

# 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 projects<sup>1</sup>, 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.

<sup>1</sup> 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  $\geq 0.5$ , 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.

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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><b>Link for further details:</b> <a href="https://www.kdi.re.kr/kdi_eng/kdicenter/general_guidelines_for_pfs.pdf">https://www.kdi.re.kr/kdi_eng/kdicenter/general_guidelines_for_pfs.pdf</a>  <a href="http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor12">http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor12</a> (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><b>Link for further details:</b> <a href="http://pimac.kdi.re.kr/guide/rguide_list.jsp">http://pimac.kdi.re.kr/guide/rguide_list.jsp</a></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><b>Link for further details:</b> <a href="http://pimac.kdi.re.kr/guide/vguide_list.jsp">http://pimac.kdi.re.kr/guide/vguide_list.jsp</a>  <a href="http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor1">http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor1</a> (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"> <li>Phase I – Project Conception</li> <li>Phase II – Preliminary Feasibility Study</li> <li>Phase III – Feasibility Study and Establishment of Basic Plan</li> <li>Phase IV – Basic Designing</li> <li>Phase V – Engineering Design</li> <li>Phase VI – Awarding and Execution of Contracts</li> <li>Phase VII – Construction</li> </ul> <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><b>Link for further details:</b> <a href="https://www.kdi.re.kr/kdi_eng/kdicenter/guidelines_for_tpcm.pdf">https://www.kdi.re.kr/kdi_eng/kdicenter/guidelines_for_tpcm.pdf</a>  <a href="http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor1">http://www.law.go.kr/admRulSc.do?tabMenuId=tab107#liBgcolor1</a> (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 million<sup>2</sup> 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 placemaking<sup>3</sup>.

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**

<sup>2</sup> The project cost was KRW 455 billion; Exchange rate considered is 1 KRW = US \$0.00089 as of 7 December 2018

<sup>3</sup> 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.