$1 = US \$0.74 (as of December 2018)

PROJECT TIMELINE

- 1993 – Pre-planning activities and options identification for RRL
- Early-08
- Apr-08 Final version of the Eddington report on Investing in Transport released, proposing RRL as a solution for upgrading Melbourne's rail network
- Dec-08 Government of Victoria releases the Victorian Transport Plan, identifying RRL as a key initiative for implementation
- Dec-08 – Public consultations on the project undertaken in three phases
- Aug-09
- Early-09 Government of Victoria submits a proposal to Infrastructure Australia (IA), to seek Commonwealth funding for RRL
- May-09 IA completed final assessment of priority projects for 2009, Commonwealth funding for RRL approved in the May budget
- Jun-09 Special division within Department of Transport, Government of Victoria established to oversee delivery of RRL
- Aug-09 Scheduled construction commencement date
- Aug-10 Regional Rail Link Authority (RRLA), a special purpose entity to deliver the project, incorporated
- July-11 Construction of major works commences
- Nov-14 Construction completed
- June-15 Project opened for operations

LEARNINGS FOR PROJECT PREPARATION

1. Adequate strategic planning for major, complex projects can simplify implementation.

The conceptualisation of the RRL project was anchored in a comprehensive plan for transport sector development in the state of Victoria. While the need to upgrade Melbourne's rail network was identified way back in 1993, the strategic rationale was built through a series of planning documents. In 2002, the Victorian Government released the Melbourne 2030 strategy, which helped in identifying the key challenge to be addressed – increasing public transport's share of motorised trips from 9% in 2002 to 20% in 2020, by developing a metropolitan train plan. This was followed in 2004 by the government's Linking Melbourne: Metropolitan Transport Plan, which further developed the 2002 report, diagnosing a number of rail network constraints which required attention. Subsequently, the concept that evolved into the RRL began as a recommendation in the 2008 report, Investing in Transport (also known as the Eddington report), commissioned by the state government to investigate solutions for Melbourne's rail constraints. In December 2008, in response to the Eddington report, the government released the Victorian Transport Plan. This was a 30-year integrated transport plan that replaced Meeting Our Transport Challenges, wherein the state government committed to the RRL proposed in the Eddington report.

Thus, the RRL was underpinned by a body of strong, sound policies, and a compelling need for services established during the planning process was instrumental in procuring the long-term commitment of the Victorian Government to support the project.

2. Effective stakeholder coordination is necessary for projects with inter-departmental involvement.

Owing to its scope, size and complexity, developing and implementing the RRL project involved extensive inter-departmental coordination. Delivery of the RRL project involved the following agencies:

- the Government of Australia, which provided part funding for the project through the Building Australia fund;

- the Department of Economic Development, Jobs, Transport and Resources (DEDJTR), the Government of Victoria, successor to the former Department of Transport (DOT) and the former Regional Rail Link Authority (RRLA), which led the planning and delivery of the RRL project;
- the Department of Premier and Cabinet, Government of Victoria, which provided a statewide government policy and leadership function for the project and liaised with the Australian Government;
- the Department of Treasury and Finance (DTF), Government of Victoria, which provided financial oversight and project scrutiny through its gateway review process and High Value High Risk (HVHR) Framework;
- Public Transport Victoria (PTV), which was the key coordinator and planner for public transport at the time of the RRL;
- VicTrack, the owner of Victoria's public rail assets and operator of the railway telecommunications and signaling equipment; and
- V/Line, the operator of the rail services on the RRL.

However, even in this complex stakeholder and delivery environment, the project was delivered well ahead of schedule and well under budget. A key driver of the success of RRL was the highly communicative and collaborative approach to construction adopted by works packages, rail operators, key stakeholders and RRLA. This created an environment in which all parties continually looked for opportunities to align on priorities, expedite the program, coordinate resources, share knowledge and innovations, and work together to find balanced solutions for all.

3. Focus on the management of public perceptions and expectations for efficient delivery.

A proactive approach to community and stakeholder engagement (including interface agreements with key stakeholders) helped ensure that all parties were kept informed of project progress and any issues were promptly addressed. Through July, August and September of 2008, the Victorian Government sought input from a wide cross-section of industry

and the community, including members of the public, community and neighbourhood groups, local councils, public transport operators, and investors and bankers. The government followed a meticulous approach to engaging with the community, through the use of a web forum, which attracted more than 200 participants across Victoria, forums hosted by the Minister for Roads and Ports, the Minister for Public Transport, the Minister for Regional and Rural Development and Members of the Parliament, and the Victorian Transport Summit hosted by the Premier of Victoria. The stakeholder consultation process resulted in more than 2000 individual comments and pieces of feedback, which helped shape not only the implementation of the project, but also the long-term strategic direction for Victoria's transport infrastructure.

4. For complex projects, characteristics of individual facets of work must be factored in, in the procurement plan.

The use of a coordinated procurement strategy helped deliver significant time and cost savings for the RRL project. Prior to construction, the Victorian Government developed a strategic procurement plan to identify the preferred packaging and procurement structure for the project. Owing to the conditions and risk profiles of the various works packages, a wide range of procurement models were used. The brownfield and greenfield sections of RRL provided a clear distinction for packaging and delivery model selection. The design and construct delivery model was considered most suitable for the greenfield works packages and the alliance delivery model best suited to brownfield works packages.

Of the six packages bid out by the RRLA, the station development one was procured through the franchisee works model¹, two packages which were greenfield in nature and involved laying of track lines and development of stations were procured through the design and construct model² and the remaining three, which were brownfield packages, tending to be more risky and complicated, were procured through the competitive alliance model³.

¹ In the franchisee model, the state government signs a project agreement with a franchise operator to deliver infrastructure works on behalf of the state.

² In the design and construct model, the state government undertakes limited design works and then invites potential suppliers to complete and construct the design.

³ In the competitive alliance model, the state government collaborates with one or more private sector parties to share risks and responsibilities during the construction phase of the project.

Brazil

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Role of the Investment Partnership Program (PPI) in streamlining project preparation

The PPI provides an institutional and regulatory framework to streamline the project preparatory processes for national priority projects. The program brings in high-level ownership, seamless coordination and quality assurance reviews to the project preparatory process, ensuring time-bound preparation.



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Establishment of a specialised entity to complement public sector capacity

The Brazilian Planning and Logistics Company (EPL) has been established as a specialised technical entity to provide guidance on long-term sectoral planning and drive efficiencies in the project planning and preparation process. EPL is also tasked with developing tools to strengthen public sector capacity and aid decision-making.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Strong framework for monitoring of the multi-year planning process and its integration with the budget

Brazil prepares a federal-level four-year plan – Plano Pluri Annual (PPA) - which outlines the government's strategic objectives, and the projects and programs to achieve said objectives. Adherence to the implementation of the PPA is ensured through a monitoring and reporting framework anchored by the Ministry of Planning, Development and Management (MP) (The MP will be integrated with the Ministry of Finance after 1 January 2019. The new ministry will be called the Ministry of Economy). The legal framework (the Budget Directives Law (LDO)) aligns the PPA with the annual budget.



PROJECT FEASIBILITY AND STRUCTURING

Federal support for project preparation at the sub-national level

The Ministry of Planning, Development and Management (MP), along with the Secretariat for Infrastructure Development, has established a federal fund (FEP), administered by Caixa Econômica Federal (CAIXA), a Brazilian Government-owned bank, for supporting the structuring and development of federal and sub-national concession projects and public-private partnerships. The fund pools in budgetary and multilateral funds to provide technical assistance to projects or to undertake project studies.



PROJECT APPROVALS AND QUALITY ASSURANCE

Quality accreditation to drive project quality

Under the PPI program, the Government of Brazil has initiated the process of quality certification of infrastructure projects and studies – The Accreditation Program for the Inspection of Infrastructure Projects – in collaboration with the National Institute of Metrology, Quality and Technology (Inmetro). The project is still at its early stages but is an important step in grading project preparation practices.

Upfront and time-bound audit by the Federal Court of Accounts (TCU) encourages clean and transparent practices in project preparation processes

Under the PPI program, a framework to facilitate upfront audit of the project preparation practices by TCU has been established. The early stage independent audit review of the project preparation process, documents and procurement documents helps in minimising risks and expediting project implementation.

2. Snapshot of project preparation activities

Brazil's project preparation is considered in the context of its recent successes in implementing coordinated institutional reform actions to strengthen public sector capacity in planning and implementing national priority projects.

This is specifically relevant in the context of a multi-institutional planning environment, which is common to other large-size developing countries. The Investment Partnerships Program (Programa de Parcerias de Investimentos, or PPI) of Brazil, launched in 2016, helped to streamline government actions through the centralisation of strategic actions by the government, optimising the governance of the project structuring process. Under PPI, Brazil established a high-profile institutional structure with clearly defined roles and responsibilities, which has facilitated the improvement of overall project quality while strengthening investor perceptions. Today, Brazil is one of the largest PPP markets in Latin America, with an investment of US \$386 billion in infrastructure from 1990 to 2017. Over 94% of total PPP investment in the Latin America and Caribbean region during the last decade was concentrated in only five countries, with Brazil (65%) leading the list followed by Mexico (11%). Brazil has categorised private sector financed projects as follows: Conventional concessions (which do not receive government guarantees or direct financial support, nor payments); sponsored concession PPPs (which include user charges, and payment of some form of compensation from the government); and administrative concession PPPs (which involve budgetary payments by the government).

INSTITUTIONAL FRAMEWORK

Project preparation activities are decentralised in Brazil, with federal and sub-national level Government Contracting Authorities (GCAs) undertaking the project preparation for their respective jurisdictions. The line ministries may operate through specific agencies for managing each sectoral aspect. For example, the Ministry of Transport, Ports and Civil Aviation¹ (MTPA) serves as the umbrella ministry, while operational management is effected through specified agencies like the National Land Transport Regulation Authority (ANTT), the National Agency for Waterway Transportation (ANTAQ) and the National Transport Infrastructure Department (DNIT).

At the federal level, the GCAs are supported in project preparation by public sector institutions including the Ministry of Planning, Budget and Management² (MP), the Brazilian National Bank of Economic and Social Development (BNDES) and specific line agencies under each ministry. The MP and the GCAs also prepare general guidelines of the steps to be followed in project preparation. For example, the MP's manual covering pre-feasibility studies for large-scale projects (published in 2005) provides guidance on the preparation and evaluation of pre-feasibility studies for line ministries and agencies, with the exception of the energy sector.

BNDES has played a catalytic role in supporting project preparation in major projects. BNDES has established a separate project development division with an objective to foster, structure and coordinate infrastructure projects, both public concessions and public-private partnerships (PPPs), at the federal, state and local government level. The Federal Court of Accounts (TCU) provides independent reviews of the project preparatory process and checks whether these processes are aligned with the extant rules and regulations.

To guide the GCAs in the execution of national priority projects, the government has created the Investment Partnerships Program (PPI) as a high-level institutional and regulatory framework with an objective to prioritise infrastructure projects and strengthen the role of the private sector in infrastructure projects. PPI focuses on facilitating collaboration between the public and private sectors in an environment of decreasing dependence on BNDES for infrastructure financing. Under PPI, two institutions were created within the federal administration: the PPI Council and the PPI Secretariat (SPPI). The PPI Council is the collegiate body that evaluates and recommends to the President of the Republic the projects that integrate the PPI, deciding, also, on the issues related to the execution of the contracts of partnerships. The Secretariat, linked to the Presidency of the Republic, supports ministries and regulatory agencies in planning, modelling and monitoring the portfolio of projects, preserving their political and regulatory competences.

¹ After 1 January 2019, the ministry will be called the ministry of infrastructure.

² The MP will be integrated with the Ministry of Finance after 1 January 2019. The new ministry will be called the Ministry of Economy.

HOW THE PPI PROGRAM STRENGTHENED THE INSTITUTIONAL AND PROCESS FRAMEWORK

On 13 September 2016, Brazil enacted Law No. 13,334 (the PPI Law), which introduced a new Investment Partnership Program (Programa de Parcerias de Investimentos, or PPI), which seeks to prioritise infrastructure projects and increase and strengthen the role of the private sector in infrastructure projects. The PPI program focuses on facilitating collaboration between the public and private sectors in an environment of decreasing dependence on BNDES for infrastructure financing. Under the PPI program, governments and parastatals could also access funding for technical assistance to develop concessions and PPPs.

The idea of creating the PPI led to the institutionalisation of a “one-stop shop” for the coordination of work (legal enforcement of other government entities involved in the delegation process) and communication with potential investors. This action allowed the centralisation of strategic actions by the government, optimising the governance of the project structuring process. The standard timeline of actions under the PPI program are:

- Feasibility studies – 9-12 months
- Public consultations – 45 days
- Federal Court of Accounts (TCU) analysis – 90 days³
- Bidding notice – 100 days
- Contract signature – 180 days

As of July 2018, more than 193 projects were qualified in the program, of which 105 projects of US \$60 billion were initiated, and the

remaining 88 projects with an aggregate value of US \$33 billion are currently under review. The PPI program has strengthened the federal governance architecture and the enabling environment for priority projects in the country. Some of the major impacts of the program include:

- **Seamless coordination between line agencies** – The program draws in multiple stakeholders, including line departments, project agencies, financing agencies and others, into separate working groups, to review project proposals. The SPPI has been able to promote seamless coordination between managers, oversight bodies, environmental agencies, parliament, judiciary and society. This is largely due to the clearly defined roles and responsibilities of each stakeholder leading to minimal conflicts.
- **Minimising project risks** – The PPI process has led to a specific flow of decisions for the prioritisation and follow-up of infrastructure projects, which has helped to minimise project risks. Additionally, the ownership of projects at the highest level, independent review arrangement and the upfront auditing has ushered in a level of legal certainty, predictability and transparency to the projects. This has been instrumental in improving investor participation in the priority projects.
- **Greater citizen participation** – The enabling legislation and institutional framework for PPI mandates that project preparation shall necessarily go through a mandatory public consultation process. The consultation process is designed to ensure wider outreach and that citizen comments are aggregated, tabulated and the key points incorporated, which is then communicated to the stakeholders.

While the project preparatory studies are generally conducted by the GCAs, in the case of specific projects under the federal flagship programs in the transportation and logistics sectors, the Brazilian Planning and Logistics Company (Empresa de

Planejamento e Logística, or EPL) has been established as a specialised technical entity to support the line departments and regulatory agencies in project planning, preparation and appraisal.

³ Increased from 60 days in accordance with Normative Instruction nº 81 issued by the Federal Court of Accounts (TCU).

EPL AND ITS ROLE IN STRENGTHENING PROJECT PREPARATION

The project preparation landscape in Brazil is dominated by the individual line ministries and the relevant agencies. While the national planning process brings in some level of alignment in project selection, project preparation is constrained by the absence of clear criteria for project appraisal and independent institutional review (technical and financial). The problem is more pronounced in the case of high value projects. The absence of an effective gatekeeping function for independent review of project studies may lead to suboptimal solutions in project identification and selection, prioritisation, appraisal and approval.

With an objective to address this gap in project appraisal and planning, the Government of Brazil established the Brazilian Planning and Logistics Company (EPL) in 2012, a public company to support the line agencies in project planning and preparation. EPL was established to streamline the long-term planning process for transportation and logistics in Brazil with the specific objective to facilitate multimodal transportation. EPL also administers studies, surveys, infrastructure construction, technology development and activities aimed at technology transfer. It works in coordination with the MTPA and the MP in policy development and strategic planning. The key areas of support include:

- **Preparation of the National Logistics Plan and multi-modal plans** – EPL is involved in the preparation of a multi-year National Logistics Plan (PNL) 2025 that provides a portfolio of projects and recommendations on a priority list of actions (infrastructure, services, regulatory and institutional) to debottleneck the sector. The PNL is prepared based on global best practices and simulates scenarios based on a dynamic four-step model, a tool that estimates inter-zonal traffic flows considering trip generation and distribution, modal choice and flow allocation.
- **Preparation of support studies for transportation projects** – EPL provides support to line departments in undertaking technical and financial studies for projects. EPL may hire

external transaction advisors for undertaking the project studies and ensure monitoring and quality review of the studies. In addition, EPL itself, with its own multidisciplinary staff, may undertake the study (which is what it did for the fuel terminal project in the Port of Santos). The EPL is being viewed by the government and the TCU as an important certifier of studies developed by third parties.

- **Driving innovation and quality assurance** – EPL has also brought in methodological and technological innovations to the project studies, including use of an updated transport matrix for viability assessments. EPL has brought credibility to the project review process and is developing an independent business case model for transport projects with technical assistance from KPMG. It has also received support from the UK Government and the Infrastructure and Projects Authority (IPA) in the past. Furthermore, EPL has entered into long-term arrangements with the International Finance Corporation (IFC) in providing technical and financial support for project preparation.
- **Streamlining data and information to support governance** – EPL is developing a logistics information system, called the National Transport and Logistics Observatory (ONTL). The ONTL, apart from acting as a centralised database of transport and logistics scenarios in the country, is expected to be an important tool for planning and project preparation.
- **Transparency in project preparation** – EPL mandates that detailed project information and project documents prepared by the GCA shall be uploaded in the project portal. Further, it also stipulates that every project should go through a public hearing process and disclosures with respect to the changes in the project studies post public hearing. The transparency in project disclosure and the superior public consultation standards prescribed by EPL provide a level of comfort to the TCU and prospective investors.

The cost of project studies for EPL may be reimbursed by the winning bidders in the case of PPP projects.

At the sub-national level, Brazil has created a specialised institutional framework for managing PPP projects. As an example, in the State of Sao Paulo, the PPP State Program has the Public-Private Partnerships Management Board (PPPMB), linked to the Governor's Office, as the highest decision-making body of the state's PPP State Program. It consists of up to eight members and the President and Vice-President are nominated by the Governor. It is supported by a technical committee comprised of members of the: (i) Public-Private Partnership Units (UPPP – technical secretariat); (ii) Companhia Paulista de Parcerias (CPP – leads the review committee and advises on financial structuring); and (iii) the PPP Contracts Monitoring Committee (PPPCMC – monitors the implementation of PPP contracts). In addition, the sector bodies and General State's Attorney (PGE) have important responsibilities in the development of PPPs.

PROJECT PREPARATION LANDSCAPE

Project preparation activities are decentralised in Brazil, with the line ministry and their agencies responsible for project preparation at both the federal and sub-national level. A snapshot of the project preparation landscape is summarised below:

Project conceptualisation and planning. The overall infrastructure planning process at the federal level is guided by: Pluri Annual Plan (PPA – a four-year plan), the Budget Directives Law (LDO – annual) and the Annual Budget (LOA). The PPA is prepared by the Strategic Planning and Investments (SPI) of the Ministry of Planning, Budget and Management (MP) and provides a long-term pipeline of projects. The LDO is a link between the PPA and the LOA (the final law which establishes the annual budget). The LDO is prepared by the MP and the Secretary of the Federal Budget (SFB) as part of the budgetary process. Apart from the PPA, multi-year plans are also prepared by the planning departments in each line ministry, such as the National Transport Infrastructure Department (DNIT), or by specialised planning agencies (like EPL).

Project feasibility studies and structuring. The project studies are prepared by the individual line ministries and agencies. The project studies are managed by specialised agencies based on the nature of project procurement. For example, in the case of road sector projects, EPL acts as a certifier and initiator of project preparation for concession projects, while DNIT is responsible for initial preparatory studies for public sector projects. The project studies start with the preparation of a concept paper for seeking in-principle approvals, holding stakeholder consultations, and conducting pilot studies etc., for inclusion in the PPA. The MP recommends that a pre-feasibility study is conducted for large-scale projects and has also published a guidance document on the steps for preparing a program or project pre-feasibility study. Subsequent to the approval of the concept paper and pre-feasibility study, the line departments initiate the full-scale feasibility and technical studies. Each sub-element of the project feasibility study (like technical, financial, environmental etc.) is defined by specific norms⁴ prescribed by the respective line departments or agencies. For example, in the case of road transport projects, DNIT norm EB-101 applies for technical and/or economic feasibility, and IS239 and IS-201 norms for traffic studies provide guidance on feasibility studies for road projects. In the case of highway investments, the norms are based on HDM-4 software⁵, which covers appraisal methodologies, forecasts of network conditions and prioritisation criteria.

⁴ These norms define the main points to be considered when preparing a program or project's pre-feasibility study, to be submitted for evaluation by the Monitoring and Appraisal Commission (CMA-MF/CC).

⁵ HDM-4 is a software package and associated documentation which serves as the primary tool for the analysis, planning, management and appraisal of road investment decisions.

Project preparatory financing. Brazil has a multitude of options for project preparatory financing. This includes budgetary allocations, BNDES grants, and independent facilities by multilateral entities (like the World Bank, IFC, and the Inter-American Development Bank (IADB)). The government has also established technical and financial assistance to sub-national governments (in the structuring of concession projects and PPPs) under the Supporting Fund to Partnerships Structuring (FEP). This fund is governed by a Fund Participation Council (CFEP), which includes representatives of the MP, citizen groups, and the sub-national government. The fund is administered by Caixa Economica Federal (CAIXA). The fund is mandated to contribute around 70 to 80% of the project preparation cost, while the rest shall be distributed by the sub-national government entity. It is expected that US \$47 million will be contributed to FEP by 2019 to fund infrastructure project preparation.

Project approvals and quality assurance. The project appraisal responsibilities vary according to the nature of the project:

- In the case of projects under the PPA, the Monitoring and Appraisal Commission (CMA-MF/CC), assisted by a Technical Chamber (CTMA), is responsible for appraising and selecting projects and defining appraisal methodologies. The MP provides overall guidance to the commission in undertaking the review process.
- In the case of projects under the PPI program, project approval is provided by a project-specific granting authority which includes GCAs, line ministries, the PPI Council and SPPI, and BNDES. The project studies shall then be approved by the TCU before bidding is initiated.

TCU – ENSURING TRANSPARENCY AND INTEGRITY IN PROJECT PREPARATION

The credibility of the project preparation process is an important factor in driving sustainable development. Brazil, under the PPI program, has created independent time-bound processes to ensure that projects are prepared according to norms and the technical and financial studies have been prepared objectively.

The TCU conducts accounting, financial, budgetary, performance and equity audits and inspections to verify the legality and legitimacy of governmental actions, as well as the application of subventions, subsidies and exemptions. Under the PPI, the government is targeting a 90-day⁶ window for the TCU approval process.

⁶ In accordance with Normative instruction n° 81 issued by the Federal Court of Accounts (TCU) recently.

3. Guidance for project preparation

Guidance	ACCREDITATION OF PROJECT STUDIES
Owner	Secretariat PPI (SPPI)
Project development stage	Project accreditation by independent quality examiners
Details	<p>The Secretariat of the Program of Investment Partnerships (SPPI), together with the National Institute of Metrology, Quality and Technology (Inmetro), has prepared The Accreditation Program for the Inspection of Infrastructure Projects. The certification program is under development and is expected to cover project feasibility studies, technical studies and execution of infrastructure projects to be evaluated by specialised entities and which will receive, based on technical requirements, a quality seal.</p> <p>Currently, there are already eight bodies, designated by Inmetro, able to certify projects and works, and the expectation is to increase this number in the coming months from the launch of the accreditation.</p> <p>Link for further details: https://www.ppi.gov.br/government-creates-quality-seal-for-infrastructure-undertakings</p>

Guidance	CENTRALISED INFORMATION REPOSITORY TO AID PLANNING
Owner	Empresa de Planejamento e Logística (EPL)
Project development stage	Project accreditation by independent quality examiners
Details	<p>The National Transport and Logistics Observatory (ONTL) is developed by EPL as a centralised repository of information on logistics and transportation which will serve as a planning and decision-making tool for the line departments and agencies. The ONTL also develops studies with statistical bases, maintaining a set of periodical publications, such as logistics bulletins, logistic diagnosis and geographic data of the transport sector.</p> <p>EPL also provides a transport cost simulator, which provides updated transport costs for the different modes (road, rail and waterways) and commodity groups (agricultural solid bulk, non-agricultural solid bulk, liquid bulk, general loads and general container loads).</p> <p>Link for further details: https://www.ontl.epl.gov.br/</p>

Guidance	INTEGRATED ENVIRONMENTAL MANAGEMENT SYSTEM
Owner	National Agency for Water Transportation (ANTAQ)
Project development stage	Project accreditation by independent quality examiners
Details	<p>The Environmental Performance Index (IDA) is an instrument for monitoring and controlling environmental management in port facilities. The IDA allows for quantifying and simplifying information to facilitate a better understanding of port environmental issues for the public and decision-makers.</p> <p>Given the diversity of indicators and the complexity of environmental issues in the port sector, the IDA is built using a multicriteria analysis methodology, considered the most appropriate to address and assess problems of environmental performance. The methodology applied is the Hierarchical Analysis Process (AHP).</p> <p>The indicators that make up the IDA are chosen based on specialised technical literature, applicable environmental legislation and good practices observed in the global port sector. The IDA reviews projects across 38 indicators, which are then classified and weighted according to the degree of importance of each one. The following link provides the classification and distribution of indicator weights.</p> <p>Link for further details: http://portal.antaq.gov.br/index.php/meio-ambiente/indice-de-desempenho-ambiental/estrutura-e-indicadores/</p>

4. Project case example: South Integration Highway Project

PROJECT BRIEF

The South Integration Highway project is a landmark highway concession project planned under the PPI framework.

The project ownership was with the respective line agency, the National Land Transport Agency (ANTT). The project planning and preparatory studies were led by Empresa de Planejamento e Logística (EPL) and supported by the Ministry of Transport, Ports and Civil Aviation (MTPA) and the PPI Secretariat (SPPI). The project provides major connectivity among urban centres with an aggregate length of 467.62 km. The project comprises of the BR-101, BR-290, BR-386 and BR-448 highways, which connect the most important economic points of the State of Rio Grande do Sul. The existing road network infrastructure is insufficient to meet current demand and, consequently, imposes barriers to the development of the region.

The project studies were procured through the Expressions of Interest Procedure (PMI) and covered detailed traffic studies, engineering studies, detailing of the operational model, and economic and financial studies. The annual maximum daily volume (VDMA) is forecast as 17,561 vehicles in the third year and 35,323 vehicles in year 30. The concession period is 30 years and the concessionaire will be responsible for developing the infrastructure and providing recovery, operations, maintenance, monitoring, expansion of capacity and maintenance of the network service level.

The concession auction was held on 1 November 2018 by the federal government, through ANTT, which led to the shortlisting of the successful concessionaire through the competitive bid process.

QUICK FACTS



VALUE
(IN US \$ BILLION)

2*



STATUS

Under construction



PROJECT OWNERSHIP

ANTT



SOURCE OF PROJECT
PREPARATORY FINANCING

**PMI (financed by
winning bidder)**



SUPPORT AGENCIES

MTPA, SPPI, EPL, TCU

*Estimated exchange rate BRL/US \$ =0.26 as of 7 December 2018

PROJECT TIMELINE

○	Jun-15	MTPA calls for the preparation of studies through PMI
○	Jul-15	Selection Committee (EPL, ANTT and MTPA) to review the project preparation
○	Dec-16	Selection of studies presented by Triunfo Participações e Investimentos (TPI)* and approval by the Ministry of Transport
○	2017	Further detailed review by the technical unit (ANTT, MTPA, EPL and PPI)
○	Jan to May-17	Public hearing
○	Aug-17	Submission to TCU for approval
○	May-18	Final approval by TCU
○	Jul-18	Notice for auction
○	Nov-18	Concession auction
○	Jan-19	Scheduled signing of the concession agreement

LEARNINGS FOR PROJECT PREPARATION

1. Multi-institutional coordination and independent technical review

The project preparation process in Brazil is dominated by the line departments and agencies and was constrained by the absence of a clear criteria for project appraisal and independent institutional review (technical and financial). Realising the importance of an independent review arrangement for major projects, the Government of Brazil established clear processes for strengthening project review under the PPI framework, and also through EPL, to assist the line departments and agencies with an independent assessment of the projects.

The South Integration Highway project was identified as a national priority project under the Government of Brazil's PPI program. The PPI program has been designed adopting best practices in project preparation. The project review drew upon multiple institutional stakeholders across multiple stages (prior to TCU review); reviews were completed by EPL (independent review), and by the Permanent Commission of Road Concessions – CPOR (ANTT, MTPA, EPL and SPPI). Based on TCU's project review documents, the multi-stage review process by the institutions led to project quality improvements and savings of around US \$1 billion in the total capex budget.

2. Independent and time-bound audit of processes leading to transparency in project preparation

Project preparation and approvals processes, especially in developing countries, are prone to litigation due to multiple factors including corrupt practices, general lack of transparency, or variation in the interpretation of the laws and guidelines. This has been one of the major reasons for delay in project implementation in these countries. Under the PPI program, the Government of Brazil has created an institutional mechanism to ensure time-bound audit review of each project prior to project bidding.

In the case of the South Integration Highway project, the project studies were submitted for review by TCU on 31 July 2017. TCU undertook a detailed assessment of the processes, followed by nine months of deliberation with the stakeholders, including SPPI, ANTT, EPL, MTPA and the transaction

* Operator of infrastructure facilities through concessions.

advisor. TCU analysed the parameters related to the concession plan (Law 10.233 / 2001), the concession contract, the road exploration plan and the technical, economic and environmental feasibility studies of the project. The draft project agreements were also analysed, as well as the compatibility of these documents with the economic and financial aspects of the studies.

TCU finally approved the project in May 2018 while providing guidance on specific actions to be taken up by ANTT before initiating the tender notice. Some of the key areas of improvement suggested include the provisions related to the inclusion of additional scope, obligations during contract extension, contractual penalties, criteria for undertaking technical studies, and the preparation of a plan of action to improve project supervision. The analysis of technical, economic and environmental feasibility studies contributed to the reduction of approximately R \$1.5 billion (US \$390 million)⁷ in terms of investments and operational costs.

3. Extensive public consultations during the preparation process

Under the PPI program, extensive public hearing must be undertaken and comments from the public must be incorporated before project finalisation. The consultation is a very important phase of the project preparation process and has brought transparency and quality improvement to the studies. The PPI program mandates at least 45 days of consultations, which should cover a wide cross section of the project-affected population. The public consultations shall be driven by the individual line ministries and agencies with SPPI providing overall guidance and coordination.

The public hearing phase in the South Integration Highway project was between January 2017 and May 2017. It involved more than 90 days of intense participation by the general public and the state government, who received over 600 suggestions and contributions to the bidding and concession agreement, the Highway Exploration Program and feasibility studies.

4. Project studies strengthened by project ownership at the highest level

The Manifestation of Interest Procedure (PMI) is wherein the public sector is allowed to receive and validate project development studies prepared by the private sector. The PMI procedure is adopted predominantly in cases of gaps in technical or financial resources for procuring consultants. Under this approach, the public sector will release an expression of interest (the PMI) for private sector participants to prepare the feasibility studies for a given project and deliver them to the public sector for consideration. The biggest risk with respect to the PMI procedure is regarding the reimbursement of costs. The guiding principle in Brazil is that if there is reimbursement required, it will come from the winning bidder. However, the country's track record in converting PMI studies to projects is low. Specifically, regarding PPPs, from 163 PMIs initiated between 2010 and 2014, only 14% were successfully tendered.

The preparatory studies for the South Integration Highway project were procured through the PMI procedure, pursuant to the Public Call Notice in June 2015. The studies presented by Triunfo Participações e Investimentos (TPI), the current shareholder of the BR-290 / RS concession, were taken up for review by EPL and the SPPI, and approved by MTPA on December 2016. The technical capacity of the agencies (especially EPL and SPPI) and the project ownership at the highest level have been critical factors of comfort for the transaction advisor. The cost of reimbursement for the feasibility studies (approximately US\$ 2 million) shall be paid by the winning bidder.

⁷ Exchange rate: BRL/US \$ =0.26 as of 7 December 2018

Canada

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Decentralised planning process with strong collaboration between provincial levels and the national government

Canada's project preparation landscape is driven by collaboration between the federal and provincial governments. Both levels of government work closely to identify and plan Canada's infrastructure development needs, as well as to prepare overarching policies and guidelines for project development.

An outcome of this approach is the federal government's long-term infrastructure planning document, the Investing in Canada Plan, which is being implemented through Integrated Bilateral Agreements (IBAs) executed between the federal and provincial governments.

Through these agreements, provinces identify projects that are in alignment with program outcomes identified for each funding priority in the Investing in Canada Plan. IBAs are monitored by Oversight Committees established between Infrastructure Canada, the federal department for public infrastructure, and representatives from both the federal and provincial or territorial governments.

Specialised agencies to assist in project planning and lead procurement for major projects

- In Canada's institutional set-up, provinces and territories are responsible for leading project development. Some of these provinces have set up apex agencies, which provide specialised capabilities to plan and procure projects, bringing in vast experience of managing multiple complex projects. To further streamline project development, these agencies have also developed standardised documents and tools for use by project proponents. Today, these agencies are focused on complex infrastructure delivery and support to municipalities to build capacity to develop a program of viable PPPs.

Distinct institution to oversee environmental assessments, functioning as a centre of expertise

The federal government's Canada Environmental Assessment Agency supports project development by conducting environmental assessments for projects that require federal support. It functions as a centre of expertise for environmental assessments, providing project proponents with tools to aid in conducting

environmental impact assessments and undertaking training initiatives to help agencies understand the legal requirements and processes to conduct environmental assessments.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Integrated planning for infrastructure development, supported by legal mandates and project identification guidelines

Central to Canada's infrastructure development landscape is the focus on preparing multi-year pipelines with a long-term strategic vision for infrastructure development. These pipelines are prepared by the federal, provincial and territorial governments, and are typically steered by specialised agencies, such as Infrastructure Canada at the federal level. The planning activities are further supported by a strong legislative framework, which makes the drafting of long-term plans mandatory for government agencies. Case in point, Ontario's Infrastructure for Jobs and Prosperity Act 2015 requires the Government of Ontario to prepare infrastructure development plans at least every five years, with the planning horizon spanning at least 10 years. Further, the act also provides the initial criteria to identify projects to be included in the plan.



PROJECT APPROVALS AND QUALITY ASSURANCE

Adopting a risk-based, dynamic framework for project approvals and monitoring

Infrastructure projects typically require approvals of the respective Treasury Boards in the jurisdiction, at the pre-feasibility as well as the feasibility stage. However, the criteria for projects which require approvals varies across implementing agencies or ministries and is communicated on an annual basis by the Treasury Board. The criteria are defined factoring in two aspects - the project risk (through aspects such as cost and complexity), as well as the agency's history in undertaking and managing projects. By factoring in the agency's performance in previous years, approvals processes are made more efficient, allowing for Treasury Board oversight where it is required most.

2. Snapshot of project preparation activities

Canada's project preparation landscape has emerged as one of the best globally, for its consistency, comprehensiveness and ability to prepare projects that are bankable. While the federal government provides institutions to support project preparation, it is the provincial governments who drive infrastructure creation and PPP project pipeline development in the country, along with setting the overarching policies and regulations within the province.

INSTITUTIONAL FRAMEWORK

In Canada's decentralised federalist system, the sub-national governments have jurisdictional responsibility for planning and providing infrastructure in key sectors such as transportation, housing, water and waste, and energy services. Typically, project planning and preparation is led by the respective provincial line ministries and local government bodies, who are responsible for project identification, development and implementation. The fiscal impact of undertaking capital infrastructure projects is managed by the Treasury Board's Secretariat of each province, who provide key approvals for project implementation.

A number of provinces in Canada have also established their own apex agencies for project development; these include Alberta's Advisory Committee on Alternative Capital Financing, Partnerships British Columbia, Infrastructure Ontario, and Saskatchewan's SaskBuilds. These apex agencies often function as centres of expertise for procuring major capital projects. Through these agencies, the provincial governments manage the creation of a pipeline of feasible projects, use standardised project preparation processes and foster collaboration with the federal, as well as municipal governments.

STATE LEVEL APEX AGENCIES FOR PROJECT PREPARATION

Partnerships British Columbia provides advisory support to government agencies on planning, procuring, and delivering infrastructure projects, along with leading procurement processes for complex infrastructure projects in British Columbia. It also undertakes capacity building initiatives on business case development and project procurement, under its Stakeholder Engagement Plan. Since its inception in 2002, Partnerships British Columbia has participated in 52 projects with a cumulative capital investment of approximately US \$13.4 billion.¹

Infrastructure Ontario (IO) is a crown agency established through the enactment of the Ontario Infrastructure and Lands Corporation Act 2011. It functions primarily as an implementing agency for infrastructure development in the province of Ontario, serving as an interface between the public and private sectors. It delivers results through four business divisions:

- Through its *Major Projects* division, IO manages the procurement for all major infrastructure projects in the province. Through the Alternative Financing and Procurement (AFP) approach, Infrastructure Ontario focuses on PPPs which are paid for by the public sector, rather than through charges levied on users. To assist the procurement of AFP projects, IO helps project owners with project structuring, design and output specifications, implementing the complete procurement process and overseeing the construction of the project.
- The *Real Estate Services* team is responsible for asset planning, facilities contract management and real estate advisory services.

continued...

¹ Exchange Rate: CA \$ 1 = US \$ 0.75 (as of December 2018)

- The *Infrastructure Lending* arm provides long-term loans for infrastructure development.
- The *Commercial Projects* division draws on IO's in-house expertise and provides support to the government on large commercial transactions.

Alberta's *Advisory Committee on Alternative Capital Financing* advises the Ministry of Treasury Board on alternative capital financing options, and the feasibility and desirability of proposed PPP projects. The Government of Alberta has also established an independent committee, the *Government of Alberta P3 Committee*, to provide recommendations and guidance on all aspects relating to PPPs, including policy development, standards and guidelines, and project selection.

SaskBuilds has been set up by the *Government of Saskatchewan* to provide a central focus within the government to coordinate infrastructure planning and delivery. *SaskBuilds* is responsible for developing an integrated infrastructure plan for the province, providing support and guidance to the ministries for implementation of the plan and leading the procurement of large-scale, priority projects.

The provincial institutions are, in turn, further supported by national agencies, who play a central role in policy development and provide strategic inputs to define the project preparation landscape for all states. These institutions include:

Treasury Board Secretariat (TBS), Government of Canada

The TBS in the Government of Canada sets the overall policy on fiscal and expenditure management for the nation. It reviews spending proposals by federal authorities, to assess strategic relevance, value for money and compliance with existing rules and policies. The TBS is also responsible for monitoring government programs and projects for effectiveness and efficiencies, providing information to the parliament on a periodic basis through its Quarterly Reports. To streamline project development in Canada, the TBS has issued a series of directives and has developed tools which help departments to identify and plan departmental expenditure plans, undertake project risk assessment, evaluate and measure departmental capacity to undertake projects, and structure and procure projects.

Infrastructure Canada

Infrastructure Canada works closely with all levels of the government to enable investments in social, green, public transit and other core public infrastructure in Canada. It develops policies, delivers programs and fosters knowledge sharing about public infrastructure in Canada. Infrastructure Canada is also responsible for drafting Canada's long-term vision for infrastructure development, the Investing in Canada Plan, to achieve the identified national objectives and targets.

Canada Infrastructure Bank (CIB)

The CIB was established in 2017, after the phasing out of the PPP Canada institution. PPP Canada had been established in 2008 to improve the delivery of infrastructure projects across all provinces, and to develop tools to assist project preparation and support the procurement of complex projects. Having fulfilled its mandate of establishing PPPs as an effective mechanism of infrastructure development, the Ministry of Infrastructure and Communities within the Government of Canada announced its dissolution in 2017.

CIB was established as part of the Government of Canada's Investing in Canada Plan. In addition to structuring projects, the CIB is also expected to invest in or lend to infrastructure projects, and receive and process unsolicited proposals from the private sector. This, therefore, goes beyond the earlier mandate of PPP Canada, which had been focused on granting funds and providing PPP delivery expertise, since the CIB will function as a procuring authority and an investor, as well as a centre of expertise for all aspects of PPPs.

The CIB has been actively engaging with project proponents and investors with the objective to attract private and institutional investors to new infrastructure opportunities in Canada.

Canada Infrastructure Bank – Driving Canada's Investing in Canada Plan

The CIB has been established to help coordinate the different levels of government (federal, provincial and municipal), to identify a pipeline of projects and potential investment opportunities, to provide low-cost financing for new infrastructure projects, and to act as a centre of expertise on infrastructure projects involving private sector investment.

The CIB will be an important institution in establishing a prosperous and solid foundation for Canada's new infrastructure, focusing on projects that wouldn't otherwise come to market, and establishing a strong and stable pipeline. It will not only complement Canada's PPP efforts, but also help to ensure better use of public funding for a broader range of new projects. While the CIB has a pan-infrastructure focus, it has identified green infrastructure, public transit, and transport and trade as focus areas for the near term. It has the objective of identifying opportunities that provide the greatest economic, social and environmental returns.

The Bank is also being established to act as a centre of expertise on infrastructure projects involving private sector investment and to help identify a pipeline of projects and potential investment opportunities. The CIB shall work between public sector project sponsors or procurement agencies and private sector sponsors. The projects considered (including solicited and unsolicited proposals) shall pass a public interest test to ensure that the project is aligned with the relevant governments' priorities and policies and contributes to economic growth and sustainability. The CIB puts strong emphasis on promoting unsolicited project proposals, market development ideas and other innovative investment requests. The CIB is also working on an inventory of Canadian infrastructure project proposals – content provided by project proponents but managed by the CIB – which is expected to launch by mid-2019².

² For more information on the Canada Infrastructure Bank, please refer to the Global Infrastructure Hub's Guidance Note on National Infrastructure Banks and Similar Financing Facilities (available on the GI Hub website in 2019).

Canada Environmental Assessment Agency

The Canada Environmental Assessment Agency functions as a centre of expertise for environmental assessments within the Government of Canada. It manages the environmental assessments for projects that require environmental assessment at the federal level³, as well as providing platforms and funding support to undertake public consultations on environmental assessment. Owing to Canada's increasing focus on undertaking infrastructure development in a sustainable manner, the agency also conducts capacity building initiatives to assist the federal government agencies in meeting their obligations for environmental assessment and management.

Economic regulators governing infrastructure in Canada

Canada has established independent regulators responsible for maintaining efficiency, affordability and quality in infrastructure services in the country. The regulators have been established at both national and provincial levels depending on the level of delegation of the sectors. Key regulatory agencies include: for the energy sector, the Canadian Energy Regulator at the national level and the provincial electricity regulators like the Ontario Energy Board, the Alberta Utilities Commission etc.; for air, rail and marine transport, the Canada Transportation Agency; and for the water sector, provincial water regulators like Ontario Water Resources Commission and inter-jurisdictional water boards like the Ottawa River Regulation Planning Board, Prairie Provinces Water Board etc. The regulatory agencies play an important role in project preparation in Canada, with responsibilities ranging from setting and reviewing user tariffs, ensuring transparency and quality standards for planning, public engagement and safety, risk allocation between the government and the private partner, dispute resolution and managing sectoral risks. The regulators also ensure that the project preparation studies and approval are aligned with the specific act and rules governing the sector.

PROJECT PREPARATION LANDSCAPE

Canada's project preparation landscape is defined at the sub-national level, with provincial institutions prescribing the overarching policy for project preparation in the province.

Project identification and concept definition.

Project identification is led by integrated planning at the national and sub-national level. Infrastructure planning and project identification in Canada is guided by long-term perspective plans at all tiers of the government. At the federal level, the Investing in Canada Plan is a 12-year planning document for infrastructure development in the country that identifies US \$135 billion of investments across five priorities – public transit, green infrastructure, social development, trade and transportation, and rural and northern communities.

Central to this plan are the integrated bilateral agreements (IBAs) that are signed between the federal and provincial governments. These IBAs function as collaborative documents, establishing the terms and conditions through which infrastructure funding would be delivered to the provinces and territories over the period. Planning for projects under IBAs requires provinces and territories to develop and submit multi-year plans that identify potential projects. With emphasis on the outcomes within IBAs, and with predictable, long-term funding, the provinces and territories can structure their investments in a way that achieves meaningful long-term results. In response to the Investing in Canada Plan, provinces and territories have also, in turn, identified their long-term priorities for infrastructure development through exhaustive provincial plans, using, as a reference, the priorities identified in collaboration with the federal government.

³ There are two types of Environmental Assessment conducted under the Canadian Environmental Assessment Act, 2012 – an environmental assessment by a responsible authority is conducted by the Canada Environmental Assessment Agency, and an environmental assessment by review panel is conducted by a panel of individuals appointed by the Minister of Environment and supported by the Agency.

Integrating planning at the sub-national level: The case of Ontario

To further integrate planning, provinces use the Investing in Canada Plan, as well as strategic plans made by other sub-national governments. Ontario's Long-Term Infrastructure Plan 2017 has been prepared based on a suite of plans created by the provincial governments in Ontario, such as the Greater Golden Horseshoe (2017), the Provincial Policy Statement (2014) and the Greenbelt Plan (2017), as well as other plans that are under consideration, such as Metrolinx's draft 2041 Regional Transportation Plan.

Legal framework to mandate infrastructure planning and guide project identification. Canada's legal framework provides sound support to the overall infrastructure planning process, by requiring all governments to prepare long-term strategic plans which are tabled before the respective parliaments. These regulations are mandated by the Treasury Boards at the federal and provincial level. They require governments to prepare plans that cover: audit of the existing infrastructure facilities in the country or province, estimate of the demand for infrastructure over the long-term (at least 10 years), and a strategy to be adopted by the government to meet these requirements. Case in point is Ontario's Infrastructure for Jobs and Prosperity Act 2015, which in addition to mandating the long-term infrastructure planning in the province, also provides the criteria by which projects are screened and prioritised for inclusion in these plans.

Project feasibility and structuring. All governments (federal and provincial) have drafted and mandated specific requirements to undertake project feasibility studies within their jurisdiction. Typically, Treasury Boards of the governments provide guidance and tools that aid project proponents to develop project documents for approval from the Treasury Boards.

PREPARING PROJECT PROPOSALS: THE CASE OF ALBERTA

Under Alberta's PPP Framework and Guidelines, all PPP projects must undergo an Initial Assessment stage, wherein the implementing agency undertakes a preliminary study to assess the PPP suitability of a project, in line with the criteria for Capital Projects defined by the Alternative Capital Financing Office (ACFO). Typically, the ACFO works in collaboration with the implementing agency to undertake the initial study.

After completion of a successful initial assessment, the implementing agency must prepare an Opportunity Paper. The Opportunity Paper is an in-depth analysis of the project and includes: overview and description, strategic alignment, business case and operational impact assessment, preliminary project risk assessment, preliminary cost-benefit analysis and value for money assessment, and details on the preliminary project schedule and team. Depending on the outcome of the initial assessment and other factors such as project size, complexity, and timing etc., some projects could skip the Opportunity Paper stage and proceed directly to the Business Case stage.

The business case is the detailed feasibility stage, which expands on the Opportunity Paper and details the project risks, value for money analysis, project structure and procurement methodology. It serves as an information document for construction approval from the Treasury Board.

In addition to the feasibility study, provincial governments place significant importance on the preparation of a 'value for money report', which evaluates the cost savings of undertaking a project through the PPP route, vis-à-vis traditional procurement. This value for money analysis is based on the 'whole of life cost approach' and should incorporate all costs expected to be incurred over the entire life of the project.

Project approvals and quality assurance. While the approval process for PPPs varies across provinces, almost all provincial PPP projects require provincial Treasury Board approval prior to implementation. Prior to making a submission to the board, projects must be reviewed and approved by the Deputy Head of the ministry responsible for the proposal.

Depending on the specific limits set by the federal government, projects may also require approval from the federal Treasury Board. These limits are typically decided based on an organisation's capability and prior record of undertaking projects of a similar size and complexity. To manage the fiscal impact of PPPs, the federal government mandates all provincial departments to prepare a Capital Plan, which is a three-year estimate of the expenditure to be incurred by the department. This Capital Plan needs to be ratified and approved by the federal Treasury Board, and then presented to the parliament.

Prior to the federal Treasury Board undertaking a detailed review of the project proposal, all proposals are processed for a quality check, to ensure requirements of the board have been incorporated. This quality check is performed by a senior official of the Policy Center in the Treasury Board, and it evaluates the quality of the proposal along four metrics: authoritative review, complete and relevant content, accurate and precise information, and appropriate early engagement with the secretariat, as required.

PROJECT APPROVALS AND MONITORING: THE CASE OF BRITISH COLUMBIA

British Columbia's Capital Asset Management Framework details the project approval process that must be followed for all provincial governments who are involved in the management of public assets. All proposed projects must undergo a strategic options analysis (SAO), which focuses on the services that need to be met and the identified option to achieve them. The decision to undertake an SAO rests with the implementing agency, depending on the perceived complexity and risks of the project. For projects that require an SAO, the Treasury Board reviews the findings and provides the necessary capital approvals to process to the full feasibility analysis at the business case stage. Specific projects require an additional Treasury Board approval at the business case stage as well.

The limits for these approvals are communicated to the ministries on an annual basis by the Treasury Board, set out in the 'Letter of Expectations', and take into account the size and risks of the project, as well as the agency's delivery and management track record.

Typically, as part of the consolidated capital planning process, all implementing agencies must prepare a capital plan which identifies and estimates the capital expenditure to be incurred by the agency during the year. These capital plans are reviewed and approved by the Treasury Board, for consistency with provincial objectives and fiscal prudence.

The performance of the agencies with respect to the capital plans is closely monitored and assessed by the Treasury Board, using a risk-based approach to oversight. Degrees of rigour in approval requirements, monitoring, reporting and other checks and balances will increase in proportion to the cost, complexity and level of risk associated with capital projects or decisions.

3. Guidance for project preparation

Guidance	PROJECT COMPLEXITY AND RISK ASSESSMENT TOOL
Owner	Treasury Board Secretariat, Government of Canada
Project development stage	Project approvals and processes
Details	<p>The Project Complexity and Risk Assessment Tool supports implementing agencies to accurately determine the level of risk and complexity of a project, for the purposes of project approval and expenditure authority. It comprises 64 questions across six dimensions – project characteristics, strategic management risks, procurement risks, human resource risks, business risks, project management integration risks, and project requirements risks.</p> <p>Link for further details: https://www.canada.ca/en/treasury-board-secretariat/services/information-technology-project-management/project-management/project-complexity-risk-assessment-tool.html</p>

Guidance	ORGANIZATIONAL PROJECT MANAGEMENT CAPACITY ASSESSMENT TOOL
Owner	Treasury Board Secretariat, Government of Canada
Project development stage	Project approvals and processes
Details	<p>The Organizational Project Management Capacity Assessment Tool is a forward-looking assessment of an organisation's capacity to manage and deliver the planned portfolio of projects identified in its departmental investment plan over a minimum five-year horizon. It rates the organisational capacity to manage projects across five scoring classifications by evaluating criteria in each of the following project knowledge areas: organisational integration, core project management, supporting project management. To reflect the relative importance of one knowledge area versus another, relative weightings have been defined for each assessment category.</p> <p>Link for further details: https://www.canada.ca/en/treasury-board-secretariat/services/information-technology-project-management/project-management/organizational-project-management-capacity-assessment-tool.html</p>

Guidance	GUIDELINES TO IMPLEMENTING BUDGET 2011 DIRECTION ON PUBLIC-PRIVATE PARTNERSHIPS
Owner	Treasury Board Secretariat, Government of Canada
Project development stage	Overall project lifecycle
Details	<p>The Guidelines to Implementing Budget 2011 Direction on Public-Private Partnerships provides a policy direction for PPPs in Canada, by:</p> <ul style="list-style-type: none"> • Creating a common understanding of what is meant by P3s^{*1} in the federal context and providing resources for federal organisations considering P3s; • Providing advice on screening considerations for federal organisations in line with the Budget 2011 policy direction; • Outlining other policy considerations for P3s, including the key policy objective of ensuring value for money; and • Outlining considerations for federal organisations in assessing value for money. <p>Link for further details: http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=25576</p>

Guidance	PPP FRAMEWORK AND GUIDELINES
Owner	Treasury Board, Government of Alberta
Project development stage	Overall project lifecycle
Details	<p>Alberta's Public-Private Partnership Framework and Guideline is a guide for assessing and procuring PPP projects. The Framework and Guideline outlines Alberta's principles for PPPs and the assessment and procurement frameworks for PPP projects. It is designed to assist the Government of Alberta public servants and elected officials with assessing potential PPPs and delivering them in accordance with established practices in the province.</p> <p>Link for further details: http://www.infrastructure.alberta.ca/alberta-p3-framework-and-guideline.docx</p>

^{*1} The term 'P3' is commonly used in Canada and the United States instead of 'public-private partnership'.

Guidance	MANAGEMENT FRAMEWORK: ASSESSMENT PROCESS
Owner	Treasury Board, Government of Alberta
Project development stage	Project approvals and processes
Details	<p>The Management Framework: Assessment Process document is a guide to Alberta Infrastructure and Transportation's approach to assessing and approving public-private partnerships for capital infrastructure projects. It outlines the overall assessment and approval procedures, roles and responsibilities of various stakeholders, policy governing the document, factors or criteria to be evaluated, and disclosure guidelines.</p> <p>Link for further details: http://www.infrastructure.alberta.ca/Content/doctype309/production/ait-p3-assessmentframework.pdf</p>

Guidance	CAPITAL ASSET MANAGEMENT FRAMEWORK
Owner	Government of British Columbia
Project development stage	Overall project lifecycle
Details	<p>The Capital Asset Management Framework describes government objectives and policies for planning and managing publicly-funded capital assets such as schools, hospitals and highways. It covers the following:</p> <ul style="list-style-type: none"> • the roles and responsibilities of various levels of government involved in capital asset management; • minimum standards agencies for planning and managing assets; • the province's policy approach to oversight, including the approval and reporting requirements that may apply, based on agencies' or projects' risk profiles; • capital-related budget processes; and • standards for both alternative and traditional asset procurement. <p>Link for further details: https://www2.gov.bc.ca/gov/content/governments/services-for-government/internal-corporate-services/camf</p>

Note: All provinces have their own specific guidelines, which have not all been included in this snapshot.

* Estimated Exchange Rate: CA \$1 = US \$ 0.75 (as of December 2018)

4. Project case example: Abbotsford Regional Hospital and Cancer Center Project

PROJECT BRIEF

The Abbotsford Regional Hospital and Cancer Center (AHCC) project was designed to upgrade the existing Matsqui-Sumas-Abbotsford (MSA) Hospital in Abbotsford. It includes a state-of-the-art 300-bed facility, along with a specialised cancer treatment centre operated by the BC Cancer Agency.

It was developed on a finance-design-build-operate-maintain model, with the public sector – the Fraser Health Authority (FHA) and the Provincial Health Services Authority (PHSA) – responsible for providing clinical services. The private partner, Access Health Abbotsford (AHA), was responsible for construction, maintenance and facility management services, including housekeeping, food, laundry, and linen services.

The AHCC project was a pioneer for healthcare PPPs in British Columbia – it was the first major healthcare project to be implemented on a PPP basis in the province. Given its successful implementation, on time and on budget, the project has won numerous prestigious awards, including the Project Finance North American PPP of the Year (2005), the Canadian Council for PPPs (CCPPP) 2005 National Award for Innovation and Excellence, and the CCPPP Silver Award for Infrastructure (2008).

Partnerships British Columbia worked closely with the project proponents and the private partner to manage project procurement and delivery.

QUICK FACTS



VALUE
(IN US \$ MILLION)

266.25*



STATUS

Operational



PROJECT OWNERSHIP

**Abbotsford Hospital and
Cancer Centre Inc.**



SOURCE OF PROJECT
PREPARATORY FINANCING

Government budgets



SUPPORT AGENCIES

**Partnerships British
Columbia**

PROJECT TIMELINE

1990 – 2001	Pre-planning activities for the projects
2001	Preparation and approval of the business case as a traditional procurement project
Early 2002	Evaluation for PPP suitability, revision of business case and cost estimates
Nov-02	Approval of Finance-Build-Operate-Maintain model for the project
Jan-03 – 2004	Procurement process
2004	Commencement of construction
Aug-08	Facility open to operations

LEARNINGS FOR PROJECT PREPARATION

1. Clarity on the project need and focus on the expected outcomes helps to strengthen project proposals.

The origin of the AHCC project was the outcome of intensive pre-planning exercises conducted between 1990 and 2001, focused on identifying the outcomes to be expected from the project. The brief of the project, as identified in FHA's Strategic Plan was precise – to deliver a publicly owned, high quality and well-maintained hospital and cancer centre. The business case of the project involved identifying specific outputs, thereby providing a strategic vision to the project, with at least 80% of the output specifications clearly defined at the planning stage itself. These outputs later helped define the monitoring and success criteria for the project, as well as the metrics for the performance-based incentive payment system for AHA. The output specifications were designed in close consultation with the health authority representatives, and included clinical and non-clinical outcomes, design and technical specifications and requirements for facilities management.

2. Using a unique and bespoke governance structure to monitor project development and construction.

A governance and management structure was put in place to guide project development, procurement and construction, which was subsequently streamlined as project development progressed. The governance structure involved the following entities:

- Ministry of Health Services (MHS), which approved the project scope and budget.
- Ministry of Finance, which approved funding for the project.
- The Project Advisory Committee, comprising members from MHS, FHA, and PHSA. The committee had a significant role in shaping project planning, ensuring that all clinical and service needs identified at the beginning were taken into account. The committee was disbanded at financial close of the project.

- The Hospital Construction Committee, established in 2003, comprised of members of local legislative assemblies (MLAs) and representatives from the Regional Hospital District (RHD). The committee served as an important channel of communication with the community, relaying information and seeking feedback on matters impacting the general public.
- The Partnerships BC Project Team, to manage the procurement process and assist in post-implementation monitoring. Key members of the team were seconded to Partnerships BC from FHA, bringing in knowledge of previous planning processes and health authority facility requirements. Going forward, the project team will also work closely with the MHS and health authorities to undertake high-level oversight of the project, conducting periodic reviews at five-year intervals to establish whether the agreement is functioning as envisaged and the expected benefits have been realised.

3. Incorporating global best practices and stakeholder feedback to build capacity for project development.

Given the limited experience of successfully completing large healthcare projects in British Columbia, the AHCC project widely incorporated learnings from the UK's Private Finance Initiative (PFI) model for healthcare PPPs, which had seen success in encouraging private investment in the UK's healthcare market. The output-based contract form with a performance-based payment mechanism was adopted for AHCC's contract. In the PFI model, the private party also owns the facility for the entire concession period. However, to protect public interest, Partnerships BC modified this structure, instead using a licensing mechanism that kept the ownership with the public sector, with the license giving the private partner specific rights under the contract.

Further, the entire project development process involved a collaborative approach between the ministry, health authorities and private sector partners. Feedback from the investors was sought at an early stage during the project development and on a continuous basis thereafter, up to procurement. Subsequently, the project documents developed as a result of this project actually served as model documents for other PPPs in British Columbia.

4. A specialised and expert agency to manage procurement in a transparent, competitive manner.

Partnerships British Columbia managed the entire procurement process, leveraging on its experience and expertise of procuring complex capital projects. It was involved in the development and implementation of a new and unique four-stage procurement process, which was also reviewed and tailored to factor in market feedback. For instance, Partnerships BC made a concurrent release of the request for proposal (RFP), as well as a draft form of the project agreement to identify and resolve potential deal breakers early during the procurement process. Further, it also ran multiple bilateral and information sharing platforms, to assist the private sector in preparing their proposals.

Partnerships BC also engaged directly with the MHS and the health authorities (FHA and PHSA) in structuring the project and defining procurement objectives. To standardise project documents, Partnerships BC collaborated with a wide array of national and international advisors, including Partnerships UK, legal firms from the UK and Australia, and global consulting organisations to provide advice on the RFP and project agreement.

Chile

1. Noteworthy practices for project preparation



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Capacity building initiatives to strengthen social project evaluation skills of public officials

The Ministry of Social Development (MSD), which is responsible for appraising the projects and ensuring quality in project preparation, also offers various courses for public officials in social project evaluation. In order to build the technical capacity of public officials at all levels of government, MSD has been undertaking capacity building initiatives in social project preparation and the evaluation of public employees through the following courses: i) training on the Integrated Project Bank (BIP) database; ii) a course on the Preparation and Social Evaluation of Projects; iii) a course on the Logical Framework Applied to the Formulation of Investment Initiatives; iv) an advanced course on Project Preparation and Evaluation; and v) a Diploma in Project Preparation and Evaluation.



PROJECT APPROVALS AND QUALITY ASSURANCE

Modern appraisal system for public projects with standard appraisal methodologies

Chile's National Public System of Investments (SNI), an advanced appraisal system, is a pioneer initiative in strengthening and standardising project approvals. The system is jointly administered by the Ministry of Social Development and the Ministry of Finance. The SNI applies standard methodologies, including inputs published by the Ministry of Social Development, for project review to enable selection of the project with the largest social net present value. The SNI has also developed standard procedures and guidelines for project appraisal. This aids with the standardisation of project presentation formats and the comparison between projects under similar categories. It also allows projects to be evaluated using techniques which are widely validated and accepted by professional economists.

Centralised publication of social prices to enhance project preparation and appraisal

The Ministry of Social Development annually determines the social prices of labour supply, the currency and discount rates, and other inputs used in appraisal methodologies, such as cost-benefit analysis (CBA) and cost efficiency approach (CEA). The availability of input costs to the project planners helps to provide a level of standardisation in project estimates and fiscal implications.



PROJECT MARKETING AND STAKEHOLDER ENGAGEMENT

Centralised online system for project information to ensure transparency in communicating with stakeholders

The Integrated Project Bank (BIP) is an online information platform to enhance project disclosure. The files in the BIP contain information on the projects, which can be updated by the project promoter. Additionally, information on the project appraisal undertaken by the Ministry of Social Development is updated online. This system ensures transparent communication between the Ministry of Social Development and the project promoter. It also acts as a central repository for a historical analysis of the costs and demands of various types of projects, thereby providing better estimates of these variables for future evaluations.

2. Snapshot of project preparation activities

Chile is a Latin American pioneer in promoting best practices in project preparation. It was one of the early countries to pass a law on concessions, to introduce the Least Present Value of the Revenues (LPVR) as a bid variable, and to establish a comprehensive public investment management system. Chile's toll road projects (starting in the early 1990s) are considered to be one of the earliest successful programs implemented using the PPP model.

In July 2014, Chile launched the Infrastructure, Development and Inclusion Agenda – Chile 30-30, a national development strategy to raise the average per capita income in Chile to US \$30,000 by 2030 and increase investments in public infrastructure from 2.5% to 3.5% of gross domestic product (GDP). Under the plan, Chile envisaged to invest US \$28 billion in public and private infrastructure projects over the period 2014–2021. The plan involves two main investment streams; an estimated US \$10 billion in new concession projects until 2020, and US \$18 billion in a range of public infrastructure projects and programs until 2021.

One of the unique elements of the project preparation environment in Chile is the much acclaimed National Investment System (SNI), which provides a rigorous framework and standardised methodology for project evaluation for public investments. Chile's project preparation environment has evolved, learning from the challenges of the past. For example, with an objective to manage PPP investments in line with the government's fiscal priorities, it has strengthened the cost-benefit analysis (in the design stage of PPP proposals), established a National Infrastructure Fund (with a pool of US \$9 billion and expected to operationalise in the coming years) and introduced institutional reform (a Ministry of Finance officer with veto power was permanently assigned to the Ministry of Public Works to further ensure the financial viability of projects).

INSTITUTIONAL FRAMEWORK

Chile has established an effective institutional structure with a separate role for the public agencies promoting the project and for institutions in charge of project review and independent appraisal. Project preparation activities are decentralised in Chile, with the line agencies and publicly owned companies (referred to as Government Contracting Authorities (GCAs)) responsible for project preparation at both the federal and sub-national levels. The GCAs in Chile are responsible for planning, implementing and supervising projects and are supported by other public institutions, including the Ministry of Public Works (MOP), the Coordination of Public Works Concessions (the PPP Unit within MOP), the Ministry of Social Development (which undertakes project appraisal from a social point-of-view), the Ministry of Finance (the gatekeeper of public finances which reviews projects from a government liability perspective) and the national congress (which has the final approval for the federal expenditure budget).

The Ministry of Public Works (MOP) is the implementing authority for infrastructure projects and its experience and capabilities in preparing and executing projects has been instrumental in delivering high-quality infrastructure in Chile. The ministry is responsible for roads, highways, bridges, tunnels, airports, and water resources. The ministry is supported by a special unit called the *Coordination of Public Works Concessions (CC)*, created to streamline project preparation and implementation for concession projects and staffed with specialised legal, environmental and engineering experts. It is responsible for producing detailed design and engineering studies during the tendering and supervision of public works concessions, and for managing the bid process.

The projects prepared by the GCAs are reviewed by the *Ministry of Social Development (MSD)* (previously known as the Ministry of Planning). The ministry is responsible for setting national priorities, appraising infrastructure proposals and creating bids. The MSD, along with the *Ministry of Finance (MOF)*, is responsible for managing the National Investment System (SNI)¹. The MSD is also responsible for: (i) regulating the procedures for preparing and appraising projects which apply for public funding; (ii) developing and managing an information system for all investment initiatives; (iii) developing project preparation and appraisal methodologies, including the determination of social prices; and (iv) training public officials in project preparation. Further, where the project seeks state funding, the Sub-secretariat for Social Assessment in the MSD (through its Social Evaluation and Investment Division), evaluates the pre-investment studies of such projects.

The Ministry of Finance (MOF) acts as the gatekeeper of public finances and ensures the alignment of projects with national fiscal priorities. To ensure PPP programs are aligned with fiscal priorities, a representative from MOF with veto power is permanently assigned to MOP to assess the financial viability of projects.

PROJECT PREPARATION LANDSCAPE

A snapshot of the project preparation landscape is summarised below:

Project conceptualisation and planning. Project preparation activities are initiated by the GCAs, which are responsible for the generation of the project idea at both the federal and sub-national level. While Chile does not have an integrated long-term national plan, individual line ministries have prepared long-term sectoral strategies and plans. For example, the Ministry of Public Works has prepared an Infrastructure, Development and Inclusion Agenda – Chile 30-30, which provides a medium- to long-term strategy for infrastructure development and determines the sectoral policies and objectives. Other key sectoral plans include the National Strategy for Water Resources (2012-2025), Regional Plans for Infrastructure and Water Resources (2014-2021), and the National Energy Strategy (2012–2030).

Project studies and appraisal process. The project studies and appraisal process is guided by the National Investment System (SNI), which provides a set of norms, techniques and procedures governing the public investment process. The objective of the SNI is to improve the quality of public investment in Chile by selecting projects with the largest social net present value (NPV). Projects can be submitted to SNI throughout the year. Projects in SNI undergo a multi-stage evaluation process depending on their size and complexity. Generally, the larger and more complex projects go through concept, pre-feasibility, feasibility and detailed technical design phases. The steps in project studies and appraisal are summarised below:

- *Initial review* – GCAs present the project outline, along with the justification for the project, social appraisal of the project (generally a cost-benefit or cost-effectiveness analysis), and the pre-feasibility funding application form to the Integrated Project Bank (BIP). The BIP provides a record of all project proposals in a standardised format and tracks project development from the initial proposal through to ex-post project evaluation. Upon submission of the project proposal, the project is assigned a unique project ID within BIP. The project is reviewed to determine whether it meets the general project admissibility criteria. At this stage, MOP assesses the completeness of information and includes the project in the SNI.

¹ The National Investment System (SNI) refers to a set of norms, techniques and procedures which govern the public investment process. It is a model of consistent and transparent investment appraisal, with the objective to improve the quality of public investment.

- *Pre-feasibility and feasibility* – After the creation of the project profile, the project ID enters the SNI system, where it goes through various stages of project appraisal. The GCAs prepare a pre-feasibility study and submit and seek approval through the SNI system. In the case of PPP projects, the Coordination of Public Works Concessions (CC) assists the GCAs in environmental, sociological, and engineering matters. The project alternatives are ranked according to their social benefits and the top ranked alternatives are selected for further study. During the feasibility stage, detailed appraisal on cost-benefit analysis (CBA) or cost-effectiveness analysis is conducted, followed by a detailed design and technical appraisal of the project, including engineering and construction studies. The MSD, through an investment analyst², conducts the techno-economic, social, legal, and market appraisals at both the pre-feasibility and feasibility stage. At each stage, an Economic Technical Analysis Results (RATE) is issued. The projects that attain a socially recommended (RS) RATE are moved to the next stage. Proponents of projects that lack project information or are objected to for technical reasons can provide additional information and present a revised version of the project to the SNI within ten working days. The projects which pass the appraisal process by MOP in SNI are shared with MOF for presentation to the congress for the budget.

Project preparatory financing. The projects are largely financed through budgetary allocations. The projects may also be funded under the National Regional Development Fund (FNDR), which provides a sustainable source of project preparatory financing. However, only the projects which have been approved as Socially Recommended (RS) by the competent authorities shall be supported under the FNDR facility.

Capacity building in project appraisal methodologies.

Chile has developed its capacity and processes for CBA appraisal using sophisticated estimation techniques, such as shadow pricing, the application of various estimation assumptions and methods for different types of projects, and the standardised use of social discount rates and conversions for various expense and profit values. The MSD appoints a special project investment analyst (generally engineers or economists), who reviews the project studies within a fixed time constraint. The public employees preparing projects in the promoting institutions have a variety of professional backgrounds. In order to build the technical capacity of public officials at all levels, MSD has been undertaking capacity building in social project preparation and evaluation of public employees in the following courses: i) training on the Integrated Project Bank (BIP) database; ii) a course on the Preparation and Social Evaluation of Projects; iii) a course on the Logical Framework Applied to the Formulation of Investment Initiatives; iv) an advanced course on Project Preparation and Evaluation; and v) a diploma in Project Preparation and Evaluation.

On average, 500 public officials are trained annually. The MSD finances the training and has a budget of approximately US \$800,000 annually.

² The project analysts involved in appraisal are usually engineers or economists. The public employees preparing projects in the promoting institutions have a variety of professional backgrounds. MSD undertakes capacity building of public employees in project preparation and appraisal.

SNI – NATIONAL INVESTMENT SYSTEM

Chile has had success in the systematic appraisal of public investment projects. The appraisal system of public investment started in 1975, with the establishment of the National Investment System (SNI), jointly managed by MSD and MOF via the budget office. MSD is responsible for ex-ante project appraisal and ex-post evaluation, as well as systematic data collection and reporting, while the MOF (through the budget office) sets the public budget. All projects proposed by the public sector entity must go through SNI. The SNI is also supported by specific policy and regulatory directives. As per Chile's Law Decree 20530, the capital budget submitted by the Ministry of Finance to congress should consider all projects assessed and approved in SNI. This approach has contributed to the quality of project preparation with the project being evaluated by both MSD and MOF.

The objective of the system is to identify the best projects offering the highest social return. The system allows the projects within the BIP to compete with each other for resources in the annual budget. The key institutional characteristics of SNI which facilitate quality project preparation include:

- ***A centralised project information system:*** The BIP serves as a central repository of project ideas in the country. It also provides information on the steps in the project appraisal and the RATE score assigned at each stage of project preparation. This information serves as guidance for the project preparation authorities in the design and preparation of future projects.
- ***A continuous process of improving project estimates and methodologies by comparing them with the information collected ex-post evaluation of projects:*** The SNI undertakes an independent ex-post evaluation of projects, which helps in refining and strengthening the existing system and making it more robust. The ex-post evaluation is conducted at the following stages: i) following the completion of construction; and ii) during project operations. The projects are reviewed on their adherence to the time, cost and process standards envisaged.
- ***A centralised publication of social prices to ensure that projects are evaluated against the same benchmarks:*** MSD annually determines the social prices of the labour supply, the currency and discount rate, and other prices commonly used in the CBA or CEA analysis, which brings standardisation to the project cost estimation process across projects.
- ***Guidance manuals for project preparation:*** The MSD has prepared guidance manuals in its portal on the process of project preparation and the methodology and tools for the CBA and/or CEA assessment across sectors. The guidance manuals and tools are fairly robust and updated regularly based on inputs from the ex-post evaluations of projects. The availability of guidance documents standardises the project preparation process across departments and across projects.
- ***Independent and transparent project appraisal standards:*** The SNI system provides a platform for the independent appraisal of projects and reduces conflict of interest by separating the project preparation entity and the approval entity. The role of the project preparation entity (GCA) is to submit the project information in the SNI, which is later reviewed by the approval entity (MSD). The MSD undertakes the detailed appraisal, and checks the appropriateness of the methodology applied and the reliability of information used to calculate the RATE. The RATE score shall determine whether the project will be approved or not.

3. Guidance for project preparation

Guidance	NATIONAL INVESTMENT SYSTEM (SNI)
Owner	The Ministry of Social Development
Project development stage	PPP project lifecycle
Details	<p>The SNI is a modern appraisal online database system jointly managed by the Ministry of Social Development (MSD) and the Ministry of Finance (MOF), which evaluates projects requiring public resources. The SNI has developed standard procedures and guidelines for project evaluation and appraisal to aid with the standardisation of project presentation.</p> <p>Link for further details: http://sni.ministeriodesarrollosocial.gob.cl</p>

Guidance	PROJECT INFORMATION SYSTEM (BIP)
Owner	The Ministry of Social Development
Project development stage	PPP project lifecycle
Details	<p>The BIP, the Integrated Project Bank administered by the Ministry of Social Development (MSD), covers the investment initiatives that apply for state funding. The files in BIP contain information on the project, which can be updated by the project promoter. Further, all observations and recommendations made by MSD on the project, for example the RATE assigned, can be seen online. It also acts as a central repository for a historical analysis of the costs and demands of various types of projects.</p> <p>Link for further details: https://bip.ministeriodesarrollosocial.gob.cl</p>

Guidance	RULES INSTRUCTIONS AND PROCEDURES PUBLIC INVESTMENT (NIP)
Owner	The Ministry of Social Development
Project development stage	PPP project lifecycle
Details	<p>The Ministry of Social Development has published guidance manuals on the procedures to be followed in the public investment process. These manuals guide public sector institutions in undertaking investment initiatives and the process of project preparation – from project conception to project approval. The Ministry of Finance (MOF) and Ministry of Social Development (MSD) also publish specific guidelines and methodologies on various sectors, social pricing on various sectors, and support tools for the investment initiative.</p> <p>Link for further details: http://sni.ministeriodesarrollosocial.gob.cl/evaluacion-iniciativas-de-inversion/evaluacion-ex-ante/normas-instrucciones-y-procedimientos-inversion-publica-nip/</p>

4. Project case example: The National Reconstruction Plan of Chile

PROJECT BRIEF

The National Reconstruction Plan of Chile was a program launched and led by the Ministry of Housing and Urban Development (MINVU) a few months after the massive earthquake in 2010. Chile was struck by an 8.8 magnitude (Richter scale) earthquake on 27 February 2010. It displaced more than 12.8 million people (75% of the total population) leading to economic losses of US \$30 billion (approximately 18% of the Gross National Product of Chile). The disaster affected more than 900 cities and towns in six regions, and damaged 220,000 family homes scattered in more than 23,000 settlements, including isolated locations.

The MINVU proposed a reconstruction plan, aligned with the regular government programs, to support the reconstruction and repair of all housing structures. The plan was conceived for the period 2010-2014 for a total budget of US \$2.5 billion. It was structured across three lines of action: i) Housing Reconstruction Program; ii) Emergency Camps Assistance and Social Condominiums Program; and iii) Territorial, Urban and Historic Heritage Reconstruction Program. This reconstruction plan was conceived of as a driver for national unity and a blueprint for the future development of the country.

The plan was monitored at the highest political office in the country (by the President of Chile) and involved extensive preparatory actions. The project is a good example of the benefits of long-term planning, inter-governmental coordination, post-disaster preparatory actions, and stakeholder management. The reconstruction plan is a very interesting case due to its innovative approach in planning and quality assurance. The plan facilitated the construction of more than 94% of the total housing units during the period 2010-2014.

QUICK FACTS



VALUE
(IN US \$ BILLION)

2.5*



STATUS

Ongoing



PROJECT OWNERSHIP

MINVU



SOURCE OF PROJECT
PREPARATORY FINANCING

Central and state
governments



SUPPORT AGENCIES

Government of Chile,
MINVU, SERVIU,
SEREMI**

* Initial budget of the reconstruction plan

** SERVIU (Service of Housing and Urban Development) and SEREMI (Regional Secretary) are branches of MINVU.

PROJECT TIMELINE

- Feb-10 The earthquake and tsunami affected 75% of Chile's population and destroyed 220,000 homes
- Mar-10 Establishment of the Inter-ministerial Committee for medium- and long-term plans and the National Emergency Committee for immediate action plans
- Mar-10 Creation of innovative planning instruments (Strategic and Sustainable Reconstruction Plans (PRES), Urban Regeneration Plans (PRU))
- Mar-10 Announcement of the Housing Reconstruction Program driven by MINVU
- Apr-10 Initiation of registry preparation
- May-10 Allocation of subsidies
- Jul-10 The register of disaster victims to ascertain the subsidy requirements was closed by this date to districts under 10,000 inhabitants
- Jul-10 Initiation of construction
- Aug-10 Closure of registry of disaster victims

LEARNINGS FOR PROJECT PREPARATION

1. Program designed to include tailor-made structures to drive universal impact

The housing construction program was designed to address the housing needs of every section of the population. The plan has been designed and structured in three phases: the immediate plan (restoration of basic services), the winter emergency plan (to address the immediate shelter requirements before the onset of the winter season following the earthquake) and the reconstruction plan, which ensures that priority needs are addressed upfront. The plan was also structured across three lines of action³ and provided flexibility of choice for the project-affected population. While the program was largely a subsidy-driven program, it also allowed SERVIU⁴ to drive the redevelopment of social housing units. The project beneficiaries were provided with the flexibility to select among the choices made available: subsidies for repairing works, subsidies for the construction of a new house on an existing or new site, or application for social housing units. The beneficiaries (especially landowners) also had the flexibility to select pre-fabricated home designs.

These non-exclusionary provisions provided the necessary flexibility in the project design and ensured that every section of the population was covered under the program.

2. Multi-stage assessment in a time-bound manner drives project selection for support

One of the biggest challenges of a post-disaster recovery program is the trade-off between timeliness in delivery and quality in appraisal. Chile's National Reconstruction Plan managed this challenge rather effectively. Project planning and preparation was channelled through the SNI system. The approach to project review and selection varied according to the program component – housing reconstruction, social condominiums, or city reconstruction. For example, in the case of the social condominium program, MINVU undertook three levels of preparatory studies – technical, economic and social – to gauge the extent of the damage and to identify project beneficiaries. The technical studies involved technical assessment of the damage and were conducted by external expert

³ i) Housing Reconstruction Program, ii) Emergency Camps Assistance and Social Condominiums Program and iii) Territorial, Urban and Historic Heritage Reconstruction Program

⁴ There are two branches of the Ministry of Housing and Urban Development (MINVU) in the regions: the SEREMI (Secretaría Regional Ministerial / Regional Secretary) branch represents the minister and has political responsibilities, while the SERVIU (Servicio de Vivienda y Urbanismo / Service of Housing and Urban Development) implements ministry policies and programs.

firms. Economic studies were prepared by the SERVIU technical team and an external company to prepare an economic evaluation of repair versus reconstruction using 2010 standards. Social studies were led by the local government to assess the social conditions of the affected families. Each of the studies were backed by a transparent framework for selection. Following the completion of the studies, 6,415 homes were selected for social condominium reconstruction. The schemes were also completed using trusted developers who were certified by MINVU.

3. Decentralisation in planning and the establishment of empowered cross-departmental teams to accelerate decision-making and drive action

The National Reconstruction Plan is an example of effective collaboration between the central and local governments, especially in a post-disaster scenario. The plan was backed by policy and regulatory reforms which provided greater decentralisation in planning and implementation. Local governments played an active role in supporting preparatory studies (social condominium projects), collating baseline information (for subsidy planning) and in end-to-end planning and execution (territorial/urban reconstruction). Further, the MINVU regional team of the affected area, namely SERVIU, was given authority by MINVU to act as a real estate development mediator and to devise strategy regarding the reconstruction of social condominiums.

In order to achieve the immediate and winter action plans, the President of the Republic established an *Inter-ministerial Emergency Committee* and an *Inter-ministerial Reconstruction Committee* to coordinate the implementation of the project plans. The Inter-ministerial Emergency Committee focused on the emergency stages and rehabilitation, such as aiding the wounded, searching for missing people, burying the deceased, and re-establishing the normal supply of basic services, such as food, electricity, water, communication and land transportation systems. This committee promoted integrated planning and coordination with the Ministries of Public Works, Internal Affairs and Regional Development, Education, Health, Finance, Economy and Social Development. The Reconstruction Committee was focused on medium- and long-term coordination efforts, such as the encouragement of private contributions and donations to the reconstruction fund. The committees met regularly and drove early reconstruction planning, which helped to avoid duplication of work by the corresponding ministries during implementation of the plan.

4. Innovative tools for private sector collaboration in reconstruction

The urban regeneration programs under the plan were largely the responsibility of the local governments. The government introduced innovative tools to facilitate private sector involvement in project planning and implementation. The National Reconstruction Plan introduced new planning instruments, such as the Strategic and Sustainable Reconstruction Plans (PRES), Urban Regeneration Plans (PRU) and Coastal Edge Master Plans (PRBC), which served as tools to promote active private sector participation in infrastructure planning and implementation. The National Reconstruction Plan provided for mechanisms to arrange and finance the master plans during the emergency phase, based on public-private partnership agreements between municipalities, regional governments, companies and social organisations, in which the MINVU acted as guarantor.

Under these initiatives, the private sector played an active role in preparing the master plan for the regions. The plan preparation was funded by corporate funds, multilateral assistance, and private donations. For example, in the Biobio province of Chile, 27 master plans (nine PRES and 18 PRBC) were developed with private sector assistance, while 110 master plans (PRU) were developed with United Nations Development Programme (UNDP) assistance. The master plan served as a guidance for project prioritisation.

ENSURING QUALITY AND A GREATER PRIVATE SECTOR ROLE IN PLANNING POST-DISASTER RECONSTRUCTION – THE CASE OF THE CITY OF CONSTITUCIÓN, CHILE

The city of Constitución (in the Maule region), was one of the most affected coastal cities in the aftermath of the earthquake and tsunami. The city had a population of more than 53,000 at the time of the disaster. The reconstruction plans for the city started with the preparation of a Master Plan – the Strategic and Sustainable Reconstruction Plans (PRES) Constitución. The Master Plan was prepared through a private initiative led by a local private sector company (Arauco), which entered into an agreement with the MINVU and local and provincial authorities. The MINVU provided overall guidance on the proposed outcome of the plan. The preparation of the master plan was financed by Arauco and private sector donations, and developed within a 90-day timeframe.

The project was prepared by an expert team led by Elemental (an architectural firm) and included Tironi Associates (which provided assistance with stakeholder consultation), ARUP (an international engineering firm), Marketek consulting, Talca University, Foundation Chile (a technology think-tank) and other academic and research institutes. The plan was developed through an active citizen participation process and the final Master Plan document (including a list of prioritised projects) was finalised through a public referendum. The Master Plan included a portfolio of 28 projects aggregating US \$6 billion. The transparency in preparation, ownership by the government stakeholders, and the onus on public consultations helped allay local concerns about the role of the private party in the preparation of the plan.

5. Prioritising the preparation of integrated and coherent baseline information – a critical tool for faster decision-making

The MINVU realised that an effective and integrated information database (on the extent of the damage) was critical to aid decision-making and designing of the plan. The initial estimates of damage provided by the National Emergency Office (ONEMI)⁵ was considered to be unreliable. Therefore, the MINVU conducted an extensive time-bound study to estimate the damage levels across the following categories: Coast; Urban Adobe; Rural Adobe; SERVIU Social Housing; and Private Housing. After studying the data, MINVU arrived at a number of 195,950 homes eligible for subsidies. To confirm these numbers with the actual demand, MINVU conducted a “demand census”, inviting the affected population to enrol in the register of disaster victims to apply for reconstruction plan subsidies.

Also to ensure accuracy of the data captured in the register of disaster victims, the technical staff from the Municipal Works Office visited affected families to certify the extent of damage to their homes. This method ensured accuracy of the data captured and also ensured that only those in need received benefits.

6. The reconstruction plan provided the affected families with a pivotal role in the design and implementation of the plan

The MINVU’s objective was to provide construction subsidies to the affected parties to build an entirely new house, or to build a house on a beneficiary’s existing block of land. To apply for a construction subsidy for the construction of a pre-designed project on the beneficiary’s own site, disaster victims owning the land had to apply directly to SERVIU (Housing and Urban Development Service) and choose one of the pre-designed projects. The initiative not only accelerated the reconstruction process but also provided families with the opportunity to choose their home and become relevant stakeholders in the reconstruction process. As per the Ministry of Internal Affairs and Public Safety (MISP) report dated 2014, 97% of the people surveyed had knowledge of the plan’s existence and 63% were informed about the projects involved in the plan. This clearly illustrates the robust stakeholder engagement undertaken by MINVU and other agencies.

The MINVU also invited builders to bid on the construction of housing solutions on dispersed sites for a fixed sum of money. This measure benefitted applicant families as it created competition amongst the bidders, which offered better home solutions, such as additional floor space, better furnished houses and extra rooms.

⁵ This database was populated based on the information provided by mayors and military emergency authorities.

China

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Systematic institutional framework at the national and sub-national levels for project development

China's institutional framework for project preparation is designed to be complete and methodical at each tier of the government.

At the national level, the Ministry of Finance (MoF) leads the effort to organise and coordinate PPP projects by developing PPP-related policies and carrying out the planning and administration of PPP projects. Along with the sub-national finance departments, the MoF is responsible for PPP project identification and screening, budget management, value-for-money evaluation and fiscal affordability assessments.



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Using PPP pilot projects as examples to build local capacity and set benchmarks for preparation and procurement

As the apex body for PPP-related matters, the Ministry of Finance (MoF), with significant assistance from the China PPP Center, undertakes extensive PPP project development capacity building exercises and initiatives at the national and various sub-national levels. To demonstrate the PPP approach, the MoF has promoted PPP pilot projects that serve as a benchmark and reference for national and sub-national implementing agencies. These pilot projects are intended to function as 'path finders', forming replicable and scalable implementation examples. The China PPP Center encourages all local governments to improve on the implementation of these pilot projects and supervise the full project lifecycle, along with periodically disclosing relevant information on the project.



PROJECT APPROVALS AND QUALITY ASSURANCE

Assessment of project proposals by government agencies and external experts

Project plans in China undergo comprehensive review by the National Development and Reform Commission (NDRC) and other relevant government agencies, depending on their primary roles in the institutional set-up. The site selection reports are reviewed by experts and the local planning departments. Further, environmental impact assessment (EIA) reports are evaluated by environment protection departments within the relevant level of government for their inputs and approval. Major projects at the national level may also undergo thorough due diligence by NDRC-authorized companies, like the China International Engineering Consulting Corporation (CIECC).

2. Snapshot of project preparation activities

Towards the second half of the 1990s, China started investing immensely in their public infrastructure, to support the steady economic growth during the period. While it started using the PPP model to deliver public infrastructure in the nineties, the Chinese Government has, since 2014, largely and widely adopted the PPP concept.

To support this level of infrastructure investment, project planning and preparation activities had to be thoroughly undertaken by the government and its supporting agencies at both the national and sub-national levels.

INSTITUTIONAL FRAMEWORK

Project preparation activities in China are decentralised and are largely driven by the line ministries and their counterparty agencies at the sub-national levels. The State Council, the National Development and Reform Commission (NDRC), the Ministry of Finance (MoF) and the line ministries play a crucial role in public infrastructure project development at the national level. NDRC and its local counterparts are also tasked with approving or rejecting project proposals within their jurisdictions. At the sub-national level, the institutional set-up mirrors that of the national level, with a planning commission within each government supported by various departments such as finance, urban construction, environmental protection, and communications.

National Development and Reform Commission (NDRC)

NDRC is the national planning commission in China, housed under the State Council, the administrative body of the central government. It is primarily tasked with developing, executing and monitoring the five-year national plans, which provide a strategic foundation for the formulation of the regional plans and annual plans of ministries, which, in turn, drive infrastructure development in China. NDRC also organises and coordinates the implementation of these plans. The commission houses dozens of departments and offices that are responsible for various functions, ranging from adjusting the prices of key commodities to formulating large regional development plans. It extends its authority down to the provincial, prefectural and municipal levels through the local Development and Reform

Commissions. NDRC is also the apex approval body, under the supervision of the State Council and with the coordination of other governmental agencies, for large-scale infrastructure projects undertaken at the national and sub-national level.

Ministry of Finance (MoF)

The MoF is the national fiscal executive agency of the central government which administers fiscal policies and the central budget. It is tasked with handling fiscal policies, taxation regulations and government expenditure for the state. The MoF leads the effort to organise and coordinate PPP projects in China by developing PPP-related policies and carrying out the planning and administration of PPP projects in consultation with other government agencies, such as the NDRC and the line ministries. It also conducts PPP-related policy research, consultation and training. To support economic planning, the MoF formulates and supervises the implementation of medium-term and annual budget plans, and oversees the implementation of fiscal policies and central government expenditure.

The MoF, along with the sub-national finance departments, is responsible for PPP project identification and screening, budget management, value-for-money evaluation and fiscal affordability assessments.

As the apex body for PPPs in China, under the supervision of the State Council and with the coordination of other governmental agencies, MoF also undertakes various initiatives to build local government capacity for PPP project development. MoF is promoting PPP pilot projects to act as demonstration projects, which will serve as a basis to determine related benchmarks and references for PPP projects in China. So far, it has rolled out four batches of PPP demonstration projects. It also conducts training workshops on PPP policy interpretation, project management and risk control, and enhancing government capacity building. To augment international coordination and cooperation, it has collaborated with multilateral institutions, such as the World Bank and the Asian Development Bank (ADB), and government PPP agencies in advanced PPP markets such as the UK, Canada, the Republic of Korea and Australia, in order to replicate their best practices within China's PPP context.

China PPP Center (CPPPC)

CPPPC, which is under the MoF, is primarily responsible for PPP-related policy research, consultancy and training, capacity building, financial support, information collection and other matters. Its responsibilities in project preparation include:

- Drafting of PPP operational and contract guidelines, and establishing standardised PPP project processes;
- Assisting the governments in screening suitable industries for PPPs, selecting appropriate PPP models, and carrying out the selection of PPP demonstration projects;
- Providing consultancy and training in technical support to the government in project identification, evaluation, bidding, procuring, and contract management with respect to PPP projects;
- Organising training sessions to improve the operational capacity of PPP personnel;
- Collecting PPP-related theories and case studies within China and abroad to help identify best practices; and
- Developing cooperation and communication with respect to PPP-related activities with international organisations and institutions.

PROJECT PREPARATION LANDSCAPE

Project identification and concept definition.

Potential public infrastructure projects are identified by each tier of the government's relevant sectoral agencies, such as energy, transport (e.g. heavy rail, expressways, highways, seaports, airports, bridges, etc.), municipal works (e.g. tap-water plants and distribution, wastewater, solid waste, metro, light rail, etc.), environment protection, water conservation, agriculture, forestry, science and technology infrastructure, sports, tourism, affordable housing, healthcare, elderly care, education, culture, social security, and governmental infrastructure, etc. These agencies identify projects based on the national and sub-national plans.

Project feasibility and structuring. The approach to the planning of infrastructure projects is dominated by the agencies at the relevant level of government responsible for project identification, as they are responsible for infrastructure policy formulation and project planning. The project preparation steps involve a concept proposal, pre-feasibility study, feasibility study, detailed engineering design, appraisal and final approval. There are dedicated technical institutions to assist project preparation in China, typically the planning and engineering design institutes of individual line ministries or local governments.

The project feasibility study results in the preparation of a draft plan for project approval, which comprises the project proposal, site selection report, EIA and the feasibility study report.

The project proposal mainly consists of the preliminary judgement regarding the project's viability and it relies on the technical and economic appraisal of infrastructure projects and the preliminary analysis of the project site, size, investment estimates and fundraising.

As part of the Administrative Measures for Direct Investment Projects in the Central Budget, the project developer is mandated to submit a feasibility study report, along with the project proposal to the NDRC when applying for the central investment budget, to serve as the primary basis for making an investment decision. The feasibility study report should include field investigations to learn about the land use status in the project area and to gather local information related to natural, economic and social conditions, a detailed proposed project plan and design, including the site selection, land occupation, construction scale and other technical parameters, and predictions of the impact of the project construction on the economy, society and ecological environment.

For PPP projects, the relevant sectoral agencies at each tier of the government will prepare the project implementation program, which is similar to a business case document. This involves preparing a project overview, a basic framework for risk allocation, project operation methods, a transaction structure, a contract system, a supervision framework and the selection of procurement methods. Further, the governmental sectoral agency will then appoint an expert or a third-party professional organisation to prepare the value-for-money evaluation report for the proposed project. The relevant finance department, along with the governmental sectoral agency, will jointly review the value-for-money evaluation report in alignment with the project implementation program. If the project passes the value-for-money assessment, the finance department then prepares the fiscal affordability assessment for the project. The MoF's increasing focus on fiscal affordability has developed in the recent past, to ensure that all project proponents optimally incorporate and value the total costs of undertaking PPPs. Thereby, the fiscal affordability assessment mechanism for PPP projects was established to efficiently and effectively prevent and control fiscal risks arising from the implementation of PPPs. The mechanisms assist in identifying and measuring the financial expenditure of PPP projects, evaluating the effect of their implementation on annual financial expenditures in current and subsequent years, and providing the basis for the fiscal management of PPP projects.

After the PPP project passes the fiscal affordability assessment, the administrative body of the local government under whose jurisdiction the project sits will approve the implementation of the project and commence the procurement process.

Project approvals and quality assurance. Approval on the feasibility study report from the NDRC, or the relevant DRC, forms the core activity of the final approval stage. NDRC, or the relevant DRC, provides the approval after the assessment of the draft plan and the completion of departmental reviews, based on project compliance with the relevant laws and regulations. The assessment of the draft project plans is undertaken by multiple agencies, depending on their scope and jurisdiction. The site selection report of the project plan must be assessed by the relevant local planning departments, who could, in turn, appoint experts for an independent review. The EIA report is evaluated by the relevant environmental protection department for their inputs on the EIA and its approval. Finally, the project developer submits the project plan to the NDRC, or the relevant DRC, for their inputs until the review of the EIA, land use and site selection is completed. The final approving authority for sub-national projects depends on the size of investment.

3. Guidance for project preparation

Guidance	GUIDELINES FOR THE ADMINISTRATION OF FINANCE FOR PPP PROJECTS
Owner	Ministry of Finance
Project development stage	Throughout the project lifecycle
Details	<p>These guidelines, circulated by the MoF in September 2016, task the finance departments at all levels of government with arranging PPP project preparation, budgetary funding, procurement, budgetary expenditures and revenues, and performance management etc. For PPP project preparation, these guidelines put the responsibility of the preparation of the project implementation program, which is similar to a business case document, with the authorised project implementing agency, while the finance department is tasked with the responsibility to review the value-for-money evaluation, in collaboration with the relevant governmental implementing agency, and the fiscal affordability assessment. These guidelines provide the basis for evaluating a project for its PPP viability, procurement and fiscal budget management of projects.</p> <p>Link for further details: http://www.cpppc.org/en/Guidelines/4699.jhtml</p>
Guidance	OPERATIONAL GUIDELINES FOR PPP MODE (FOR TRIAL IMPLEMENTATION)
Owner	Ministry of Finance
Project development stage	Throughout the project lifecycle
Details	<p>These guidelines were circulated by the MoF in November 2014 to promote and apply the private-public partnership (PPP) model in a standard manner. The guidelines apply to regulating activities, such as the identification, preparation, procurement, implementation and transfer of PPP projects conducted by the government agencies, private and/or commercial partners and other participants. They provide the government agency responsible with the basic steps to be performed for the above activities. They also provide the basic structure of the project implementation program that is to be prepared by the project implementing agency.</p> <p>Link for further details: http://www.cpppc.org/en/Guidelines/4049.jhtml</p>
Guidance	GUIDANCE FOR THE FISCAL AFFORDABILITY ASSESSMENT OF PPP PROJECTS
Owner	Ministry of Finance
Project development stage	Project appraisal
Details	<p>These guidelines, circulated by the MoF in April 2015, promote the orderly implementation of PPP projects by guaranteeing effective performance of contractual obligations by the government, and effectively preventing and controlling fiscal risks. The fiscal affordability assessment refers to activities to identify and measure the budgetary expenditure of PPP projects and evaluate the implementation of projects in the current and subsequent years, to provide the basis for the fiscal management of PPP projects. This, along with the value-for-money assessment, is a critical step in identifying whether the project can be implemented as a PPP. The finance departments at various levels of government are tasked with reviewing the fiscal affordability assessment.</p> <p>Link for further details: http://www.cpppc.org/en/Guidelines/4050.jhtml</p>

Guidance	GUIDELINES ON REGULATING THE PROJECT DATABASE OF THE NATIONAL PPP INTEGRATED INFORMATION PLATFORM
Owner	Ministry of Finance
Project development stage	Project disclosure and monitoring
Details	<p>These guidelines, circulated by the MoF in November 2017, provide the necessary conditions to be satisfied by a PPP project in order to be included in the Project Management Database of the National PPP Integrated Information Platform. This platform improves the overall quality of project database management. The provincial finance departments are responsible for project database management at their level. To identify and eliminate unqualified projects that do not meet the specified criteria, the finance departments at various levels set up special working groups.</p> <p>Link for further details: http://www.cpppc.org/en/Guidelines/6078.jhtml</p>

Guidance	GUIDELINES FOR VALUE-FOR-MONEY (VFM) EVALUATIONS OF PPP PROJECTS
Owner	Ministry of Finance
Project development stage	Project appraisal
Details	<p>These guidelines, circulated by the MoF in December 2015, guide the project implementing agencies in the preparation of PPP VfM evaluations, and assist the finance departments at various levels in reviewing the PPP VfM evaluations in a well-regulated and orderly way. VfM evaluations are carried out during the project preparation stage to judge whether a project can be implemented through the PPP route or through traditional procurement. These guidelines provide basic information regarding the preparation of VfM evaluations, qualitative evaluations, quantitative evaluations, evaluation reports and public disclosures. They also provide the basic structure of the VfM evaluation report.</p> <p>Link for further details: http://www.cpppc.org/en/Guidelines/4023.jhtml</p>

4. Project case example: Hangzhou International Airport (HGH)

PROJECT BRIEF

Hangzhou International Airport (HGH) is situated in Xiaoshan in the Hangzhou municipality, the capital of Zhejiang Province.

The airport covered an area of 484 hectares (ha) in Phase I and was expanded to about 998 ha in Phase II. HGH is considered as one of the main international airports in the Yangzte River Delta region in Eastern China and is one of the top 10 busiest airports in the country. During the period 2007-2012, passenger traffic in HGH more than doubled, increasing with an annual average growth rate of 19.4% per annum in the decade 2003-2012.

The construction of HGH can be divided into three phases: Phase I was completely operational in December 2000, Phase II was completely operational in December 2012, and Phase III is scheduled to be operational in 2035.

Project preparation of HGH commenced in 1992 with an Environmental Impact Assessment (EIA), site selection and a feasibility study. After two years of planning, site selection was complete and Xiaoshan was selected as the final location for HGH. The EIA and feasibility study reports were approved in 1997. For Phase II of the project, a review was conducted by the environmental protection and land administration departments, and the expansion was approved by NDRC in 2007.

QUICK FACTS



VALUE
(IN US \$ BILLION)

1.6*



STATUS

Phase I and II Operational



PROJECT OWNERSHIP

JV between Airport Authority Hong Kong and Zhejiang Province Airport Administrative Co.



SOURCE OF PROJECT
PREPARATORY FINANCING

National government budget



SUPPORT AGENCIES

DDRC, Departments of Planning, Land Administration and Environmental Protection

* Phase 2 expansion project cost; 1 CNY = US \$0.15, DDRC – Department of Development and Reform Commission of Zhejiang Province

PROJECT TIMELINE

- 1992 Commission of project preparation for the airport. This involved an Environmental Impact Analysis (EIA), site selection and feasibility study report (FSR).
- 1994 Site selection was completed and Xiaoshan was chosen as the location for HGH.
- 1997 Approval for the EIA and Feasibility Study Report. Phase I of HGH was launched.
- 2000 Phase I of HGH was completely operational.
- 2005 Planning of Phase 2 started with a review conducted by the Environment Protection and Land Administration Departments
- 2007 NDRC provided its approval for the expansion of the airport and construction was commissioned
- 2012 Phase II of HGH was completely operational

LEARNINGS FOR PROJECT PREPARATION

1. Simplified yet robust institutional framework led to extensive project preparation

The planning and decision-making are the responsibility of the Department of Decision and Reform Commission (DDRC) of Zhejiang Province, with assistance from other government departments, such as the Department of Planning, Land Administration and Environmental Protection. The project preparation involved the preparation of a project proposal, which mainly established whether the project was a viable investment. Further, technical and economic assessments were performed, along with a preliminary analysis of the project, site, size, investment estimates and fundraising. In addition to the project proposal, a project site selection and environmental impact assessment (EIA) were completed as a part of the preparation stage. Further, the project developer submitted a Feasibility Study Report (FSR) to the DDRC as the preliminary basis on which the project investment decision was made. This fast-tracked the project's preparation and led to its completion within the specified time and budget.

2. Strong quality assurance mechanism to ensure that the streamlined project preparation activities were high quality

Project proposal, site selection, environmental impact assessment and the feasibility study report are the main project preparation deliverables that are undertaken by experts with professional qualifications from planning and design institutes. The project proposal underwent a stringent external review, which was then submitted to the DDRC for their inputs on the feasibility report and operability of the project. After the project proposal was approved by the DDRC, the draft plan was reviewed by the departments of planning, land administration and environmental protection. Similarly, the EIA report was reviewed by the environmental protection department. Also, the project developer received feedback from the urban and rural planning department for site selection before the project plan was approved by the DDRC. Further, the project developer submitted the feasibility study report to the DDRC for its approval until the review of the EIA, land use and site selection was completed. The FSR assessment is performed by reputable agencies with professional qualifications that also conduct the technical and economic assessments.

3. Encouraging capacity development for project planning and implementation through long-standing partnerships

Given the size, complexity and duration of the project, it was critical for project proponents to build know-how on airport construction and management. To this end, HGH entered into a strategic partnership and joint venture with the Hong Kong International Airport prior to commencement of Phase II of its expansion. The aim of establishing the joint venture was to build the capacity of HGH and its staff in all areas of airport management and service concepts. The joint venture between HGH and Hong Kong Airport Authority was established in 2006, for a 30-year period, through the investment of equity capital in HGH's management institution – Hangzhou Xiaoshan International Airport Co. Ltd.

India

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Programmatic approach to project development through specialised institutions established by the government

Specialised sectoral institutions, set up by national and sub-national governments, help to streamline and standardise project development in their respective sectors. These institutions also liaise extensively with development agencies to help strengthen capacity for project preparation. Over time, these institutions have evolved to house capabilities for developing projects within their sectors and provide advisory support to other government agencies in their sector.

Dedicated entity within the Prime Minister's Office to fast-track national strategic projects

In response to project implementation delays in India, the Project Monitoring Group (PMG) was set up under the Prime Minister's Office (PMO) to provide an efficient and transparent mechanism to monitor and fast-track the implementation of strategically important infrastructure projects. The progress of all projects tracked by the PMG is also published on a real time basis on a dedicated portal maintained by the PMO.

Strengthening enabling frameworks for project preparation at the sub-national level through nodal agencies and project development funds

In order to support project preparation activities at the sub-national level, various state governments in India have instituted nodal agencies through the enactment of legislative frameworks. These agencies help strengthen the capacity of state infrastructure development institutions. Further, some states have also set up dedicated project development funds to fund project preparation activities. These funds are in partnership with international development institutions, such as the World Bank, Germany's Kreditanstalt für Wiederaufbau (KfW), and the Japan International Cooperation Agency (JICA), and thus function to bring in international project development standards for projects at the state level.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Long-term strategic plans at the sector level, tied to implementation through government supported multi-year schemes

Individual line ministries at the national level have defined long-term visions and goals for infrastructure development within each sector. These long-term plans are then implemented through multi-year schemes with defined project pipelines, thereby supporting project identification and prioritisation in alignment with the sector's strategic priorities.



PROJECT FEASIBILITY AND STRUCTURING

Use of standardised sectoral toolkits for the quantitative evaluation of PPP projects

India's Ministry of Finance (MoF) has designed sector specific toolkits that aid in quantitatively evaluating PPP projects at the pre-feasibility and feasibility stages. These toolkits are easily available on a dedicated portal managed by MoF and cover four aspects of project preparation – project screening, financial viability, value for money analysis, and project structuring. Further, model concession agreements (MCAs) prescribed for each sector help to standardise risk allocation and mitigation in PPP projects.

2. Snapshot of project preparation activities

India's project preparation framework is steered by its line ministries and sub-national governments, who are adopting a streamlined and systematic approach to project development.

States in India are critical for infrastructure development. While at the national level, there is a focus on developing key infrastructure sectors like national highways, telecommunications, power, railways and airports, the development of other sectors like water and sanitation, health, and education are shared and often vested in the state governments. Improving the maturity of India's project preparation activities has placed it well amongst the emerging infrastructure and PPP markets around the world.

INSTITUTIONAL FRAMEWORK

Project preparation activities in India are decentralised and are largely driven by contracting authorities. Line ministries, state and local governments at the sub-national level are responsible for their own project preparation.

The Department of Economic Affairs (DEA), the apex agency for project development in India, is housed within the Ministry of Finance (MoF). The Infrastructure Policy and Finance (IPF) division of the DEA is responsible for analysing public investment proposals for infrastructure projects, and handling all matters related to non-PPP projects of the line ministries. The IPF division of DEA also hosts a specialised team under the central PPP Cell section, which functions as the nodal point of contact for PPPs in India. It is responsible for: (i) drafting the national PPP policy and programs; (ii) managing the India Infrastructure Project Development Fund (IIPDF) for PPPs; (iii) undertaking capacity building programs; (iv) appraising and approving national PPP projects; (v) managing and approving financial support for PPPs under the Viability Gap Funding (VGF) scheme; and (vi) liaising with development institutions through technical assistance programs to build local capacity for project development.

The Department of Expenditure, also housed under the Ministry of Finance, is the nodal department for overseeing the public financial management system at the national level and overseeing matters related to the state finances. It is responsible for pre-sanction appraisal of major schemes or projects and overseeing the expenditure management of the central line ministries.

The National Institution for Transforming India (NITI Aayog), the premier planning unit, provides directional and policy inputs for infrastructure and PPP development in India. Through its Project Management Unit (PMU), NITI Aayog aims to support project preparation at the sub-national level, helping states identify, screen, prioritise, and develop PPP projects for implementation. On the policy front, it has also been tasked with preparing the three-year action plan, along with the seven-year strategy and 15-year vision document for the development of the country.

Role of the Project Monitoring Group (PMG) to fast-track national projects

In order to efficiently implement infrastructure projects, the government established the Project Monitoring Group (PMG) in 2013, to monitor and fast-track stalled public infrastructure and PPP projects. PMG is an institutional mechanism set up under the Cabinet Secretariat, reporting directly to the Prime Minister's Office, to resolve a variety of issues at both central and state levels required for faster commissioning of large-scale public infrastructure and PPP projects.

The processes followed by PMG are available on their website (<https://esuvidha.gov.in/>) with the objective of achieving transparency and efficiency. This helps in fast-tracking the entire process of approvals by enhancing communication between the investor and the government. PMG has also initiated the process of accepting applications for forest and environmental clearances online. After the success of PMG at the national level, a similar kind of mechanism has been implemented by states like Odisha, Uttarakhand, Rajasthan and Uttar Pradesh to address the issues faced by infrastructure projects within their states.

At the national level, India has also established specialised contracting authorities that focus on infrastructure development in specific sectors. While these institutions are associated with the line ministries, and owned by the central government, they work as independent entities, carrying out most of the project preparation and development activities on their

own or by hiring external consultants and advisors. To strengthen project preparation, these institutions develop a set of standardised guidelines and frameworks for projects that fall within their jurisdiction. Most of these specialised institutions have been tasked with running a large-scale, long-term, national level program.

Empowered sector-specific public institutions to drive infrastructure investment – The case of the National Highways Authority of India (NHAI)

NHAI was established in 1988 with a mission to develop, maintain and manage national highways in India. It has been mandated to develop 125,000 km of national highways under schemes like the National Highways Development Project (NHDP) (50,000 km) and Bharatmala (75,000 km). It has been instrumental in mobilising private funding for the development of highways and has pioneered the transition in infrastructure financing from traditional public procurement to PPPs within a very short period.

In the mid-nineties, PPPs in the highways sector received a lukewarm response from the private sector, owing to poor project preparation and a lack of standardised contractual frameworks. NHAI was among the first to introduce model concession agreement (MCAs) for national highways, under the Build-Operate-Transfer (BOT) model. Subsequently, NHAI has standardised

MCAs for different modes of project execution, thus improving efficiency and transparency on the sharing of risks. Concurrently, NHAI has also developed and maintained a standardised set of procedures to be followed while undertaking project preparation activities. NHAI also routinely hires external consultants or experts to prepare quality project preparation documents. To enable quality assurance, NHAI undertakes independent reviews of project feasibility studies, through a specialised team within NHAI or through the empanelment of peer consultants.

As the apex agency for national highways projects in India, NHAI also routinely undertakes market consultation exercises, to glean feedback from developers, investors and bankers on the challenges faced for national highway projects and redressal mechanisms to be explored.

As of today, NHAI has awarded more than 610 projects out of which approximately 300 projects were undertaken using the PPP model.

At the state level, the State Public Works Departments (State PWDs), divisions of the state governments, undertake the majority of the infrastructure planning and developing activities. Some states in India that have an explicit legal framework for private investment in public infrastructure are Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu, Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Orissa, etc. Apart from State PWDs, states have also established contracting authorities that focus on the development of state highways, irrigation, urban development and other infrastructure. For example, the development and maintenance of state highways is usually undertaken by state road development corporations. To streamline project preparation at the state level, most states have enacted state-specific legislation for PPPs, and instituted nodal agencies for project planning and development. These nodal agencies also provide financing support for project preparation. For instance, the State of Gujarat's Gujarat Infrastructure Development Board (GIDB) plays a pivotal role in project structuring and planning. It is a focal point organisation for infrastructure development in the state, mandated under the Gujarat Infrastructure Development Act.

At the municipal level, infrastructure development activities are undertaken by municipal corporations. Some metropolitan towns and tier 1 cities¹ have established their own development authorities to plan and develop infrastructure within their administration. For example, the Mumbai Metropolitan Region Development Authority (MMRDA) is responsible for planning, the formulation of policies and programs, implementing projects, and directing investment in the Mumbai metropolitan region.

PROJECT PREPARATION LANDSCAPE

Project preparation financing. Funding for project preparation activities is largely through budgetary allocations and internal resources of contracting authorities. For PPP projects, the national government provides funding support through the India Infrastructure Project Development Fund (IIPDF). Established in 2008, the IIPDF is a revolving fund with an initial amount of approximately US \$15 million funded by the Government of India to support the process of preparing projects that are viable and bankable. IIPDF can be utilised for the preparation of feasibility studies, environmental impact studies, project structuring, and for funding a portion of the cost of hiring consultants and transaction advisors. The fund can finance up to 75% of the total project development costs to the sponsoring authority. Upon successful bidding, the project development costs would be reimbursed to the successful bidder and in case of failure in the bidding process, the sponsoring authority would be liable to refund the amount of financial assistance provided.

To empower project development activities at the state level, many states have also established their own project development funds. To illustrate, the Government of the State of Tamil Nadu has set up the Project Development Grant Fund (PDGF) for supporting project preparation in the urban infrastructure sector. The fund has been financed by development agencies such as the World Bank, KfW and JICA. The PDGF is used to provide grants to carry out consultancy assignments, to operate and manage resource mobilisation programs, and to implement capacity building, development and training. The Government of Orissa has also established a state level project development fund, in partnership with KfW, to finance project preparation and the development of bankable projects. In addition to funding project feasibility studies, it also supports the preparation of city development plans and pre-feasibility studies for infrastructure projects.

Project conceptualisation and planning. Currently, the NITI Aayog in India has undertaken the preparation of a national level infrastructure development plan for India. Apart from this, individual line ministries and departments or other contracting agencies in India prepare long-term strategic plans and visions for each sector. Projects are then identified and

¹ Tier 1 cities are cities with a population of 100,000 people or more.

prioritised based on their alignment with the sectoral strategic priorities. For instance, the Ministry of Railways has established a Vision 2030, which defines, in quantitative terms, the key developments in the rail sector targeted for the period of 2018 - 2030. Typically, these long-term plans are then programmed through multi-year centrally sponsored schemes and initiatives, such as Bharatmala for the development of national highways, Sagarmala for the development, upgrade and modernisation of ports, Pradhan Mantri Awaas Yojana (PMAY), an affordable housing scheme, and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and SMART City Mission, which are combined schemes for water supply, sanitation, urban development and housing. Each of the line ministries then include their financing proposals to execute the identified and approved public investment projects (non-PPP projects) in the Demand for Grants document, which forms the input for preparation of the central annual budget by the Ministry of Finance.

Project feasibility and structuring. For public investment projects, a concept paper is prepared at the project formulation stage for seeking in-principle approvals, holding stakeholder consultations, conducting pilot studies etc. Project preparation commences with the preparation of feasibility study reports and includes a Detailed Project Report (DPR), pilot experiments and studies for schemes, and the preparation of environmental management and social management plans.

The Ministry of Environment, Forest and Climate Change (MoEFCC) has made Environment Impact Assessments (EIAs) mandatory for infrastructure projects. All infrastructure projects are classified under two categories, A and B, on the basis of locational aspects, impact on human health, and natural and man-made resources. Category A projects are approved by MoEFCC, while Category B projects are approved by the sub-national Environment Impact Assessment Authority. Further, under the Right to Fair Compensation and Transparency in the Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR 2013), procuring authorities are mandated to conduct Social Impact Assessments (SIAs) of major infrastructure projects within six months of the project start date.

To aid in PPP project preparation and decision-making, a series of detailed guidance papers and a PPP Structuring Toolkit has been developed by the DEA. These guidance papers aid in improving the quality of PPP projects being developed and cover the entire lifecycle of PPP projects. Further, DEA's PPP Guide for Practitioners also assists the project implementing agencies and authorities to develop their capacity for undertaking PPP projects.

Project approvals and quality assurance. After preparation of pre-investment documents, inter-ministerial consultations are held to appraise project proposals. Project proposals are appraised and approved by the Public Investment Board (PIB) or the Delegated Investment Board (DIB), depending on the project size and complexity.

PROJECT APPRAISAL		PROJECT APPROVAL	
Cost (US \$ mn)	Appraisal by	Cost (US \$ mn)	Approval by
< 15	Financial Advisor	< 15	The Secretary of the Administrative Department
15 – 75	DIB chaired by the Secretary of the Administrative Department	15 – 75	The minister in-charge of the Administrative Department
> 75	PIB chaired by the Secretary, Department of Expenditure	75 – 150	The minister in-charge of the Administrative Department and the Finance Minister
		> 150	Cabinet or Committee of the Cabinet

For projects costing less than US \$15 million, the projects are appraised by the Standing Finance Committee (SFC) or the Expenditure Finance Committee (EFC).

3. Guidance for project preparation

Guidance	PPP TOOLKIT
Owner	Ministry of Finance (MoF)
Project development stage	Overall PPP process
Details	<p>The PPP Toolkit is a web-based resource, designed to help improve the quality of PPP projects that are developed in India and also assist in improving decision-making for infrastructure PPPs. This toolkit covers five sectors, namely highways, water and sanitation, ports, municipal solid waste management and urban transport.</p> <p>The toolkit is for use by PPP practitioners across India in both the public and private sectors. It has been designed with a focus on helping decision-making by project officers at the central, state and municipal levels. However, other users, including PPP practitioners in the private sector, are also likely to find the material useful. It should be used as a learning tool and as a resource guide for best practice in PPPs.</p> <p>The toolkit is further divided into three modules:</p> <ol style="list-style-type: none"> 1) Project background module: The module provides explanatory and reference material about PPPs. It is a refresher course on important PPP concepts and mainly useful for people who are fairly new to PPPs. 2) PPP process module: This module describes the process of developing a PPP through four phases, from identification of potential PPP projects to preparation and clearance, to procurement and on to management of PPP contracts during the operational life of the project. 3) Tools and resources module: This module contains a set of decision-making tools to help PPP practitioners at important stages of the PPP process. This module also contains downloads and links to other PPP resources and a set of 15 case studies detailing the PPP project experience in India. <p>Link for further details: https://www.pppinindia.gov.in/toolkit/</p>

Guidance	PPP GUIDE FOR PRACTITIONERS
Owner	Ministry of Finance (MoF)
Project development stage	Overall PPP process
Details	<p>This guide is built for PPP practitioners within the government and its different tiers across the country, to assist them in conceptualising, structuring and implementing projects via the PPP route. This guide will serve as a manual for practitioners to develop projects through the appropriate PPP framework, improving the quality of PPP projects in the country.</p> <p>The PPP Guide is divided into 17 modules mainly focusing on key takeaways, best practices, case studies, PPP concepts, etc.</p> <p>Link for further details: https://www.pppinindia.gov.in/documents/20181/33749/PPP+Guide+for+Practitioners/</p>

Guidance	NHAI WORKS MANUAL
Owner	National Highways Authority of India (NHAI)
Project development stage	Project feasibility and structuring
Details	<p>The NHAI Works Manual details the project preparation and approval processes followed by NHAI for the implementation of public investment projects, as well as PPP projects.</p> <p>This manual details the contents and the parameters to be focused on while preparing the pre-feasibility study, feasibility study, preliminary project report, and Detailed Project Report for both public investment projects and PPP projects.</p> <p>This manual also details the quality assurance mechanisms, such as peer consultant reviews and proof consultant reviews, to be followed in order to maintain the quality of the project preparation documents.</p> <p>Link for further details: http://www.nhai.org/Doc/Manual/NHAI%20Works%20Manual%202006_new.pdf</p>

Guidance	APPRAISAL AND APPROVAL OF PUBLICLY FUNDED SCHEMES AND PROJECTS
Owner	Ministry of Finance (MoF)
Project development stage	Appraisal and approvals
Details	<p>The Appraisal and Approval of Publicly Funded Schemes and Projects provides a systematic process to be followed for the formulation, appraisal and approval of publicly funded schemes and projects. The guidance document lists the project preparation documents that are required along with their general structure. It also highlights the institutional arrangement for the appraisal and approval of schemes and projects, along with the delegation of appraisal and approval responsibilities in the case of projects with a lower total cost. Further, the documents also provide the timeframe required for the appraisal and approval of publicly funded schemes and projects.</p> <p>Link for further details: https://www.finmin.nic.in/sites/default/files/GuidelinesAppraisal_Approval_Schemes_Projects_0.pdf</p>

Guidance	GUIDANCE FOR FORMULATION, APPRAISAL AND APPROVAL OF CENTRAL SECTOR PPP PROJECTS
Owner	Ministry of Finance (MoF)
Project development stage	Appraisal and approvals
Details	<p>The Guidance for Formulation, Appraisal and Approval of Central Sector PPP Projects provides the detailed process to be followed for the appraisal and approval of PPP projects. It describes the institutional structure, along with details of the responsibilities of the entities involved. It also describes the structure of the memorandum required to be prepared for the PPP Appraisal Committee in order to obtain its 'in-principle' and final approval. Further, this document also specifies the time required for various steps under the appraisal and approval procedure for PPP projects. It also describes the delegation of appraisal and approval responsibilities in the case of PPP projects with lower costs.</p> <p>Link for further details: https://www.pppinindia.gov.in/documents/20181/21751/PPPAC_GuideLines_2013.pdf</p>

Guidance	MODEL CONCESSION AGREEMENTS
Owner	National Highways Authority of India (NHA), Ministry of Shipping
Project development stage	Project structuring
Details	<p>Standardised contractual documents, such as sector-specific Model Concession Agreements (MCAs), which lay down the standard terms relating to the allocation of risks, contingent liabilities and guarantees, as well as service quality and performance standards, have been developed by various central ministries in India.</p> <p>These documents help to structure projects and provide standardised guidance on project risk identification, allocation and mitigation mechanisms at the preparation stage.</p> <p>Link for further details: https://www.pppinindia.gov.in/standardized-bidding-documents</p>

4. Project case example: Delhi Metro Rail Corporation (DMRC) – Delhi Mass Rapid Transit System (MRTS) Phase I

PROJECT BRIEF

The Delhi MRTS project was one of the largest metro projects and the second MRTS in India after the Kolkata Metro. It is considered a good example for public sector infrastructure projects in India, mainly because the project finished within the stipulated time and budget. Delhi MRTS has been profitable since the start of its operations and is among very few metros worldwide that do not depend on government subsidies.

Delhi MRTS was proposed to cover the entire city, along with the adjoining areas like Gurugram, Noida, Ghaziabad etc., with a total network of about 405 km. The construction was divided into four phases spread over a duration of more than 20 years. Delhi MRTS was important for the city of Delhi, as it would alleviate Delhi's ever-growing transport congestion and vehicle pollution.

The Government of India (GoI) and the Government of the National Capital Territory of Delhi (GNCTD) established a 50:50 joint venture firm named Delhi Metro Rail Corporation Limited (DMRC) in 1995 for the purpose of constructing Delhi MRTS. Phase I of the Delhi MRTS project of 65 km in length was sanctioned by the Union Cabinet in September 1996. Delhi MRTS started its operations in 2002 with an eight km line (the red line) connecting Shahdara and Tis Hazari (Phase I).

Delhi MRTS Phase I was constructed with a total investment of US \$2.1 billion at an average cost of US \$32 million per km. Extensive pre-investment activities were undertaken by Rail India Technical and Economic Services Ltd. (RITES), an engineering services company and Government of India enterprise, during the project development phase. RITES was, in turn, supported by financing from the Japan International Cooperation Agency (JICA), who funded around 60% of the total project cost of Phase 1 in six tranches, starting from 1997. The rest of the funding was mainly secured from the GoI and GNCTD.

QUICK FACTS



VALUE
(IN US \$ BILLION)

2.1*



STATUS

Operational



PROJECT OWNERSHIP

GoI and GNCTD



SOURCE OF PROJECT
PREPARATORY FINANCING

GoI and GNCTD



SUPPORT AGENCIES

**RITES, Delhi Development
Authority (DDA), JICA**

*Estimated Exchange Rate: Rs. 1 = US \$0.014 (as of December 2018)

PROJECT TIMELINE

- 1989 Preparatory activities for developing the MRTS system were commissioned by GNCTD and GoI
- 1991 Preparatory activities completed by RITES
- 1994 Central cabinet provided their go-ahead for the Delhi MRTS and directed GNCTD to take up preparation of DPR in July
- 1995 RITES finalised the DPR in May
- 1995 DMRC, a joint venture between GoI and GNCTD, was established in May
- 1996 The union cabinet sanctioned the Delhi MRTS Phase I in September
- 1998 Construction was commissioned in October
- 2002 Commercial operations for part of Delhi MRTS Phase I
- 2006 Delhi MRTS Phase 1 was fully operational

LEARNINGS FOR PROJECT PREPARATION

1. Strong leadership, along with the necessary institutional support and enabling framework, allows for smooth progress of the project

For the successful implementation of large and complicated infrastructure projects, it is critical to have strong leadership and vision. The majority of credit for the successful implementation of the Delhi MRTS goes to strong leadership under the management of DMRC, who developed capabilities for completing projects on time and within budget through a culture of punctuality, integrity, professional competence and social responsibility.

2. An independent and effective institutional setting

DMRC was established as a joint venture (JV) between the GoI and GNCTD, where neither the central nor the state governments had majority control. The management of DMRC had complete freedom, which allowed them to make decisions free from compulsion, and depended on the government only for funding and land acquisition. This institutional setting proved effective in minimising interference from politicians and bureaucrats.

In the initial phase of the project's implementation, a Japanese firm, Pacific Consultants International, and its JV were appointed as a general consultant to provide a team of international and Indian experts. Due to political interference, DMRC was urged to withdraw their association with the Japanese firm but DMRC defended its decision. This decision helped in the initial phase of the project, as the selected consultant team not only acted as a bridge between DMRC and JICA, but also provided the necessary technical and management expertise and knowledge of tunnelling technologies, management ethos and value for time, leading to capacity building of the DMRC staff and thus reducing the dependence on international experts in the subsequent phases of Delhi MRTS.

3. Collaboration with international institutions for capacity development during the initial phase of Delhi MRTS

Collaboration with the Japanese experts and cross-learning was an integral part of the project design. DMRC engineers were encouraged to learn tunnelling technologies, management ethos and value for time, along with other management techniques from their Japanese counterparts. To strengthen their own technical expertise and human resources, DMRC made sure that its staff members were central to the project and did not rely overly on the general consultants. Starting with Phase I, DMRC planned to reduce their dependence on the external experts in subsequent phases by deploying their own personnel in consulting services and allowing them to obtain relevant technical experience from the start. DMRC established a training institute to pass on technical expertise from its own personnel to the implementers of new metro projects in India. DMRC also began to disseminate its knowledge and expertise through consulting work on new projects in India and abroad. These efforts allowed DMRC to effectively accumulate technical expertise and systematically leverage it to establish a strong reputation for itself.

4. Effective stakeholder coordination

For the necessary land acquisition, DMRC submitted the amount required for resettlement and compensation to the GNCTD and the required processes were carried out by the land acquisition officer of the government. Further, it was also important to have project engagement and interactions with the local authorities and other agencies especially during the planning and construction of underground sections of the MRTS. Before the ground was excavated, a complicated network of water supply and sewerage pipes had to be shifted or diverted. Cooperation, involvement and communication with other government agencies in charge of these utilities was important in getting their buy-in and participation. To improve and increase collaboration with these government agencies, DMRC also recruited retired personnel from the said agencies. Due to this, DMRC ensured that grievances from various stakeholders were minimised and the project timelines were adhered to.

5. Availability of adequate and sustained project preparation financing

GNCTD commissioned RITES Ltd. to conduct the project preparation activities for the integrated multi-modal MRTS for Delhi. As the project preparation activities for Delhi MRTS were funded by GNCTD and were carried out by a Government of India enterprise, extensive project preparation activities were undertaken to study the viability of the project. The DPR for Delhi MRTS had around 50 technical reports, 101 tender packages and 2,066 drawings. These reports addressed various aspects of the proposed Delhi MRTS.

Indonesia

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Domestic infrastructure financing institutions created by the Ministry of Finance are introducing good practices in project preparation with a 'learning-by-doing' approach

Indonesia has created specialised financing institutions that are championing the adoption of good project preparation by working closely with national and sub-national agencies to help them address existing roadblocks to infrastructure development in Indonesia. Together, these institutions aim to develop a pipeline of bankable infrastructure projects in a market where the government counterparty capacity is still not fully developed.



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Sustained capacity building programs in partnership with development institutions

Faced with the challenge of weak institutional capacity at various tiers of the government, these agencies have designed several programs in line with global standards. These initiatives are not limited to formal programs, but also involve more informal support and guidance to help develop projects. The Development Finance Institutions (DFIs) have partnered with international development agencies and academic institutions to customise global knowledge in project preparation and project management that could be practically implemented in Indonesia given its existing constraints.



PROJECT APPROVALS AND QUALITY ASSURANCE

Defined four-step land acquisition process to minimise delays in land acquisition

To address one of the most complex project development activities, Indonesia has reformed its land acquisition law that mandates a four-step process for acquiring land for development. Each stage of the process is detailed with the activities to be performed, which institution is responsible, and the requirements to proceed to the next stage. Within the framework, the maximum duration for land acquisition is capped at 583 days, eliminating the possibility of any further delays in project development due to land acquisition hurdles. The law has progressed in addressing the hurdles in land acquisition to an extent, and needs to be followed by effective implementation to realise more benefits.



PROJECT MARKETING AND STAKEHOLDER ENGAGEMENT

Public consultations are mandated for all PPP projects at the feasibility stage

To address concerns of inadequate stakeholder consultation in project preparation, public consultations and market sounding are now mandatory for all PPP projects, at the pre-feasibility (Outline Business Case) and the feasibility (Full Business Case) stages. This helps to resolve as many stakeholder issues as is practically possible in the project preparatory cycle.

2. Snapshot of project preparation activities

INSTITUTIONAL FRAMEWORK

Indonesia's progression in project preparation has been founded more on learning-by-doing, based on its own challenges.

While Indonesia's PPP regulations date back to 2005 (they have since been replaced by new presidential regulations in 2015), not many PPPs, apart from the electricity independent power producers (IPPs)¹ and a few toll roads, could take off in the first few years of the program. Inadequate project preparation, land acquisition delays, lack of long-term project finance and perceptions of high-risk regarding Indonesia's infrastructure sector were some of the major issues impacting the progress of PPPs in the early years. The heightened risk perception was formed in large part by a lack of policy coordination between the various government ministries and agencies.

Recognising the need to plug the gaps in its enabling policy and institutional environment, Indonesia has systematically implemented a series of initiatives in the last decade. Key amongst these have been the creation of PT Sarana Multi Infrastruktur (SMI), a Ministry of Finance (MoF) backed institution to advise and lend to infrastructure projects, the Indonesia Infrastructure Guarantee Fund (PT Penjaminan Infrastruktur Indonesia (PII), or IIGF), a MoF backed institution to provide guarantees on government counterparty contractual obligations, and Indonesia Infrastructure Finance (PT IIF), which is a donor supported financial institution to provide long-term project finance. These institutions have become operational in the past few years and their key focus has been to support the government in developing a project pipeline that could be supported by their downstream financial products. It has been the concerted effort of these infrastructure finance institutions that has made progress in recent years in undertaking good project preparation and helping projects achieve commercial and financial close. Good practices in project preparation are being infused through project preparation assistance provided by the infrastructure finance institutions, who have been supported by international development partners, such as the World Bank, the International Finance Corporation (IFC) and the Asian Development Bank (ADB).

¹ The Ministry of Energy and Mineral Resources supervises the procurement and contracting of electricity IPPs under its sector regulations and these projects do not go through the national level PPP process.

Each institution has clearly defined roles and responsibilities, stipulated in the presidential regulations enacted to establish these institutions.

In recent times, the MoF has established its own Project Development Facility (PDF) that is seeking to prepare its first set of PPPs as per international standards. The MoF is receiving technical assistance from the World Bank and the Government of Canada. To facilitate coordination and early identification of prospective PPP projects, a Joint Office has been established in the Ministry of Planning (BAPPENAS).

Ministry of Finance (MoF)

The MoF has been championing policy support to PPPs, including their project preparation and financing, in Indonesia. The MoF has adopted a two-pronged approach in promoting PPPs. Firstly, at the ministry level, the MoF has a special directorate – the Directorate of Government Support and Infrastructure Financing Management², which provides policy and approvals on government support mechanisms. The government policy places emphasis on high standards of project preparation to obtain best value for money for the government. The respective policies for viability gap funding (VGF) and guarantees stipulate that PPP projects will only be eligible for government support if they are well-prepared PPP projects, as per MoF project preparation standards, and where the PPP procurement has been competitively undertaken. Recently, the directorate has also established its own project development facility (PDF)³ to assist government contracting agencies in hiring transaction advisors and undertaking feasibility studies and PPP procurement. The PDF is in its early days, and in the process of establishing its standard operating procedures, as it seeks to prepare its first set of PPPs.

Secondly, the MoF has established key infrastructure finance institutions to scale up financing. As mentioned previously, these institutions are adopting international good practices to prepare projects. The IIGF and the SMI are fully government owned, while the IIF has a diversified ownership.

² More information can be obtained at <http://www.djppr.kemenkeu.go.id/ppp>

³ The legal basis for the PDF in Indonesia is based on the Presidential Regulation No. 75 of 2014 on Acceleration of Prioritized Infrastructure Provision, the Minister of Finance Regulation No. 265/PMK.08/2015 on Facilities for the Project Preparation and Transaction Advisory of PPP Projects, and the Minister of Finance Regulation No. 129/PMK.011/2016 on Amendment of Minister of Finance Regulation No. 265/PMK.08/2015.

Together through these two approaches, MoF is seeking to improve the quality of project preparation and streamline government coordination, thereby addressing the two critical roadblocks faced by infrastructure projects in Indonesia.

PT Indonesia Infrastructure Guarantee Fund (IIGF)

In response to the global financial crisis and to crowd-in private investment, a separate guarantee fund, IIGF, was established in 2009 and became operational in 2010. The IIGF extends guarantees⁴ to PPPs in relation to assuring government counterparty contractual obligations under the PPP agreement. To date, IIGF has issued guarantees to eighteen PPP projects. A key requirement for IIGF guarantees, as stipulated in government regulations, is that the project needs to be prepared to international standards and must be competitively procured. With the assistance from the World Bank, IIGF, through its standard operating procedures, has strengthened its project preparation functions, including environmental and social safeguards management to help the guaranteed projects meet international standards. The IIGF also operates its own project preparation assistance facility, wherein it provides technical assistance for and closely supports government agencies with project preparation and open procurement. In addition, the IIGF Institute provides PPP-related capacity building to various government stakeholders to help strengthen their implementation.

PT Sarana Multi Infrastruktur (SMI)

PT SMI is a wholly-owned entity of the MoF with a mission to act as a catalyst for infrastructure investment in Indonesia. PT SMI finances both publicly and privately funded projects and has its own capital base, as well as other lines of credit provided by international development partners to finance infrastructure. As part of its mandate, PT SMI assists

government agencies in their project development activities by supporting the preparation of business cases, providing funding assistance for project preparation, conducting capacity building and creating an ecosystem of cooperation for infrastructure development. PT SMI also provides active assistance to the MoF in managing their PDF and in supporting government agencies on project preparation.

PT Indonesia Infrastructure Finance (IIF)

PT Indonesia Infrastructure Finance was established in 2010 as a private non-bank financial institution, under an initiative of the Government of Indonesia, in cooperation with the World Bank, the Asian Development Bank (ADB) and other international multilateral agencies. It is focused on investing in commercially viable infrastructure projects in Indonesia and it encourages private sector engagement in the country's infrastructure development. By virtue of its reputable shareholders⁵, the IIF functions to high standards of corporate governance and project preparation. For instance, the IIF's Social and Environmental Management Systems comply with performance standards of the World Bank, the IFC and the ADB. Accordingly, it imposes these high standards on its supported projects.

Indonesia Ministry of National Development and Planning

As the apex planning agency in Indonesia, BAPPENAS plays the dual role of a planning and monitoring institution and a think-tank to further good practices on project preparation in the country. BAPPENAS is primarily tasked with preparing and monitoring the national long-term and medium-term development plans for Indonesia. At present, BAPPENAS is focusing on introducing international good practices in project selection and preparation. BAPPENAS prepares and documents the PPP project list for Indonesia through its annual publication of the PPP Book. The PPP Book comprises a project pipeline developed as a result of screening by BAPPENAS from the proposed project pipelines submitted by the Ministers, Heads of Institutions and Heads of Regions. The PPP Book provides a transparent view on the evolving PPP pipeline in Indonesia, listing out projects which are ready to move to the procurement stage, as well as those still under development.

⁴ The risks covered include: approvals and licensing delays, delays in land acquisition, change in law, break of contract, revenue and pricing risks, government counterparty payment risks, expropriation, force majeure, termination payments risk etc., as long as these risks are contractually taken on by the relevant government counterparty. IIGF guarantees can be extended to up to 25% of IIGF's net worth into a PPP project. When providing the guarantee, IIGF will charge both an upfront and annual underwriting fee. In case a guarantee is invoked, IIGF will make payments as per a due process specified in its operations manual and then have a recourse to the future budget allocations available to the concerned government counterparty agency. Under the recourse mechanism, the MoF will reimburse IIGF for the amount of the guarantee called and paid, and MoF in return will recoup the money from the budgetary allocations available with the concerned government counterparty agency.

⁵ The shareholders are PT SMI (30%), ADB (19.99%), IFC (19.99%), Kreditanstalt für Wiederaufbau (KfW) (15.12%) and Sumitomo Mitsui Banking Corporation (14.9%).

Committee for the Acceleration of Priority Infrastructure Delivery (KPPIP)

KPPIP functions as the point of contact to facilitate coordination in debottlenecking efforts for National Strategic Projects and Priority Projects. It plays a central role in monitoring, coordinating, and speeding up the deliveries of strategic and priority PPP projects, sometimes commissioning or amending the pre-feasibility studies to prepare them for the market. Led by the Coordinating Minister for Economic Affairs as the Chairperson, representation from all major institutions in Indonesia enables KPPIP to aid the acceleration of priority project development.

State Asset Management Agency (LMAN)

LMAN was established in 2015 by the Ministry of Finance, to facilitate the financing of land for infrastructure projects and speed up the process of land acquisition in Indonesia. It provides funding for land acquisition for nationally significant PPP projects, in addition to performing the function of a land bank by acquiring land required for the construction of priority projects. The LMAN also runs and maintains a registry of land parcels and manages a revolving fund for land acquisition for PPP projects in toll roads, rail infrastructure, ports and dams. While LMAN funded land acquisition up to approximately US \$1 billion⁶ for toll road projects in 2017 alone, its budget for 2018 was more than double, at approximately US \$2.5 billion.

PPP Joint Office

Set up in 2016, the PPP Joint Office is to function as the 'coordinating or clearing house' for PPP projects, prior to being sent for approval to the MoF. The office comprises members from KPPIP, BAPPENAS, MoF, Ministry of Home Affairs, Indonesia Investment Coordinating Board, National Public Procurement Agency, and the IIGF. The aim of establishing the PPP Joint Office is to encourage cross-sector and cross-agency coordination for project implementation. It comprises middle management-level representatives from all major governmental institutions, with each member of the office tasked with a specific role and authority, depending on the scope of its functions.

PROJECT PREPARATION LANDSCAPE

Project preparation activities in Indonesia are decentralised, with government contracting authorities (GCAs) entrusted with the responsibility of project development. GCAs perform this function under the umbrella of the national PPP policies and regulations.

The overall infrastructure project preparation process in Indonesia spans three broad phases:

- **Planning phase**, which includes project identification and selection, and establishment of a priority project list. GCAs identify and conduct preliminary studies on projects that help to meet Indonesia's long-term development goals. During the preliminary study stage, a project is to be evaluated based on its strategic rationale, compliance with existing regulations and a broad value for money assessment accompanied by revenue arrangements (in the case of PPPs). Projects that are deemed viable proceed to the preparation stage.
- **Preparation phase**, which involves the preparation of a preliminary pre-feasibility study (Outline Business Case (OBC)), and the preparation of a project readiness assessment (Final Business Case (FBC)). At OBC stage, the project undergoes a series of quantitative studies to evaluate its viability in terms of financial and economic value, and risk analysis and mitigation. At the FBC stage, the project must fulfil all requirements of the pre-feasibility study including follow-up issues, approval of the PPP by stakeholders through public consultations and market sounding, and certainty on whether government support is required.
- **Transaction phase**, which follows the completion of preparatory activities marked by a final business case report and drafting the business entity procurement plan.

How does the institutional set-up in Indonesia aid in accelerating project development activities?

It is well acknowledged that Indonesia's GCAs do not have strong institutional capacity in PPPs and this has impacted the pace of PPPs in reaching financial close. Efforts of the past few years are being invested in developing standardised processes and guidance to address their capacity issues.

- **Defining overarching goals to assist project conceptualisation.** Indonesia's long-term and medium-term development plans, RPJPN⁷ and RPJMN⁸, prepared by BAPPENAS, serve as guiding posts for GCAs to draft their strategic plans and conceptualise projects. While the RPJPN has a long-term outlook of 20 years, the RPJMN takes a medium-term view of every five years within the

⁶ Exchange rate, IDR 1 = US \$ 0.00007 (as of December 2018).

⁷ Rencana Pembangunan Jangka Panjang Nasional (Long-term Plan).

⁸ Rencana Pembangunan Jangka Menengah Nasional (Medium-term Plan).

20-year period and allows separate governments to set their own priorities in the process of national economic development. Each RPJMN defines the target for the provision of basic infrastructure in transparent, quantitative terms; for instance, the latest RPJMN 2015–2019 targets that Indonesia should have 100% access to clean water from the 70% baseline in 2014. These clearly defined targets help the GCAs to work towards a common goal.

- **Using multi-criteria analysis to screen and prioritise projects objectively.** To include projects from GCA strategic plans in the PPP Book, BAPPENAS follows a multi-criteria process. Each project is evaluated on factors such as technical and economic rationale, demand sustainability, support from stakeholders, compliance with laws and regulations, conformity with the national development plan, spatial planning, value for money, potential revenues, and project financing scheme. While this process is not institutionalised for GCAs, BAPPENAS also provides ad-hoc assistance to GCAs in screening projects based on their level of readiness and benefits to society in accordance with the development plans.
- **Enhancing capacities of GCAs to undertake project preparation in line with global standards.** The MoF supported Development Finance Institutions (DFIs) in Indonesia aid in capacity building for GCAs through formal programs and informal assistance. The IIGF has created a learning academy called the IIGF Institute, which provides training on PPPs through its General Active Learning Program (GALP), an online learning tool. It has also collaborated with the University Network for Indonesia Infrastructure Development (UNIID) and the Indonesian College of Infrastructure Network (JPII) to organise the Indonesia Infrastructure Roundtable (IIR), which is a series of discussions on the preparation of business cases for infrastructure projects. Similarly, PT SMI conducts capacity building and socialisation activities, as well as Focus Group Discussions (FGD), which involve the local governments, investors, and other relevant ministries. Further, by providing technical project preparation assistance and advisory support for projects, these DFIs help to build GCA capacity by playing an active role in encouraging the acceleration of prioritised, strategic, national and regional infrastructure development. Through continued support and liaising with international development institutions, these DFIs are transmitting international good practices to infrastructure in Indonesia via a learning-by-doing approach.

PT SMI's project preparation assistance in practice

1. Assistance to the Ministry of Communications and Informatics to prepare bid documents, and transaction advisory on the Palapa Ring Project.
2. Providing inputs for the optimisation of technical schemes and the government funding structure for the West Semarang Water Supply Project.
3. Preparing the pre-feasibility study for the Median Transportation Project and advisory to increase the feasibility and bankability of the project.
4. Cooperation with development institutions such as the Japan International Cooperation Agency (JICA) and the ADB for feasibility studies for the Dr. Pirngadi Regional Hospital Medan PPP Project and the Suramadu Bridge Toll Road PPP Project.

- **Providing standardised guidance documents to streamline project preparation.** Drawing from its expertise in appraising project risks to issue guarantees, the IIGF has published a best practice standard on risk allocation. This guidance document provides 1) a risk category and 2) a risk allocation matrix to be used as a reference by GCAs in preparing the risk allocation of the PPP project, to enhance the implementation of the risk management framework for both economic and social infrastructure PPP projects. As the apex agency for project planning in Indonesia, BAPPENAS has also issued guidelines on preparing outline business cases, which provides detailed steps to be followed by GCAs in each procurement stage, namely (i) planning (identification, budgeting, categorisation), (ii) preparation (pre-feasibility study, government support, guarantees), and (iii) transaction (market sounding, public tender, agreement, financial close).

- **Ensuring availability of adequate funding to undertake project preparation activities.** To assist financing of project preparation activities, PT SMI manages two funds:
 - PPP Project Development Facility (PPP-PDF): The PPP-PDF provides funding to assist GCAs to prepare the feasibility studies and to assist with transaction advisory until the project reaches financial close. Priority PPP projects, as well as non-priority projects that have completed market sounding and can demonstrate investor interest, are eligible for assistance under this scheme.
 - Regional Infrastructure Development Fund-Project Development Facility (RIDF-PDF): This is a grant targeted at local governments in Indonesia to undertake project identification and preparation activities. Budgeted at US \$3 million for a period of five years⁹, the fund was established in cooperation with the Government of Switzerland and the World Bank.
- **Addressing proximate factors that lead to bottlenecks in project implementation at the preparation stage.** Indonesia's legal and regulatory framework provides for mechanisms to address challenges that affect project implementation. To mitigate risks arising from land acquisition, Law No. 2 of 2012 clearly defines the responsibilities of sectoral ministries and regional governments to aid with land acquisition. Delays in the land acquisition process are addressed by capping the time period for the complete process at 583 days. The law also permits the private sector to procure the land first and then claim reimbursement from the government through the LMAN, instead of waiting for approvals from the annual budgetary process. Through these interventions, the land acquisition law has been a step forward in addressing the major land acquisition hurdles faced by infrastructure projects in Indonesia. The law is currently faced with implementation issues, so ongoing government support will be critical to realise the full benefits of this law. Further, Presidential and BAPPENAS regulations mandate that all PPP projects must include public consultations, to be carried out at the planning stage by the respective GCAs. The aim of undertaking these consultations is three-fold: (i) explore compliance with social norms and environmental norms in accordance with the provisions of the environmental legislation; (ii) receive input on community needs related to the PPP; and (iii) ensure PPP readiness.

⁹ PT SMI received a grant of US \$3 million over five years, however the overall size of the loan to the RIDF-PDF was US \$100 million.

3. Guidance for project preparation

Guidance	RISK ALLOCATION GUIDELINES
Owner	Indonesia Infrastructure Guarantee Fund (IIGF)
Project development stage	Feasibility study and project structuring
Details	<p>IIGF's risk allocation guidelines provide a risk category checklist which can be used to identify risk events for PPP projects.</p> <p>This checklist is further elaborated upon through comprehensive sector-specific risk allocation matrices for all PPPs within the following sectors: water supply, waste management, roads, electricity, energy conservation, oil and gas, rail transportation, bus rapid transit, seaport, airports, telecommunication, urban infrastructure, health, public housing, education, sport facilities, tourism and correctional facilities.</p> <p>The risk matrices identify the risk events within each risk category and provide a guide to risk allocation based on the PPP structure, along with suggested mitigation strategies.</p> <p>The guidelines function as a key reference for the GCAs in developing PPP contracts, and for investors and financiers in assessing their investment and PPP financing opportunities in Indonesia.</p> <p>Links for further details 2017 version in English: https://www.iigf.co.id/media/kcfinder/docs/risk-allocation-guideline-2017-tanpa-sambutan.pdf (2017 version in English) 2018 version in Bahasa Indonesia: http://www.iigf.co.id/media/kcfinder/docs/final-20180305-acuan-alokasi-risiko-bahasa-2018-clean-newlogo.pdf (2018 version in Bahasa Indonesia)</p>

Guidance	PROCEDURAL GUIDELINES FOR PPPs
Owner	BAPPENAS
Project development stage	Planning, feasibility study, procurement
Details	<p>BAPPENAS Regulation No. 4 of 2015 specifies procedural guidelines for PPP arrangements and the responsibilities of PPP nodes, PPP teams and procurement committees established under regional governments and sector ministries.</p> <p>These guidelines define the role of GCAs and PPP nodes, the stages of PPP implementation and institutional responsibilities at each stage, activities to be performed at the pre-feasibility and feasibility stages, structure of the outline and final business cases, forms of government support, and procedures for unsolicited proposals.</p> <p>Link for further details: http://kpsrb.bappenas.go.id/data/fileregulasi/PPP%20REGULATION%20(ENGLISH%20version).pdf</p>

4. Project case example: Umbulan Water Supply Project

PROJECT BRIEF

The Umbulan Water Supply System project was initiated in the 1980s to meet the growing needs of clean water distribution in the East Java province of Indonesia.

Structured as a Build-Operate-Transfer (BOT) scheme, with a concession period of 25 years, the project involves the construction of the production system, the transmission pipeline and offtake for five regencies and cities.

Once operational, the water supply system is expected to deliver 4000 litres per second of clean water through a 93-kilometre water supply pipeline.

While the project was originally planned and conceptualised by the Government of East Java Province up to 40 years ago, with multiple studies and tendering processes carried out between 1988 and 1999, it was tendered successfully only in 2010.

The Umbulan Water Supply System project is a flagship PPP project of Indonesia, being the first to receive viability gap funding from MoF, and the first water sector PPP project in Indonesia guaranteed by the IIGF. The history of this project demonstrates the evolution of experience in Indonesia's PPP market. Through cohesive efforts by the Government of Indonesia and its institutions, the existing challenges in the project were mitigated, and the project was made bankable.

QUICK FACTS



VALUE
(IN US \$ MILLION)

157*



STATUS

Under construction



PROJECT OWNERSHIP

**Government of
East Java Province**



SOURCE OF PROJECT
PREPARATORY FINANCING

PDF through the MoF



SUPPORT AGENCIES

PT IIGF, PT SMI, KPPIP

* Estimated Exchange Rate: IDR 1 = US \$0.00007
(as of December 2018)

PROJECT TIMELINE

○	Feb-11	Market sounding
○	July-11	Pre-qualification tender followed by consultations with prospective bidders
○	Aug-11	Announcement of pre-qualification result
○	Nov-11	Assignment to PT SMI for project development support
○	Feb 12 – Sep 15	Issuance of bidding document and amendment(s) Designing of project structure Project feasibility studies by PT SMI
○	Feb-13	Submission of application for guarantee to IIGF
○	Feb-16	Bid award
○	Jul-16	Signing of contractual documents (including the guarantee agreement)
○	Dec-16	Financial close
○	July-17	Construction commences
○	Mid 2019	Estimated commercial operations date

LEARNINGS FOR PROJECT PREPARATION

1. Commitment from a strong project champion can help to mitigate challenges and streamline the decision-making process.

The most critical challenge being faced by the Umbulan Water Supply System project was coordination amongst its many stakeholders, especially considering that the project's geographical coverage includes five different regencies and cities in the province. Compounding the coordination issues were the externalities to which the project was subject – accommodating lower tariffs to make clean water affordable to the users, managing poor financial conditions, a lack of capacity in regional entities to plan and manage such a project, lack of an adequate regulatory framework, and no prior experience of PPP projects in the water sector, to name a few.

Addressing these roadblocks required the presence of a strong project champion, which was provided through KPPIP, once the project was designated as a national strategic priority project. Functioning as a debottlenecking facilitator, KPPIP led coordinated efforts involving the Ministry of Finance, the Ministry of Public Works and People's Housing, PT SMI, the Province of East Java, and the five municipalities. For instance, the issue of increased project costs for the water supply system, which was at a stalemate, was resolved through the enactment of a contract, wherein the central, provincial and district governments agreed to share the increased costs of installing the system.

2. Supporting mechanisms through government institutions help to make the project feasible, bankable and fiscally acceptable.

The Umbulan Water Supply System project serves as a flagship project to demonstrate how support from Indonesia's institutional framework led to the successful commencement of project construction.

Recognising the limited capacity of the GCA to undertake project preparation activities that could meet the standards of the investor community, PT SMI was tasked with supporting the preparation of the OBC and FBC stages. The results of the feasibility study were then 'road tested' by PT SMI, with international financial institutions to identify and address residual issues. PT SMI later also partnered with the IFC to function as a transaction advisor.

The MoF provided funding for project preparation through the PDF, along with supporting the project feasibility process through the provision of viability gap funding.

The IIGF, mandated to evaluate the project for the provision of a government guarantee, also provided assistance with finalising the PPP scheme and technical design, undertaking public consultations, and assistance to execute contractual agreements between the various stakeholders. IIGF also worked closely with the GCA to formulate a joint risk mitigation plan, factoring in environmental implications, which was implemented in 2017.

The Ministry of Public Works and Housing (PUPR) was also involved in the planning and preparation of the feasibility study and the contractual arrangements between the water supplier and the municipal water companies (PDAMs).

3. Augmenting and streamlining GCA capacity to prepare projects through the use of international consultants and advisors.

To address the lack of capacity within the GCAs to prepare project feasibility studies at par with global standards, the project proponents and PT SMI involved a panel of international and national advisors to strengthen the business case. With the IFC as its transaction advisor, the project was also supported by Mott MacDonald as the international technical advisor, Norton Rose as the international legal advisor and ABNR Law Firm as the national legal advisor, in addition to other notable local firms and individual experts as reviewers.

Further, the Provincial Government of the East Java Province also established a steering committee and technical team within itself, to work closely with PT SMI and the pool of advisors to prepare the feasibility study. Assistance from the Indonesia Infrastructure Initiative (IndII), a joint cooperation with the Australian Department of Foreign Affairs and Trade (DFAT), was also sought for the feasibility studies conducted in 2009, prior to procurement.¹⁰

4. Responding to market feedback to enhance the attractiveness and marketability of the project.

Under the initial project structure, the bidding process was carried out between 1988 and 1999, wherein three bidders were shortlisted. However, the project did not achieve financial closure due to inadequate financial feasibility. Responding to feedback from the shortlisted bidders and the investor community, the Government of Indonesia approved government fiscal support, through a VGF scheme and the IIGF guarantee, to make the project financially viable. Consequently, prior to its procurement in 2011, the project proponents also conducted one-on-one consultations with prospective bidders.

¹⁰ In 2018, the Indonesia-Australia Infrastructure Partnership/ Kemitraan Indonesia Australia Untuk Infrastruktur (KIAT) replaced IndII in providing technical assistance to the Indonesian Government to support infrastructure development (<https://www.kiat.or.id/home>).

Kenya

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Early involvement of multilateral institutions is key to the establishment of an effective enabling environment for project development

The Government of Kenya is introducing a legal and institutional framework, consistent with international good practice, with the support of multilateral institutions to build an effective enabling environment for project preparation. The World Bank's Infrastructure Finance and PPP (IFPPP) project was instrumental in building upstream support to PPP institutions and developing an initial pipeline of PPP projects. Under the IFPPP project, the Government of Kenya created an enabling environment to channel private finance to infrastructure projects (the PPP Act 2013 and the PPP guidelines). While multilateral assistance has facilitated creation of a favourable enabling environment and improved public sector capacity, consistent and targeted efforts are still required to yield sustainable outcomes.



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Dedicated team within the Government Contracting Authority (GCA) to support project planning and preparation

Recognising the gap in the internal capacity of the GCAs, the Government of Kenya established dedicated PPP nodes within each GCA to drive broader PPP agenda planning, preparation, and implementation of PPP projects, and the coordination of funds for project preparation. The PPP node brings in external expertise, as well as strong project ownership within the GCA (each member of the PPP node is of the same rank as a head of department). The GCA also establishes a dedicated project appraisal team during the project appraisal and planning stage, which includes a member of the central PPP Unit.



PROJECT APPROVALS AND QUALITY ASSURANCE

Clearly defined framework for Fiscal Commitment and Contingent Liability (FCCL) to facilitate the early identification of fiscal risks

The National Treasury of Kenya, in association with the World Bank, prepared the FCCL guidelines and technical manual for managing fiscal liability risks in PPPs. The FCCL assessment is undertaken twice during the PPP lifecycle, once at the feasibility stage and again during the negotiation stage. The tool is managed by the Public Debt Management Office (PDMO) in the National Treasury. The PDMO also publishes periodic updates of FCCL commitments, such as quantum and term length, contingent liabilities classified by category or sector, the reasons for undertaking contingent liabilities in the Annual Debt Report, and the Medium-Term Debt Management Strategy. The government's recent initiatives to strengthen the FCCL Framework represent a strong appreciation of the impact of the fiscal risks of PPP projects, especially in lower and lower-middle income economies.

2. Snapshot of project preparation activities

Kenya is one of the largest and fastest growing economies in Africa, and it transitioned to a lower-middle income economy¹ in 2014.

Kenya has embarked on a sustained campaign to scale up its infrastructure to meet its mission of becoming an upper-middle income economy, as per its long-term development plan – “Vision 2030”. To meet the objectives of this plan, the government has undertaken a series of reforms aimed at improving institutional capacity, empowering sub-national governments, diversifying project finance and continuously strengthening the enabling framework for project preparation and implementation.

Some of the major reform actions over the past decade include the 2010 Constitution of Kenya, which created a decentralised system of governance, the PPP Act 2013 and the PPP regulations for national and sub-national governments, and the recent Draft Public Investment Management (PIM) Guidelines of 2018, which promote efficiency in project preparation and review. The 2010 Constitution of Kenya introduced a devolved system of government aimed at better service delivery and started a systematic process of strengthening the capacity of sub-national governments to plan and deliver infrastructure. The reform initiatives facilitated a surge in infrastructure investment, as well as greater private sector participation in projects. As per the Global Infrastructure Hub’s InfraCompass², total investment in the infrastructure sector in Kenya for the period 2011-2015 stood at US \$20.376 billion, with US \$2.946 billion (14% of total investment) contributed by the private sector.

INSTITUTIONAL FRAMEWORK

Project preparation activities at the national level are led by relevant sector ministries and agencies, and at the sub-national level by the relevant county departments and their agencies, referred to as the Government Contracting Authorities (GCAs) henceforth. The GCAs are required to set up a PPP node, which is a dedicated team formed within the GCA, headed by an Accounting Officer (AO), to aid with the planning, preparation and implementation of PPP projects. The PPP node also coordinates with external stakeholders, such as multilateral development banks (MDBs), and is involved in the promotion of projects. The GCAs are assisted at each stage of project

preparation by a range of institutions in providing project guidance, capacity building, project review and approval, and project marketing.

At the federal level, the National Treasury (NT) serves as the apex agency for project preparation. The NT provides guidance on project planning, provides independent review and approval of federally funded projects, and manages the fiscal implications of a project. The NT championed the preparation process of Vision 2030, which sets out the long-term strategic direction for infrastructure in Kenya and the outcomes envisaged. The NT is also responsible for the overall monitoring of projects and the medium-term plans of the line departments. In the case of PPP projects, the NT, through the Cabinet Secretary for Finance, oversees the operation of the PPP Unit (housed within the NT) and PPP Committee. The National and County Treasuries are also allocated the task of reviewing project concept notes up to a certain threshold, approving the feasibility study, and including the project in the pipeline for national and country level projects, respectively. As the main agency responsible for the management of public debt, guarantees and financial obligations at the federal level, the NT continuously monitors the fiscal risk associated with PPP projects.

While the GCAs and the NT form the key institutions in public infrastructure project preparation, the institutional structure is more diverse for PPP projects. Under the PPP Act 2013 and the PPP regulations, the government has established a separate central PPP Unit within the NT to drive PPP project and program preparation and implementation, and a PPP Committee to review and grant approval for PPP projects. The PPP Committee is an inter-ministerial committee chaired by the NT, responsible for PPP policy formulation, project approvals, monitoring and evaluation. The PPP Committee includes members from the line ministries, the Attorney General’s office, and four independent members appointed by the Cabinet Secretary. The central PPP Unit, established as a specialised unit within the NT, serves as the secretariat and technical arm of the PPP Committee and oversees the country’s PPP program. The PPP Unit was also strengthened through the secondment of international experts with an established track record in managing PPP programs.

The Government of Kenya has also created capacity at the GCA level with the establishment of a PPP node, and a project appraisal team within the GCAs to support and complement the internal capacity of GCAs in project preparation. The project appraisal

¹ World Bank country classification

² <https://infracompass.gihub.org/>

teams are dynamic teams formed for each project to undertake the appraisal of the specific project. The GCA also requests the central PPP Unit to nominate a representative for the project appraisal team to assist in project preparation. The project appraisal team assists the GCA project nodes in the preparation of project studies, such as project concept notes, pre-

feasibility and feasibility studies. The PPP node follows a dynamic structure, wherein the team membership is revamped according to the needs and priorities of the projects. To ensure accountability at the highest level within the GCA, each member of a node, except for the accounting officer, is of the same rank as a head of department.

LEVERAGING MULTILATERAL ASSISTANCE TO STRENGTHEN THE PPP ENABLING ENVIRONMENT IN KENYA

The Government of Kenya collaborated with the World Bank in February 2013 under the Infrastructure Finance Public-Private Partnerships (IFPPP) project to work towards the establishment of a stable, predictable and transparent investment environment, along with a pipeline of finance-worthy projects. The US \$40 million program is aimed at three key areas of development: i) enabling environment; ii) project pipeline; and iii) project financing. As of September 2018³, the program is supporting more than 71 projects at various stages of development. Key program outcomes are summarised below:

i) Institutional reform and capacity building support – After the enactment of the PPP Law in 2013, the IFPPP established well-functioning PPP institutions by strengthening the central PPP Unit and creating more than 57 PPP nodes⁴. Under the IFPPP project, hands-on, skill-based and project-based training was offered to strengthen the capacity of the PPP Unit staff and the project teams. Separate programs were conducted for a select group of officials under the APMG's PPP Certification Program⁵.

ii) Dedicated facility for project preparation – The government established a separate project development fund – the Project Facilitation Fund (PFF) – to support project preparatory studies for PPP projects. The PFF was established as a multi-purpose fund to provide financial assistance to:

- support GCAs in the preparation, appraisal and tendering phases of their PPP projects;

- support the activities of the PPP Unit in the delivery of its mandate;
- extend viability gap funding to PPP projects; and
- provide a source of liquidity to meet any contingent liabilities arising from a PPP project

The World Bank has also developed a detailed operational manual for the fund.

iii) FCCL Management Framework – The Public Debt Management Office (PDMO), a department within the National Treasury, manages a progressive two-stage Fiscal Commitment and Contingent Liabilities (FCCL) Framework, which is built on both quantitative and qualitative (option pricing model and Monte Carlo Simulation⁶) methodologies to evaluate risks arising from PPPs. The FCCL assessment is undertaken in two stages: i) feasibility stage to review risk allocation, affordability and sustainability; and ii) negotiation stage prior to contract award to review the variation in risks between GCA estimates and market feedback. The PDMO is required to publish all PPP FCCLs in the Annual Debt Report and the Medium-Term Debt Management Strategy.

iv) Transparency and disclosure – The program has strengthened the enabling environment by emphasising the development of transparency and disclosure practices. The PPP disclosure portal provides considerable literature on the existing PPP processes and all non-confidential information related to PPP projects. The PPP Unit is mandated to act as a central repository of PPP projects and undertake continuous monitoring and comparative assessment (ranking) of PPP projects.

³ PPP Program status report, PPP Unit Kenya <https://pppunit.go.ke/wp-content/uploads/2018/10/Kenya-PPP-Pipeline-Status-Report-September-2018.pdf>

⁴ As of June 2017, <https://www.gtai.de/GTAI/Content/DE/Trade/Fachdaten/PRO/2017/07/Anlagen/PRO201707075012.pdf?v=1>

⁵ The APMG PPP Certification Program is an initiative of the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IDB), the Islamic Development Bank (IsDB), the Multilateral Investment Fund (MIF), the World Bank Group and the Public-Private Infrastructure Advisory Facility (PPIAF), to provide infrastructure practitioners with a definitive credential demonstrating alignment with international PPP good practice.

⁶ The Monte Carlo Simulation is a technique used to understand the impact of risk and uncertainty in financial, project management, cost, and other forecasting models.

PROJECT PREPARATION LANDSCAPE

Project preparation activities are decentralised in Kenya, with the line ministries and their agencies and departments responsible for project preparation at both the federal and sub-national level. The steps in project preparation vary between PPPs (guided by the PPP Act 2013) and publicly financed projects. A snapshot of the existing project preparation landscape is summarised below:

Project conceptualisation and planning. The project identification and planning framework in Kenya is guided by a hierarchical planning process managed by the National Treasury (NT). At the federal level, the NT prepared Vision 2030, which sets out long-term development objectives to transform Kenya into “a newly-industrialising, middle-income country providing a high quality of life to all its citizens in a clean and secure environment”. Vision 2030 is implemented through five-year plans (the current plan is the Medium-Term Plan III (2018-2023)), which provide medium-term reform actions and a pipeline of programs and projects to be implemented. The national level plans are complemented by county level plans.

PPP project preparation. The steps in project preparation for PPP projects are guided by the PPP Act 2013 and the PPP guidelines. After the project conceptualisation stage, the GCAs initiate the preparation of project pre-feasibility and feasibility studies. The GCAs submit a list of potential PPP projects along with the pre-feasibility report or a project concept note to the central PPP Unit, which undertakes independent screening and decides on the PPP suitability of the proposal (utilising the standard PPP Screening Tool ⁷ by the World Bank) to finalise a list of projects amenable to the PPP approach. The approved project pipeline is disclosed in the project disclosure portal and the PPP project pipeline report is available on the PPP Unit’s website.

During the feasibility stage, the project appraisal team of the GCAs are responsible for project feasibility studies, with the assistance of external transaction advisors. The feasibility stage requires detailed assessments of socioeconomic impact, financial viability or bankability, affordability, market and risk identification. The PPP projects are assessed and approved, hierarchically, by the PPP Unit, the PPP Committee and the National Cabinet. The feasibility report is submitted to the PPP Unit for approval. The PPP Unit submits the feasibility report to the PDMO within the National Treasury for FCCL approval. The National Treasury, through its PDMO division, conducts an assessment of fiscal risk and contingent liabilities of a project and forwards the recommendations to the PPP Committee for its consideration. In the case of state-owned enterprises (SOEs), to ensure the quality of projects, the feasibility study is reviewed by the Project Committee of that SOE and approved by the Board. The feasibility study is thereafter submitted to the Cabinet Secretary for the line ministry or County Executive Committee member for the relevant county department and forwarded to the Cabinet Secretary, National Treasury or County Executive Committee Member for Finance for independent review and concurrence.

Public investment projects. The public investment projects are largely implemented by the GCAs, which are reviewed and incorporated by the National Treasury as part of the budget preparation process. The project concept notes are submitted during the annual budget cycle, which are reviewed by the NT for linkage to national plans and priorities. Kenya has recently embarked on a comprehensive reform process to strengthen the public investment management framework with the introduction of the Public Investment Management (PIM) Guidelines 2018 (Draft).

⁷ <https://pppknowledgelab.org/tools/tools-assess-whether-implement-project-ppp#ppp-screening-tool>

DRAFT PUBLIC INVESTMENT MANAGEMENT (PIM) GUIDELINES – STRENGTHENING THE PUBLIC INFRASTRUCTURE APPRAISAL PROCESS

The Draft PIM Guidelines⁸ have been recently developed by the National Treasury of Kenya to streamline the use of government resources on projects at the national and county level as part of the reform efforts in public finance management. The PIM Guidelines are expected to play a strong role in strengthening the quality of project preparation, especially for the major publicly financed projects.

The existing public investment management system is constrained by the absence of an effective quality assurance framework, leading to sub-optimal project selection and structuring. There are no standard manuals or procedures outlined for project studies, appraisal or selection, leading to unstructured appraisal and review processes. The absence of an independent review system further constrains the quality of project preparation. Beside environmental assessments carried out by the National Environment Management Authority (NEMA), there is no independent review to challenge project design, assumptions, justifications and costing etc. Further, the administrative overheads (associated with the budget preparation process) and information asymmetry severely restrict the capacity of NT to act as a gatekeeper in project selection. In some cases, the feasibility studies were conducted after the project had been approved, while in other cases, new projects have been misrepresented as ongoing projects to avoid rules which limit new projects.

To address these challenges in public investment planning, the NT introduced the Public Investment Management (PIM) Guidelines 2018 (Draft). The PIM Guidelines bring in standardised processes (national and county level) for the entire project management cycle, including planning, identification, feasibility assessment, approval and budgeting. The guidelines shall be supported by capacity development of the NT and the GCAs. The NT shall be supported by a dedicated PIM unit to support the monitoring and enforcement of the PIM Guidelines. The GCAs shall be supported by Project Committees (dedicated teams within the GCAs) in undertaking the review and appraisal of project preparation documents (such as project concept notes and feasibility studies), followed by submission and coordination with the NT. The project committee shall include the following members: head of the GCA, members

of the planning, GCA and finance departments, and four expert members (with expertise in the project domain). The guidelines also stipulate that the cost of a feasibility study shall not exceed 0.5% of the total project cost and mandate the Accounting Officer to take special permissions from the NT in case the value exceeds this amount.

The investment cycle, as reflected in the Draft PIM Guidelines 2018, comprises of a five-stage process: (i) project identification and planning; (ii) project feasibility and appraisal; (iii) project selection and budgeting; (iv) project implementation, monitoring, and evaluation; and (v) project reporting and disclosure. The guidelines provide a unified process of initiation and preparation of project studies. They also provide standard templates for concept notes and feasibility reports. Projects go through a multi-stage approval based on the size of investment as follows:

- i) Project cost up to Ksh. 100 million⁹ – Only project concept notes need to be prepared. The concept notes shall be prepared internally by the GCAs and approved by the Project Committee.
- ii) Projects above Ksh. 100 million – Concept note and feasibility reports need to be prepared. The concept notes must be reviewed by the NT before initiating the feasibility stage. The involvement of the NT at the concept stage will improve the screening process and assure greater project quality, especially in high-value projects. The National and County Treasuries will be responsible for approving the feasibility report and the inclusion of the project in the pipeline of projects at both the national and county level.
- iii) The project shall also be re-appraised in cases where a project has been in the pipeline for more than three years without budget provision, a change in project scope, an increase in project cost of more than 25% of the original cost, or force majeure.

The interventions envisaged under the PIM Guidelines are expected to strengthen the project preparation standards in Kenya. Some of the immediate outcomes of the guidelines will include strengthening the quality of the project pipeline, mitigating project risks, the standardisation of project preparation processes, improving public sector capacity (in the GCAs and the NT) to plan and deliver on large-value projects, and strengthening transparency and accountability for the portfolio management of public investment projects.

⁸ The draft version of the guidelines was uploaded to the National Treasury portal for citizen's comments in September 2018.

⁹ Approximately US \$978,000, as of December 2018.

3. Guidance for project preparation

Guidance	FRAMEWORK FOR THE MANAGEMENT OF FISCAL COMMITMENTS AND CONTINGENT LIABILITIES (FCCL)
Owner	National Treasury of Kenya
Project development stage	Project feasibility and appraisal
Details	The FCCL Framework was prepared in assistance with the World Bank under the IFPPP project. The FCCL Framework comprises FCCL guidelines and the FCCL technical manual. The FCCL guidelines provide a description of the assessment and approval of FCCLs associated with PPP projects. The FCCL technical manual's objective is to provide a detailed description of the FCCL Framework and methodologies for quantifying risks, and illustrate the use of the long-term fiscal planning tool and template for the project risk matrix.

Guidance	PROJECT DISCLOSURE
Owner	PPP Unit, National Treasury of Kenya
Project development stage	Project marketing
Details	The "Project Disclosure Portal" was launched in 2018 by the Government of Kenya with support from the World Bank, as a push to improve transparency of information on PPP projects. The portal is a digital platform that provides information on multi-sectoral projects at various stages of the PPP lifecycle. It serves as a marketing and stakeholder awareness tool, which provides the rationale for choosing the PPP model as the procurement method, the rationale for unsolicited proposals, scope, project estimated costs, likely sources of revenue and associated project documents. The PPP Unit is responsible for managing the portal. Link for further details: https://pppunit.go.ke/

4. Project case example: Nairobi – Nakuru Mau Summit Highway

QUICK FACTS



VALUE (IN US \$ MILLION)

700



STATUS

**Procurement stage –
RFP evaluation**



PROJECT OWNERSHIP

**Kenya National Highways
Authority (KeNHA)**



SUPPORT AGENCIES

**KeNHA, Government
of Kenya, Intercontinental
Consultants and
Technocrats Pvt. Ltd.**



SOURCE OF PROJECT
PREPARATORY FINANCING

**World Bank funding
through the IFPPP project**

PROJECT BRIEF

The Nairobi – Nakuru Mau Summit Highway is a brownfield project, involving the expansion and improvement of a two-lane road into a four-lane dual carriageway from Rironi in Nairobi to Mau Summit in Nakuru County.

The stretch of road is strategically important to the country and forms part of an international corridor connecting land-locked countries, such as Uganda, Rwanda, Burundi, South Sudan and the Democratic Republic of Congo, to the Port of Mombasa. Considering that this stretch of road was amongst the most dangerous roads on the planet (according to the World Health Organisation), the project studies aimed to re-design the highway to improve the safety, quality and capacity of the road.

The project is being implemented by the Ministry of Transport and Infrastructure, represented by the Kenya National Highway Authority (KeNHA). It is part of the first-mover PPP program, supported by the Kenya Infrastructure Finance Public-Private Partnership (IFPPP) project, which financed the project studies. Feasibility studies included technical studies, financial feasibility, a preliminary environmental and social impact assessment, and a resettlement action plan.

The Government of Kenya (GoK) will levy tolls on users and compensate private players through availability payments.

The Intercontinental Consultants and Technocrats Pvt. Ltd. and its consortium were appointed as transaction advisors to assist KeNHA in the preparation of the project studies, bid management and financial closure of the project. The project has been designed under a 30-year Design-Build-Finance-Operate-Maintain-Transfer (DBFOMT) arrangement. The private concessionaire shall be responsible for the construction, operation and maintenance of the highways, separated into the following segments:

- i) widening of 175km of the A8 highway between Rironi and Mau Summit and turning it into a four-lane dual carriageway, including operation and maintenance;
- ii) strengthening of 58km of the A8-South highway between Rironi and Naivasha, including operation and maintenance; and
- iii) operation and maintenance of 12.43 km of the A8 highway between Gitaru and Rironi.

The concessionaire will be compensated by KeNHA through availability payments linked to performance. The government shall hire a toll operator through a separate contract.

PROJECT TIMELINE

2010	The National Transport Policy identified several policy initiatives for the road sector in Kenya
2012	Kenya Infrastructure Finance Public-Private Partnership (IFPPP) project launched
2013	PPP Act enacted
Feb-15	Intercontinental Consultants and Technocrats Pvt. Ltd. and its consortium hired as transaction advisors
Nov-16	Feasibility study approved and RFQ for the project launched
Feb-17	RFQ submission
July-17	RFP documents issued
April-18	RFP close date
2019	Scheduled financial close

LEARNINGS FOR PROJECT PREPARATION

1. Multilateral assistance was key in the planning and development of the project

The project was developed as one of the strategic roads under the first-mover PPP program for the road sector in Kenya and was supported by the World Bank-assisted IFPPP project launched in 2012. The multilateral assistance program has helped: i) strengthen the enabling environment for project preparation; ii) develop internal public sector capacity; iii) provide project preparatory financing; iv) strengthen the quality assurance standards; and v) facilitate consultations with investors and private stakeholders.

The broader objective of the IFPPP project was to facilitate the establishment of an effective enabling environment for project preparation and identify ways to increase private investment. The PPP Act 2013 and the guidelines developed under the IFPPP project formed the guidance for the transaction advisors, as well as KeNHA, in undertaking the project studies and review. The program also supported the strengthening of internal public sector capacity in KeNHA and the PPP Unit through specific hands-on, skill-based and project-based training. The preparatory studies for the project were financed by the World Bank facility, which helped KeNHA to hire quality transaction advisors to undertake the project studies. The World Bank is also playing an important role in engaging with the potential investors to expedite financial close.

2. Project structuring to facilitate the deepening of local financial markets

The depth of the financial markets is often cited as an important indicator of the maturity of a PPP market, as well as the quality of the project preparation in a country, especially because of the high-quality standards prescribed by the financial markets. The project was developed as part of a broader objective to draw in long-term finance from local investors to finance the project under the Maximizing Finance for Development (MFD) approach¹⁰. Under the approach, the project and broader ongoing engagement aim to promote capital market solutions to crowd-in local financiers into infrastructure PPP projects to create a fiscally sustainable way to finance PPPs.

¹⁰ The Maximizing Finance for Development (MFD) approach is the World Bank Group's approach to systematically leverage all sources of finance, expertise, and solutions to support developing countries' sustainable growth, in line with the Sustainable Development Goals (SDGs).

In line with this approach, the project structure and the preparatory documents included specific incentives for the provision of local currency financing for the project, such as the provision of the availability payment model and positive scoring for bidders who indicate a lower proportion of the availability payment indexed to foreign currencies. Additionally, the World Bank's International Development Association (IDA) Payment Guarantee and possible Loan Guarantee to backstop the availability payment of the GoK for the project improved the attractiveness of the project to local institutional investors.

3. Communicating the government's strong commitment towards the project to the market participants and incorporating their feedback to enhance project bankability

The project received strong commitment from the Government of Kenya, due to the project's alignment with the national and sectoral plans, as well as its categorisation under the first-mover PPP program. The government's strong commitment to the project is manifested in the support mechanisms and risk management practices promoted under the project structure. The central PPP Unit and the project agency (KeNHA) undertook active market engagement during the feasibility and procurement stages, which helped them identify the key areas of concern with respect to project structure and risk allocation. The inputs received during the early stages, related to the technical, financial, key risk allocation and legal aspects of the project, were also communicated through separate one-on-one Competitive Dialogues (CD) with each bidder during the bidding process.

Two specific areas of government intervention include the management of foreign exchange risk and toll collection risk, which were critical to drive investor participation. The government provided upfront support to undertake local currency inflation risk, exchange rate risk and local currency interest rate risk on the roads PPP projects through the payment mechanism in the concession agreements. Being one of the earliest toll road projects in the country, the project also had substantial toll risks. The local

investors who were consulted flagged concerns associated with the enforcement of toll collections and the general demand risks. To address these concerns, the Government of Kenya established a multiple level structure for supporting debt repayment: i) a ring-fenced National Toll Fund will be created to collect the tolling revenue from road PPP projects; ii) the deficit between the toll revenue and service payments shall be filled by the GoK; and iii) the World Bank's IDA and payment guarantee. The government also made it clear that it was committed to levying the toll on users and no free alternative routes would be offered.

4. Standardisation of project preparation processes to rationalise project preparation costs, and use of parameters for assessing project design options

The Ministry of Transport, Infrastructure, Housing and Urban Development, through its first-mover road PPP program, identified five strategic priority road sector projects. One of the objectives for choosing various projects under a single program was to standardise project preparation to enhance public sector capacity and rationalise project preparation costs. Therefore, all the projects were structured as availability projects with no transfer of revenue risk to the private party. Further, a standardised risk allocation and tender documents were prepared with the necessary project-specific variations.

During the feasibility stage, the international consultant undertook a comparative assessment of around twelve alternative alignments through subjective parameters including lifecycle cost, engineering challenges, resettlement impact, environmental sensitivity, and land acquisition need. The alignments were given scores based on each of the parameters as follows: 0-10: Low; 10-20: Medium; 20-30: High; and 30-40: Very High. The alignment with the maximum aggregate score and that which offers the lowest land acquisition was considered for the final design.

Korea

1. Noteworthy practices for project preparation



ENABLING ENVIRONMENT FOR PROJECT PREPARATION

Clearly defined policy framework for government support, and managing market promotion and fiscal risk trade-off in projects

The Government of Korea (GoK) has introduced a range of interventions to support private sector investment in infrastructure. Key support products which aid quality project preparation include the granting of land expropriation rights to the concessionaire, a risk sharing scheme, bonus evaluation points for unsolicited proposals, and compensation of the proposal costs of unsuccessful bidders. While there have been cases of excessive risk transfer to the government in the past, the GoK has been able to evolve through lessons learned to establish clarity and transparency in scheme designs.



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Establishment of a specialised entity for the independent review of project studies

The Government of Korea established the Public and Private Infrastructure Investment Management Center (PIMAC) within the Korea Development Institute (KDI) to serve as an independent reviewer of project studies and advise the line agencies on project implementations. PIMAC acts as a gatekeeper for projects, a capacity building agency and a centre of research. PIMAC enhances the efficiency and transparency of public and private investment preparation and procurement, and also provides consulting services and research to improve related policies and analytical tools.



PROJECT APPROVALS AND QUALITY ASSURANCE

Development and periodic review of quality assurance tools

Project preparation in the Republic of Korea (Korea) is aided by a wide array of tools (largely owned by PIMAC) that are relevant to each stage of project preparation. Key tools for project assessment include the Pre-Feasibility Study (PFS), Re-assessment Study of Feasibility (RSF), Value Engineering (VE) and Re-assessment of Demand Forecast (RDF). The tools were strengthened through a learning-by-doing approach.

VFM check and transparency in managing unsolicited proposals

While unsolicited proposals globally have faced several challenges due to concerns regarding competition and transparency, Korea has been able to make reasonable strides, backed by a positive policy framework. The Government of Korea initiated actions to strengthen the unsolicited project proposal procurement landscape, including a mandatory Value for Money (VFM) assessment for all unsolicited projects (to promote transparency in project selection and early assessment of risks), incentivising the project proponents during bid evaluation, and compensating the losing bidders for the cost of preparing their project bid.

2. Snapshot of project preparation activities

The Republic of Korea (Korea) is considered a pioneer in implementing institutional and process reforms to improve the quality of project preparation.

Korea's focus on project preparation has evolved since the Asian financial crisis of 1997, with greater impetus laid on strengthening public investment management processes. Korea has a long history of private participation in infrastructure starting in the late 1960s. The early period of private investment (1968 to 1994) was characterised by largely piecemeal interventions, which supported about 93 projects costing US \$2.7 billion in private investment. The first major phase of PPPs in Korea started in 1994 with the

initiation of the Private Participation in Infrastructure (PPI) program by the Korean Government under the Promotion of Private Capital in Social Overhead Capital Investment Act. However, the program achieved limited success, especially with the onset of the Asian financial crisis of 1997. The second phase of PPPs in 1999 and the third phase in 2005 were more successful, with a considerable number of projects executed as PPPs, especially in the social infrastructure and transport sectors. The evolution of Korea's PPP framework demonstrates the importance of maintaining a balance between investor demand and fiscal discipline.

EVOLUTION OF INFRASTRUCTURE INVESTMENT MANAGEMENT IN KOREA

Although Korea has sought to put in place institutions to manage infrastructure investments since the mid-1970s, including the creation of the now obsolete Economic Planning Board (EPB) for investment planning and the Deliberative Committee (IPDC) for investment reviews, the major transformational reforms happened in 1994, with the introduction of the Total Project Cost Management (TPCM) system and the Private Capital Inducement Act (PPP Act). Under TPCM, the Ministry of Economy and Finance (MOEF) closely monitors expenditure on large-scale projects. However, the introduction of the PPP Act did not translate into large investments, owing to limited risk evaluation, lack of government support, limited staff experience, inadequate process rigour and limited budgets.

Following the Asian financial crisis, the Korean Government introduced a slew of measures (in 1999) to improve the public budgeting system and removed some of the constraints to the PPP model. Accordingly, the Enforcement Decree of the Budget and Accounts Act established that a

separate Pre-Feasibility Study (PFS) undertaken by the Public Investment Management Center (PIMA) for large projects be made mandatory. In addition, a new PPP law, 'The Act on Private Participation in Infrastructure', was adopted. The Private Infrastructure Investment Center of Korea (PICKO), was created to provide project preparation support, including the preparation of feasibility studies, project reviews, and evaluation. While PICKO was focused on reviving private sector investment, PIMA was created to ensure quality control and independent reviews for large public investment projects.

Momentum in the development of infrastructure picked up further post-2005, following a second amendment to the PPP Act. PICKO and PIMA were merged to form the Public and Private Infrastructure Investment Management Center (PIMAC) under this Act. Since then, the PPI Act 2005 and the PPI Act Enforcement Decree 2005 have provided the overarching legal framework for both public and private infrastructure investments. The PPP Basic Plan and the PPP Implementation Guidelines provide the framework for project preparation and implementation.

INSTITUTIONAL FRAMEWORK

The Republic of Korea has a unified framework for the project preparation of public and private projects. Project preparation takes place largely in the respective line ministries, with the Ministry of Economy and Finance (MOEF) acting as the apex institution for infrastructure preparation. The Public and Private Infrastructure Investment Management Center (an affiliate of the Korea Development Institute (KDI)) serves as a think-tank and capacity development agency providing technical support and guidance for line departments and the MOEF in managing project preparation, procurement and implementation.

Under the PPP Act, a PPP Review Committee (PRC) is organised and managed by the MOEF. The PRC considers matters concerning the establishment of major PPP policies and key decisions in the implementation of large-scale PPP projects. The PRC is composed of the Minister of Economy and Finance (chair), vice ministers of the line ministries in charge of implementing PPP projects, and private sector experts with knowledge and experience in PPP projects.

PROJECT PREPARATION LANDSCAPE

A snapshot of the project preparatory landscape in Korea is summarised below:

Project conceptualisation and planning. At the beginning of every year, line departments prepare a medium-term (five-year) project plan, based on which MOEF finalises its National Fiscal Management Plan (NFMP). The NFMP serves as the planning and fiscal management reference document for line departments to prepare their respective annual budget plans. NFMP 2017-2021 envisages an aggregate expenditure of KRW 2270 trillion (US \$2 trillion), with government spending on infrastructure estimated at KRW 16-20 trillion (US \$14-18 billion).

Project feasibility studies and structuring. This stage may involve multiple agencies, depending on the nature of project assistance. While feasibility studies are managed largely by the line departments, PIMAC plays a significant role in the case of PPP projects and preparatory studies for large projects. In the case of large projects¹, MOEF approval is required before initiating the feasibility study. This MOEF approval is based on the recommendation of the Pre-Feasibility Study (PFS) report by PIMAC. In the case of a PPP project, PIMAC undertakes an independent assessment of the line department feasibility studies through a Value for Money (VFM) assessment. Based on the VFM assessment results, MOEF and PIMAC suggest alternate financing models for maximising benefits. Between 1999 and 2017, PIMAC conducted VFM tests for more than 526 projects and the PFS test for 685 projects.

¹ Projects where the total project cost is more than KRW 50 billion (US \$44 million) and which require central assistance of more than KRW 30 billion (US \$27 million).

Project appraisal and review. The project appraisal and review follow distinct paths under a unified framework for PPPs versus public sector projects. The case for implementing a unified framework has been built based on the successful experiences of the United Kingdom (UK) and Australia. The project selection and structuring of PPPs or projects procured traditionally are determined by the VFM considerations under each model. In this regard, the Government of Korea established a unified and transparent framework for project appraisal based on the independent assessments undertaken by PIMAC. The objective of the study is to compare the VFM levels across both procurement options and select the one with the better value for money. The assessment also helps in the early identification of risks, leading to better project structuring. In the case of solicited projects using public financing, these are part of the budget plan of the line department, subject to approval from MOEF. In the case of solicited projects using the PPP model, project approval is provided by the PPP Review Committee (PRC), chaired by MOEF, where the project size is greater than KRW 200 billion (US \$178 million) or the central government subsidy exceeds KRW 30 billion (US \$27 million). In other cases, the line departments approve the project and notify MOEF and PIMAC. Under the unified framework, PIMAC supports Government Contracting Authorities (GCAs) in two phases: (a) the decision to proceed (outcome of the Pre-Feasibility Study); and (b) the decision to implement, including the choice of PPP versus public investment (according to the outcome of the VFM assessment).

- Pre-Feasibility Studies (PFS) for large-scale projects were introduced in 1999 and formalised in 2006 to improve rigour in project preparation. To be completed within a timeframe of six months, the PFS assigns analytical hierarchy process (AHP) weights to different facets: Economic analysis (35-50%), policy analysis (25-40%), and balanced regional development (25-35%). If the AHP score is ≥ 0.5 , a project is appraised as feasible. The independent review process, with clear and transparent assessment criteria, has helped in the early identification of unviable proposals and has led to significant cost savings. Between 1994 and 1998, 32 of 33 large projects were approved as feasible. Following the introduction of the PFS and stringent guardrails, 434 of the 685 projects reviewed by PIMAC were deemed feasible. The process is estimated to have enabled budgetary savings of KRW 141 trillion (US \$101 billion) to 2017.
- Value For Money assessment – The Competent Authority uses VFM assessment reports as the basis to make a judgement on whether to move forward with the PPP project. The VFM assessment is strongly controlled by PIMAC and supports decision-making at three stages: (i) decision to invest; (ii) decision to implement by PPP; and (iii) formulation of a PPP alternative to present a best practice for implementation. The VFM assessment reports are an important input for the tender evaluation and in negotiations.

Financing project preparation. Project preparatory activities for public and private projects are largely financed by budgetary allocations at the central and sub-national level. In the case of unsolicited projects using PPP financing, the project plan is prepared by the private sector, while the project review is undertaken by PIMAC.

PIMAC – BUILDING QUALITY AND RIGOUR IN PROJECT PREPARATION

The project preparation landscape in Korea has historically been the responsibility of individual line ministries and the relevant agencies. The absence of an independent review process with clear and transparent assessment criteria led to a considerable drain on resources due to unviable proposals. It is within this context that the Government of Korea established PIMAC as a gatekeeper for the independent assessment of projects. MOEF's role in the project preparation

process reflects a process of continuous learning. Created to enable comprehensive and systematic management of both traditional public investment and PPPs, MOEF has progressively adopted tools to strengthen quality assurance standards: Total Project Cost Management (TPCM) in 1994, the Pre-Feasibility Study (PFS), Re-assessment Study of Feasibility (RSF) and Performance Evaluation (PE) in 1999 (post Asian financial crisis), Value Engineering (VE) in 2000, and the Re-assessment of Demand Forecast (RDF) in 2006.

continued...

During this process, PIMAC has supported MOEF by providing rigorous research on enhancing methodologies and tools for quality assurance standards and conducting project appraisals including PFS, RSF, and RDF on large-scale infrastructure processes. The tools were updated periodically by incorporating lessons learned and best practices from project cases.

PIMAC is organised along three divisions, namely: (i) the public investment division, which conducts and manages PFS, supports policy research on public investment management, and manages the Reassessment Study of Feasibility (RSF); (ii) the public-private partnerships division, which formulates PPP Annual Plans and develops PPP guidelines, conducts evaluations of PPP projects, undertakes research on PPPs, and supports the financing and refinancing of PPPs; and (iii) the policy and research division, which supports research on project evaluation methodology, and undertakes capacity building and training, international relations, infrastructure database management, state-owned enterprise (SOE) project appraisal, and assessment of tax expenditure projects.

MOEF and PIMAC have spearheaded the implementation of multiple policy and process interventions to improve the quality of project preparation and thereby reduce wasteful expenditure, including the following:

- *Independent review process for project approval:* PIMAC provides an independent review for project preparation by conducting various studies and evaluations, including the PFS, RSF, RDF and feasibility study and VFM analysis for PPP projects. While the PFS provides an initial filter for project selection, the RSF and RDF reformulate and independently check outcomes of feasibility studies and demand forecasts. PIMAC assembles a multi-disciplinary expert team, along with its in-house staff, for these evaluations. The review leverages PIMAC's multi-sectoral internal know-how and brings in expertise from external experts, including university professors (such as for transportation demand analysis), and private engineering firms (for cost estimation).
- *Stakeholder engagement in project development:* PIMAC's PFS studies are guided by a transparent stakeholder engagement process and follow a 'Five Meeting Rule'. The Five Meeting Rule includes: i) a Progress Check meeting; ii) a KDI 1st Check meeting; iii) a MOEF 1st Check meeting; iv) a KDI 2nd Check meeting; and v) a MOEF 2nd Check meeting. The review includes participation by the MOEF, line departments, PIMAC and field specialists from the private and public sector.
- *Mapping guidelines for preparatory activities:* PIMAC has formulated guidelines for all major project appraisal and approval processes, including feasibility and VFM test guidelines, preparation of Request for Proposals (RfP), tender evaluation, Build Transfer Lease (BTL) project management etc. In a bid to standardise output quality, PIMAC has also prepared standard output specifications by facility (school, military housing, and integrated school facilities), and standard guidelines for PFS in general, for the road and railway sectors.
- *Risk allocation frameworks and cost management:* PIMAC has revised risk-sharing mechanisms, incorporating lessons from the former Minimum Revenue Guarantee scheme, to enhance private interest while rationalising government support. PIMAC also undertakes resource (cost and time) reviews for large projects at each stage of the project lifecycle under its Total Project Cost Management framework.
- *Capacity building program:* PIMAC offers periodic capacity building programs for line ministries, local government officials and technical staff. This includes domestic programs sponsored by PIMAC and the MOEF and global programs by multilateral agencies, and is aimed at inculcating best practices from PPP processes globally.

The efficacy of Korea's policy framework and project preparation processes is reflected in its infrastructure delivery outcomes. From 1999 to 2017, a total of 712 PPP projects have been initiated and the total investment amount of PPP projects was recorded at KRW 108 trillion (US \$66 billion).

3. Guidance for project preparation

Guidance	GENERAL GUIDELINES FOR PRELIMINARY FEASIBILITY STUDIES
Owner	MOEF
Project development stage	Project pre-feasibility stage
Details	<p>The “General Guidelines for Preliminary Feasibility Studies” (hereinafter “General Guidelines”) have served as a basic manual for conducting all preliminary feasibility studies and include the methods and standards for doing so. They comprehensively suggest theoretical and practical ground rules concerning the evaluation of public investment projects. They also serve as a basic manual for standard guidelines in studies on different sectors, such as roads, railroads, ports, culture and tourism, and water resources. Originally studied and established by KDI PIMAC, these guidelines have been owned and managed by MOEF since 2017.</p> <p>Link for further details: https://www.kdi.re.kr/kdi_eng/kdicenter/general_guidelines_for_pfs.pdf http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor12 (in Korean)</p>
Guidance	SECTOR-SPECIFIC GUIDANCE ON PRE-FEASIBILITY STUDIES
Owner	KDI PIMAC
Project development stage	Project pre-feasibility stage
Details	<p>PIMAC, which leads the preparation of pre-feasibility studies in Korea, has prepared sector-specific guidelines for the preparation of pre-feasibility studies in accordance with the General Guidelines for Preliminary Feasibility Studies. It examines the efficiency and appropriateness of a project by reviewing its economic and policy feasibility, as well as investment priorities and optimal investment timing, amongst others. The sectoral coverage is fairly diverse and includes culture and tourism, airports, ICT, medical facilities, roads, railways, ports, dams, and water.</p> <p>The role of PIMAC in Preliminary Feasibility Studies also includes the development and revision of policies and methodologies, as well as the construction of the PFS database.</p> <p>Link for further details: http://pimac.kdi.re.kr/guide/rguide_list.jsp</p>

Guidance	RE-ASSESSMENT STUDY OF FEASIBILITY
Owner	MOEF
Project development stage	Project studies and during implementation
Details	<p>The Re-assessment Study of Feasibility (RSF) is undertaken for projects which have utilised higher than expected cost or time resources, leading to concerns over the validity of the original feasibility study. While the RSF is generally initiated for projects which are in the implementation stage, there are instances when the RSF may be conducted during the preparation stage as well (mainly due to the delay between the finalisation of the PFS/ feasibility study and project approval).</p> <p>The purpose of the RSF is to prevent budget waste and to improve fiscal management efficiency by transparent and fair decision-making through the objective and neutral investigation of the validity of a large-scale government project.</p> <p>Link for further details: http://pimac.kdi.re.kr/guide/vguide_list.jsp http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#libGcolor1 (in Korean)</p>

Guidance	GUIDELINES FOR TOTAL PROJECT COST MANAGEMENT (TPCM)
Owner	MOEF
Project development stage	Project studies and approval
Details	<p>The purpose of these guidelines is to enhance the efficiency of fiscal spending by reasonably adjusting and managing, by each project phase, total project costs of large projects funded with the national budget or funds under Article 50 of the National Finance Act and Articles 21 and 22 of the Enforcement Decree of the same Act.</p> <p>The term “total project cost” in these guidelines means all costs and expenses during the lifecycle of the project. The TPCM guidelines cover the following phases:</p> <ul style="list-style-type: none"> Phase I – Project Conception Phase II – Preliminary Feasibility Study Phase III – Feasibility Study and Establishment of Basic Plan Phase IV – Basic Designing Phase V – Engineering Design Phase VI – Awarding and Execution of Contracts Phase VII – Construction <p>The guidelines include general directions on each of the project assessment tools utilised by line GCAs and/or PIMAC, including PFS, RSF, and RDF.</p> <p>Link for further details: https://www.kdi.re.kr/kdi_eng/kdicenter/guidelines_for_tpcm.pdf http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#libGcolor1 (in Korean)</p>

4. Project case example: Seoul – Jemulpo Tunnel

PROJECT BRIEF

The Seoul-Jemulpo tunnel project is a 7.53 km-long road tunnel project implemented on a Build-Transfer-Operate (BTO) basis below Jemulpo Road, which starts at the Shinwoel Interchange in Seoul. The existing road stretch was constrained by limited space for road widening, which led to environmental concerns, and high fuel wastage, adding to the overall strain on the city's economy.

The Seoul Metropolitan Government (SMG) is responsible as a competent authority for this US \$400 million² project. The project concessionaire was selected through a competitive bidding process. A special purpose vehicle (SPV), Seoul Tunnel Company Limited and others. The project concessionaire was a consortium led by Daelim Industrial Company Limited and others. The proposed tunnel, strategically located in a high-density corridor connecting major cities like Seoul, Incheon and Gyeonggi, was expected to serve more than 60,000 cars while cutting down travel time. The tunnel project will enable the previous congested motorway route to be transformed into a more eco-friendly space which is more accessible to local residents, and includes two to four traffic lanes, parks and bicycle routes. The project shall also include the provision of exclusive green spaces and incorporate neo-urban designs to facilitate placemaking³.

The project was initiated by an unsolicited proposal in 2007 from the private sector to build the underground tunnel. A consortium, led by Daelim Industrial Co., Ltd., was chosen as the preferred bidder for negotiations in 2011 after obtaining the necessary administrative approvals. The project is under construction and will be opened to traffic in 2020.

QUICK FACTS



VALUE (IN US \$ MILLION)

400



STATUS

Under construction



PROJECT OWNERSHIP

**Seoul Metropolitan
Government;
Seoul Tunnel
Company Limited**



SOURCE OF PROJECT
PREPARATORY FINANCING

**Primarily private sector
(unsolicited proposal)**



SUPPORT AGENCIES

KDI PIMAC

² The project cost was KRW 455 billion; Exchange rate considered is 1 KRW = US \$0.00089 as of 7 December 2018

³ Placemaking is a multi-faceted approach to the planning, design and management of public spaces.

PROJECT TIMELINE

○	Jul-07	Project studies submitted by private player
○	2008	Value For Money tests undertaken by KDI PIMAC
○	Jan-11	Notice for Proposal announcement
○	2011	Selection of preferred bidder for negotiations
○	2012	Negotiations for concession agreement by KDI PIMAC
○	2014	Signing of concession agreement
○	2015	Approval of detailed implementation plan and design including Environmental Impact Assessment (EIA)
○	2020	Expected completion of project

LEARNINGS FOR PROJECT PREPARATION

1. Establish transparent procedures to facilitate unsolicited proposals in BTO projects

Korea follows a unified framework for project preparation, with solicited and unsolicited proposals reviewed independently by PIMAC. This helps with adherence to expenditure controls and ensures that the full life costs of PPP projects are taken into account at the project approval stage. Learning from the fiscal challenges arising out of the Minimum Revenue Guarantee scheme, the government introduced rules mandating the preparation of feasibility studies for unsolicited proposal projects.

The project preparation of the Seoul-Jemulpo Tunnel project passed through multiple review stages. Following submission of the project proposal, PIMAC conducted a VFM assessment, undertaken in 2008. As part of the VFM assessment, PIMAC reviewed the cost-benefit analysis of the project, potential government payments, and comparison of the PPP route vis-à-vis public sector financing. Based on the results of the VFM test, the competent authority (the Seoul Metropolitan Government) undertook the decision to move forward with the project as a PPP.

2. Clearly define roles for project stakeholders

Korea has established well-defined roles for each stakeholder in the project preparation stage. The key project preparation stakeholders in the Seoul-Jemulpo Tunnel project include the project proponent (private company), the project owner (the Seoul Metropolitan Government), the apex agency (the MOEF), an independent reviewer (PIMAC) and the Ministry of Environment (for the Environmental Impact Assessment). The steps in project preparation were as follows:

- Preparation of project studies by the project proponent;
- Submission of project studies to the project owner/competent authority;
- Project owner, through the MOEF, requested PIMAC to initiate the Value For Money assessment;
- Results of the VFM assessment and specific recommendation on the project structure (including implementation as a PPP) shared with the MOEF and project owner;
- Announcement of RFPs by the competent authority assisted by PIMAC;

- Selection of preferred bidder and negotiations with the bidder by PIMAC;
- Finalisation of the concessionaire and contract award; and
- Application and approval of detailed implementation plan by the project owner/competent authority.

The sequence of project preparation steps indicates clearly demarcated roles for each stakeholder and project disclosure at each stage, which contributed to the overall efficiency and transparency of the project.

3. Incentivise the unsolicited project proponent during project implementation

Korea has established an innovative mechanism to incentivise the project proponent in the case of unsolicited project proposals. Under this mechanism, there is specific weighting for project proponents using bid evaluation criteria. According to the existing practices, the USP proponent can receive a bonus of up to 10% (of the total evaluation points) if the proposal is not amended by the public agency, and a bonus of up to 5% (of the total evaluation points) if the proposal is amended by the public agency. The level of bonus points shall be decided during the VFM stage.

For this project, the project proponent was awarded a preferential score of 0.5% of total points (50 points in the 1000-point evaluation scale). Additionally, the project proponent was also given a pass-through in the first stage of evaluation and automatically shortlisted for the technical and financial evaluation at the second stage.

4. Maintain independence in project evaluation through the bid process

The Seoul Metropolitan Government initiated a Request for Proposal to allow third party bidders to submit their proposals for the project, which brought transparency to the procurement process, as well as a fresh perspective to design and implementation. Proposals were strongly evaluated on the technical capabilities of the bidders. The bidders' perspective on the preparatory documents were sought and incorporated into the final design and implementation plan. The proposal evaluation was undertaken across two phases – Phase 1 (Pre-qualification) and Phase 2 (Detailed evaluation). During Phase 1, the bidders were reviewed to ensure basic technical qualifications and adherence to the rules stated in the bid documents.

The second stage evaluation is a multi-criteria evaluation with weightings for:

- the construction plan (210 points);
- operational plan (160 points);
- traffic model assessment (150 points);
- creativity in planning and citizen engagement (80 points);
- proposed toll levels (200 points); and
- government subsidy required (200 points) – for a total of 1000 points.

The Seoul Metropolitan Government was supported by a dedicated team to benchmark global best practices in construction management and comparisons of evaluation criteria, scope of work, fee structures, team organisation, scoring of proposals, quality management, safety programs and site supervision practices. The multi criterion evaluation methodology and the phased approach undertaken by the stakeholders were important inputs to strengthening the Detailed Engineering and Design Plan for Implementation (DEDPI).

Following the execution of the concession agreement in 2014, the private and public stakeholders collaborated to strengthen the design, environmental assessments and the citizen engagement processes. While the timing of this collaboration may not be an ideal preparatory practice, especially with the risks associated with environmental approvals, it led to the unintended benefit of greater ownership of the private player and reduced time between the approval of the DEDPI and construction.

5. Innovative citizen engagement methods to improve project branding and equity

With the implementation of the underground tunnel, the Seoul Metropolitan Government (SMG) initiated an innovative idea to transform the existing expressway into an eco-friendly space for citizens. The idea was promoted by the SMG in the Seoul Urban Design competition in 2013 under the theme "Towards Urban Integration". For the competition, the SMG requested design proposals from the citizens on the eco-friendly regeneration of the expressway, Jemulpo-gil, and the adjacent blocks in the west region of Seoul. The initiative helped to discover innovative elements in the project design, and also generated favourable brand equity for the project and its impact on the environment.

Mexico

1. Noteworthy practices for project preparation



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Programmatic approach to project planning and implementation

Mexico promotes a programmatic planning approach, which has helped to create quality in institutions, processes, and financing of infrastructure projects, especially in the core sectors of energy and transport.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

National plans supported by formal agreements for national government–local government coordination

The “Agreements of Coordination Framework” are agreements between national and state/municipal governments, aimed at the alignment of the municipal plans with the national plans and vision, and the promotion of coordination between agencies.



PROJECT PREPARATION FINANCING

Establishment of the National Infrastructure Fund (FONADIN) to support infrastructure financing, preparation and implementation

The role of FONADIN in providing a strong enabling environment for project preparation in Mexico is catalytic. Its functions include coordinating the identification of infrastructure needs and project pipelines, providing advisors to structure projects, project preparation facility support for studies, independent appraisal of feasibility studies and arms-length decision-making. FONADIN focuses on PPPs in highways, ports, airports, the environment, urban mass transportation, water and tourism.



PROJECT MARKETING AND STAKEHOLDER ENGAGEMENT

Robust project transparency standards

The “Mexico Projects Hub” is a unique project marketing tool that provides a snapshot of all the projects in the country at various stages of planning and implementation. The digital platform is considered first of its kind, with detailed information on projects, details of the project lifecycle, and reference documents.

2. Snapshot of project preparation activities

Project preparation activities are decentralised in Mexico, with federal and sub-national level Government Contracting Authorities (GCAs) undertaking them for their respective jurisdictions. While the federal government drove the infrastructure agenda historically, Mexico has embarked on greater decentralisation over the last two decades with the share of sub-national (state) investment in infrastructure increasing from 20% of total investment in the 1990s to around 40% in the 2010s. Mexico's project preparation is categorised by strong public sector capacity, established guidelines, and globally accepted disclosure practices.

Mexico has seen private investment in infrastructure pick up during the late 1980s in sync with Mexico's economic diversification from an oil-dependent economy and falling oil revenues. The country has seen active private participation in infrastructure since the 1990s, starting with the toll roads program, and subsequently expanding to other infrastructure sectors.

The National Infrastructure Fund (Fondo Nacional de Infraestructura, or FONADIN) was established in 2008 to accelerate private participation in Mexico's infrastructure. FONADIN has been instrumental in providing high-quality project preparatory assistance and financing for infrastructure. Today, Mexico is one of the leading economies in Latin America with an established framework for PPP project preparation reflected in a high scoring of 81 out of 100 for 'Preparation of PPPs' under the World Bank's *Procuring Infrastructure PPPs Report 2018*.

INSTITUTIONAL FRAMEWORK

The GCAs at each level of government are responsible for planning, implementing and supervising projects. Project preparation activities are supported by other public institutions, including the Secretariat of Finance and Public Credit (SHCP), the Investment Unit in SHCP, FONADIN/specific sectoral agencies/trusts, the National Development Bank for Public Works and Services (BANOBRAS), the congress (which has final approval for the federal expenditure budget) and the Center of Studies for the Preparation and Evaluation of Socioeconomic Projects (CEPEP) (which provides preparatory financing and project evaluation support).

Among the agencies, the role of FONADIN, in providing a strong enabling environment for project preparation and its established track record in supporting project preparation and implementation, especially in the transportation sector, stands out as a replicable model.

GCAs play a central role in project preparation and are involved in the preparation of the project studies for approval by the relevant authorities. The GCAs are required to prepare a five-year project roadmap, which must be aligned to the national plan. The Investment Unit of SHCP is responsible for the review and approval of project studies (including the cost-benefit analysis and value-for-money analysis) undertaken by the GCAs.

FONADIN's role in project preparation includes the financing of preparatory studies, providing support to sectoral plans and building rigour in project identification, project evaluation, appraisal and approval processes. FONADIN supports both economically viable projects and projects that may be less economically viable but have a desired social impact.

FONADIN also provides financing and technical support through advisors for the planning, design, construction and final transfer of projects developed through private sector participation. FONADIN focuses on PPPs in sectors such as highways, ports, airports, environment, urban mass transportation, water and tourism.

Mexico has followed a programmatic approach to project planning, especially in the transport and energy sectors, which has yielded transformational service delivery impact. Specific programs are designed to meet the medium- to long-term objectives laid out under the national and sectoral plans. The programmatic approach has also created institutional capacities, either within the existing department or external to the departments (for example, FONADIN and PROTRAM), and streamlined the project preparation and review processes. Select examples include the toll road program, renewable energy program, and urban mass transit program.

MEXICO'S REFORMS AND RENEWABLE ENERGY SUCCESS

Mexico's renewable energy program is shaped by its General Climate Change Law, which affirms Mexico's commitment to increase clean energy generation to 35% of total generation capacity by 2024 and 50% by 2050. The solar program benefitted from reforms enacted in 2014, which introduced competition in generation and helped to create an independent grid operator (CENACE), enabling customers to purchase power directly from generators.

Three long-term auctions managed by SENER during 2016 and 2017 have created renewable capacity of 20 TWh with an investment of US \$9 billion. Together, these auctions helped Mexico to procure power at internationally low prices; solar power at US \$19.70/ MWh and wind power at US \$17.70/ MWh.

PROJECT PREPARATION LANDSCAPE

Project preparation activities are championed by the GCAs, which are actively involved in project preparation from conception to procurement.

Project conceptualisation and planning. The National Development Plan (NDP) and the national infrastructure program, prepared by SHCP, serve as guidance documents for infrastructure development. The GCAs prepare sectoral plans in line with the NDP. Mexico has also established an "Agreements of Coordination Framework" that formally binds the federal government and the sub-national governments to promote alignment in project planning and promote greater coordination among sub-national government agencies.

The project prioritisation in the NDP is based on various considerations including socioeconomic benefits, impact on extreme poverty, regional development, and alignment with other investment programs and projects.

Project studies and structuring. While project feasibility studies are largely handled by GCAs, project structuring involves multiple stakeholders, including the project financing entities (FONADIN, Investment Unit of the SHCP, Federal Mass-Transit Support Program (PROTRAM) etc.). In the case of PPPs, the Investment Unit under the Ministry of Finance issues guidelines applicable to PPP projects in terms of registry, social cost-benefit assessment, convenience and value-for-money as a PPP.

Project appraisal and review. With respect to PPPs, the GCA prepares a business case for the project, which includes cost-benefit analysis, feasibility assessment, environmental and social assessment and value-for-money analysis. In the case of viable projects, the GCA is only required to get a binding opinion from the Investment Unit.

On the other hand, if the projects require federal budgetary support, specific approvals are required from the Investment Unit of the SHCP. All projects that would require support from the government budget at the federal level are reviewed and approved by the Inter-ministerial Commission of Public Spending, Financing and Divestiture for incorporation into the federal budget, which is then approved by the congress.

Project preparatory financing. Mexico does not have a national level project preparation facility. Preparatory studies are either financed under the respective budgets of GCAs at the federal and sub-national level, multilateral development facilities (including the Inter-American Development Bank (IDB) and the World Bank) or from project preparation funds managed by FONADIN.

Project disclosure. The "Mexico Projects Hub" serves as a database of investment projects and assists domestic and international investors to identify investment opportunities in Mexico. The Investment Unit of the SHCP also maintains a portfolio of investment programs and projects, which captures information on all projects under various stages of preparation. The procurement-specific aspects of projects are managed through an online portal called "Compranet", which promotes transparency, market competition and efficiency in the procurement of PPPs.

FONADIN'S ROLE IN STRENGTHENING PROJECT PREPARATION

The federal government established Mexico's National Infrastructure Fund (Fondo Nacional de Infraestructura, or FONADIN,) which is managed by the National Development Bank of Mexico (Banco Nacional de Obras y Servicios Públicos or BANOBRAS), the country's leading lender to infrastructure. FONADIN is an independent trust fund responsible for coordinating the financing and development of infrastructure projects (especially PPPs) in highways, ports, airports, the environment, urban mass transportation, water and tourism.

Currently, FONADIN is one of the most important conduits for PPPs in Mexico. FONADIN provides financing and technical support for the planning, design, construction and final transfer of projects developed through private sector participation. FONADIN was capitalised by transferring assets from the Fund for Support of Rescue of Highway Concessions (FARAC) and Infrastructure Investment Fund (FINFRA). As of the end of 2016, FONADIN has cumulatively supported 117 projects with almost US \$8 billion in investments, of which 44% was non-refundable, mobilising a total of US \$25 billion, mostly in highways (51%).

FONADIN has played a catalytic role, primarily in transportation project preparation, through (i) the financing of preparatory studies, (ii) providing support to sectoral plans and (iii) building rigour in project evaluation, appraisal and approval processes.

Prior to its establishment, government agencies faced several challenges in project preparation, such as:

- limited focus on national plans and a multi-year planning horizon;
- quality constraints on feasibility studies, leading to arbitrary traffic forecasts (overstating traffic numbers) and stress on public finances;

- absence of standardised guidance and weak oversight processes, which led to quality challenges in project preparation;
- institutional capacity constraints in the public sector to undertake adequate project preparation, including limitations in appropriate design, cost and demand forecasts, as well as weak appreciation of risk issues and their management;
- most preparatory activities being driven largely through inadequate budgetary allocations, as there was limited access to project preparation financing and technical assistance facilities;
- limited appreciation of project preparation. Originally the objective was to maximise PPP participation. However, there was an inadequate focus on the preparatory aspects, leading to many of the projects not achieving financial close. Furthermore, inadequate time was provided for advisors appointed to undertake project due diligence and feasibility assessments; and
- absence of a specialised entity that had the right resources and could enhance project preparation quality.

FONADIN provides financing for preparatory studies for infrastructure projects through two facilities: (i) recoverable or part-financing (for profitable projects) through a credit line for up to three years, covering 70% of the project preparation costs, and (ii) non-recoverable support (for socially important but less profitable projects) through grants, covering up to 50% of expenses.

The following conditions should be met by the project to seek project preparation funding from FONADIN: (a) have private participation; (b) be procured through competitive bidding; and (c) have a partial or full source of repayment.

continued...

Key highlights of FONADIN's interventions include:

- **Support to the National Infrastructure Program**—one of the major objectives of FONADIN is to support the implementation of the multi-year National Infrastructure Program, which is a six-year roadmap for infrastructure development prepared by SHCP. FONADIN provides technical and financial support for line departments and agencies in preparing the sectoral plans and project planning.
- **Strengthening sectoral focus through targeted programs**—many of FONADIN's projects are under major sectoral programs that incorporate PPPs in Mexico. These include the toll roads program (PROMAGUA), the water operators' modernisation program (PRORESOL), a municipal solid waste program, and the federal urban mass transportation program (PROTRAM).
- **Approval process and quality control**—FONADIN's detailed operational guidelines elaborate on eligibility criteria, project preparation, quality review and approval processes, such as:
 - *Project preparation*: FONADIN's Business Unit supports GCAs to identify and prepare projects. This covers all activities related to identifying projects and conducting the studies required, including pre-feasibility studies, feasibility studies and project structuring.
 - *Project review*: The Studies and Technical Evaluations Unit reviews the financing proposals prepared by Business Units, requests changes, makes adjustments, and issues a technical report, which it submits to FONADIN's Sub-Committee for Evaluation and Financing.
 - *Project approval*: The Technical Committee reviews the technical and financial aspects of the project, considers the observations and recommendations by the Sub-Committee for Evaluation and Financing, and approves or rejects the project.
 - **Enhancing institutional capacity for project preparation**—FONADIN has a multi-tier project oversight, review and approval system with a judicious mix of government representation, banking and financial sector expertise, as well as subject-matter private sector expertise. For instance, the Sub-committee on Evaluation and Financing is chaired by the Ministry of Finance and comprises of members including the Director of the Public Credit Unit and Investment Unit in the Ministry of Finance, three representatives of the private sector who specialise in infrastructure (two must come from academic institutions and one from a civil society organisation), and one representative each from BANOBRAS, the Ministry of Public Administration and the division of BANOBRAS that manages the FONADIN trust.

FONADIN has supported over 50 studies for various programs and projects authorised to receive financing for preparatory studies and transaction advisory support. These include projects across several sectors including highways, the environment (including energy and waste management), urban transport, water, airports, ports, gas pipelines, and other social sectors including hospitals.

FONADIN's website reports an authorised financing of over US \$320 million in preparatory studies for infrastructure projects.

3. Guidance for project preparation

Guidance	PPP MANUAL
Owner	Secretariat of Finance and Public Credit (SHCP)
Project development stage	Project preparation and approval
Details	<p>The PPP Manual provides overall guidance on the steps to carry out a PPP project. It serves as a guide to the public and private sector stakeholders on the methodologies to be followed, and the key steps in project documentation that must be followed by each entity involved in project preparation.</p> <p>It sets rigorous risk-assessment standards and describes in detail the steps in the preparation and presentation of i) the socioeconomic evaluation, ii) the eligibility criteria, iii) the risk analysis, iv) the public-private comparator and v) Value for Money analysis.</p> <p>Link for further details: https://www.gob.mx/shcp/documentos/manual-con-las-disposiciones-para-determinar-la-rentabilidad-social-y-la-conveniencia-de-llevar-a-cabo-un-proyecto-app</p>

Guidance	MEXICO PROJECTS HUB
Owner	BANOBRAS
Project development stage	Project marketing and disclosure
Details	<p>The Mexico Projects Hub is an initiative of the Mexican Government, managed by the National Bank for Public Works and Services (BANOBRAS). The Projects Hub is a web-based platform providing information on infrastructure and energy projects that require financing from the private sector. The platform also allows the user to browse information on projects according to their needs and access a factsheet of every project in the platform, including its status and additional data provided by the sponsors. Likewise, the user can access additional information to have a broader understanding regarding the way projects are implemented in Mexico, as well as domestic and foreign documents related to planning, procurement and the execution procedures of infrastructure projects and their legal framework.</p> <p>The overall aim of this platform is to increase potential domestic and foreign investors' awareness of the country's infrastructure, thereby encouraging long-term financing for infrastructure.</p> <p>Link for further details: https://www.proyectosmexico.gob.mx/en/home/</p>

4. Project case example: Transport Integrated System (SIT) OPTIBUS – Leon

PROJECT BRIEF

Transport Integrated System (SIT) Optibus is one of the earliest mass transit projects in Leon, Mexico. The project was developed as part of the broader Transport Master Plan of 1998 and is an example of close coordination between the local and federal government.

In a bid to strengthen the public sector capacity of local governments, the Government of Mexico established a Directorate of Mobility, under the Municipality of Leon, to drive the project planning, regulation and monitoring. The project was prepared and implemented in five phases (to date), starting in 2003. The operations under the first phase were managed through 13 different concession agreements, including a centralised fare collection (Pagobus) activity and an operational management activity. The project was implemented across four distinct phases:

- *Phase 1* of 26 km completed in 2003; Serves approximately 39% of the city's transport users
- *Phase 2* of 4 km completed in 2010; Serves approximately 60% of the city's transport users
- *Phase 3* of 5 km completed in 2016; Expected to serve approximately 80% of the city's transport users
- *Phase 4* of 5 km completed in 2016-17; Expected to serve approximately 85% of the city's transport users (523,000 trips per day)

While the project preparation practices during Phase 1 and 2 reflected the success in integrating the stakeholders into a single unit, the subsequent phases were prepared with higher levels of scrutiny and a favourable enabling environment (post PROTRAM).

The case study tracks the project preparation activities during the first phase and its evolution across the subsequent phases.

QUICK FACTS



VALUE
(IN US \$ MILLION)

60



STATUS

Operational



PROJECT OWNERSHIP

Municipality of Leon,
SEDESOL



SOURCE OF PROJECT
PREPARATORY FINANCING

Budgetary funds,
GEF, PROTRAM



SUPPORT AGENCIES

PROTRAM, World Bank,
SEDESOL

PROJECT TIMELINE

1993	Transport State Law 1993 – Decentralisation of transport functions
1994	Transport Coordination Entity (TCE) – partnership of 13 bus companies
1995	Route reorganisation study
1997	Establishment of the Directorate of Transport of the Municipality of Leon
1999	Technical team appointed to undertake project studies – LOGITRANS as technical consultants
2002	Construction of Phase I
2003	Operations of Phase I
2006-07	Initiation of preparation of Phase II under retroactive financing by Global Environment Facility
2009	Establishment of PROTRAM under FONADIN
2010-14	Preparation of Phase III and Phase IV studies under PROTRAM
2010	Initiation of Phase III studies
2016	Operation of Phase III and IV

LEARNINGS FOR PROJECT PREPARATION

1. Integrated approach to project planning

The project identification and phasing were undertaken based on a comprehensive assessment of mobility patterns in the city and long-term considerations. While the Integrated Transport Plan of 1988 (Plan Integral de Transporte Urbano de León – PITUL) served as the mobility plan for Phase I and II, the Integral Sustainable Mobility Master Plans (Plan Integral de Movilidad Urbana Sustentable – PIMUS) served as the guidance for subsequent phases. The PIMUS preparation was grounded in a comprehensive analysis of the existing mobility systems, including road networks for public and non-motorised transportation and parking facilities in a specific planning area, in order to define strategies which prioritise and promote sustainable transportation.

The Municipality of Leon went a step ahead in mobility planning with the preparation of a vision for sustainable mobility under the Vision 2040 – Strategic Plan for Urban Territorial Planning.

2. Strengthening public sector capacity and clarity in delegation of powers, accountability and targeted capacity building actions.

Appreciating the need to create capacities for project management, the Government of Mexico initiated a range of actions including institutional reform actions and capacity building initiatives.

- *Institutional reform* – The project preparatory actions highlighted the need for project management by the local government instead of a state or federal entity. The State Transport Law 1993 started the decentralisation of transport activities to local government, followed by the agreements for the transfer of functions in 1995. Finally, the State Transport Law 2002 provided clear operational control for the local governments in transport planning, regulation and control. The Government of Mexico also established a separate Directorate of Mobility of the Municipality of Leon (within the Secretariat of Sustainable Development of the municipality) to strengthen the capacity of the local government in project planning and implementation. The staff of the secretariat include technical, environmental and social sector experts.

- *Capacity building* – The project preparation was also supported by targeted capacity building initiatives across each of the phases. The capacity building initiatives in Phase 1 were facilitated by the Municipal Planning Institute IMPLAN (established in 1994) and targeted programs for technical training. During the subsequent phases, the government also leveraged the World Bank Global Environment Facility (GEF) and PROTRAM funds to provide specific training for the local government staff and other civil servants in project planning and technical understanding.

3. Stakeholder engagement to facilitate private sector ownership

The bus transport model prior to the implementation of the BRT system faced several challenges due to the prevalence of “hombre-camion” models¹, wherein private bus ownership was dispersed, leading to management challenges, negative externalities, oversupply and unfavourable working conditions. The transformation of the individual companies into consolidated transport companies led to the professionalisation of operations. Specific routes were consolidated, and each private stakeholder became a shareholder in the new entity. The consolidation of transport stakeholders has been one of the critical reasons for the success of the network. The success of the model can be attributed to the clear and transparent selection process to facilitate the transformation in ownership, and the leadership and trust associated with the key officials in the Secretariat of Social Development (SEDESOL) and local government.

4. Quality of external consultants critical to the success of specialised projects

The Leon BRT system was one of the first mass transit systems in Mexico and hence, the local capacity and understanding of the technical aspects of the project was limited. The initial route reorganisation studies conducted in 1995 by the departments were largely inadequate in meeting the requirements of a mass transit system. Consequently, in 1999, Brazil-based consultant LOGITRANS was selected as the technical consultant to undertake the detailed technical design and operational planning. The consultants brought in deep expertise and knowledge of developing BRT systems in other countries including Curitiba, Brazil and TransMilenio, Colombia. The project was also able to engage a high-quality advisory team for the subsequent phases, supported by dedicated funding under PROTRAM and GEF, which helped to attract quality transaction advisors for project preparation.

5. Programmatic approach to project preparation with strong appraisal standards and a dedicated source of funds helps drive economies of scale and project quality

Learning from the success of BRT projects in Leon, Guadalajara and Mexico City, the Government of Mexico established a country-wide plan to scale up mass transit projects, with the establishment of PROTRAM under FONADIN. The feasibility and technical studies under Phases 2, 3 and 4 were supported by PROTRAM (Phase 2 studies were retroactively financed by GEF), by leveraging its own funds, as well as funds from GEF. A programmatic approach (under PROTRAM) helped strengthen the project preparatory environment and also helped in scaling up mass transit projects in Mexico.

¹ A transport model whereby bus facilities are highly fragmented and owned by private individuals.

MEXICAN FEDERAL MASS TRANSIT PROGRAM (PROTRAM)

Learning from the initial success of select mass transit projects, the Government of Mexico created a Federal Mass Transit program (PROTRAM) in 2009 within FONADIN to drive scale and efficiency of the sector in line with its objective of low-carbon growth. PROTRAM's role includes the financing of preparatory studies and investing in mass transit projects through grants and loan guarantees.

PROTRAM ensures quality in project preparation through the following areas of assistance:

- **Strong guidelines for project selection**—PROTRAM follows strict eligibility criteria for project preparation and implementation. In the case of project preparation, the projects selected have to be aligned with the Integral Sustainable Mobility Master Plan (PIMUS). The projects supported by PROTRAM should also meet climate change considerations and emission standards. Additionally, the project concept note must include a preliminary assessment of supply and demand analysis and cost-benefit analysis, commitment to private sector participation, and minimum population criteria.
- **Availability of a dedicated and sustainable source of project preparation financing**—PROTRAM is funded by national toll road revenues and financed partly by MDB loans from the World Bank and the Inter-American Development Bank. The program supports the development of project preparatory studies including mobility planning, demand-supply assessment, and technical studies for project preparation. PROTRAM offers grants to sub-national governments to cover up to 100% of study costs and 50% of infrastructure costs for public transport projects that meet certain criteria (the city must have a population of at least 500,000).
- **Superior quality assurance standards**—The project appraisal and review standards for the approval of project studies, set by PROTRAM, are stringent and involve multiple stakeholders. PROTRAM is supported by the Center for Sustainable Transport Mexico (CTS-Mexico), which serves as the technical arm of PROTRAM, in charge of reviewing the technical and financial feasibility studies, project designs and other preparatory documents. PROTRAM undertakes a two-stage approval process – the first stage review is conducted by the Consultative Working Group (GTC) in PROTRAM, followed by final approval from FONADIN's Technical Committee (CT). The GTC analyses projects from the technical, social, environmental, and financial viewpoints to determine the basic feasibility of projects presented to PROTRAM by the cities. The GTC involves representatives from SHCP, the Secretariat of Communications and Transportation (SCT), the Secretariat of Social Development (SEDESOL), the Secretariat of Environment and Natural Resources (SEMARNAT), BANOBRAS, and FONADIN, who participate as consultant advisers. The detailed process of approval is provided in the fund guidelines.
- **Institutional strengthening**—Support in capacity building initiatives for the local government related to planning, regulation and administration of integrated urban public transport systems.

The Mexican Government has also established a National Urban Transport Transformation Program (UTTP), to focus on other types of urban transport projects, including non motorised transport, such as bicycle and pedestrian projects. As of April 2017, the PROTRAM pipeline included 42 mass transit projects, which included 19 projects with authorised financial support, eight projects under evaluation and 15 projects in the preparation phase.

The detailed guidelines are provided in the following portal: http://www.fonadin.gob.mx/wp-content/uploads/2016/08/Lineamientos_Programa_Transporte.pdf

Netherlands

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Distinct agencies to oversee the design of policy for infrastructure development and its implementation

In the Netherlands, the policy and implementation functions are housed under separate distinct entities. While the Ministry of Infrastructure and Water Management (MIWM) oversees the drafting of policies for infrastructure development, project preparation and procurement is undertaken by Rijkswaterstaat, the implementing agency of MIWM. Rijkswaterstaat is responsible for the construction and maintenance of the main roads network, the waterway network and major water systems.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Using a broad-based approach to identifying and conceptualising projects

Under the Multi-Year Programme for Infrastructure, Spatial Planning and Transport (MIRT), project initiation entails incorporating all aspects of spatial planning and mobility management to design solutions to the country's infrastructure challenges. As an illustration, to address the daily tailbacks problem on a major motorway in the Netherlands, the MIWM explored solutions such as promoting the use of cycling in the province and building an express bicycle connection along the motorway.



PUBLIC MARKETING AND STAKEHOLDER ENGAGEMENT

A project development framework that centres on increasing stakeholder collaboration and cooperation

Active stakeholder engagement is central to the MIRT framework for project development. All stages of the MIRT process encourage a collaborative approach to project preparation, from project initiation in the 'exploration phase', which is supported by conducting multiple stakeholder consultations through political and administrative meetings, to ensuring that stakeholders provide input to the feasibility of the project under the 'plan exploration phase'.

Transparent disclosure of projects under development through the MIRT portal

The MIRT framework mandates that all projects are actively monitored by the MIWM, with updates published on a real time basis on the MIRT platform and also published in MIWM's annual MIRT Overview document. Furthermore, all decisions taken for MIRT projects are presented to the Lower House of Parliament on a periodic basis, along with progress updates on project development.

2. Snapshot of project preparation activities

INSTITUTIONAL FRAMEWORK

Public administration in the Netherlands is divided across four tiers: central government, the provinces, the municipalities and the water authorities. Project preparation is considered to be a joint effort of the different tiers of the Dutch public administration framework, in which each tier has a clear responsibility brought together under a unified framework.

Project preparation and development in the Netherlands is governed by procuring authorities, which include local governments, municipalities, and port authorities, amongst others. At the central government level, two agencies oversee and coordinate project development in infrastructure: the Ministry of Infrastructure and Water Management (MIWM) and the Ministry of Finance (MoF).

At the sub-national level, the project preparation and implementation responsibility is managed across the provinces, municipality and water authority.

Ministry of Infrastructure and Water Management (MIWM)

The MIWM oversees policy, implementation and inspection of infrastructure development in the Netherlands. To aid the development of policies, the MIWM houses three directorate-generals, responsible for designing overarching policies for development in the areas of mobility, water management, aviation and maritime affairs and the environment, as follows:

- The Directorate-General for Mobility and Transport (DGB) focuses on the continued development of the network quality of airways, waterways, railways, the road network, harbours and ports.
- The Directorate-General for Spatial Development and Water Affairs (DGRW) looks at integrating spatial development and mobility with the infrastructure and spatial planning vision.
- The Directorate-General for the Environment and International Affairs (DGMI) is responsible for monitoring the environmental impact of policies, projects and programs in the Netherlands.

The MIWM is also assisted by a host of support agencies in infrastructure development, which include:

- Rijkswaterstaat, which is the executive agency of the MIWM responsible for the main road network,

the main waterway network, and the main water systems. It also undertakes project development and implementation on behalf of the MIWM.

- The Netherlands Environmental Assessment Agency (PBL), which contributes to political and administrative decision-making by conducting outlook studies, analyses and evaluations commissioned by the MIWM, other national bodies, and international agencies.
- The Knowledge, Innovation and Strategy Directorate (KIS), which leads the knowledge management and capacity building functions of the MIWM.
- The Council for the Environment and Infrastructure, which is the primary strategic advisory board for the Dutch government and parliament in matters relating to the physical environment and infrastructure. It provides independent advice to the MIWM and the parliament on matters relating to long-term policy for infrastructure development.

Ministry of Finance (MoF)

MoF is responsible for financial-economic policy in the Netherlands, the management of government finances and policy concerning the financial markets. It prepares the annual national budget and presents it to the parliament for approval, which outlines the planned expenditure of all ministries for the ensuing year.

PROJECT PREPARATION LANDSCAPE

The responsibilities for project preparation are decentralised to the respective line departments and sub-national entities, and the Ministry of Finance is responsible for establishing the policy on budget execution, including the normative Design-Build-Finance-Operate-Maintain (DBFOM) policy, monitoring application of the budget execution policy, and providing guidance on cross-project issues.

For large infrastructure projects, the Netherlands has adopted a unique collaborative approach, namely The Multi Year Programme for Infrastructure, Spatial Planning and Transport¹ (MIRT) framework, developed by the MIWM. MIRT comprises infrastructure projects and programs in which the national and regional governments collaborate to find a common solution to specific problems, after conducting analysis from different perspectives and development objectives.

¹ Meerjaren Programma Infrastructuur, Ruimte en Transport

ADOPTING A PROBLEM ORIENTED APPROACH UNDER MIRT – AN EXAMPLE

While a typical solution to tackle the daily tailbacks on a section of the motorway near a big city would be to upgrade the motorway, the Netherlands adopts a more holistic approach. MIWM consults the respective province, the municipalities, and the regional business community, asking about their plans for the area. The province has conducted a mobility analysis of the region and knows that the tailbacks are mainly caused by local commuter traffic. Additionally, the municipality has launched a 'Move Yourself to Health' program and aims to encourage residents to cycle. Together, the parties arrived at a joint ambition: improving mobility between the residential area and the business park and improving residents' health. Following an exploration of several solutions, they decided to implement a solution that involves an express bicycle connection to the business park, in combination with agreements with employers regarding the promotion of cycling and flexible working hours and influencing the behaviour of motorway users in order to improve traffic circulation. The package offers a solution to both accessibility and health issues. In addition, it contributes to the sustainability goal of MIRT, namely to reduce CO₂ emissions.

The MIWM is a participant in all MIRT tracks (project or program). However, other ministries and regional partners may also participate or launch MIRT tracks. Such regional partners may be the provinces, municipalities, transport regions, or district water boards. NGOs and businesses may also participate by providing input to solutions.

In the MIRT framework, the country is divided into five regions², with the central and local governments jointly designing the Area Agenda for each MIRT region. The Area Agenda presents a coherent vision for development in the area. Annually, administrative consultations take place between the central and local governments for discussion on current projects in the region and for making financial and/or administrative agreements where necessary.

² Noord (North), Oost (East), Zuid (South), Zuidwest (South West) and Noordwest (North West) regions

The MIRT process for project preparation

In a MIRT track, the parties work phase-by-phase to substantiate the task in increasingly concrete terms. The MIRT program requires a project to go through four primary phases, with each phase ending with a political-administrative decision – MIRT Study, MIRT Exploration, MIRT Plan Elaboration and MIRT Realisation.

The starting point for every MIRT track is the Initial Decision to launch a MIRT Exploration. MIRT projects can be either implemented through public financing or through PPPs on a standard DBFOM basis. Each year, the MIRT is presented to the Lower House as an appendix to the budget of the MIWM and this provides the necessary political and fiscal commitment to the MIRT. The steps in project preparation are detailed below.

Project initiation and concept definition. The project initiation and concept definition is covered under the 'Plan Study' and 'Plan Exploration' phases of the MIRT framework. The MIRT study phase is conducted to develop a clear and common description of the needs, issues and necessities that the envisaged project must solve. This provides for a common starting ground for the involved stakeholders in the MIRT process of assessment. This phase ends with the Initial Decision, which relates to the choice on whether to conduct a MIRT Exploration. The Initial Decision also stipulates the role to be played by each of the stakeholders and requires that financing sources for 75% of the cost of the most obvious solution are identified.

The exploration phase of the MIRT framework follows a collaborative approach that requires project initiation to start with a series of political and administrative meetings. These meetings are aimed at discussing the development needs of an area, fixing the strategic development goals and the initiatives to meet these goals. Thereby, discussion, collaboration and consensus between important stakeholders is set as a requirement for starting a new project concept. The exploration phases typically comprise the following activities: evaluating the strategic alignment of the proposed concept, options evaluation to assess the benefits and impact of each alternative on the economy, environment and society, and selection of a preferred alternative to undertake the detailed project study. As options are collectively evaluated, the MIRT committee may reach a Preferential Decision to serve as a recommendation for the next phase – Plan Elaboration.

Project feasibility and structuring. The process of preparing detailed project studies under the MIRT framework is governed by the Plan Elaboration phase. At this stage, the identified solution at the end of the exploration phase is then further detailed, evaluating the design, compliance with legal regulations, financial viability and cost benefit analysis and the socioeconomic impact of the project. At this stage, the project study must culminate in a Project Decision to move to procurement and funding approvals. The essence of the project decision is that a final impression of the planning, scope and budget is presented, before the market is approached in the realisation phase.

Project approvals and processes. The Dutch Gateway Review Method is based on the Gateway Program in the United Kingdom. It is housed in the Bureau Gateway in the Ministry of Interior and Kingdom Relations. Since 2007, over 50 high risk projects and programs have been reviewed with very positive results. This is part of the Dutch Government's initiative to improve the management and delivery of high-risk projects by providing an independent confidential assessment and improving the capability of project management skills in government via actively sharing lessons learned. Typical project level gateway reviews include:

- *Gateway 1 - Purpose and justification* is performed at the start of a project to confirm its rationale.
- *Gateway 2 - Preparation and Procurement Stage* is executed once the project approach is firm and seeks to examine whether the project's rationale and the intended results are still demonstrable and desirable.
- *Gateway 3 - Realisation Stage* is executed as soon as the suppliers are formally approached and seeks to verify whether the intended approach will be successful in this realisation phase.
- *Gateway 4 - Readiness for implementation* is performed before the project team transfers its result to the line organisation(s) or just before the implementation phase.

The Gateway Review is not mandatory and is usually performed as a confidential peer review assessment at the request of a manager. The Gateway Review provides an independent view on the current progress of the project or program including observations and recommendations.

How has the MIRT framework streamlined project preparation in the Netherlands?

Good practice guidance on project preparation. Through the former PPP Knowledge Centre, the Netherlands has developed a knowledge base of good practices in developing large infrastructure projects. This know-how has evolved into the sophisticated framework of the MIRT. MIRT project preparation is steered by good practice procedural guidance and tools such as social cost benefit analysis, preparation of business cases, risk management, project governance, gateway reviews etc. that have contributed to successful project execution.

Prescribing a wide base approach for project evaluation. Complex projects benefit greatly from an integrated region-oriented approach to decision-making that cuts sectoral barriers. Through the prescribed Consultations Committee, MIRT helps to bring in varied perspectives on spatial functions, such as transport, residential and commercial development, flood risk management, and environmental impact, into the decision-making process for a project.

Enhanced ownership by all stakeholders.

A consultative approach to project development can often fail unless it is complemented by allocating responsibility for implementation. The MIRT framework requires that all stakeholders involved in the consultation are responsible for ensuring the feasibility of the project by providing financial resources wherever required and enabling implementation through legal and policy interventions. This furthers the broad-based approach, as inputs from multiple stakeholders must be accompanied by 'an intention to work things out together, from start to finish.'

A multi-layered decision-making approach. The MIRT process prescribes a funnelling approach to decision-making, with decisions being taken at multiple phases of project preparation and implementation. For each phase, the framework specifies the nature of the decision to be taken and the process to be followed. This multi-layered approach allows for less optimal solutions to be filtered, along with compelling the Consultations Committee to re-evaluate project decisions at each stage.

Increased transparency and accountability. The MIRT Overview, published on an annual basis as an annexure to the budget, is an informative publication on the state of affairs and the planning of government projects and programs in the MIRT framework. Furthermore, all decisions taken by the Consultations Committee for an area are presented to the House of Representatives, along with progress updates on site visits by members of the committee. MIRT also requires that all projects have a clear vision and well-articulated goals and success factors to enhance understanding.

Creation of a pipeline of bankable projects. Under the five-year planning horizon of MIRT, a pipeline of projects is developed. As projects are filtered through each of the decision stages, the quality of projects in the pipeline is increasingly strengthened – allowing for only viable projects to reach the realisation stage. Information on the project pipeline and its progress is kept updated on the MIRT portal. The phased decision process also provides for reasonable predictability in the planning for the projects in the pipeline.

Extensive capacity building initiatives to coach practitioners on the framework. MIWM has deployed a learning portal, with published guidance documents on the MIRT process, as well as a platform for practitioners to share their experiences and engage in discussions. The ministry also conducts intensive courses on the framework, open to civil servants as well as private experts, along with knowledge meetings and masterclasses on various aspects of the framework.

Gateway review process for quality enhancement. The Dutch Gateway Review process also provides an opportunity for government project managers to enhance the quality of their project preparedness.

3. Guidance for project preparation

Guidance	MULTI-YEAR PROGRAMME FOR INFRASTRUCTURE, SPATIAL PLANNING AND TRANSPORT
Owner	Ministry of Infrastructure and Water Management (MIWM)
Project development stage	Overall project lifecycle
Details	<p>To improve the infrastructure project development process, the MIWM has developed an investment program called MIRT (Multi-Year Programme for Infrastructure, Spatial Planning and Transport). MIRT is an integrated program for the preparation and decision-making process of infrastructure projects. The MIRT program has rules, procedures and a framework—‘rules of the game’ in order to direct how a project initiative that needs state funding should be developed and how decisions on project initiatives should be made.</p> <p>The MIRT program requires a project to go through four primary phases, with each phase ending with a political-administrative decision – MIRT Study, MIRT Exploration, MIRT Plan Elaboration and MIRT Realisation.</p> <p>Link for further details: Overview (in English): https://www.government.nl/binaries/government/documents/leaflets/2018/02/07/the-dutch-multi-year-programme-for-infrastructure-spatial-planning-and-transport-mirt--summary/107287_MIRT_ENG_WEB.pdf</p> <p>Link for further details: Detailed guidance (in Dutch): https://www.leerplatformmirt.nl/over+mirt+nieuw/handreikingen/default.aspx</p>

4. Project case example: Afsluitdijk project

PROJECT BRIEF

The Afsluitdijk (Cut-off Dike) project is a causeway redevelopment plan that was implemented through the PPP model.

The Afsluitdijk is a 32 km-long, 90-metre wide major causeway in the Netherlands stretching from Den Oever on Wieringen in the North Holland province, to the village of Zurich in the Friesland province. The dike was constructed between 1927 and 1933, after the devastating floods of 1916, and over the last 85 years has been a check on the sea level rise and flooding. The dike sluices discharge surplus water from the IJsselmeer Lake to the Wadden Sea at low water levels.

The redevelopment project (of the dike) was initiated in the context of rising sea levels and climate change challenges leading to revised design and structural considerations and enhanced safety standards. The key activities under the project scope include the strengthening of the causeway structure, and guards and sluices (including the lock complexes at Den Oever and Kornwerderzand), increasing the capacity to store and drain water, improvement of the A7 motorway and creating an eco-friendly space for recreational activities.

Rijkswaterstaat is responsible for the overall management of the project. The renewal project was initiated in 2012 and achieved financial close in May 2018. The concession is for a Design-Build-Finance-Maintain (DBFM) contract covering a period of 25 years. The concessionaire for the project is a consortium called Level, which includes BAM PPP PGGM, Van Oord Aberdeen Infrastructure Partners, and the Rebel Group (as financial adviser). The project construction is expected to be completed by 2022.

QUICK FACTS



VALUE
(IN US \$ BILLION)

1.785*



STATUS

Pre-construction



PROJECT OWNERSHIP

Rijkswaterstaat



SOURCE OF PROJECT
PREPARATORY FINANCING

Budgetary allocation



SUPPORT AGENCIES

De Nieuwe Afsluitdijk**

* Budget set aside for the project, Exchange Rate: €1 = US \$1.14 (as of December 2018)

** De Nieuwe Afsluitdijk is a cooperation between the provinces of Noord-Holland and Fryslân and the municipalities of Hollands Kroon, Súdwest-Fryslân and Harlingen (along with citizens, and private sector stakeholders).

PROJECT TIMELINE

○	2005-06	Initial study to assess the safety need of the Afsluitdijk
○	2007	Initiation of project "Future Afsluitdijk"
○	2008-09	Joint market reconnaissance by Rijkswaterstaat and local governments – four integral visions and two reference designs identified
○	2010	Preliminary environmental impact assessment, cost effective analysis of the initial designs
○	2011	Decision on preferred design under the Afsluitdijk master plan
○	2013	Plan elaboration and initiation of preparatory documents
○	2016	Launch of tender for procurement
○	2017	Finalisation and approval of all the phases of the integration plan
○	2018	Selection of preferred bidder – commercial and financial close
○	2023	Scheduled completion of construction

LEARNINGS FOR PROJECT PREPARATION

1. Establishing an integrated project vision maximising service delivery impact

While project preparation practices in most countries are initiated and prepared by the line departments in isolation and are generally targeted at the specific area of concern, the Netherlands, aided by the MIRT approach, facilitates integrated planning elements into the project concept. In the case of the Afsluitdijk project, the Rijkswaterstaat expanded the project objective beyond "improved flood protection standards" to include multiple other smaller sub-projects in line with the aspirations of the citizens. This integrated approach to project planning was detailed under the Afsluitdijk Master Plan, which outlined the strategies for sustainable development of the dike, potential for tapping renewable energy, improvement of service delivery standards and leveraging the unique spatial quality of the region for creating active recreational spaces for the local community. The project also gave due importance to renewable energy projects, especially considering that the primary project objective was driven by climate change considerations (rising sea levels or flooding).

In line with the Master Plan objective, the Rijkswaterstaat, along with De Nieuwe Afsluitdijk, designed multiple components under five broader categories:

- i) Safety – Redevelopment of Afsluitdijk, and strengthening of Den Oever and Kornwerderzand locks
- ii) Water management – Increase the capacity to drain water, solar energy pumps
- iii) Economic activity – Tourist facilities, 'Icon Afsluitdijk', convention centre
- iv) Sustaining Nature – Initiatives for a passage for fish at Den Oever
- v) Renewable energy – Blue energy system³, tidal and solar energy, electric pumps

³ Blue Energy is the technique by which energy is extracted from the difference in the salt concentration of salt and fresh water.

2. Stage-wise planning phase under the broader MIRT framework

The project planning and implementation for the Afsluitdijk project was guided by the MIRT framework and was divided into four stages of decision-making. While the early reconnaissance was undertaken during the period 2008-09, the detailed plan development was initiated in 2012.



The plan development phase for the Afsluitdijk project was further sub-divided into a seven-phase process:

- Phase 1 – Environmental impact report (2013)
- Phase 2 – Draft integration plan, environmental impact report and other design plans (2015)
- Phase 3 – Government integration plan and review of appeals against the plan (2016)
- Phase 4 – Review of the draft decision on the permit/licence on the basis of the Nature Conservation Act (2017)
- Phase 5 – Appeal against the Amendment Decree on the permit/licence issued (2017)
- Phase 6 – Supplement to the government integration plan⁴ (2017)
- Phase 7 – Appeal against the government integration plan and finalisation (2018)

Each phase of development was initiated through a separate notification, followed by the development of a plan sub-component and stakeholder consultations and a specific notification indicating the end of the phase. The preparatory documents at each phase of development were made available for citizen inputs and comments. The project phasing also provided for flexibility in design mid-way through the process.

⁴ Updated to include the spatial integration of solar panels, increasing the passage width of the locks on Kornwerderzand and more space for the construction of pump buildings.

3. Flexibility in project design and implementation for the bidder

While the Rijkswaterstaat's "Rijksinpassingsplan Afsluitdijk" (government implementation plan) serves as the blueprint for project implementation, the government also provides some flexibility in planning and implementation through the introduction of an innovative planning concept – "Oplossingsruimte" (Solution space). The innovative plan provides guidance on the maximum space allotted, general spatial requirements and the conditions for implementation. Under this overall guidance, the bidders were provided the flexibility to provide a detailed elaboration of the design and implementation plan. This gives the concessionaire the space for creativity and the possibility to develop cost-effective design solutions within the overall implementation plan boundaries. Because of this, there is a greater chance of an innovative and more functional design.

The boundaries of the solution spaces are also strengthened through the planning process, starting from an initial rough definition and then tightening along the way. The concept does not lead to dilution of the design or Environmental Impact Assessment (EIA) standards. This innovative structure ushered in a new approach to PPP and relationship management between stakeholders, especially Rijkswaterstaat and the concessionaire.

4. Stakeholder engagement integrated to each phase of project preparation

One of the stand-out factors in the Afsluitdijk project preparation is the range and depth of the consultation process. The regional authorities and the Rijkswaterstaat initiated open consultations with public and private parties to attract as many new ideas as possible. The strategy was aimed at getting 'more value' out of the dike by developing integrative ideas which could add new functions.

The public consultation process was divided into two distinct phases – initial reconnaissance and market survey (joint market reconnaissance by Rijkswaterstaat and regional governments during 2008-09) and the plan development stage (anchored by Rijkswaterstaat with active support from regional governments during 2013-17). Starting with the Afsluitdijk Master Plan, each stage of project preparation involved extensive stakeholder consultations. The consultations during the reconnaissance phase laid the foundation for the wider project design, especially the expansion

of scope beyond "flood protection" functions. The consultations during the plan development phase were designed such that Rijkswaterstaat focused on strengthening the core components (the reinforcement of the dike) and aligned the public consultations with this focus, while the consultations surrounding the other project components were championed by the regional authorities (organised under 'De Nieuwe Afsluitdijk' / New Cutoff Dike).

The consultations during the plan development phase were led by Rijkswaterstaat and incorporated the highest standards in transparency and accountability. More than 17 rounds of stakeholder consultations were conducted during the plan development phase. The project documents and consultation minutes were uploaded in the "Platform Participatie"⁵ portal.

5. Local government and local community ownership backed by innovative citizen engagement methods crucial to sustain project momentum

The initial reconnaissance for the project anchored by a partnership between local government and Rijkswaterstaat brought in ideas for the integrated redevelopment of the dike. The phase also involved a contest to pool-in innovative designs for redevelopment and rejuvenation of the dike and nearby areas. Rijkswaterstaat received inputs from eight consortia on a coherent integral vision on the development of the Afsluitdijk and its surrounding area, including spatial design and technical, legal and financial feasibility. The designs reflected a multifunctional transformation of the Afsluitdijk, combining water safety with nature, sustainability, energy production and tourism. The initial reconnaissance phase helped build promising new ideas and generate favourable brand equity for the project, especially with the local community.

However, the financial crisis and the subsequent government budget restrictions led to the government prioritising and focusing on the redevelopment of the dike. Backed by the strong brand equity generated during the reconnaissance phase, the provinces and municipalities joined together under the program 'De Nieuwe Afsluitdijk' (The New Afsluitdijk, DNA) to drive the broad vision for Afsluitdijk. The DNA played an active role in the development of design and implementation of the project components and also raised funds for project preparation and implementation.

⁵ Link to the portal – <https://www.platformparticipatie.nl/projectenlijst/Afsluitdijk/index.aspx>

The Philippines

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Strong and effective institutional framework, with well-defined and clearly demarcated responsibilities

The Philippines has established a robust institutional set-up to enable effective project development, with each institution playing a specific role. The National Economic and Development Authority (NEDA) is the central planning body of the Philippines that determines the broad socioeconomic parameters for national and sub-national development projects. The NEDA Board, or its Executive Committee, approves large-scale strategic infrastructure projects. The PPP Governing Board, as the overall policy-making body for all public-private partnership (PPP) related matters, helps to create an enabling policy and institutional environment for PPPs in the Philippines. The PPP Center, as an attached agency of NEDA, assists not only during the project preparation activities, but also during the implementation stage of PPP projects.



PROJECT PREPARATION FINANCING

Partnerships with international development agencies to fund project preparation activities and build local capacity

To support project preparation activities for PPP projects, a dedicated project preparation fund, the Project Development and Monitoring Facility (PDMF), has been established, which is managed by the PPP Center. The PDMF is a US \$102 million revolving fund, co-financed by the Government of the Philippines and the Government of Australia through the Asian Development Bank (ADB). The ADB also provides technical assistance and funding support through the Infrastructure Preparation and Innovation Facility (IPIF), a US \$100 million loan to assist the Department of Transport and the Department of Public Works and Highways for undertaking project development. These funds also assist the implementing agencies and the PPP Center to undertake capacity building initiatives like training, process guidelines and good practice manuals for national and local government agencies.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Systematic approach for the preparation of a project pipeline and mapping of project outcomes to the national socioeconomic targets

The Philippines follows a systematic approach to prioritising infrastructure projects, ensuring the appropriate allocation of limited government resources. The NEDA compiles a list of prioritised projects under the Public Investment Program (PIP) at the national level. A subset of the PIP is the Three-year Rolling Infrastructure Program (TRIP), comprising all publicly funded infrastructure projects, which in turn forms the basis for finalising the government's national budget.

Further, projects are evaluated for strategic relevance and mapped to the long-term economic development plan through a defined quantitative framework, known as the Results Matrix.



PROJECT APPROVALS AND QUALITY ASSURANCE

Interdepartmental coordinated support for the evaluation and appraisal of PPP projects

To evaluate PPP project proposals in the Philippines, an interdepartmental committee, the Investment Coordination Committee (ICC), is formed, to bring in cross-functional expertise for project appraisal. The ICC has two levels: the ICC-Technical Board (TB) and the ICC-Cabinet Committee (CC). ICC actions are elevated to the NEDA Board for confirmation. The ICC-TB evaluates all aspects of a PPP project with specific emphasis on each agency's technical expertise. The ICC-TB recommendation is elevated to the ICC-CC for approval. The ICC-TB is composed of senior representatives from the following agencies: NEDA (Chairperson), Department of Finance International Finance Group (Co-Chairperson), and the DOF Corporate Affairs Group, Office of the President, Department of Budget and Management, Department of Trade and Industry, Department of Agriculture, Bangko Sentral ng Pilipinas, Department of Environment and Natural Resources, Department of Energy, and the PPP Center (Members). Other government agencies are invited to participate in the ICC-CC and TB deliberations, as necessary.

2. Snapshot of project preparation activities

During the period 1980 – 2009, the Philippines suffered from underinvestment in infrastructure.¹ To address this, one of the steps taken by the Government of the Philippines was to overhaul the enabling framework for project development and delivery, to support and encourage private investment in infrastructure. The establishment of the Philippines PPP Center along with the Project Development and Monitoring Facility (PDMF) has been central to this transition.

Recognising the contribution of sound project preparation in the implementation of complex infrastructure programs on a large scale, the Philippines has also partnered with international development agencies, such as the Asian Development Bank (ADB) and the Governments of Australia and Canada, to establish dedicated funds for financing and building capacity for project preparation. At the national level, funding for project preparation is supported by the Project Development and Monitoring Facility (co-financed by the Government of the Philippines and the Government of Australia through the ADB for PPP project development), the Project Development and Related Studies Fund (a special purpose fund established under the 2018 General Appropriations Act with an allocation of US \$30 million), and the Infrastructure Preparation and Innovation Facility (a technical assistance loan from the ADB to the Department of Public Works and Highways and the Department of Transportation to strengthen project preparation in the transport sector). These initiatives are encouraging a systematic approach to project identification, assessment, prioritisation and preparation.

INSTITUTIONAL FRAMEWORK

Project preparation activities in the Philippines are decentralised and largely driven by implementing agencies, such as national government agencies (NGAs) and departments, government-owned and controlled corporations (GOCCs) and local government units (LGUs). The National Economic and Development Authority (NEDA) and the PPP Center, in turn, support the implementing agencies, at the national level.

NEDA

NEDA, established in 1972, is the Philippines' central socioeconomic planning body that formulates policies, plans and programs to set the broad socioeconomic parameters for national and sub-national level development. It is responsible for reviewing, evaluating and monitoring infrastructure projects in line with the national development plan. It prepares the Philippines Development Plan (PDP), a six-year plan that details the socioeconomic targets of the national government, and consolidates the Public Investment Program (PIP), a rolling list of priority programs and projects (PAPs) to be executed by the implementing agencies. NEDA also collaborates with regional development councils (RDCs) to prepare the Regional Development Plan (RDP), which adds a spatial dimension to the national development plan by identifying the regional contributions to socioeconomic targets. At the national level, the NEDA Board, which is chaired by the President of the Philippines, serves as the final approving authority² for large-scale public investment and PPP projects in the Philippines.

The NEDA Board, with the assistance of the seven cabinet-level interagency committees³, plays a central role in planning and preparing infrastructure development projects in the Philippines: the Development Budget Coordination Committee (DBCC), the Investment Coordination Committee (ICC), the Committee on Infrastructure (INFRACOM), Social Development Committee (SDC), Committee on Tariff and Related Matters (CTRM), Regional Development Committee (RDCom), and the National Land Use Committee (NLUC).

Development Budget Coordination Committee: The DBCC is responsible for approving the macroeconomic assumptions and economic policy directions for the preparation of the annual national government budget

¹ On average, infrastructure investment as a percentage of the country's gross domestic product (GDP) was 2.1%, and infrastructure development was not on par with the needs of the growing population.

² Pursuant to Section 2.6 – Approval of Projects, of the Revised Implementing Rules and Regulations of Republic Act 7718 – Build Operate Transfer (BOT) Law.

³ <http://www.neda.gov.ph/functions-and-organizations/>

and for the requirements of the PDP. It also advises the President on the approval of the annual government expenditure program and allocating government budget for capital outlay for infrastructure development.

Investment Coordination Committee: ICC reviews the fiscal and monetary implications for major capital projects (MCPs)⁴ and reports the status of these directly to the President. It also reviews and evaluates specific MCPs with respect to technical, financial, economic and social feasibility and submits its recommendation to the NEDA Board for confirmation.

The ICC Technical Board (ICC-TB) cautiously reviews and evaluates public investment programs and proposals and refers the meritorious ones to the ICC Cabinet Committee (ICC-CC) for approval. ICC-TB primarily focuses on advising a project proponent on the various options available in implementing and financing a program or project prior to sending it to the ICC-CC for final approval. The ICC Cabinet Committee (ICC-CC) is the highest executive branch of the ICC that approves the MCPs and presents decisions to the NEDA Board for final approval. A certification of ICC approval is necessary for a project's requirements to be included in the annual budget.

Committee on Infrastructure: INFRACOM advises the President and the NEDA Board on policy and planning matters concerning infrastructure development. It also functions as a coordinating agency and makes recommendations to the President regarding government policies and aligning national development strategies to infrastructure projects and programs.

PPP Center

The Government of the Philippines, by virtue of the *Executive Order No. 8* series of 2010, as amended by *Executive Order No. 136* series of 2013, mandated the PPP Center to facilitate the implementation of the PPP program and projects in the country. The PPP Center, which is the main driver of the PPP program, serves as the central coordinating and monitoring agency for all PPP projects in the Philippines. It champions the country's PPP program by enabling implementing agencies in all aspects of project preparation, managing the PDMF, providing project advisory and facilitation services, and monitoring and empowering agencies through various capacity building activities.

The PPP Center provides technical assistance to national government agencies (NGAs), government-owned and controlled corporations (GOCCs), government financial institutions (GFIs),

state universities and colleges (SUCs), and local government units (LGUs), as well as to the private sector, to help develop and implement critical infrastructure and other development projects. The PPP Center also advocates policy reforms to improve the legal and regulatory frameworks governing PPPs in order to maximise the potential of the infrastructure and development projects in the country.

Through Executive Order No. 136, the PPP Center acts as the Secretariat of the PPP Governing Board. The Board is the overall policy-making body for all PPP-related matters, including the PDMF. It is responsible for setting the strategic direction of the Philippines PPP program and creating an enabling policy and institutional environment for PPPs.

As part of its mandate to further develop PPPs in the country, the PPP Center also undertakes various initiatives to educate and train the implementing agencies on the general principles and processes of PPPs. It conducts training and workshops on the fundamentals of PPPs for both the NGAs and the LGUs. At present, there is an increasing emphasis by the PPP Center on improving the capacities of LGUs, through the Center's Local PPP Strategy. This strategy is focused on assisting LGUs in using the PPP model as a means to improve their project delivery of public services. The PPP Center has also developed knowledge products, such as the NGA PPP Guidebook, that have been made available to the GCAs. Further, the technical assistance granted to NEDA and the PPP Center by development agencies also contributes to strengthening the PPP program via capacity building initiatives. The PPP Center supports the pre-investment activities through the PDMF to create a pipeline of viable PPP projects.

Project Facilitation, Monitoring and Innovation Task Force (PFMI)

Under the 'Build Build Build' initiative of the government, 75 flagship infrastructure projects have been identified by INFRACOM and the ICC from the PIP. These flagship projects represent the major capital undertakings of the government in the medium-term. NEDA has established the PFMI in order to initiate policies and processes to address bottlenecks and gaps in the project cycle of the Infrastructure Flagship Projects (IFPs) i.e. project identification and preparation, appraisal, funding and budget allocation, procurement, implementation and post-evaluation. The PFMI task force is composed of representatives from the major economic and infrastructure agencies.

⁴ MCPs are projects costing more than US \$9.5 million [Exchange rate: PHP 1 = US \$0.019, as of December 2018]

PROJECT PREPARATION LANDSCAPE

Project identification and concept definition. The Philippines follows a systematic and comprehensive approach to identifying and budgeting infrastructure programs and has set up two public expenditure management (PEM) systems: the Public Investment Program (PIP) and Three-year Rolling Infrastructure Program (TRIP), which provide a pipeline of infrastructure programs and projects to be implemented in the medium-term horizon.

- **Public Investment Plan:** The PIP is a six-year programming document accompanied by the Philippines Development Plan (PDP) and the Results Matrix (RM). The PIP serves as an instrument that strengthens the linkages between planning, programming, budgeting, monitoring and evaluation for better public resource allocation. It also helps to create a pipeline of projects and programs (PAPs) to be reviewed and processed by the ICC and the NEDA Board. The Core Investment Programs/Projects (CIP) is a subset of the PIP and serves as a project pipeline of big ticket PAPs for the ICC and NEDA Board. To include and prioritise PAPs in the PIP, NEDA follows a three-tier multi-criteria framework, covering prioritisation at the implementing agency level (Tier 1) and at the NEDA Secretariat level (Tier 2), and validation at the Planning Committee level (Tier 3).
- **Three-year Rolling Infrastructure Program:** The TRIP is a subset of the PIP and comprises all nationally funded infrastructure projects. Implementing agencies are required to specify the different stages of the projects that are listed under the TRIP, so that readily implementable projects are prioritised for the budget over those under development. The TRIP enables the programming and monitoring of project development to ensure that the government's targeted spending on infrastructure projects is achieved.

The TRIP is prepared with an aim to ensure that the agencies' annual budget ceilings are optimised and are used to fund priority PAPs. All the agencies submit their respective TRIPs to the NEDA, which reviews agency TRIPs and prepares a consolidated TRIP, which is presented to INFRACOM for approval before submitting it to the Department of Budget and Management (DBM). Here, the DBM, along with the DBCC, determines the optimised spending levels and hard budget ceilings of the agencies. Finally, the DBM, in consultation with all the agencies, prepares the National Expenditure Program (NEP), the final budget document of the Government of the Philippines.

Project feasibility and structuring. Given the country's institutional set-up for project development, project feasibility studies and structuring are driven entirely by implementing agencies. While the guidelines mandated by ICC on project evaluation provide a benchmark for the aspects to be covered during the feasibility stage, these are only applicable for the large-scale infrastructure projects that require ICC approvals. For smaller projects, implementing agencies have derived their own requirements and processes, which vary between departments. For instance, the Department of Public Works and Highways requires that project proponents (which could be the regional and district offices of the department or local government units) prepare and submit detailed feasibility studies at the project initiation stage itself, which, in turn, undergoes a two-stage vetting process within the department. The Department of Transport mandates that all feasibility studies must include the following aspects - description of product, beneficiaries, proposed annual budget, demand analysis, target population, market growth rate, supply chain, traffic flow, and site visit.

Project approvals and processes. The Investment Coordination Committee (ICC) of the NEDA Board is the agency responsible for the evaluation and review of project proposals. In the case of public investment programs, there are three levels of ICC involvement: the ICC Secretariat accepts the proposal and sends an acknowledgement to the implementing agency, the ICC-Technical Board (ICC-TB) appraises, evaluates and recommends the project to the ICC-Cabinet Committee (ICC-CC) for the first level of approval which endorses the project to the NEDA Board for final confirmation. In the case of PPP projects, the project proposals are reviewed by the PPP Center for its commercial viability and bankability, finance structuring, and value for money to the government, and are subsequently endorsed by the ICC-TB.

Given its prior history with PPPs which have experienced challenges in achieving financial close, as a standard process, most PPPs in the Philippines undertake extensive engagement with the private sector at the structuring and procuring stage. This engagement has included market soundings in relation to potential projects, one-on-one meetings with prequalified bidders, and the provision of project information through virtual data rooms. Further, the PPP program in the Philippines has centered on a comprehensive public communication strategy. Under the Guidelines on Public Consultation and Engagement for PPP Projects mandated by the PPP Center, all implementing agencies are required to develop a consultation plan for each project, which will identify the stakeholders to be engaged with, the timing, and the platforms to be used for the public engagement. These guidelines also mandate that all projects must complete a public consultation exercise prior to submitting proposals to the ICC for approval.

To aid and support independent quality assurance of project proposals and government capacity building, the Asian Development Bank (ADB), along with the Governments of Australia and Canada, supported a technical assistance program, wherein 'twinning partnerships' were established between officials in the PPP Center and their best practice counterparts in other countries. The first among these twinning partnerships was with the Government of New

South Wales (NSW) in Australia. This partnership entailed peer-to-peer exchanges, technical advice and knowledge sharing lectures and workshops, roundtable discussions, and dialogues and site visits to successful PPP projects in NSW.

Financing mechanisms for project preparation. Due to government budget constraints at both the national and local levels, adequate funding for project preparation is not usually budgeted for. Often budget constraints have led to an absence of international expertise in project preparation and have impacted the quality of the preparation. Therefore, as a response to such issues, the national government is encouraging the setting up of independent project preparation facilities that provide demand drive assistance to merit-worthy projects. For example, the NGAs can access PDMF for PPP projects, and the Project Development and Other Related Studies (PDRS) Fund for public investment projects. In some cases, international development agencies have extended financing to set up technical assistance facilities to conduct project preparation activities and capacity building. At the sub-national level, the Project Technical Assistance and Contingency Fund (established by the Municipal Development Fund Office under the Department of Finance) has been established to provide funds for preparation and submission of feasibility studies, and detailed engineering designs for project implementation.

SUPPORTING PROJECT DEVELOPMENT FINANCING IN THE PHILIPPINES

1) Project Development and Monitoring Facility (PDMF)

PDMF is a revolving fund with a total investment of US \$84 million⁵ from the Philippines Government and US \$18 million from the Australian Government through the ADB. The Japan International Cooperating Agency (JICA) has also provided assistance via studies and training courses.

PDMF is under the administration and management of the Philippines PPP Center and its funding is an integral part to the PPP Center's operations and at the core of the PPP Center's ability to deliver on its mandate. The aim of setting up the PDMF is to provide funding and facilitate preparation and monitoring of PPP projects. It provides financing to engage external consultants and transaction advisors to assist implementing agencies in their pre-investment activities for potential PPP projects and develop a pipeline of viable, bankable projects. PDMF can also be tapped by implementing agencies for probity advisory during the bid process, and engagement of independent consultants to monitor the implementation of PPP projects.

Following the approval of assistance by the PDMF Committee for a specific PPP project, the PPP Center sets up a Special Bids Awards Committee, which is tasked with the selection of consultants, and the Project Study Committee/Project Monitoring Committee/Project Implementation Committee⁶, which evaluate the deliverables of consultants and advisors, ensuring quality outputs.

One of the key features of the PDMF is the establishment of three panels of consultants (both international and national firms) that are pre-qualified under ADB procurement guidelines, namely the Panel of Project Preparation and Transaction Advisory Consultants with 22 members, the Panel of Probity Advisors with six members, and the Panel of Independent Consultants with 10 members. ADB procurement guidelines ensure that there is a quick and effective process for pre-qualification and selection of advisors. The actual process of the selection of consultants and transaction advisors is a two-stage process. The first stage comprises of the pre-qualification, selection and retention of a panel of consulting firms under an Indefinite Delivery Contract (IDC) facility for a duration of three years (which may vary each time depending on the discretion of the PPP Center).

The second stage of the process is the actual selection of an advisor or consultant from the panel on a competitive basis. The selected consultant is then responsible for pre-feasibility, project preparation and transaction execution; probity advisory; and/or monitoring of project implementation.

2) Infrastructure Preparation and Innovation Facility (IPIF)

In order to fast-track the implementation of the 'Build Build Build' program, the ADB has provided a technical assistance loan of US \$100 million for the Philippines IPIF.

IPIF is a technical assistance loan provided by the ADB that will directly support the Department of Public Works and Highways (DPWH) and the Department of Transport (DoTr) to deliver more effective and higher quality infrastructure projects. The benefits of this facility involve effective identification, analysis and planning for infrastructure gaps in the roads, urban transport, urban water, sanitation and flood management sectors. This facility will enable the departments to engage international expertise for the preparation and implementation of complex and priority infrastructure projects.

3) Project Development and Other Related Studies Fund (PDRS)

The PDRS fund can be utilised by the NGAs, GoCCs, LGUs, and the state universities and colleges (SUCs) for the preparation of pre-feasibility studies, feasibility studies, options analysis, value analysis, formulations of sector plans and other related pre-investment activities for infrastructure projects that are reflected in the PIP, Regional Development Investment Program (RDIP), Three-year Rolling Infrastructure Programs (TRIP), or Master Plans.

There is a select set of criteria based on parameters such as sector relevance, total project costs, government entity, scale of impact, and project timeline, which are taken into consideration while screening, prioritising and evaluating eligible proposals for funding. Depending on the above criteria, the NEDA Board Committee on Infrastructure (INFRACOMM) will approve the final list of prioritised projects.

⁵ As of December 31 2018.

⁶ Project Study Committee for project preparation services, Project Monitoring Committee for probity advisory services, and Project Implementation Committee for Independent Consultant services

3. Guidance for project preparation

Guidance	PPP CENTER MANUAL OF OPERATIONS
Owner*	PPP Center
Project development stage	Project preparation
Details	<p>The PPP Center Manual of Operations is a guidebook that provides the guidelines for effective performance and completion of core tasks and responsibilities of the PPP Center. The manual mainly focuses on the PPP Center's selected core processes, such as project preparation, management of the Project Development and Monitoring Facility (PDMF), project appraisal, monitoring and evaluation, and conducting training and capacity building activities for NGAs and LGUs in PPP project preparation and development.</p> <p>Link for further details: https://ppp.gov.ph/transparency/ppp-center-operations-manual/</p>
Guidance	PDMF GUIDELINES
Owner	PPP Governing Board
Project development stage	Project preparation financing
Details	<p>The PDMF Guidelines provide the detailed process to be followed by the Implementing Agencies (IAs) in order to apply for PDMF support for project preparation activities, the process to be followed for the recruitment of consultants and management of consultants' contracts funded by the PDMF and the overall management of the PDMF fund. This document specifies the project preparation activities and documents that can be prepared using the PDMF fund, and the IAs and projects that are eligible to obtain PDMF support.</p> <p>Link for further details: https://ppp.gov.ph/pdmf-guidelines/</p>
Guidance	GUIDANCE ON THE IDENTIFICATION, SELECTION AND PRIORITISATION OF PPP PROJECTS
Owner	PPP Governing Board
Project development stage	Project identification and prioritisation
Details	<p>The guidance on the identification, selection and prioritisation of projects intends to institutionalise the criteria and process in the identification, selection and prioritisation of PPP projects using the Multi-Criteria Analysis (MCA) approach. This approach can be useful to determine potential PPP projects and ensure the generation of a credible list of projects that have a higher potential of implementation via the PPP route.</p> <p>Link for further details: https://ppp.gov.ph/wp-content/uploads/2018/07/PPPC_GUIDE-Identification-Selection-Prioritization-20150325.pdf</p>

* Guidance Owner is the governing authority which approves issuances for implementation.

Guidance	GUIDELINES AND PROCEDURE FOR THE FORMULATION OF THE 2017-2022 PUBLIC INVESTMENT PROGRAM (PIP)
Owner	National Economic and Development Authority (NEDA)
Project development stage	Project identification and prioritisation
Details	<p>The guidelines and procedure for the formulation of the 2017-2022 Public Investment Program (PIP) provides a framework and process for the formulation of the PIP, which is an accompanying document of the Philippines Development Plan (PDP) and the Results Matrix (RM). These guidelines provide the procedure to be followed and the parameters to be considered by the IAs to identify and prioritise their individual programs and projects (PAPs), and the role of the NEDA Secretariat and the Planning Committee (PC)/Subcommittee (SC) in the preparation of the final PIP.</p> <p>Link for further details: http://www.neda.gov.ph/wp-content/uploads/2018/10/PIP-2017-2022-01.pdf</p>

Guidance	GUIDELINES AND PROCEDURE FOR THE FORMULATION OF THE THREE-YEAR ROLLING INFRASTRUCTURE PROGRAM
Owner	Department of Budget and Management, NEDA
Project development stage	Project identification and prioritisation
Details	<p>The guidelines and procedure for the formulation of the Three-year Rolling Infrastructure Program are prepared to guide all the implementing agencies in the development and updating of the TRIP. This guidance document specifies the procedure and parameters to be considered by the individual IAs for identifying and prioritising their individual programs and projects. Using the consolidated TRIP, the program or project will be submitted to the DBM by INFRACOM for the determination of spending levels for the approval of DBCC and consideration in determining the agency's budget ceilings. This shall then form the basis for the list of infrastructure PAPs that are to be included by DBM in the National Expenditure Program (NEP).</p> <p>Link for further details: http://www.neda.gov.ph/policy-guidelines-and-procedures-for-the-formulation-of-the-three-3-year-rolling-infrastructure-program-trip/</p>

Guidance	GUIDELINES ON PUBLIC CONSULTATION AND ENGAGEMENT FOR PPP PROJECTS
Owner	PPP Governing Board Philippines
Project development stage	Stakeholder consultation
Details	<p>These guidelines institutionalise the consultation and engagement of the public, with the goal of improving transparency in the development and implementation of PPP projects and overall infrastructure development. This guidance stipulates the responsibilities of the individual participating institutions, such as the IAs and the PPP Center. It provides the process to be followed, the communication platform to be used and the time when the stakeholder consultations should take place.</p> <p>Link for further details: https://ppp.gov.ph/wp-content/uploads/2018/07/PPPC_GUIDE_Public-Consultation-Engagement-20160621.pdf</p>

4. Project case example: Mactan - Cebu International Airport (MCIA) Passenger Terminal Building

PROJECT BRIEF

Mactan Cebu International Airport (MCIA) is located on Mactan Island in the Cebu province of the Central Visayas area in the Philippines. Apart from being the second largest airport in the Philippines in terms of domestic passenger traffic, it is also a gateway for various tourist destinations in the Visayas Islands.

Cebu is among one of the fastest growing provinces in the Philippines and a major contributor to the nation's economy. The Mactan-Cebu International Airport has emerged as a major gateway to the Philippines, with the passenger traffic more than doubling over the past four years. The existing airport at Mactan was unable to cope with the surge in passenger traffic. As a result, in late 2014, India's GMR Infrastructure and the Philippine company Megawide Construction took over the operations of the airport and were appointed to build the second passenger terminal building. The construction of the second terminal began in July 2015 and was completed within three years.

The existing terminal building, which has a capacity of 4.5 million passengers annually, had been operating at over-capacity, with almost seven million passengers using the airport facility in 2013. Upon completion of this project, the overall capacity of the MCIA will increase to 12.5 million passengers annually.

The Mactan-Cebu International Airport passenger terminal development was one of the priority projects of the new government after it made major infrastructure reforms post 2010. It was one of the few initial PPP projects that procured funding from the newly set up mechanism, the Project Development and Monitoring Fund (PDMF), for its project preparation and appointment of external consultants and experts.

QUICK FACTS



VALUE
(IN US \$ MILLION)

390



STATUS

Operational



PROJECT OWNERSHIP

**MCIAA* and Department
of Transport (DoTr)**



SOURCE OF PROJECT
PREPARATORY FINANCING

**Project Development and
Monitoring Facility (PDMF)**



SUPPORT AGENCIES

PPP Center, NEDA

*Mactan – Cebu International Airport Authority

PROJECT TIMELINE

2008	MCIAA announcement regarding terminal expansion plan to address the increasing passenger traffic
2011	PDMF funds were provided and external consultant was hired for project preparation-related studies
2012	Feasibility study was completed with assistance from international expertise from India
2012	Market sounding exercises were conducted with the stakeholders
2012	Project submitted to NEDA for final approval
2012	Project was approved by the NEDA Board
2014	GMR Infrastructure secured a 25-year concession to develop and operate MCIAA
2015	Commencement of the construction of the second passenger terminal
2018	MCIAA new passenger terminal completely operational

LEARNINGS FOR PROJECT PREPARATION

1. Institutional readiness and clearly demarcated responsibilities for the institutions involved leads to faster project preparation, evaluation and approval

Institutional readiness is considered to be a primary success factor for achieving quality project preparation within a timely manner. The implementing agency, in this case the Department of Transportation (DoTr), as the proponent of the project, was responsible for carrying out all the project preparatory activities. The PPP Center was responsible for financing the project preparation activities for the project through the newly set up PDMF mechanism. The NEDA Board was responsible for providing the final approval for the project, once all the project preparation activities were satisfactorily performed. This clear demarcation of responsibilities, along with institutional readiness for implementation, ensured the commitment of the implementing agency in pursuing the project and hence, led to a faster transition of the project from the preparation to the implementation stage.

2. Availability of dedicated financing mechanisms to carry out project preparation activities

Funding the project preparation activities is considered to be a major hindrance in carrying out a high-quality full-fledged pre-investment study. Availability of a dedicated project preparation fund, in this case, the PDMF, helped the DoTr to utilise the expert services of external consultants in order to carry out the project preparation activities. In the case of complex and priority projects like the MCIA, the use of external consultants has helped the project to carry out the project preparation activities diligently and within the specified timelines, which contributed to the delivery of a high-quality PPP project. The integrated support package of the PDMF mechanism across the project's whole lifecycle made the project preparation processes for the MCIA more efficient.

3. Quality assurance mechanisms of the PDMF resulted in high quality and extensive project preparation

Following the signing of the Technical Assistance Agreement (TAA) between the PPP Center and DoTr, the PPP Center initiated the selection of consultants for project preparation from its list of reputable consultants established under the PDMF. A Special Bids and Awards Committee (SBAC) was created to carry out the selection of consultants for the preparation of PPP projects. A Project Study Committee (PSC), consisting of representatives and technical experts from the PPP Center and the DoTr, was also created. It was mandated to review the Terms of Reference (ToR) and bidding documents for the selection of consultants. The PSC was also tasked to review and evaluate the consultant's deliverables for the project preparation (e.g. the Feasibility Study Report) and to likewise endorse payments to the consultant. The quality assurance mechanisms helped ensure the completeness and correctness of project preparation documents.

4. The PPP Center performed stakeholder consultation on a large scale to provide high-grade services

During the course of project development, the PPP Center, in partnership with the DoTr, undertook targeted market-sounding initiatives and consultations to gather insight, suggestions, opinions and comments from the stakeholders and other industry representatives on the proposed projects. Several public consultations were initiated by the PPP Center and the DoTr, wherein interested parties and stakeholders from local and international business communities were invited. In May 2012, a consultation program was conducted at the PPP Center, wherein senior representatives from international airports were also invited to participate.

Rwanda

1. Noteworthy practices for project preparation



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Specialised entity mandated to strengthen and complement local government capacity

The Local Administrative Entities Development Agency (LODA), set up in 2013, supports local governments across various aspects of project preparation including harmonisation of central and local planning, project coordination and appraisal, financing project preparation studies, preparation of guidance documents and in capacity building of local entities. The project screening and appraisal is performed by the Local Government Project Advisory Committee (LGPAC), a high-level committee with representatives from the Ministry of Finance and Economic Planning, the Ministry of Local Government, other line ministries and key ministers from provinces.

Establishment of Single Project Implementation Units (SPIU) in line ministries to complement public sector capacity

The Government of Rwanda, through the cabinet resolution of February 2011, facilitates the establishment of project implementation units within the contracting authority, staffed by external experts (mobilised from the private sector) to augment project preparation capacity, quality assurance and marketability during project preparation.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Integration of multi-year project pipeline planning with the budgeting process

All contracting authorities (both at the national and local level) prepare and disclose three-year project pipelines, which are integrated with the budgeting process. This builds better ownership and sustainability of the multi-year planning process.

A results-based planning framework for effective, continuous and transparent monitoring

The planning framework under the Seven-Year Government Plan provides an equitable focus on governance, justice and economic parameters with clearly defined outcomes, which are monitored continuously and disclosed annually on the government portal.



PROJECT FEASIBILITY AND STRUCTURING

Early-stage tariff validation by the Rwanda Utilities Regulatory Authority (RURA)

The Rwanda Utilities Regulatory Authority (RURA) is consulted at the feasibility stage on user tariffs and the methods underlying their fixation and revision. RURA's recommendations are critical for the approval of feasibility reports.



PROJECT APPROVALS AND QUALITY ASSURANCE

Multi-factor project appraisal at the highest levels of government

Rwanda has established high-level committees for project appraisal and monitoring, especially for PPP projects. The Steering Committee (PPP SC) is the final approval authority of PPP projects and is composed of permanent members, including ministers of the Ministry of Finance and Economic Planning (MINECOFIN) and the Ministry of Infrastructure (MININFRA), the CEO of the Rwanda Development Board (RDB), and the head of the contracting authority as a non-permanent member. Appraisal checks include a suitability check by the RDB, an affordability check by RURA, a fiscal assessment by MINECOFIN and an alignment check (with national priorities) by the Public Investment Committee (PIC).



PROJECT MARKETING AND STAKEHOLDER ENGAGEMENT

Clearly demarcated role of the RDB in project marketing

The RDB is a specialised agency involved in Rwanda's investment promotion through its investment promotion and implementation division. Within the RDB, another division, the Strategic Investment Division, currently functions as the central PPP Unit and assists the contracting authority with project preparation. The RDB's strong brand equity and relationship with private investors helps in improving the marketability of projects. The RDB, being an empowered institution directly reporting to the President of Rwanda, helps in streamlining decision-making for project preparation.

2. Snapshot of project preparation activities

Rwanda has initiated several reforms to strengthen its project preparation landscape and to establish a positive enabling environment to drive infrastructure delivery. Rwanda has consistently updated its legislative and regulatory framework to accelerate the delivery of infrastructure projects. The National Public Investment Policy 2009 was a major reform which helped improve efficiency and efficacy of public investment projects and increased alignment between public and private investment initiatives. Although recent and yet to be fully tested in terms of implementation, Rwanda has also strengthened its regulatory framework for PPP project preparation with the adoption of the PPP Law in May 2016, and PPP Guidelines in June 2016.

Rwanda has also recently adopted a comprehensive National Investment Policy¹. The objective of this policy is to achieve the country's strategic development goals by transforming the National Public Investment Policy into a National Investment Policy, which addresses both public and private investment. It is intended to lay the groundwork for balancing new public investment projects and potential divestiture needs with options to strengthen private sector participation. The Government of Rwanda has also prepared standardised documents, tools, and templates for use and reference in the PPP project cycle process, complementing the PPP policies and legislation.

As per the Global Infrastructure Hub's InfraCompass², total investment in infrastructure in Rwanda stood at US \$2.294 billion in the last five years, with US \$1.386 billion (60% of the investment) contributed by the private sector. 12 PPP projects involving an estimated US \$814 million in investment have reached financial closure since 1990³. The HQ Peat-fired Power Plant was the biggest project in Rwanda's history at US \$345 million and reached financial closure in 2017.

INSTITUTIONAL FRAMEWORK

At the national level, project preparation activities in Rwanda are led by line ministries and their respective contracting authorities (CAs), with CAs being responsible for the planning, structuring and procurement of projects. Although Rwanda does not have a centralised project preparation facility to finance project preparation, an array of national agencies and entities support the various aspects of project preparation, including the Ministry of Finance and Economic Planning (MINECOFIN), the Public Investment Committee (PIC), the PPP Steering Committee (PPP SC), the Rwandan Development Board (RDB), the Regulatory Authority (RA), the Local Administrative Entities Development Agency (LODA), the Local Administrative Entities Development Agency (LGPAC) and the District Council.

A brief overview of the role of each of the stakeholders involved in project preparation is summarised below:

- MINECOFIN was formed in 1997 by the merger of the Ministry of Finance and Ministry of Planning to improve coordination between the functions of finance and planning. MINECOFIN is responsible for preparing the long-term vision documents, medium-term strategies and annual plan. It is also an apex agency playing a critical role in project appraisal and approval, including activities such as (i) fiscal risk assessment and (ii) alignment with national priority plans through the Public Investment Committee (PIC)⁴. During the project preparation cycle, PIC evaluates projects twice; it approves the initiation of the feasibility study and conducts the feasibility report. PIC is chaired by high-level representatives from MINECOFIN and key spending ministries. Each sector ministry has a planning department that works closely with the National Planning, Development and Research Department in MINECOFIN to ensure sector prioritisation. MINECOFIN is assisted by an in-house Single Project Management Unit.

¹ Draft National Investment Policy 2017, prepared by MINECOFIN

² https://infracompass.gihub.org/ind_country_profile/RWA

³ <http://ppi.worldbank.org/snapshots/country/rwanda>

⁴ PIC is housed within MINECOFIN.

SINGLE PROJECT MANAGEMENT UNIT – COMPLEMENTING PUBLIC SECTOR CAPACITY IN PROJECT PREPARATION

The Government of Rwanda, through the cabinet resolution of February 2011, facilitated the establishment of Single Project Management Units (SPIUs) in line ministries and public agencies. SPIUs create capacity for the design and implementation of projects earmarked for fast-track achievement of targets in the national vision and sectoral strategies. The SPIUs, staffed by external experts often from the private sector, seek to augment project preparation capacity, strengthen quality assurance and improve marketability and information dissemination during project preparation.

The SPIUs collaborate with other institutions, development partners and other consultants to prepare proposals, to prepare plans for project implementation, to plan budgets and to negotiate local funds etc. The SPIU staff may be individual consultants or firms, and they help to implement systems and processes to ensure effective project management. SPIUs are required to conduct regular programmatic and financial supervision of the projects to ascertain if project activities are aligned with the approved plan, budget lines and timeframes. The SPIUs are also vested with the role of engaging with external stakeholders (including multilateral development banks (MDBs), financial institutions and private sector players) and engaging in timely information dissemination, including through participation in seminars and consultations.

- The Rwanda Development Board (RDB) was established in 2009 to coordinate and promote national economic development in the country. It is a specialised agency, which serves as a central PPP Unit through its Strategic Investment Division (SID). The RDB's role also includes the preparation of PPP guidelines and undertaking an independent screening (pre-feasibility study) for suitability for delivery as a PPP. In the feasibility stage, it forms a project-specific technical committee to review the feasibility study. It assists the CA throughout the overall project lifecycle by assisting with project preparation, marketing the project, functioning as a lead negotiator in PPP project agreements, and following up on the realisation of investments. Thus, the RDB is the highest investment promotion authority in the country.
- PPP Steering Committee – The PPP Law designates the PPP Steering Committee responsible for the approval and oversight of a PPP project. It is the final approval authority for PPP projects. The Steering Committee is composed of permanent members (Ministers of MINECOFIN and MININFRA, and the CEO of the RDB) and non-permanent members, including the head of the contracting authority.

At the local government level, the Ministry of Local Government (MINALOC) acts as the apex ministry and oversees the functioning of local authorities. Local governments in Rwanda are structured across four tiers: 30 districts (Akarere), 416 sectors (Imerenge), 2,148 cells (Utugari) and 14,837 villages (Imudungu). The districts are responsible for identifying and monitoring projects according to strategic guidelines set by the ministries. The District Council is the key decision-maker for projects in respective districts and the final approval authority for locally-funded projects. While the project preparation and implementation activities are largely driven by the respective local governments, LODA acts as an important intermediary in complementing local government capacity. Further, the Local Administrative Entities Development Agency (LGPAC) advises on the quality and relevance of ongoing and new projects that meet the requirements for implementation at the local level. With regards to PPP projects, LGPAC is involved at the project identification and screening stages. This committee is chaired by the central government entity MINECOFIN.

LODA – AGENCY TO SUPPORT THE TECHNICAL CAPACITY OF LOCAL GOVERNMENT ENTITIES IN PROJECT PREPARATION

The Local Administrative Entities Development Agency (LODA), set up in 2013, is an agency within MINALOC. It acts as an intermediary to support the preparation and implementation of local government projects. It also serves as a technical secretariat of LGPAC to advise on the quality of infrastructure projects. Among the multitude of roles played by LODA in complementing and strengthening local government capacity, noteworthy practices include:

1) Harmonisation of central and local planning –

LODA organises consultations among central and local governments to coordinate and harmonise districts' capital projects with sector ministries. In addition, new and ongoing development projects are reviewed by LODA and presented to the Local Government Projects Advisory Committee for further guidance. All local projects are reviewed by a joint technical team comprised of MINALOC, LODA, MINECOFIN and LGPAC to ensure quality.

2) Support in feasibility studies – LODA publishes simplified feasibility assessment guidelines for smaller local government projects with a value below US \$1 million. It also publishes templates with a standard reporting format for the detailed feasibility study. LODA provides the framework for the Environmental and Social Impact Assessment (ESIA) for local government projects. To assure the

quality of local government projects, LODA also establishes a Validation Committee, or a working group, with staff from local contracting authorities to validate the results of the feasibility study before it is presented for review.

3) Project preparatory financing assistance – LODA's funding is largely driven by budgetary grants channelled through MINALOC. It receives grants under specific multilateral programs and provides preparatory financing for national priority projects.

4) Project coordination and appraisal – LODA, in collaboration with MINECOFIN, carries out an initial screening of all submitted projects and presents its findings and recommendations to LGPAC and District Councils for final approval. For projects to be funded using the central budget, LODA, in association with MINECOFIN, holds consultations with each district to finalise the budget and arrive at a final allocation for each district. The projects for which financing is approved are presented to LGPAC for quality assurance and then a prioritised list is submitted to the District Council for final approval.

5) Undertaking capacity building – LODA undertakes capacity building for local administrative entities involved in project preparation, in assistance with MDBs, on issues such as the environmental and social framework, land acquisition and resettlement, and other topics relevant for project management.

PROJECT PREPARATION LANDSCAPE

Project preparation activities are decentralised in Rwanda, with the line ministry and their agencies responsible for project preparation at both the federal and sub-national level. A snapshot of the project preparation landscape is summarised below:

Project conceptualisation and planning. Project planning in Rwanda is guided by strategic and vision documents, including the National Vision 2020, the Economic Development and Poverty Reduction Strategy (EDPRS 2), the National Medium-Term Strategy for Development, sector-specific strategic plans, and the government development program (Seven-year Government Program). The projects are identified by the Contracting Authorities (which may be line departments and/or state-owned entities). In the course of the budget planning and approval processes, the CAs submit projects for a three-year horizon, and the project pipeline prepared is integrated into the national-level three-year investment program – the Public Investment Program (PIP). The project pipeline, after the due approval process, is also updated in the Public Investment Management System, which serves as a credible pipeline of projects ready for feasibility or investment funding.

Project studies and structuring. The National Investment Policy 2017 provides a unified process of initiation and preparation of project studies. Project requests for studies (pre-feasibility and feasibility) are submitted with a project profile document (PPD), which includes basic project information, and an additional concept note describing the design of the requested project (full-feasibility or investment) to PIC. Projects go through screening and appraisal based on the size of investment, as follows:

- Screening only is undertaken for projects below 750 million Rwandan francs (US \$840,000⁵);
- Full feasibility only is conducted for projects between 15 billion and 750 million Rwandan francs (between US \$17 million and US \$840,000); and
- Both pre-feasibility and feasibility studies are conducted for projects above 15 billion Rwandan francs (above US \$17 million).

The pre-feasibility study is carried out internally by the CA and the screening of the pre-feasibility study is undertaken by PIC at the central level and LGPAC at the local level. In the case of PPP projects, the pre-feasibility studies are submitted to the RDB for a PPP suitability check and then the RDB's recommendation is submitted to PIC for approval to conduct the full feasibility study. The request for the full feasibility report is submitted by the CA according to MINECOFIN's standard planning and budgeting guidelines and the full feasibility report is screened by PIC at the central level and LGPAC at the local level. Project preparation is largely financed through annual budgetary allocations or is supported by specific MDB-led programs (including African Development Bank and World Bank programs).

Project approvals. Project approvals follow two distinct steps according to the type of project procurement:

- In the case of public investment projects, the project approvals are integrated as part of the planning and budgeting exercise for central government investment. The projects are assessed twice by PIC or LGPAC during the project preparation lifecycle; first, by conducting a full feasibility study and second, in order to proceed with the tender. For sub-national projects, LODA acts as a technical secretariat to LGPAC and assists in screening projects. The findings of the screening are submitted to LGPAC, which advises on investment priorities to the District Council (which has the authority for final project approval).
- In the case of PPP projects, the projects are submitted to the RDB for evaluation and registration in the PPP database. RDB forms a project-specific Technical Committee (TC) for review of the full feasibility report. The TC comprises representatives from the RDB, a project officer from the CA, representatives from MINECOFIN (to review and provide approvals on fiscal commitment and contingent liabilities), RURA (which advises on tariffs where user tariffs are to be used), and other relevant ministries and agencies, including the Ministry of Justice. Further, the PIC also evaluates the feasibility report from an economic feasibility and strategic investment standpoint. Recommendations from the TC and PIC are submitted to the PPP SC for projects which are to be delivered using the PPP structure. In the case of local level projects, these are assessed by LGPAC twice, both at the pre-feasibility and full feasibility stage.

⁵ Exchange rate: RWF 1 / US \$0.0011 as of 7 December 2018

3. Guidance for project preparation

Guidance	PPP GUIDELINES
Owner	Rwandan Development Board (RDB)
Project development stage	Project preparation and approval
Details	<p>The PPP manual provides an overview of the procedures to be followed and approvals required for implementation of a PPP project. It serves as a guide to the public and private sector stakeholders on the institutions involved in the project preparation process and their roles, and also the key steps within the project documentation that must be followed by each entity.</p> <p>To ensure quality in project preparation and the standardisation of project documents, it also provides i) the template for the pre-feasibility report, ii) a detailed methodology of the PPP project screening tool used by the RDB to assess PPP suitability, iii) a template for the feasibility report, iv) a checklist for the feasibility study, v) a model template for testing the impact of Fiscal Commitment and Contingent Liability (including the format for comparison between PPP and traditional procurement provision), and vi) a long-term fiscal planning tool.</p> <p>Link for further details: http://rdb.rw/wp-content/uploads/2018/08/PPP-Guidelines.pdf</p>

Guidance	GUIDELINES FOR COMMISSIONING AND MANAGING FEASIBILITY STUDIES
Owner	Local Administrative Entities Development Agency (LODA)
Project development stage	Project preparation and approval for local government projects
Details	<p>The guideline is published for local government entities involved in the preparation of feasibility studies. The documents primarily enhance the quality of local development projects at the district level. The guideline details (i) the concept of feasibility studies, (ii) the detailed appraisal dimension for feasibility studies, (iii) guidance on the scope and content of a feasibility study, and (iv) practical example(s) of conducting a simplified feasibility assessment aiming at basic services provision, and a more comprehensive feasibility study for a revenue generating project.</p> <p>Link for further details: http://loda.gov.rw/fileadmin/user_upload/documents/2014_PRO/Documents/1_LODA_FS_Guidelines_2015.pdf</p>

4. Project case example: Kigali Bulk Water Supply Project

PROJECT BRIEF

The Kigali Bulk Water Supply project is one of sub-Saharan Africa's first water PPPs.

The project aims to deliver around 40 million litres of treated groundwater per day (40% of Kigali's daily water demand) extracted from the Nyabarongo River to Kigali city. The PPP project company (the SPV) shall sell water to the national water utility, the Water and Sanitation Corporation (WASAC), which will distribute water to end-users. The project is aligned with the Government of Rwanda's *"Economic Development and Poverty Reduction Strategy"* with a commitment to achieve universal access to water by 2020.

In September 2010, the Government of Rwanda (GoR) retained the International Finance Corporation (IFC) as lead advisor to develop and structure the project, and to handle the competitive tendering of the project. Subsequently in 2011, the Public-Private Infrastructure Advisory Facility (PPIAF) provided institutional strengthening and capacity building around the transaction, to ensure GoR's ability to manage the project over the long-term. Although the project was successfully bid out in October 2014, financial closure took time and was completed only in November 2017. As the first of its kind in Rwanda, there was little precedent in terms of templates and benchmarks etc., resulting in this long cycle time between award and financial closure.

The project is a tripartite contract involving the stakeholders WASAC, Ministry of Infrastructure (MININFRA) and the SPV Kigali Water Limited (incorporated by Metito Utilities Limited). The project is structured as a 27-year PPP Build-Operate-Transfer (BOT) contract with a 2.5-year construction period. The SPV Kigali Water Limited will be responsible for the design, construction, operation and maintenance of the new treatment plant. It will also develop the water transmission infrastructure. However, the responsibility to maintain and operate the water distribution network and the sale of water to end-users will remain with WASAC, which is the sole off-taker of water from this project.

QUICK FACTS



VALUE (IN US \$ MILLION)

60*



STATUS

Under construction



PROJECT OWNERSHIP

Ministry of Infrastructure



SOURCE OF PROJECT
PREPARATORY FINANCING

**IFC (project studies), PPIAF
(capacity building)**



SUPPORT AGENCIES

**WASAC/EWSA, IFC, external
advisors (Mott MacDonald,
Green Clean)**

* Source: Private Participation in Infrastructure Database, the World Bank

PROJECT TIMELINE

2008	Economic Development & Poverty Reduction Strategy 2008 envisaged 100% water supply to all by 2020
Sep-10	IFC was hired as transaction advisor to assist the CA in project preparation
Jan-11	Technical team appointed to undertake project studies
2011	PPIAF was engaged to undertake institutional capacity building of the Energy, Water and Sanitation Authority (EWSA) ahead of project procurement
Oct-13	Decision to split (EWSA) into two public companies: Rwanda Energy Group Ltd (REG) and the Water and Sanitation Corporation Ltd (WASAC)
Dec-13	RFQ stage undertaken
Aug-14	WASAC was established under Law N° 87/03 dated August 2014 to manage water and sanitation services in Rwanda
Oct-14	RFP undertaken and preferred bidder selected
Mar-15	Concession agreement signed
Nov-17	Financial closure achieved
Jan-18	Construction commenced
Jan-20	Scheduled commercial operation of the project

LEARNINGS FOR PROJECT PREPARATION

1. Dedicated source of funds and transaction advisor to support project preparation

In September 2010, the GoR retained IFC as transaction advisor to assist in the preparation, design, and implementation of private sector participation in the project. IFC's transaction advisory was supplemented with support from the Infrastructure Development Partnership Fund (DevCo), and the Public-Private Infrastructure Advisory Facility (PPIAF). IFC hired Mott MacDonald Ltd. as the technical consultant for the assignment. The technical team brought in a pool of experts across multiple domains including a water supply engineer, a hydrologist, a hydrogeologist, a water treatment specialist, an environmental expert, a sociologist, a PPP support expert, a PPP reviewer and a legal and regulatory specialist. The external experts were also supported by a liaison officer and local support team manager based out of Rwanda. The IFC, along with the consultants, carried out the assignment in two phases:

- **Phase 1:** Detailed due diligence to assess the feasibility of the project and inform the preparation of a Strategic Options Report (SOR) in Phase 2. This stage also included the identification of the most appropriate location for the project components, as well as a demand assessment to determine the size of the plant. During the due diligence stage, the detailed legal, financial, technical and environmental assessments of the project were conducted to assess the feasibility of the proposed project and to inform the preparation of a Strategic Options Report (SOR). The SOR included an assessment of water supply and demand to ensure that an optimal solution for the long-term needs of Kigali was identified, and recommended a PPP BOT structure, which best suited the development objectives of the government, while ensuring the bankability of the transaction.
- **Phase 2:** Detailed project structuring and the competitive selection of investors to implement the PPP. This involved consultations with prequalified bidders, preparing tender documents, preparing responses to bidders' queries and issuing bid bulletins.

2. Institutional reforms and capacity building to ensure project sustainability

The preparation of the Kigali Bulk Water Supply project also reflects the need to streamline public sector institutional design, not just to meet the project objectives but also from a strategic perspective to meet the National Vision. Undertaking the complex task of revamping the water supply network in a major urban centre required clear accountability and operational flexibility from the CAs. The structure of EWSA was found to be unviable to undertake a complex PPP project of this scale. To increase the transparency and quality of operations, GoR decided to split EWSA into two separate utilities – the Rwanda Energy Group Ltd. (REG) and the Water and Sanitation Corporation Ltd. (WASAC), with WASAC tasked with the management of the project.

The IFC team also mobilised funding from PPIAF to support capacity building for the water utility and the water sector reform process. PPIAF has provided two phases of support to help establish and strengthen a credible off-taker for the Kigali Water Supply Project:

- **Phase 1:** Institutional support to the Energy, Water, and Sanitation Authority (EWSA) to strengthen its ability to oversee and implement the Kigali Bulk Water Supply project. This included i) recommending an organisational structure that would allow EWSA to improve its financial, technical, operational and commercial performance; ii) technical support to EWSA to develop a more comprehensive understanding of the distribution network and its operational performance, in order to provide strategic recommendations to improve network monitoring and reduce the non-revenue water rate; and iii) capacity building for government officials to improve their understanding of PPPs.

- **Phase 2:** GoR also introduced several initiatives to empower the newly formed institution under the PPIAF program, including the development of a strategic business plan and an investment plan. This enabled the successful tendering of the Kigali Bulk Water Supply project, providing comfort to potential bidders that the GoR was committed to the sustainable provision of water and sanitation services, and that WASAC would be able to serve as an effective off-taker and counterparty to the project. PPIAF's institutional strengthening and capacity building support helped create a conducive environment for the development and tendering of the Kigali Bulk Water Supply project.

3. Alignment with the national vision helps to drive project ownership at the highest level

The national vision and strategic plan – Vision 2020 and the Economic Development and Poverty Reduction Strategy 2008 (EDPRS) - clearly identify inadequate access to safe drinking water as one of the key reasons for poverty in Rwanda and outline the objective for targeting universal access to water and sanitation. The Kigali Bulk Water Supply project is aligned to the national vision. The project is also one of the first PPP projects in bulk surface water supply in sub-Saharan Africa. The uniqueness of the project and its alignment with the national vision has ensured project ownership at the highest levels of government, which was a critical success factor in project preparation. The RDB and WASAC, along with IFC, were able to create an environment of close coordination between the government, lenders, private partners and other stakeholders, which was essential in determining the project's scope, alignment with broader water access goals, and ascertaining water affordability implications.

4. Flexibility in project structure and risk transfer

The project financing structure continuously evolved during the project development stage to accommodate changes in the project and cost structure. Some of the key challenges have been summarised below:

- **Managing the credit risk of WASAC** – One of the key challenges faced was to manage the credit risk of the newly reorganised entity WASAC as an off-taker, which had implications for its credit standing. WASAC's credit risk was mitigated by structuring multiple layers of cash reserves to improve the credit profile of the project.
- **Managing the tariff impact on end-users** – The involvement of DevCo, the specialist PPP advisory facility operating through the Private Infrastructure Development Group (PIDG), and implemented by the IFC, provided funding to help structure the transaction and its competitive tender. The Emerging Africa Infrastructure Fund (EAIF) worked with Metito Utilities Ltd. (Metito) to refine the financing model, and they identified a need for subsidies to make the project viable for all parties – EAIF and the African Development Bank (AfDB) as commercial lenders, Metito as equity investor, and the off-taker with its tariff affordability objectives. As a result, the PIDG Technical Assistance Facility provided crucial viability gap funding to reduce upfront costs and allow the government to expand the number of people connected to a reliable water supply without raising tariffs. This combined support gave the developer, Metito, and the Rwandan Government the necessary assurance and security to proceed with an innovative plan that was affordable for all parties, including end-users.
- **Mitigating the fiscal risk of the project** – The original scope of the project included production and distribution infrastructure such as pumping stations, reservoirs and piping, and other infrastructure to deliver clean water to the local population. In a bid to reduce the fiscal impact of the high infrastructure construction cost, the project structure was revised, with the concessionaire responsible for bulk water supply and transmission, and WASAC responsible for distribution infrastructure (with a separate concessional loan from the AfDB).

South Africa

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

Establishment of active financial markets and a vibrant ecosystem of quality transaction advisers

The widening of financial markets and the deep expertise of financial stakeholders in managing infrastructure investments has been one of the critical factors for success in project preparation. The high-quality standards prescribed by the financial community have also facilitated the availability of a steady pool of transaction advisers for project preparation.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Multi-dimensional and integrated framework

South Africa's planning approach seeks to integrate geospatial planning with medium-term sector and departmental plans that are contextualised in the medium-term expenditure framework. Infrastructure development comes under the National Development Plan, a long-term multi-sectoral plan, along with the National Infrastructure Plan, which aims to coordinate high priority projects in a geospatial context. Infrastructure implementation is provided by the medium-term plans such as the User Asset Management Plan, Annual Performance Plans, Five-Year Strategic Plans, the Infrastructure Programme Management Plan (IPMP), and the Medium-Term Expenditure Plan (MTEF). Implementation of the pipeline is closely monitored and reported by the National Treasury and the Government Technical Advisory Centre (GTAC).



PROJECT APPROVALS AND QUALITY ASSURANCE

Strong quality assurance for planning and monitoring of large infrastructure projects under BFI

The Budget Facility for Infrastructure (BFI) is a reform to the budget process that supports the execution of national priority projects by establishing specialised structures, procedures and criteria for committing fiscal resources to public infrastructure spending.

The objective of the facility is to address shortcomings in the planning and execution of infrastructure projects and help the government to build a pipeline of projects, through robust project appraisal, effective project development and execution, and sustainable financing arrangements.

Strong gatekeeping and good practice guidance by National Treasury

National Treasury performs stringent checks at key stages of the project preparation process. The National Treasury's PPP manual provides a systematic guide to project preparation, which has become a best practice guide for PPP practitioners across Africa. The National Treasury provides comprehensive guidance to drive quality assurance in project preparation. Its portal serves as a single point of disclosure for all of the guidance documents.

Restructuring of the PPP unit and empowerment of GTAC as an effective technical and financial intermediary for project preparation

GTAC's role as an independent appraisal and advisory unit has strengthened the independence of and transparency in the project approval process in South Africa. The dedicated project development account managed by GTAC has also ensured the availability of quality Project Officers and a Transaction Advisory team for driving quality of project preparation.

2. Snapshot of project preparation activities

South Africa has adopted a systematic approach to project planning and preparation that has delivered great success in crowding-in private investment in infrastructure.

South Africa plans and executes capital projects exceeding ZAR 300 billion (US \$22 billion) on an annual basis. The successful implementation and management of the projects are due to a strong foundation in the country's project preparatory environment. Private investment in infrastructure emerged in the second half of the 1990s with the appointment of an inter-departmental task team to create an enabling environment for PPPs (in 1997). South Africa has emerged as a successful model for PPPs because of the effective implementation of marquee projects and the establishment of a sound PPP-specific regulatory framework to manage risks and secure returns for private investors.

INSTITUTIONAL FRAMEWORK

Project preparation activities in South Africa are largely driven by the Government Contracting Authorities (GCAs), which include individual line ministries, sectoral agencies, and state-owned enterprises (SOEs). The GCAs prepare their long-term project plans, which provide an active pipeline of projects for implementation. These include the Strategic Plan (five-year plan), the Annual Performance Plan and the Annual User Asset Management Plans. The GCAs are guided and assisted in project preparation by national level public institutions, such as the National Treasury, the Presidential Infrastructure Coordinating Commission (PICC) and the Government Technical Advisory Centre (GTAC).

As per the cabinet's mandate, the PICC plans and coordinates the National Infrastructure Plan (NIP). The NIP presents the PICC's spatial mapping of infrastructure gaps and development priorities through 18 Strategic Integrated Projects, each comprising several infrastructure components and programs, to support economic development and address service delivery in the poorest provinces. The PICC is driven by the highest level of political office, which helps bring in a greater degree of harmonisation in perspective planning and coordination across the government.

The National Treasury of South Africa leads infrastructure financing policy and expenditure management at the national level. It is involved in long-term project planning, such as the National Development Plan 2030, and appraisal and treasury approvals of individual projects. The National Treasury also leads on policy formulation and guidance on project preparation, and monitors progress of GCAs through their Annual Performance Plans.

The PPP and Transaction Advisory Unit of GTAC, an agency of National Treasury, supports PPP project preparation and implementation in South Africa. GTAC aids with public finance management through professional advisory services, program and project management, and transactional support. GTAC also provides support to the National Treasury in the appraisal of capital projects, including PPPs, prior to treasury approvals.

PROJECT PREPARATION LANDSCAPE

South Africa follows a structured approach to project preparation, championed largely by the line departments and agencies. The focus of the Government of South Africa continues to be on promoting solicited proposals. In the case of unsolicited proposals (USPs), South Africa's National Treasury USP framework accepts USPs for projects featured on the government's list of priority projects but makes innovation a core element of its evaluation criteria. For a USP to be considered, it must involve innovative design, project development and/or management, or a new and cost-effective method of service delivery. A snapshot of the project preparatory landscape is summarised below:

Project conceptualisation and planning. The New Growth Path and the National Development Plan (NDP) 2030, prepared by the National Treasury, serve as vision documents, while the National Infrastructure Plan (NIP), championed by the PICC, focuses on geospatial planning and coordination amongst various government agencies to fast-track strategic projects. The line departments prepare five-year strategic plans and annual asset management plans, which form the core planning documents and inputs to the budget document. Based on the project plan, the National Treasury finalises a three-year Medium-Term Expenditure Framework (MTEF), which serves as the guidance document on the government's fiscal situation.

Project feasibility studies and structuring. Project preparation is largely performed by the line departments. The line departments may be supported by international development partners and the private sector. The National Treasury's Standard for Infrastructure Procurement and Delivery Management (SIPDM) provides the benchmark for the preparation of concept notes, and pre-feasibility or feasibility reports.

Project appraisal and review. The project appraisal and review are done through a multi-institutional framework to ensure high quality project preparation. The project appraisal process covers financial analysis (lifecycle cost and Internal Rate of Return (IRR)),

economic analysis (Cost-Benefit Analysis (CBA) and cost-effectiveness analysis), risk assessment, sensitivity analysis, and review of the implementation and procurement plans.

The project guidance and approval process is structured according to the following project categories:

- Centrally-funded projects (as outlined in the capital planning guidelines);
- Large and/or strategic projects (as outlined in the Budget Facility for Infrastructure (BFI)); and
- PPP projects (as outlined in the PPP manual).

BUDGET FACILITY FOR INFRASTRUCTURE – REFORM TO SUPPORT NATIONAL PRIORITY PROJECTS

The Budget Facility for Infrastructure (BFI) is a reform to the budget process that creates a specialised institutional framework and processes to support the planning and implementation of national priority projects. The facility is established and managed jointly by the National Treasury, the Presidential Infrastructure Coordinating Commission (PICC) secretariat, and the Departments of Planning, Monitoring and Evaluation (DPME) and Economic Development (EDD). The facility has also established the Joint Technical Committee (JTC), comprised of senior officials from the National Treasury, the PICC secretariat and the DPME, which manages the detailed technical assessment process.

Projects submitted to the facility undergo a rigorous independent appraisal on their technical merits. The technical parameters of assessment include value-for-money, socioeconomic rationale, affordability, risk profile and readiness

for implementation. The facility prepares a recommendation report for the Medium-Term Expenditure Committee (MTEC) and the Ministers' Committee on the Budget (MINCOMBUD), which decides on the allocation of budget. The project sponsor is also engaged on the draft recommendations report before it is presented to MINCOMBUD.

The objective is to build a pipeline of infrastructure projects and programs, where approvals are sought at each stage of project development, starting with initial concept documents. The process of project identification is linked to the budget preparation process. Under the BFI cycle, project proposals are invited at different levels of project development (concept, pre-feasibility, feasibility) for review. Project sponsors will be notified of the decision at each gate.

For the financial year FY 2018-19, the BFI received 64 large infrastructure project submissions. Of these, 38 projects that met submission requirements were assessed.

The Treasury follows a four-stage review process for PPP projects at the following stages:

- Completion of the feasibility study (Treasury approval I);
- Preparation of the bid documents (Treasury approval IIA);
- Evaluation of bids (Treasury approval IIB); and
- Conclusion of negotiations (Treasury approval III).

Where the project has been supported by one of the project preparation facilities (PPFs), then it would also need to be approved by the respective project facility donors prior to the treasury approvals.

STATE-OWNED ENTERPRISES – LEADING QUALITY ASSURANCE IN INFRASTRUCTURE PLANNING

State-owned enterprises (SOEs) are independent entities partially or wholly owned by the government. South Africa is reported to have over 700 SOEs that together account for an estimated 76% of the country's infrastructure investment. Some of the major SOEs include SANRAL (roads), TRANSNET (rails, ports and pipelines), PRASA (passenger railways), ESKOM (power), ALEXKOR (mining), DENEL (military equipment), SAFCOL (forestry), Trans-Caledon Tunnel Authority, Rand Water, and the Development Bank of Southern Africa ((DBSA) project financing). These SOEs promote a programmatic approach to project preparation, although fiscal challenges and credit limitations within SOEs have constrained infrastructure investment more recently.

SOEs in South Africa have created internal capacities and strong quality assurance standards for project approval, which has helped in scaling up project delivery. For example, TRANSNET is a freight and logistics company responsible for pipelines, ports, and rail transport infrastructure and operations in South Africa. TRANSNET has established a multi-year planning framework (Long-term Planning Framework – LTPF), which defines TRANSNET's long-term port, rail and pipeline infrastructure capacity investment plans. The LTPF is based on a 30-year integrated freight demand forecast (Freight Demand Model, Transportation Model, and Market Share Model) and is closely aligned with the government's National Development Plan. This plan is updated on an annual basis. Project preparation is guided by extensive review processes across four major phases:

- FEL 1 – Master planning and concept development;
- FEL 2 – Pre-feasibility study;
- FEL 3 – Feasibility study and detailed engineering;
- FEL 4 – Procurement and construction management.

The detailed guidelines of each phase are provided in the 'Project Life Cycle Process Gate Review Manual'. While South Africa has been facing some fiscal challenges driven by the credit constraints of SOEs, the process and service delivery model framework established by the SOEs is an efficient "model for infrastructure delivery".

Financing project preparation. Financing for project preparation comes from three sources:

- *Budgetary allocation within the respective line agencies and SOEs*, including SANRAL, TRANSNET, PRASA, ESKOM, SAFCOL, Trans-Caledon Tunnel Authority, Rand Water, and DBSA.
- *Government budget-supported project preparation facilities.* These include the Project Development Account, which sits under the National Treasury to support the preparation of PPP projects targeting private investment. In addition, there is the newly created Budget Facility for Infrastructure (BFI), which supports the execution of national priority projects by establishing specialised structures, procedures and criteria for committing fiscal resources to public infrastructure spending. Often public entities in South Africa have not adequately budgeted for project planning and preparation. Therefore, these facilities seek to bridge the funding gap. The aim is to support quality public investments through robust project appraisal, effective project development and execution, and sustainable financing arrangements.
- *Multiple other project preparation facilities at the national and regional levels.* For example, the Infrastructure Investment Programme for South Africa¹ (IIPSA) is a collaboration between the Government of South Africa and the European Union (EU) to promote key infrastructure projects in South Africa and the Southern African Development Community (SADC) region. Similarly, the DBSA Project Preparation Fund, which is sponsored by DBSA under the National Treasury, finances the preparation of bankable infrastructure projects in South Africa and the SADC region. Beyond this, there are other autonomous international project preparation facilities that contribute to project preparatory financing in South Africa.

¹ The Development Bank of Southern Africa (DBSA) has been appointed as the Secretariat and Fund Manager to implement the IIPSA program and invites project proposals from eligible public entities and private entities with a public service mission to apply for IIPSA Grant Funding for the financing of infrastructure investment projects in support of long-term financing by participating DFIs. This funding can take the form of technical assistance or direct investment grants. Although the DBSA is the implementing agent, an IIPSA Project Steering Committee that comprises the National Treasury, Department of Economic Development, Department of Public Enterprises and the Department of International Relations and Cooperation will make the final funding decisions regarding the IIPSA program.

GTAC AND THE PROJECT DEVELOPMENT ACCOUNT (PDA) FACILITY

In 2012, the Government of South Africa split the regulatory functions of the PPP Unit (in the National Treasury) from its advisory role, which was then transferred to the Government Technical Advisory Centre (GTAC). Since this transfer of responsibilities, GTAC has been providing technical support and advice to national and provincial departments (or municipalities) in getting a PPP project through all stages of Treasury approvals (or for municipalities – “Views and Recommendations”); while the Infrastructure Finance Unit in the Budget Office is now responsible for the regulatory function and for recommending project approvals to the Deputy Director General of the Budget Office.

The Project Development Account (which is a revolving fund) is a dedicated project preparation facility under the National Treasury utilised by GTAC to finance technical assistance for all projects including PPPs, NDP projects etc. These functions include technical consulting services, specialised procurement support for high impact government initiatives and advice on the feasibility of infrastructure projects. In all instances of PPP-related financing support, funds are paid to advisors in accordance with the terms of the contract between the implementing authority and the advisor. In non-grant funding instances, disbursed funds will be recovered from the successful private party bidder when the PPP reaches financial close, as a ‘success fee’, which is part of the procurement conditions for the project. The Evaluation/ Investment Committee appointed by the Head of GTAC shall decide whether the funds allocated to the project are recoverable or not.

PDA provides financial assistance for hiring both project officers and transaction advisors. A project officer reports directly to the accounting officer of the sponsoring department and manages the implementation of the transaction advisor’s terms of reference to ensure compliance with Treasury Regulation 16².

The project officer is then procured, followed by the procurement of the transaction advisor. A Project Steering Committee (PSC) is thereafter created, composed of senior departmental officials, particularly those who will ultimately be involved in implementing the PPP. One of the tasks of the transaction advisor is to undertake capacity building with the departmental PSC members so that they will be able to implement the project once approved. The transaction advisor will then conduct a feasibility study, the elements of which include: a needs analysis, an options analysis, project due diligence, a value assessment, and an economic valuation and procurement plan. Upon conclusion of the feasibility study, it is submitted to the Budget Office for approval.

Apart from providing project development funds, one of the main objectives of the PDA facility is to drive the public entities to define medium-term planning objectives and earmark funds for planning and preparation. The PDA facility has supported project preparation activities in more than 33 projects across multiple sectors. Examples of projects where PDA funding was used are listed below:

- ***The National Department of Health–Biovac vaccine distribution program.*** In South Africa, the provinces are responsible for the distribution of all pharmaceuticals, including vaccines procured for them by the National Department of Health. Vaccines are particularly vulnerable to variations in temperature and the passage of time. In 2003, subsequent to a PDA partially-funded feasibility study, a PPP was entered into between the National Department of Health and Biovac, a developer of vaccines and pharmaceuticals, for the distribution of vaccines procured by the State to all nine provinces. The distribution agreement is scheduled to expire on 31 December 2018.

continued...

² Treasury Regulations for Departments, Trading Entities, Constitutional Institutions and Public Entities, published in GN 740 GG 23643 of 25 May 2002 (the “Treasury Regulations”), issued in terms of the Public Finance Management Act, 1999 (the “PFMA”), as amended.

- **Province of the Western Cape. Chapman's Peak toll road.** The Chapman's Peak toll road PPP agreement was entered into on 31 May 2003 with the private party contracted to construct and maintain a toll road from Cape Town to the Cape Point National Park area. In February 2009, the province applied for PDA funding for consultants to negotiate suitable amendments to the PPP agreement, which was causing difficulties among the residents along the toll road route. On 25 July 2009, the parties signed an amendment to the PPP agreement, negotiated by the consultants, which resolved the major resident-stakeholder issues. This project illustrates how the creation of the PDA provides an alternative source of funding for the resolution of any operational problems that may arise during the implementation of a PPP agreement.
- **Free State Province Universitas and Pelonomi Hospitals.** In 2000, the Province of the Free State's Department of Health undertook the assessment of a possible PPP project, whereby the province would obtain the services of a private sector medical services provider at its Pelonomi Hospital, located in an underprivileged area of Bloemfontein, by pairing it with another hospital also located in Bloemfontein, but in a wealthier area. Transaction advisors funded by the PDA were appointed in 2002, and a PPP for 26 years was thereafter executed between the Free State Department of Health and a private sector medical services provider. The agreement was that the service provider would redevelop and upgrade certain aspects of Pelonomi Hospital, use its wards and theatres, and generate revenue therefrom, while at the same time, providing world-class medical services to former Pelonomi patients at Universitas Hospital.
- **Gauteng Province Cradle of Humankind World Heritage Site.** The Cradle of Humankind World Heritage Site in Gauteng Province is the source of many hominid fossils. It is currently the site of much research regarding our hominid ancestors, with the discovery of Homo Naledi being announced recently. Much of the site is under the control of South Africa's University of the Witwatersrand (Wits), located in Johannesburg. In 2001, the province initiated PPP processes, partially financed by the PDA, with the understanding and cooperation of Wits. A cooperation agreement was executed by the province and Wits in 2003, followed by the signing of a PPP agreement with Maropeng a l'Africa (MAL) for the design, construction, maintenance and operation of the Interpretation Centre at the site.

3. Guidance for project preparation

Guidance	FOUR-STAGE TREASURY APPROVAL PROCESS
Owner	National Treasury
Project development stage	Quality assurance
Details	<p>Modules 1-4 (out of nine modules) of the PPP Manual systematically guide public and private parties through the phases of PPP project preparation for national and provincial governments. Each module of the PPP Manual is issued as a National Treasury PPP Practice Note, as per the 1999 Public Finance Management Act. The PPP Manual should be read together with the South African National Treasury's Standardised Public-Private Partnership Provisions. The manual draws on South African project experience to date and on best international practice and sets rigorous risk-assessment standards by which the government will make affordable project choices that best leverage private investment for quality public services.</p> <p>Module 1 (Regulations for PPPs) and Module 2 (Code of good practice for Black Economic Empowerment (BEE) in PPPs) deal with the enabling environment for project planning and delivery. Module 3 provides the steps in the PPP inception phase, including the hiring of transaction advisors and arranging of preparatory financing for the subsequent module.</p> <p>Module 4 (PPP Feasibility Study) explains in detail how an institution should carry out a feasibility study to decide whether conventional public sector procurement or a PPP is the best choice for the proposed project.</p> <p>Link for further details: https://www.gtac.gov.za/Publications/1160-PPP%20Manual.pdf</p>

Guidance	BUDGET FACILITY FOR INFRASTRUCTURE (BFI)
Owner	National Treasury, Presidential Infrastructure Coordinating Commission (PICC) and Department of Planning
Project development stage	Quality assurance
Details	<p>The Budget Facility for Infrastructure (BFI) is a reform to the budget process that supports the execution of national priority projects by establishing specialised structures, procedures and criteria for committing fiscal resources to public infrastructure spending. As directed by the Cabinet, the National Treasury is working jointly with the Presidential Infrastructure Coordinating Commission (PICC) secretariat, the Department of Planning, Monitoring and Evaluation (DPME) and the Economic Development Department (EDD) to establish the facility. The aim is to support quality public investments through robust project appraisal, effective project development and execution, and sustainable financing arrangements.</p> <p>The objective of the facility is to address shortcomings in the planning and execution of infrastructure projects and help the government to build a pipeline of projects. The facility shall put a mechanism in place to improve the rigour of planning and budgeting for large infrastructure projects through standardised appraisal methodologies that ensure that full lifecycle costs of projects are planned, adequately budgeted and provided for in future budgets.</p> <p>Link for further details: http://www.treasury.gov.za/publications/guidelines/Infrastructure%20Guidelines%20Final%20May%202018.pdf</p>

INFRASTRUCTURE DELIVERY MANAGEMENT SYSTEM (IDMS) AND STANDARD FOR INFRASTRUCTURE PROCUREMENT AND DELIVERY MANAGEMENT (SIPDM)	
Guidance	
Owner	National Treasury
Project development stage	Project planning
Details	<p>The government's Infrastructure Delivery Management System comprises three core systems, namely a planning and budgeting system, a supply chain management system, and an asset management system, all of which have forward and backward linkages. These core systems are located within portfolio, program and project management processes, as well as operation and maintenance processes. Collectively these processes and systems, together with a performance management system, establish the institutional system for infrastructure delivery. The SIPDM (a component of the government's IDMS) establishes control frameworks (through a stage-gate review process) for the planning, design and execution of infrastructure projects and infrastructure procurement.</p> <p>Link for further details: http://www.treasury.gov.za/legislation/pfma/TreasuryInstruction/Annexure%20A%20-%20Standard%20for%20Infrastructure%20Procurement%20and%20Delivery%20Management.pdf</p>

CAPITAL PLANNING GUIDELINES	
Guidance	
Owner	National Treasury, GTAC
Project development stage	Quality assurance
Details	<p>Capital planning guidelines provide guidance on how infrastructure programs and project proposals should be planned, appraised and evaluated before significant funds are committed. The guidance encourages a lifecycle evaluation process, which is analytically robust. The National Treasury evaluation process recommendations are made to the Medium-Term Expenditure Committee (MTEC), which in turn advises the Ministers' Committee on the Budget (MINCOMBUD) on projects that should be allocated funding.</p> <p>The guidelines bring together the key principles involved in deciding whether a project is good, and worth the government's investment. A 'funnel' through which projects can be sifted is set out and includes: (1) assessing projects for alignment with the country's strategic considerations; (2) whether there is truly demand for the project; (3) whether it represents the most cost-effective option; (4) whether it is affordable; and (5) whether it is likely to be implementable.</p> <p>Link for further details: https://www.gtac.gov.za/Publications/Appraisal_of_Infrastructure_Guideline_Revised.pdf</p>

Guidance	GTAC PROGRAMME AND PROJECT MANAGEMENT (PPM) TOOLKIT
Owner	National Treasury, GTAC
Project development stage	Project management
Details	<p>This toolkit provides a practical approach to the management of projects. The Programme and Project Management (PPM) Toolkit is designed to simplify the processes required to manage a project successfully from beginning to end. It defines project management in simple terms and provides the necessary documentation, tools and templates required to make the project a success throughout different phases. The National Treasury, through GTAC, took the initiative to roll-out the PPM Framework, Guides and Toolkits in all national departments and the nine provinces. The Project Management Body of Knowledge (PMBOK) approach was adopted as a basis for the development of the Programme and Project Management Framework. The material is customised to suit the South African public sector and is available to all in the public sector.</p> <p>Link for further details: https://www.gtac.gov.za/knowledge-products/ppm-toolkit</p>

Guidance	USER GUIDE FOR BUDGET FACILITY FOR INFRASTRUCTURE (BFI) FINANCIAL MODEL
Owner	National Treasury
Project development stage	Project appraisal and review
Details	<p>The BFI Financial Model has been designed to appraise the affordability of any infrastructure project proposal submitted to the BFI. It provides the financial information required for any submission made by sponsors to the BFI, such as budget statements and Risk-Sensitivity Analysis. The user guide is designed to aid the user of the BFI Financial Model in setting up the model and to guide them through where and how to populate the model with data. In addition, this guide explains the use of output sheets and scenarios.</p> <p>Link for further details: http://www.treasury.gov.za/publications/guidelines/2018%20Large%20Strategic%20Infrastructure%20User%20Guide.pdf</p>

4. Project case example: Renewable Energy IPP Procurement (REIPPP) Programme

PROJECT BRIEF

The REIPPP Programme was a landmark initiative by the Department of Energy (DoE) to rapidly scale-up grid connected renewable energy generation through private participation. The REIPPP Programme was implemented against the historical backdrop of several failed initiatives to contract Independent Power Producers (IPPs), owing to institutional shortcomings, capacity gaps and weak incentive structures. To overcome these limitations and to run the REIPPP Programme as a sophisticated, multi-project, multibillion-dollar international competitive bidding process for renewable energy, the DoE co-opted and took the assistance of the National Treasury's PPP Unit to manage the process. A small team of technical staff from the DoE and the PPP Unit established a project office, known as the DoE IPP unit, which effectively functioned outside the departmental structure and acted as a facilitator for the REIPPP Programme.

Since inception, the REIPPP Programme has received private sector investment of US \$14 billion and created 36,528 job years³. Overall, 44% (i.e. 6,422 MW) of the total targeted renewable energy capacity of 14,725 MW, has been procured from 112 IPPs. More than 3,776 MW of electricity generation capacity from 62 IPP projects have also been connected to the national grid. The challenge for the government now is to provide timely grid connectivity to the renewable energy IPPs.

QUICK FACTS



VALUE
(IN US \$ BILLION)

15



STATUS

Five bid windows*



PROJECT OWNERSHIP

IPP Office, DoE



SOURCE OF PROJECT
PREPARATORY FINANCING

National Treasury PDF**



SUPPORT AGENCIES

PPP Unit NT, DoE, Eskom

³ The equivalent of a full time employment opportunity for one person for one year.

* Does not include the small projects IPPP program; ** National Treasury Project Development Facility; Preparatory actions leading up to the first round auctions supported by DBSA

PROJECT TIMELINE

1998	White Paper on Energy Policy
2003	White Paper on Renewables and Integrated Energy Plan
2006	Electricity Regulation Act 2006
2008	Inter-Ministerial Committee on Energy to unblocking hurdles in scaling up energy sector; Strategic commitment of leadership to drive private sector investment in renewable energy
2009	Renewable Energy Feed-in Tariffs (REFITs) policy
2010	Integrated Resource Plan 2010-2030
2010	Establishment of IPP office in DoE
2010	Memorandum of Agreement (MOA) signed by DoE, NT and DBSA for ZAR 80 million (US \$11-12 million)* assistance for consultants, a project office, and capacity building
2011	Electricity regulations on new generation capacity
2011	Informal consultations with potential developers, lawyers and financial institutions on existing policy; Review of international tender processes in India, Brazil, Germany, France, Spain and elsewhere
2011	Launch of Renewable Energy Independent Power Producer Procurement (REIPPP) Programme
2012	National Development Plan 2030

BID WINDOWS

Bid Window 1	<ul style="list-style-type: none"> • 4 November 2011 • 28 bidders • 1425 MW
Bid Window 2	<ul style="list-style-type: none"> • 5 March 2012 • 19 bidders • 1040 MW
Bid Window 3	<ul style="list-style-type: none"> • 19 August 2013 • 17 bidders • 1457 MW
Bid Window 3.5	<ul style="list-style-type: none"> • 31 March 2014 • 2 bidders • 200 MW
Bid Window 4	<ul style="list-style-type: none"> • 18 August 2014 • 26 bidders • 2205 MW

* Average exchange rate of US \$1 = ZAR 7 in 2010

LEARNINGS FOR PROJECT PREPARATION

The success of the REIPPP Programme is an outcome of the government's leadership and vision, meticulous planning and detailing, and structural and operational interventions. The preparatory work involved in creating and implementing the program has been extensive.

1. Multi-year planning horizon for infrastructure backed by consistent and coordinated policy and reform actions is central to the success of transformational projects

The success of the REIPPP Programme entails a resilient political vision for the country and sectors reflected in the multi-year planning framework, backed by a strong political will to achieve the vision's objectives. The consistent and coordinated policy actions to initiate regulatory and institutional reforms and operationalise the recommendations of the Integrated Energy Plan, the Integrated Resource Plan, and the White Paper on Energy and Renewables remains the foundation of the project's success. Each element of success is discussed below:

- A multi-year capital investment planning framework that is consistent with development priorities. The sectoral planning documents (the Integrated Energy Plan 2003 and the Integrated Resource Plan in 2010) were aligned with the nation's commitment to reducing its carbon footprint. The initial impetus to the program was provided in the White Paper on Energy Policy in 1998 (which promoted a greater role for the private sector and diversification of energy sources), and the White Paper on Renewables in 2003 (which envisaged 10,000 MW of energy from renewables).
- The government also created the necessary legal and regulatory framework for implementing the REIPPP Programme. The Electricity Regulation Act [No.4 of 2006] facilitated the establishment of an energy regulator (Section 3), the licensing of activities (Section 7), an estimation of new generation capacity across sources, the tendering procedure and the promotion of private sector participation (Section 34), and regulations on new generation capacity (Section 35). Specifically, Sections 34 and 35 of the Act set the framework for the REIPPP Programme.

2. Programmatic approach to project preparation through an empowered institution and sectoral focus

Realising the need for a dedicated establishment to design and implement the REIPPP Programme project preparation process, the Government of South Africa established a separate IPP office within the DoE in 2010, to drive project management. The DoE and National Treasury (NT) entered into a Memorandum of Agreement (MoA) with the Development Bank of Southern Africa (DBSA) to facilitate the establishment of this IPP office. The clarity in accountability, the operational independence of the project unit and its arms-length position with the government departments helped to minimise procedural overheads, as well as bureaucratic restrictions, driving project scale. The unit also focused on ensuring sustained capacity building initiatives including training, case studies and communications programs.

3. Strong program champion supported by a resourceful and dynamic team

The REIPPP Programme team was headed by a dynamic officer from the National Treasury PPP Unit with deep expertise in project appraisal. Several other key stakeholders were also drafted into the team early in the program planning phase. Giving autonomy to this management team helped streamline program management. The management team included experts from the legal, technical, banking and financial sectors to create a resourceful and dynamic project team. The team's private sector experience and familiarity with management in private sector circles facilitated the engagement process. The team also created an entrepreneurial/start-up type of work culture, which was received favourably by the private sector players, as well as the bankers. The quality of the management team and its dynamic leadership were key to driving private sector trust, especially when the general outlook towards PPPs was muted⁴.

⁴ A host of factors contributed to this sentiment and included (i) policy uncertainty, (ii) limited government support, (iii) cancellation of several PPP contracts, especially in social sector projects like prisons, and iv) negative public opinion over PPPs.

4. Access to an independent high-quality team for evaluation

The team was supported by a high-quality private advisory team of private domestic and international advisers, including international reviewers (legal, technical and governance), project management consultants, legal support, and a financial and technical evaluation team. The primary reason for access to such a high-quality team was the availability of a dedicated project financing facility. The project team received technical assistance from the expert teams from Spain and Denmark under the bilateral assistance program. The DoE IPP office also had a large number of transaction advisers with strong national and international expertise. The opportunity to imbibe learnings from the European counterparts, as well as the availability of quality advisers, have been highlighted as critical success factors for project preparation in South Africa. The table below provides a snapshot of consultants and transaction advisers, among many others, providing technical, legal and financial assistance to the DoE IPP office.

REIPPP PROGRAMME EVALUATION CONSULTANTS

International Reviewers: Legal: Linklaters (UK), Technical: Tony Wheeler Consulting (UK), and Governance: Ernst & Young

Project Management: SPP Project Solutions

Legal Evaluation: Bowman Gilfillan, ENS Africa, Ledwaba Mazwai and Webber Wentzel

Technical Evaluation: Mott MacDonald

Financial Evaluation: Ernst & Young (EY) and PwC

Source: South Africa's Renewable Energy IPP Procurement Programme: Success Factors and Lessons May 2014 (PPIAF)

5. Availability of adequate and sustained project preparation financing

The REIPPP Programme was backed by dedicated financing for project preparation and capacity building. Some of the sources include: (i) the National Treasury (made available through DBSA) approximately US \$7.5 million; (ii) technical assistance financing from bilateral donor agencies (Denmark, Spain, and the UK), and multilateral agencies (US \$6 million from the World Bank through the Global Environment Facility); and (iii) self-financing through bidder registration fees and project development fees of 1% of the project cost

(transferred to a project development fund, which is managed by the DoE). The multiple financing sources have ensured the sustainability of the program and helped it to remain off the formal government budget after the first round. The availability of dedicated funding for the process ensured that high quality private advisory assistance was available for the DoE IPP office in planning the process. The cost of preparing a bid and taking it to financial close for the first round of auctions is estimated at around ZAR 25 to 30 million (US \$3-4 million) and was supported by the National Treasury, the World Bank and DBSA.

6. Continuous engagement with the market participants helped shape the program design

The team made continuous engagement with the private sector players and bankers a priority, to ensure that the program design was aligned with the prevailing market environment. This also helped to allay general concerns related to the PPP model during this period. Design factors, including the signing of the PPA early on, and implementation arrangements, were an outcome of this effective engagement process. One of the unique elements of the program was that the bidders were expected to come with lenders already locked in, which helped in incorporating the lenders' concerns into the program design.

7. Strengthening baseline information and high governance standards to aid private sector interest

To aid with the significant risk of delivery transferred by the program to the private sector, the South African Government created information disclosure systems to enable private sector decision-making. The government had already taken initiatives to provide base information regarding renewable energy sources like solar and wind energy, which would serve as guidance for the prospective private sector partners. Some of the key initiatives include:

- The Solar Data and Resource Mapping study conducted by the Southern African Universities Radiometric Network (SAURAN)
- Wind Atlas for South Africa (WASA I) under the DoE, the Global Environmental Facility (GEF), the United Nations Development Programme (UNDP) and the Danish Government

Further, transparency and high standards of professionalism in program management, adherence to timelines, and high standards of quality assurance led to the program's credibility and resulted in high participation by the private sector.

United Kingdom

1. Noteworthy practices for project preparation



EXISTING ENABLING ENVIRONMENT

IPA's role as a centre of excellence for project preparation

The Infrastructure and Projects Authority (IPA) defines the overarching framework for project preparation in the United Kingdom (UK). Guidance designed by IPA serves as the standards for contracting authorities to develop projects. IPA also undertakes quality assurance reviews for major projects, and supports capacity development and delivery support.



PUBLIC SECTOR CAPACITY FOR PROJECT PREPARATION

Institutionalising capacity enhancement through multiple interventions

Capacity development initiatives are central to the UK's project preparation landscape and are undertaken at the apex level by IPA. These are further supported by individual departments who conduct their own training and apprenticeship programs, aligned to the specific needs of the department.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Multi-year plans and pipelines used to support an overarching long-term vision, and progress monitored by IPA to help strengthen accountability

The UK's National Infrastructure Assessment (NIA) provides a 30-year strategic vision for infrastructure development in the country. The vision is realised through the annual National Infrastructure Plan (NIP), a four-year pipeline of prioritised projects. Implementation of these pipelines is closely monitored and reported by IPA.



PROJECT IDENTIFICATION AND CONCEPT DEFINITION

Systematic processes to aid conceptualisation of major projects

IPA supports early stage project planning by providing tools that help identify major projects, to verify the holistic fit and synergy with overarching government policies. For example, the early development pool for major projects is monitored and reviewed by IPA, providing assurance for project development at the initiation stage. Further, the Project Initiation Routemap provides guidance on a structured approach to identifying and defining projects.



PROJECT FEASIBILITY AND STRUCTURING

Multi-dimensional approach to developing business cases, mapped to a comprehensive review process

Her Majesty's (HM) Treasury's Five Case Model encourages contracting authorities to evaluate project feasibility through five interdependent lenses. As the feasibility study progresses across different stages, the Office of Government Commerce's (OGC) Gateway Review process provides a 'peer review' mechanism to ensure that they can progress to the next stage.



PROJECT APPROVALS AND QUALITY ASSURANCE

Defined framework for quality assurance with requisite support tools

The UK's quality assurance framework is comprehensive, providing varying levels of scrutiny depending on project complexity, such as the IPA gateway review series for major projects, project validation reviews for early stage assurance for major projects, and project assessment reviews, which are tailored to the specific needs of a particularly complex project. These reviews can be conducted through HM Treasury panel meetings, and/or an expert team under the Major Projects Review Group could be commissioned.

2. Snapshot of project preparation activities

The UK has often been regarded as a pioneer of project delivery globally, providing a useful learning opportunity for developing countries embarking on the implementation of large projects.

Through its Private Finance Initiative (PFI), launched in 1992, the UK has delivered £56 billion of private sector capital investment in over 700 projects over two decades. Today, the government is implementing one of its most ambitious policy agendas ever – the current Government Major Projects Portfolio (GMPP) includes 143 projects worth over £455 billion (= US \$586 billion), across 17 departments. These projects are increasingly diverse in their nature, objectives and complexity: ranging from capital intensive infrastructure projects like High Speed Two (HS2) – a new high speed rail network linking the south and north of the UK – to major transformations like the Her Majesty (HM) Courts Reform, which will modernise the way people interface with the courts service.

INSTITUTIONAL FRAMEWORK

Project preparation activities in the UK are decentralised, with each line department and local government being responsible for their own project preparation as procuring authorities. Procuring authorities plan, structure and procure projects, and pay for the infrastructure services, either by collecting user charges or through their government budgets. Activities for project development are funded through the federal or local government budgets. Quite often, for major projects, special agencies are created that are provided with separate budgets.

For example, Crossrail Limited has been incorporated by Transport for London (TfL) to plan and implement the new railway lines in London. Once completed, the railway lines will be handed over to TfL for operations. Similarly, HS2, the railway linking London, Birmingham, the East Midlands, Leeds and Manchester, is being developed by High Speed Two (HS2) Limited, a company established by the UK Government.

To guide the above-mentioned implementing agencies, the government has created two unique institutions; the Infrastructure and Projects Authority (IPA) and the National Infrastructure Commission (NIC). The IPA, reporting to Her Majesty's Treasury (HMT) and the Cabinet Office, has been formed to oversee general policy on project delivery and quality assurance of specific business case proposals.

Established in 2015 by the merger of Infrastructure UK (IUK) and the Major Projects Authority (MPA), IPA has a long history of managing and delivering major infrastructure projects through its founding institutions.

A merged IPA combines expertise in delivery, assurance and financing, helping to manage major infrastructure projects within one government entity – thus defined as ‘the UK Government’s **centre of expertise for infrastructure and major projects**’.

The IPA does not implement projects but instead focuses on the overall project delivery system, which includes the projects, people and processes that together create the right environment for successful delivery. It is part of a wider institutional framework for infrastructure planning and delivery. To help shape a vision for the future for the UK's economic infrastructure, the Treasury has created the National Infrastructure Commission (NIC). The NIC has prepared its first National Infrastructure Assessment (NIA) in 2018, which analyses the UK's long-term economic infrastructure needs, outlines a strategic vision over the next 30 years and sets out recommendations for how the identified needs should be met. The NIA will be tabled in Parliament and the NIC will monitor progress on the government's implementation. The NIC is a unique entity that has independent experts and industry leaders as its commissioners. Although funded by the Treasury, it functions at arm's length and provides independent advice and progress monitoring.

PROJECT PREPARATION LANDSCAPE

The HMT and IPA provide a variety of support tools to guide project preparation in the UK. While these are binding only on major projects that require HMT approval or projects that also solicit an independent review from IPA, most line agencies have aligned their project preparation activities in line with the best practice guidelines prescribed by HMT and IPA.

Project identification and concept definition.

Project identification at the line ministry and local government level is guided by the long-term vision for development prepared by the NIC, under the NIA. Typically, ministries have established dedicated teams that lead project conceptualisation activities.

Procuring authorities identify projects that meet national priorities, which are integrated through two long-term plans prepared by the IPA – the National Infrastructure and Construction Pipeline (NICP) and the National Infrastructure Delivery Plan (NIDP). The NICP unites planned public and private investments across all economic sectors, providing clarity on the infrastructure spending expected to be achieved over a five-year period. The NICP also tracks the progress of nationally significant projects identified in the earlier plans, and is updated on an annual basis. The NIDP builds on the NICP, detailing on how the UK Government aims to support the delivery of infrastructure projects identified under the NICP, with a dedicated pipeline of housing and social infrastructure projects. To support project identification, the UK's project preparation framework provides a multitude of tools:

The Early Development Pool (EDP) for major government projects and programs (in the GMPP):

Institutionalised by IPA, the EDP includes projects that could potentially join the GMPP in the future. Inclusion of nationally significant projects in the EDP enables IPA to provide hand-holding support at the project initiation stage itself.

The Project Initiation Routemap (PIR)

The PIR is a best practice guideline prescribed by IPA, which provides a structured approach to identifying and conceptualising projects through a collaborative approach with IPA. From 2018, all major projects are assessed for their need and suitability for applying the routemap to guide conceptualisation.

Stage 0 of the Five Case Model

The Five Case Model is a thinking framework recommended by the HMT, which defines a structured approach to developing business cases. Stage 0 of the Five Case Model outlines a method to help identify projects that verify the strategic necessity of the project or program.

Project feasibility and structuring. All line agencies must prepare business cases for their spending proposals. These cases are prepared according to a model which views proposals from five interdependent dimensions, prescribed by the Green Book of HMT – known as the Five Case Model. These five dimensions are: strategic, economic, commercial, financial and management. The business case evolves as the project preparation for the project progresses. For projects, a strategic outline case is prepared at the conceptualisation stage, thereafter an outline business case is prepared at the pre-feasibility stage, which

is followed by a more comprehensive full business case and its updates prior to implementation. Individual central government departments and local governments undertaking non-major projects are not bound by project preparation guidelines provided by HMT. However, recognising the benefit of a standardised approach to project preparation, most of these departments have designed their internal project processes on the basis of those for major projects.

Project approvals and quality assurance. The Her Majesty's Treasury (HMT) recommends specific guidelines for independent review of all new major projects requiring HMT and IPA approvals:

OGC Gateway Review™

The UK has instituted a comprehensive and mandatory peer review process at key decision points in the project lifecycle to enhance the quality of project preparation and to set government expectations in project delivery. The Office of Government Commerce (OGC) Gateway Review™ process was introduced in 2000 after several project failures in the UK and the reevaluation of the government's effectiveness in projects and program delivery.

Major Projects Review Group (MPRG)

Sponsored by HMT, the IPA coordinates the MPRG, which is an independent group of experts from the government and private sector. The MPRG challenges projects on deliverability, affordability and value for money at key points in the HMT approvals process and as required at other key decision points during a project's lifecycle.

IPA Quality Reviews

In addition, the IPA has enhanced the quality review process with a range of different independent assurance reviews. Depending on the project cost and the department's track record of executing projects of similar complexity, these reviews range from formal gateways to more bespoke 'critical friend' reviews.

HOW IS IPA MAKING A DIFFERENCE IN PUBLIC SECTOR PROJECT DELIVERY?

The IPA, including its predecessor entities such as the MPA and IUK, have contributed remarkably to enhancing the project preparation ecosystem in the UK. Major contributions include:

- **Setting project standards and good practice guidance:** This includes documentation related to all major aspects of project preparation and project evaluation, such as project initiation routemaps, independent assurance methodology and other technical guidance documents and templates.
- **Infrastructure delivery support:** IPA has a team of commercial specialists that provide direction to the government and its agencies on all aspects of infrastructure delivery. The specialists can be deployed alongside the senior leaders and project teams to strengthen client capability. IPA also provides HMT and the Cabinet Office with commercial advice on business case approvals for specific projects.
- **Training and leadership development:** Based on the recognition that great project leaders deliver great projects, IPA has partnered with Oxford Saïd Business School to create the Major Projects Leadership Academy (MPLA). MPLA aims to improve the ability of senior civil servants to lead major projects and is regarded as the gold standard for project leadership training. It improves senior civil servants' ability to lead major projects with the aim of creating a cadre of world-class project leaders. Over 400 professionals have enrolled in the MPLA, and 250 have graduated to date. The MPLA received a Silver Award from the European Foundation for Management Development (EFMD) for their Excellence in Practice Awards, in the category of professional development. In addition, there are other project leadership training, apprenticeship and future leaders' programs that have been launched by IPA.
- **Project leadership development:** The IPA plays an important role in equipping project leaders with the right skills, training and capabilities to deliver infrastructure projects. In 2017, the IPA launched the Project Delivery Capability Framework (PDCF), which outlines a common language for the profession and defined career paths to help manage their careers. This framework is now being used by all major departments to help drive professionalism. In addition, the Government Online Skills Tool (GOST) supports the rollout of PDCF by allowing individuals to assess their skills and competencies against any project role, and to identify appropriate development options. It is currently being used by over 4,000 project professionals across government, and this number will grow following full rollout.
- **Independent quality assurance:** IPA uses independent experts for peer review and quality assurance of projects at critical stages, against a clear set of project standards. During 2017-18, the IPA conducted 230 independent assurance reviews on the Government Major Projects Portfolio (GMPP) projects. The IPA has created an assurance review pool of over 1,600 independent assurance reviewers from across government and industry.
- **Performance review:** The IPA undertakes the Infrastructure Performance Review to identify ways the government, working with industry, can improve the quality, cost and performance of UK infrastructure, building on the Infrastructure Cost Review 2010–2014. At the upstream end, the IPA supports the preparation of the National Infrastructure Development Plan, which brings together all of the government's infrastructure delivery priorities over the next five years; and the National Infrastructure Construction Pipeline, which is a forward-looking pipeline of planned projects and programs in economic and social infrastructure and housing.

3. Guidance for project preparation

Guidance	THE GREEN BOOK, FIVE CASE MODEL
Owner	Her Majesty's Treasury (HMT)
Project development stage	Feasibility study
Details	<p>The Five Case Model guidance provides an approach to preparing business cases for infrastructure projects. All major projects must design rationales for undertaking a project through dimensions defined in the Five Case Business Model – strategic, economic, commercial, financial and management. The business case, along with the impact assessment reports, are required to be put through a long-list option analysis for delivery, followed by a short-list appraisal on the principles of cost-benefit analysis.</p> <p>Link for further details: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/469317/green_book_guidance_public_sector_business_cases_2015_update.pdf</p>
Guidance	GATEWAY REVIEW PROCESS
Owner	Office of Government Commerce (OGC)
Project development stage	Quality assurance
Details	<p>The Gateway Review process aims to deliver a 'peer review' of projects at critical stages in their lifecycle, to provide assurance that they can progress successfully to the next stage. The Gateway Review Process covers six 'Gates', numbered from 0 to 5. These gateways cover aspects from strategic assessment of the program to examining the full business case of the project, as well as monitoring the operations of a project. Principles of the Green Book are incorporated in Gates 1 and 2. For all major projects, HMT approvals are required at Gates 1, 2 and 3.</p> <p>Link for further details: https://www.gov.uk/government/publications/ogc-gateway-review-0-strategic-assessment-guidance-and-templates</p>
Guidance	INTEGRATED ASSURANCE AND APPROVALS PLAN
Owner	Infrastructure and Projects Authority (IPA)
Project development stage	Quality assurance
Details	<p>These guidelines define the assurance options to be undertaken for a major project, such as: Project Validation Review (PVR) for a major policy initiative; OGC Gate 0 for major programs whose individual project components may not be considered 'major'; OGC Gates 1 – 5 for major projects being delivered through a standard methodology; and Project Assessment Review (PAR), which is tailored to a project's needs. Depending on the project cost and the department's track record of executing projects of similar complexity, major projects must seek assurance from the HMT Spending Team and IPA through one of these routes, at various stages of the project.</p> <p>Link for further details: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/638198/guide_to_implementing_integrated_assurance.odt</p>

Guidance	PROJECT INITIATION ROUTEMAP
Owner	Infrastructure and Projects Authority (IPA)
Project development stage	Project initiation
Details	<p>The Project Initiation Routemap is a structured approach to setting up projects for success and is the IPA's primary tool in supporting the initiation of projects across government.</p> <p>Link for further details: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/529311/</p>
Guidance	PROJECT DELIVERY CAPABILITY FRAMEWORK
Owner	Infrastructure and Projects Authority (IPA)
Project development stage	Institutional capacity development
Details	<p>The framework provides a description of the job roles, capabilities and learning initiatives for professionals involved in project delivery. Using this framework, project delivery professionals can map their career path, identify the skills required to deliver their job, and chart out and monitor a course for development through learning initiatives.</p> <p>Link for further details: https://www.gov.uk/government/publications/project-delivery-capability-framework-for-civil-servants</p>
Guidance	GOVERNMENT ONLINE SKILLS TOOL
Owner	Infrastructure and Projects Authority (IPA)
Project development stage	Institutional capacity development
Details	<p>The GOST has been developed alongside the Project Delivery Capability Framework (PDCF). It helps project delivery professionals to assess their current skill set, identify what skills they need for future career aspirations, and build a development plan to support different types of learning, including on-the-job learning and continuous professional development.</p> <p>Link for further details: https://www.gov.uk/government/publications/project-delivery-capability-framework-for-civil-servants</p>
Guidance	EARLY ASSESSMENT AND SIFTING TOOL
Owner	Department of Transport
Project development stage	Appraisal
Details	<p>The Early Assessment and Sifting Tool is a decision support tool developed to evaluate and appraise options for infrastructure development. It provides decision-makers with relevant, high-level information to help them form an early view of how options perform and compare.</p> <p>Link for further details: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4474/east.xls</p>

4. Project case example: Thames Tideway Tunnel

PROJECT BRIEF

The Thames Tideway Tunnel is an interceptor sewer being constructed in central London to control the 39 million tonnes of untreated sewerage that flows in to the Thames River on an annual basis.

The project was conceptualised in 2000 as a response to the European Commission's Urban Waste Water Treatment Directive, which required the UK to address its non-compliance with the directive's requirements. The sewer tunnel runs 25 kilometres long, from Acton in West London to Abbey Mills in East London, intercepting 34 combined sewer outflows (CSOs).

The project was successfully bid out in 2016, and is privately financed by the Bazalgette consortium, supported by the UK Government's fiscal support package, to mitigate the project risks and make the project viable for private financing.

The planning of this project is a reflection of the UK's inter-agency coordination. The Department of Environment, Food & Rural Affairs (DEFRA), responsible for the overall policy on water and sewerage in the UK, worked closely with Thames Water, a private company responsible for sewerage infrastructure in London, to develop a solution for the overflows. While Thames Water undertook the planning, design and tendering of the project, it was also supported by IUK (later IPA)¹ owing to its major project status.

The Water Services Regulatory Authority (Ofwat) was the independent economic regulator to determine the charges to be borne by the customers of Thames Water for funding the tunnel construction.

Further details on the project can be found on:

<https://www.tideway.london/> and
https://github-webtools.s3.amazonaws.com/umbraco/media/1602/gih_showcaseprojects_thames-tideway.pdf

QUICK FACTS



VALUE
(IN US \$ BILLION)

5.4*



STATUS

Under construction



PROJECT OWNERSHIP

Thames Water



SOURCE OF PROJECT
PREPARATORY FINANCING

**Thames Water internal
accruals**



SUPPORT AGENCIES

IPA, DEFRA

¹ IUK merged with the MPA in 2015 to become the IPA. For the purpose of this case study, the terms IUK and IPA have been used interchangeably, noting that all capabilities of the IUK to support and appraise projects were moved under the IPA umbrella.

*Estimated Exchange Rate: £1 = US \$1.29 (as of November 2018)

PROJECT TIMELINE

- Mar-00 Thames Tideway Strategic Study commissioned
- Mar-05 Report on Thames Tideway Strategic Study completed and presented
- Dec-06 Thames Water publishes detailed analysis on shortlisted options
- Mar-07 DEFRA announced selection of preferred option
- Aug-10 Thames Water Needs Report ratifies selected option
- Sep-10 First round of public consultations launched; IUK commences support to DEFRA
- Nov-11 Second round of public consultations launched
- Oct-12 Final round of public consultation ends
- Nov-12 Infrastructure market participant consultations launched
- Dec-12 Project enters the GMPP
- Feb-13 Thames Water submits planning application
- Sep-13 Preparation of strategic business case; Assurance review 1 by IUK
- Apr-14 Tender of shortlisted contractors by Thames Water for construction contracts
- Sep-14 Preparation of outline business case; Assurance review 2 by IUK
- Sep-14 Ministers grant Development Consent for the project
- Aug-15 Ofwat granted Bazalgette Tunnel Limited a regulatory licence; Government Support Package agreed; project achieved financial close.
- Dec-15 Preparation of full business case; Assurance review 3 by IUK/IPA
- Jan-16 Construction work commences
- 2023 Planned commencement of operations

LEARNINGS FOR PROJECT PREPARATION

1. Support from IUK / IPA for project development

The Thames Tideway Tunnel is not a government project and would therefore not normally be subject to IPA oversight and monitoring. However, given the scale and nature of the project, it was decided that IPA would provide oversight and assurance for the set-up of the project.

IPA provided regular support to the project from its conception in April 2012, when the project was admitted to the GMPP. The areas of assistance provided by IPA included:

- Providing direct support in designing the delivery structure and contingent financial support package by the Government of the UK to make the project attractive for private financing.
- Independent quality assurance reviews with specialist periodic inputs, in line with the OGC Gateway Review Process.
- Assistance on policy-related matters, including acquiring ministerial approval and passing of the National Policy Statement of Waste Water, a critical legislation for parliamentary approval of the project.
- Continued support to DEFRA through long-term secondment for providing expert input.

2. Independent options analysis to choose the best option for delivery

Aligned to IPA's Five Case Model, a series of studies were commissioned in three phases to identify potential solutions to London's sewer outflow challenge. These studies, conducted by a team of inter-departmental expert groups, ensured that a comprehensive appraisal of a broad range of options (including the most cost-effective combination of measures), using cost-benefit analysis, was carried out in accordance with HMT's Green Book guidance.

- *The Thames Tideway Strategic Study (2000-2005).* In this first phase, Thames Water commissioned a task force chaired by an independent expert to conduct the Thames Tideway Strategic Study. To identify options, the task force drew on the views of numerous stakeholders, including the Environment Agency, DEFRA, the Greater London Authority and Ofwat. The study identified eight possible options and further conducted feasibility and cost-benefit analysis for each of these.

- *The Thames Tideway Advisory Group (2005-2006)*. Building on the options identified under the Strategic Study, DEFRA commissioned a working group to evaluate the findings of the report. The working group further shortlisted three options for detailed evaluation, on the basis of which the existing full tunnel option was identified as the most suitable solution.
- *The Needs Report (2009-10)*. Thames Water's Needs Report further ratified that the Tideway Tunnel continued to remain the most cost-effective solution for achieving the statutory environmental obligations.

3. Clarity in outcome translating to defined objectives

The Thames Tideway Tunnel project was designed to meet a specific set of clearly defined goals – to reduce the sewage pollution being discharged into the River Thames, in line with European Commission directives for environmental conservation. To support this, DEFRA's departmental strategic objectives were translated in to specific criteria on the basis of which identified options for project delivery were evaluated. These objectives defined the measures for minimum satisfactory performance for the sewer tunnel, derived from the negative effects likely to eventuate in the absence of a solution.

To select the optimal solution for the problem, the lowest-cost solution, which met all three criteria, was selected.

The criteria has now evolved into a defined framework for monitoring the project progress and outcome by independent technical assessors empaneled by DEFRA.

4. Extensive public-private engagement at the planning stage

Thames Water carried out two extensive public consultations to refine the route for the Thames Tideway Tunnel. The first round of public consultation took place between September 2010 and January 2011, and the second between November 2011 and February 2012. It also conducted a third targeted consultation on four specific sites between June 2012 and July 2012. Thames Water subsequently revised its plans and submitted its planning application for a Development Consent Order (DCO) to the Planning Inspectorate on 28 February 2013.

5. Strong leadership team comprising trained project managers

Thames Tideway Tunnel's project team was supported by a long-term secondment from IPA to provide ongoing expert input to overcome the challenges in project development. Further, several members of the project team, including the Senior Responsible Officer, were graduates of the government's Major Projects Leadership Academy (MPLA). The experience of the project team in dealing with major projects within IPA and supported training helped shape their approach to management of the project, particularly in the areas of public engagement and stakeholder management.

6. Applied learning from past experiences

While cost estimates for the tunnel increased progressively from 2007, owing to changes in scope and design, experience from the Lee Tunnel, a similar project in the UK, was used to bring about better understanding and rationalisation of cost estimates. Further, the project benefitted significantly from IPA's experience in dealing with similar large-scale projects under Crossrail and High Speed Rail 2, ensuring more detailed upfront planning than is usual for a PPP project at the pre-commissioning stage itself. For instance, unlike the traditional design and build approach for PPP projects, detailed design plans for the project were developed prior to commencement of the tender procedure, under the oversight of Ofwat.

Appendix B: Detailed methodology for reference tool

The objective of the analysis was to understand the broader economic and infrastructure context in the shortlisted countries and key elements of the existing project preparation ecosystem that drive public and private sector infrastructure investment growth.

1. Task 1: Selection of countries for the reference tool

The identification of country case studies for the preparation of the reference tool was driven by two-stage multi-factor criteria:

Stage I – Quantitative framework, and regional and income assessment

The country evaluation was based on two-step criteria:

- *Step 1 – Countries ranked in top 100 on quality of infrastructure in the infrastructure pillar of the WEF Global Competitiveness Index, 2017* – The Global Competitiveness Report published by the World Economic Forum (WEF) ranks 135 countries across 12 pillars – one of them being infrastructure. Within this pillar, each country is scored from 1 – 7 on the basis of: (i) quality of overall infrastructure; (ii) quality of transport infrastructure (roads, rail, ports, aviation); (iii) quality of electricity supply; and (iv) mobile cellular and fixed telephone line connections. Presence of quality infrastructure in a country could be considered as a proxy of strong project preparation processes, enabling large-scale infrastructure programs to be delivered in the country. **For the reference tool, the top 100 ranked countries were shortlisted.**
- *Step 2 – Countries with a score of 45 and above in Project Preparation under Procuring Infrastructure PPPs 2018* – A study conducted by the World Bank ranks economies on the ability of governments to prepare, procure and manage PPP projects in the country. One of the pillars on which these countries have been scored includes the preparation of PPPs, which has been evaluated on 10 indicators covering: (i) approval for PPP projects by a central budgetary authority; (ii) integration of PPPs with public finance management; (iii) assessment of feasibility studies required to be conducted; and (iv) availability of standardised documentation and PPP contracts. **Based on the above, 58 countries with a project preparation score of more than 45% were initially shortlisted for analysis.**
- *Regional and income distribution* – The initial shortlist of countries was passed through a regional and income filter to ensure wider adaptability of the reference tool. Although it is evident that the developed countries generally have better overall scores in the quantitative framework and in the general quality of project preparation, it was also important that the reference tool captured best practices from across regional and income brackets. **A total of 28 top-ranked countries were shortlisted at this step.** The number of countries shortlisted in each region is driven by the population of the region and its contribution to global GDP. Accordingly, the following countries were shortlisted after Stage I:
 - **Middle East and Africa** – A total of five countries were shortlisted for qualitative assessment, which included *UAE (High income), Mauritius and South Africa (Upper-middle income), Kenya (Lower-middle income), and Rwanda (Low income).*
 - **Americas** – The shortlisting of countries represented the high and upper-middle income segments. A total of six countries were shortlisted for qualitative assessment, which included *USA, Canada and Chile (High income), and Brazil, Mexico and Ecuador (Upper-middle income).*
 - **Europe and Central Asia** – A total of five countries were shortlisted for qualitative assessment, which included *the Netherlands, Switzerland, France, Germany and the UK (High income).* Since most of the countries in the region are in the high income segment, income segmentation was not considered for the shortlisting process.
 - **South and East Asia, and the Pacific** – A total of twelve countries were shortlisted for qualitative assessment, which included *Australia and New Zealand (Pacific – High income), Japan and the Republic of Korea¹ (High income), China and Malaysia (Upper-middle income), and India, Indonesia, the Philippines, Sri Lanka and Vietnam (Lower-middle income).* The shortlisting of countries selected represents both high and middle income segments.

¹ Higher-ranked Hong Kong and Singapore were not considered due to their limited geographical area and population.

Stage II – Qualitative analysis

In addition, for the final selection, a qualitative filter was applied based on the collective experience of our expert team in working in these countries. The qualitative analysis gauged the effectiveness of shortlisted countries in shaping unique programs related to infrastructure and project preparation to meet their specific needs and in adopting good practices in project preparation.

The qualitative framework for project selection is detailed below:

- Income-based classification** – Under each region, countries were grouped according to their income category, to integrate country experiences in project preparation across income categories and better understand different solutions to meet varied socioeconomic needs. The income segmentation was based on the World Bank’s Country and Lending Groups classification for the fiscal year 2019.
- Private sector investment** – The countries were categorised based on the level of private sector investment that was attracted over the last five years against the total infrastructure investments made; the hypothesis being that the ability to tap private investments is generally indicative of the trust in the quality of project preparation processes in the country. The information on investments related to private sector and infrastructure was sourced from the country profiles under GI Hub’s InfraCompass and was contextualised based on the knowledge of the expert team. The classification was based on the proportion of private sector investment to total investment and divided into the following categories: Less than 10% (Low), Between 10% and 15% (Moderate), 15% and above (Strong).
- Elements of good practices in project preparation** – Finally, countries were studied on the distinctive elements or application of good principles in project preparation. This included assimilating key elements of select transformational infrastructure programs that have been relatively successful in preparing bankable projects and attracting private finance. Countries with clearly established legal, institutional and procedural frameworks for project preparation, systematic application of project preparation standards across projects/ programs and an established track record of successful project preparation were categorised as ‘Strong’. Countries with an established legal, institutional and procedural framework,

but limited application in projects/programs were categorised as ‘Moderate’. Countries with relatively lower project preparation standards, and limited success in application were categorised as ‘Low’.

Based on a quantitative and qualitative approach used for country selection for the reference tool, 15 countries were shortlisted across all continents to maintain a regional balance. The list of countries selected forms an initial list of countries covered for the reference tool. There may be potential to update the reference tool from time to time, incorporating learnings from the original broader list of countries.

■ HI: High income ■ LMI: Lower-middle income
 ■ UMI: Upper-middle income ■ LI: Low income



2. Task 2: Mapping the project preparation ecosystem in each country

This stage involved mapping the project preparation landscape in the shortlisted countries based on extensive secondary research and targeted consultations with country level key officials. The steps in mapping the project preparation ecosystem for each country is provided hereunder:

- **Identification of key officials from each country**
 - Based on an initial assessment of the project preparation landscape in the identified country, a preliminary list of institutions and key officials involved in project preparation were shortlisted. This included the apex institution or specialised agency for capacity building, and sectoral departments or agencies and support agencies in project preparation. The list of key officials was further strengthened with inputs from the GI Hub team and inputs from the experts working on the assignment. The final list of stakeholders reached out to during the course of preparation of the reference tool is attached in Appendix D.
- **A formal request** for support was sent to the key representatives of the agencies identified. As inputs for the call, the following documents were also prepared and shared with the country officials: i) a consultation docket, including a brief questionnaire on the project preparation scenario in the country, and an initial list of identified best practices in the country; and ii) an information docket, which includes an initial list of identified best practices from the country and an overview of the project preparation landscape, based on secondary research for validation and inputs. The information docket was prepared to create a shared understanding of the project preparation context in the country, covering the size of project preparation, the institutional responsibilities for project preparation and the key stakeholders.
- **Multiple rounds of interaction with country officials and preparation of country case study**
 - We initiated consultations (largely through telephonic consultations) with the officials across two stages: *Stage 1 – Consultations to identify the project preparation landscape in the country and examples of key successful projects; Stage 2 – Country case study review and validation.* The secondary research and the interactions were critical inputs to the preparation of the country case studies.

- **Shortlisting of project case studies** – The shortlisting of project case studies was driven by the suggestions of the country level officials, inputs from the GI Hub team and inputs from our expert team. The project case studies were selected to reflect learnings across the project preparation spectrum while ensuring sectoral representation. The information provided by the country officials was complemented by secondary research.
- **Mapping of noteworthy practices and tools for project preparation** – After mapping the project preparation landscape, we worked in close coordination with the GI Hub team to identify the noteworthy practices and the unique tools that assist in improving the quality of project preparation in each country. The noteworthy practices were identified across each element of project preparation including enabling environment, public sector capacity, project identification and concept definition, project feasibility and structuring, project approvals and processes, and project marketing and stakeholder engagement.

The findings from primary and secondary research were complemented with insights from our Project Team, which brings in experience in project preparation from across several countries in South Asia, South-East Asia, Africa, Latin America and Europe.

3. Task 3: Collating the ideas from tasks above as inputs to the reference tool

As a final step towards the study, we focused on preparing the overall project preparation reference tool. The reference tool was structured to address all aspects of project preparation that were relevant to governments and implementing agencies across the globe.

The reference tool reviewed key success factors underlying project preparation through a country-lens perspective. It was designed to be complementary to the *G20 IWG Principles for the Infrastructure Project Preparation Phase and the MDB Guidance Note on PPF Structure and Operations*.

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Appendix D: List of organisations contacted

Name of the Stakeholder	Designation	Institution
Australia		
1. Simon Phemister	Former Deputy Secretary, Economic Policy and State Productivity	Department of Premier and Cabinet
2. Kevin Doherty	CEO	Department of Treasury and Finance Victoria
3. David Webster	Deputy Secretary, Commercial Division	Department of Treasury and Finance Victoria
4. Jason Loos	Executive Director	Department of Treasury and Finance Victoria
5. Jim Betts	CEO	Infrastructure NSW
6. Michel Masson	CEO	Infrastructure Victoria
7. Anna Chau	Acting Chief Executive	Infrastructure Australia
Brazil		
8. Marco Aurelio Barcelos Silva	Legal adviser and former Director of the PPP Unit of the State of Minas Gerais	PPP Unit of the State of Minas Gerais
9. Diogenes Eduardo Cardoso Alvares	Planning Director	EPL
Chile		
10. Maria Rossetti	National Planning Director	Ministry of Public Works
11. Mariana Amelia Concha Mathiesen	General Director of Public Works	Ministry of Public Works

Name of the Stakeholder	Designation	Institution
Canada		
12. Lisa Mitchell	Senior Director	Infrastructure Canada
13. Glen Campbell	Assistant Deputy Minister, Investment, Partnerships and Innovation	Infrastructure Canada
14. Andrea Roberts	Manager, Infrastructure Finance Policy Unit	Ontario Ministry of Infrastructure
India		
15. Mrutyunjay Bihara	Director Infrastructure	Ministry of Finance
16. Sanjana Kadyan	Assistant Director	Ministry of Finance
Indonesia		
17. Wimsana Adi Suryabrata	Facilities and Infrastructure Deputy	BAPPENAS (Indonesian Ministry of National Development Planning)
18. Sri Bagus Guritno	Director	BAPPENAS (Indonesian Ministry of National Development Planning)
19. Emma Sri Martini	President Director	PT SMI
20. Faaris Pranawa	Director	PT SMI
21. Darwin Trisna Djajawinata	Project Development and Advisory Director, Head of Investor Relation Unit, Directorate	PT SMI
22. Farid Wibowo	General of Budget Financing and Risk Management	Ministry of Finance
23. Rainer Haryanto	Program Director	KPPIP
24. Salsura Satria	Executive Director of Finance and Project Assessment	IIGF
Kenya		
25. Charles Ndambuki	Senior Economist	Ministry of Finance Kenya
26. Kaara Wainaina	External Affairs Expert	PPP Unit, National Treasury of Kenya

Name of the Stakeholder	Designation	Institution
Mexico		
27. Santiago Creuheras	Director General for Energy Efficiency and Sustainability	Secretaria De Energia
28. Irma Puente	Deputy Director of Studies and Technical Evaluation	FONADIN
Netherlands		
29. Jan van Schoonhoven	Senior Advisor	INFRASTRUCTURE and PPP Netherlands Government
30. Farid Bouchdak	Purchaser and Managing Contractor	Rijkswaterstaat
31. Obbe Wassenaar	Strategic Consultant	Angle of View, Advies
Philippines		
32. Roderick M. Planta	Assistant Secretary and Concurrent Director	The National Economic and Development Authority
33. Michelle Sebistina	Project Development and Monitoring Facility Service	PPP Centre of the Philippines
Rwanda		
34. Moses Asimwe	Head of Strategic Investment Division	Rwanda Development Board
35. Innocent Bajiji	Acting CEO	Rwanda Development Board
36. Jackson Mughisha	PPP Specialist	Local Administrative Entities Development Agency
37. Oscar Nzirera	Capacity Building Expert	Rwanda Association of Local Government Authorities
38. Kaara Wainaina	External Affairs Expert	Local Administrative Entities Development Agency
39. Charles Kalinda	Director, National Investment Planning & Project Quality Assurance	Ministry of Finance and Economic Planning

Name of the Stakeholder	Designation	Institution
South Africa		
40. James Aiello	Transaction Advisory Services and PPP	GTAC
41. Elsa Strydom	Senior Project Advisor	National Treasury of South Africa
The Republic of Korea		
42. Hyeon Seok Park	Deputy Director, PPP Policy Division	Ministry of Economy and Finance
43. Okju Lee	Deputy Director, PPP Policy Division	Ministry of Economy and Finance
44. Jaehyuk Ahn	Deputy Director, Road Policy Division	Ministry of Land, Infrastructure and Transport
45. Takkyung Kim	Head, Policy Research Team	Korea Development Institute, Public and Private Infrastructure Investment Management Center
United Kingdom		
46. James Bowler	Director General, Public Spending	HM Treasury
47. Alex Barton	Policy Advisor	Infrastructure and Projects Authority
48. Karineh Grigorian	Commercial Manager, International	Infrastructure and Projects Authority
49. Phil Graham	Chief Executive	National Infrastructure Commission
50. Anthony Boucher	Deputy Director, Roads Devolution and Motoring	Department of Transport
51. Matthew Lodge	Director and Head of Project Delivery Profession - Rail	Department of Transport

Appendix E: Consultant team

Mr. Pratyush Prashant – Team Leader

Mr. David Baxter – PPP Expert
(Europe and Latin America)

Mr. Anand Madhavan – Project Director
and PPP Expert (Asia and Africa)

Mr. SM Sundarajan – Analyst

Ms. Shikha Parekh – Analyst

Ms. Ayushi Gupta – Analyst

Mr. Rohan Teli – Analyst

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CONTACT US GLOBAL INFRASTRUCTURE HUB

P: +61 2 8315 5300

E: contact@gihub.org

W: gihub.org



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