

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