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</tbody>
</table>
What are PPPs?
Section 1 – What are PPPs?

What are Public Private Partnerships ("PPPs")

PPP are long term contracts between a Public Authority and a private partner to provide a public infrastructure or service in which the private partner bears significant financial and management responsibility.

Source: Cities Development Initiative for Asia
Section 1 – What are PPPs?

**Characteristics of PPPs**

- Mainly used for service provision over a long period of time
- Often involves the construction of new assets
- Private sector expects to recover its investment and make a return
- Public sector typically pays for provision of services it stipulates
- Public sector retains property and service responsibility
- Concession term generally linked to economic life of asset
- Real Risks are shared between the public and private participants
Overview of Procurement Methods

Countries have been exploring different procurement methods based on their economic objectives and trends.

<table>
<thead>
<tr>
<th></th>
<th>Traditional Procurement</th>
<th>Public Private Partnerships</th>
<th>Privatisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Budget</td>
<td>Immediate budget impact</td>
<td>Impact spread over a long period of time</td>
<td>No impact</td>
</tr>
<tr>
<td>Risks</td>
<td>Public sector bears risks</td>
<td>Risks shared</td>
<td>Private sector bears risks</td>
</tr>
<tr>
<td>Government Involvement</td>
<td>All aspects of procurement</td>
<td>Facilitator/ Payment for service</td>
<td>Regulator</td>
</tr>
</tbody>
</table>
The Concept of a PPP Model

Section 1 – What are PPPs?

PPPs Workshop •
Traditional Procurement vs. PPPs

**Traditional Procurement**

- **Phase 1:** Design and Construction
  - Design Contract
  - Construction Contract
  - **Phase 2:** Operations and Maintenance
    - Operations Contract
    - Maintenance Contract

- **Infrastructure Project**

**PPP Model**

- **Public Agency**
- **Project Agreement** to **Project Company**
- **Multiple Subcontracts**
  - Design Company
  - Operations Company
  - Construction Company
  - Maintenance Company

- **Infrastructure Project**
## Typical Features of Traditional Procurement vs. PPPs

<table>
<thead>
<tr>
<th>Traditional Procurement</th>
<th>PPP Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Agency procures an ‘asset’</td>
<td>A ‘service’ is procured</td>
</tr>
<tr>
<td>Government Agency may be exposed to some construction risk</td>
<td>Private sector takes construction risk</td>
</tr>
<tr>
<td>Government Agency enters into different contracts for:</td>
<td>Single contract with one company i.e. the Project Company/ PPP Co.</td>
</tr>
<tr>
<td>- Construction</td>
<td></td>
</tr>
<tr>
<td>- Operation &amp; Maintenance</td>
<td></td>
</tr>
<tr>
<td>- Ancillary services</td>
<td></td>
</tr>
<tr>
<td>Most of the project risks (like life-cycle) lie with the Government Agency</td>
<td>Allow optimal risk allocation e.g. life-cycle risk would lie with private sector</td>
</tr>
<tr>
<td>Limited scope for private sector innovation</td>
<td>Competitive process allows private sector to show innovative ideas</td>
</tr>
</tbody>
</table>
Characteristics of an Infrastructure Investment

- **Strong cash generation** - able to fund regular dividends
- **Asset-backed** – ability to raise debt finance
- **Steady state businesses**, offering stability
- **Essential services**
- **Good risk-adjusted returns**
- **High barriers to entry** (therefore often regulated)
Section 1 – What are PPPs?

*Is this a PPP transaction?*

*Which “arrangements between public and private sector” would you qualify as PPP transactions?*
Section 1 – What are PPPs?

**Is this a PPP transaction?**

1. Construction contract for a power plant
2. Long term road operation and maintenance contract
3. Designing, Building and Operating a water treatment plant in exchange for a performance based payment or tariff
4. Designing, Building, Financing and Operating a road in exchange for a performance based payment or a toll
5. 3-year construction contract to build a new hospital using supplier finance to finance the construction. This finance is repaid by public sector one year after construction
Section 1 – What are PPPs?

Is this a PPP transaction?

1. Construction contract for a power plant is not a PPP
2. Long term road operation and maintenance contract may be a PPP
3. Designing, Building and Operating a water treatment plant in exchange for a performance based payment or tariff is a PPP
4. Designing, Building, Financing and Operating a road in exchange for a performance based payment or a toll is a PPP
5. 3-year construction contract to build a new hospital using supplier finance to finance the construction. This finance is repaid by public sector one year after construction is not a PPP
Why use PPPs?
Section 2 – Why use PPPs?

Why use PPPs?

A well-designed PPP structure can address concerns and requirements of all stakeholders.

In developing a PPP programme, governments will need a clear understanding of the drivers and objectives to ensure that any PPP programme is clearly understood, and that the market and the public respond to it favourably.
Section 2 – Why use PPPs?

**What Does the Private Sector Look For?**

- Institutional certainty – political, legal and regulatory. Robust legal and regulatory framework – ie. enforceability of contracts.
- Acceptable counter party payment risks - Can the contracting agency honour the contract (and pay)?
- Certainty of availability and costs of land (right of use vs ownership)
- Ability to forecast revenues and costs – Stable, consistent cash flows,
- Adequate risks vs rewards trade-off (ie. availability payments vs volume risks)
What Does the Private Sector Look For?

- A “bankable” concession ie. power purchase agreement (PPA) – deliverable requirements and risks are adequately shared
- Track record and capability of sponsors
- Tried and tested technology – technical due diligence
- Adequate insurance for the plant
- Remedies and recourses if there are problems (ie. step-in rights)
- Equitable termination clauses (for various types of defaults)

Investors value established practices in the design of the PPP model in respective countries
Government Rationale for Adopting the PPP Model

Value for Money
- Competitive pricing environment for construction, operations and financing
- In India, it is not strictly followed

On-time delivery
- Private sector must complete on time or suffer significant penalties

Fixed cost contracts
- Cost over-runs are responsibility of the private sector

Appropriate Risk Allocation
- Governments are usually not set up to take the day-to-day risks of high value, complex infrastructure projects

Section 2 – Why use PPPs?
Basic tests applied for PPPs

- There are three internationally applied standard tests to determine whether a PPP is the appropriate vehicle for procuring a public asset or service:
  - Is there substantial risk transfer to the private sector?
  - Is the project affordable to the procuring institution?
  - Does a PPP procurement option show value for money?
Types of PPPs / PPP Delivery Models
Section 3 – Types of PPPs / PPP Delivery Models

Types of PPPs and Associated Risk Transfer

1 Alternates structure may just include maintenance responsibilities and not full operations including maintenance

PPPs Workshop •
## PPP Delivery Models

<table>
<thead>
<tr>
<th>Contract Type &amp; (Duration)</th>
<th>Characteristics</th>
<th>Service &amp; Payment to Private Sector Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asset Ownership</td>
<td>O&amp;M</td>
</tr>
<tr>
<td><strong>Service Contract</strong> (1-3 years)</td>
<td>Public</td>
<td>Public &amp; Private</td>
</tr>
<tr>
<td><strong>Management Contract</strong> (3-8 years)</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td><strong>Lease Contract</strong> (5-10 years)</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td><strong>Concession, BOT, BOO, etc.</strong> (10-30 years)</td>
<td>Private &amp; Public</td>
<td>Private</td>
</tr>
</tbody>
</table>

PPP Delivery Models

<table>
<thead>
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<th>Contract Type &amp; (Duration)</th>
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<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td><strong>Concession, BOT, BOO, etc.</strong> (10-30 years)</td>
<td>Private &amp; Public</td>
<td>Private</td>
</tr>
</tbody>
</table>
# Characteristics of Various Concessions

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Design–Bid–Build</td>
<td>Public</td>
<td>Private by fee contract</td>
<td>Private by fee contract</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Design–Build</td>
<td>Public</td>
<td>Private by fee contract</td>
<td>Private by fee contract</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Build–Operate–Transfer (BOT)</td>
<td>Public</td>
<td>Private by fee contract</td>
<td>Private by fee contract</td>
<td>Private by fee contract</td>
<td>Public</td>
</tr>
<tr>
<td>Design–Build–Finance–Operate (DBFO)</td>
<td>Public</td>
<td>Private by fee contract</td>
<td>Private by fee contract</td>
<td>Private by fee contract</td>
<td>Public or Private</td>
</tr>
<tr>
<td>Build–Own–Operate (BOO)</td>
<td>Private</td>
<td>Private by contract</td>
<td>Private by contract</td>
<td>Private by contract</td>
<td>Private</td>
</tr>
</tbody>
</table>
Typical Contractual Structure of a PPP
## Key Contracts

<table>
<thead>
<tr>
<th>Contracts</th>
<th>Description</th>
</tr>
</thead>
</table>
| **PPP Contract / Implementation Agreement** | • The key contracts underpinning the project between the Government and the Project Co  
• Set out the facilities and services required  
• Output specification, Payment mechanism, Key performance indicators (KPI), etc. |
| **EPC Contract** | • Between Project Co and EPC Contractor  
• Structured back-to-back with the PPP Contract  
• Construction obligations under the PPP Contract is passed to the EPC Contractor |
| **Operation & Maintenance Contract** | • Between Project Co and O&M Contractor  
• Service obligations under the PPP Contract is passed to the O&M Contractor |
| **Funding Agreement** | • Key document underpinning the Project finance  
• Between the Project Co. and the Lender |
PPP Contract/Implementation Agreement

- Defines rights and obligations of the parties to the contract
- Defines term of the contract and conditions for contract termination and related compensations
- Identifiable and measurable works output specifications and service standards
- Implements risk allocation principles
- Describes the payment mechanism
- Defines scope and process for making changes to the contract, process for dealing with force majeure situations and terms for project insurances
- Sets out dispute resolution mechanics
- Defines terms for security and performance bonds, penalty systems, definition of default situations
Risk Transfer
What is Risk?

- Risk is the probability of the occurrence of an undesirable event during the course of a project
- Not all risks are quantifiable/measurable, and not all risks can be quantified/measured accurately
- However, quantifying risks is important to carry out risk mitigation

Optimal risk allocation between different parties is important to ensure a direct relationship between risk and return and assigning responsibilities
Risk Transfer

• PPP projects provide the flexibility to transfer risk to the parties best able to manage it
• The private sector typically takes risks such as design, construction and operating performance
• The public sector typically takes risks such as risk of change in policy as well as some demand risk
• Principle: need to assign risk to the party which is best able to manage it
  › allow public sector to focus on its core competency; and
  › harness private sector expertise and innovation.
• Risk- Reward: is reflected in the Payment Mechanism
• Value for Money: is achieved when there is Optimal Risk Allocation
Optimal Risk Transfer

PPP project

Value for money

Risk transfer

Optimal risk transfer
Type of Project Risks

- Land acquisition & planning permission
- Approvals (environmental, etc.)
- Design
- Construction
- Commissioning
- Latent defects
- Operating performance
- Operating & maintenance costs
- Third party revenue
- Demand (volume)
- Residual value
- Inflation
- Regulatory
- Taxation
- Force Majeure
- Changes in requirement
- Financing risk & Interest rate risk
- Price risk
Risks should be allocated to the party best able to understand and manage them

Public
- Land acquisition
- Demand risk (to an extent)
- Changes in scope
- Latent defects (existing)

Shared
- Inflation
- Regulatory
- Taxation
- Force Majeure

Private
- Design & construction
- Commissioning
- Operating & maintenance costs
- Operating performance
- Latent defects (new)
- Third party revenue
Identify Risk Types

What type of risks are can you identify in the following scenarios?
### Identify Risk Types

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Risk Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government telling the private sector to design the project</td>
<td></td>
</tr>
<tr>
<td>Delay in land acquisition</td>
<td></td>
</tr>
<tr>
<td>Change in regulation that impacts the project</td>
<td></td>
</tr>
<tr>
<td>Offtake of quantity of water less than expected</td>
<td></td>
</tr>
<tr>
<td>Increase requirement of maintenance of the assets</td>
<td></td>
</tr>
<tr>
<td>PPP operator able to raise sufficient finance at the desired rate of interest</td>
<td></td>
</tr>
<tr>
<td>Delay in rehabilitation of population</td>
<td></td>
</tr>
</tbody>
</table>
## Identify Risk Types - Answers

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Risk Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government telling the private sector to design the project</td>
<td>Design/ Demand/ Construction</td>
</tr>
<tr>
<td>Delay in land acquisition</td>
<td>Construction/ Commercial/ Operation</td>
</tr>
<tr>
<td>Change in regulation that impacts the project</td>
<td>Performance /Change in Law / Design</td>
</tr>
<tr>
<td>Offtake of quantity of water less than expected</td>
<td>Financing/ Operation/ Demand Risk</td>
</tr>
<tr>
<td>Increase requirement of maintenance of the assets</td>
<td>Demand/ Operation/ Financing</td>
</tr>
<tr>
<td>PPP operator able to raise sufficient finance at the desired rate of interest</td>
<td>Financing/ Construction/ Regulatory</td>
</tr>
<tr>
<td>Delay in rehabilitation of population</td>
<td>Design/ Demand/ Construction</td>
</tr>
</tbody>
</table>
PPP Procurement process
**Lifecycle of PPP procurement process – International practise**

- The purpose of this section is to take you through the steps involved in the PPP procurement process including:
  - Inception & feasibility Studies (Business Case)
  - Procurement design
  - Procurement process (Tender)
  - Post-deal Implementation
Inception & Feasibility (Business Case)
Feasibility and Business Case

- Needs Analysis
- Options Analysis
- Due Diligence
- Economic & Financial Analysis
- VfM & Risk Assessment
- Affordability Assessment
- Confirm PPP procurement route
- Business Case Approval
1. Needs Analysis

• Demonstrates that the project aligns with the institution’s strategic objectives
• Identifies the available budget
• Defines the scope of the project
• Specifies the outputs required
## Output Specification - Housing PPP

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>SMART</th>
<th>Not SMART</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific</strong></td>
<td>Refurbish or replace all dwellings on the estate to comply with the government’s “decent homes” standard</td>
<td>Refurbish dwellings to a good standard</td>
</tr>
<tr>
<td><strong>Measurable</strong></td>
<td>Ensure that all dwellings are structurally sound, with adequate ventilation, lighting, and thermal comfort</td>
<td>Ensure that dwellings are fit for habitation</td>
</tr>
<tr>
<td><strong>Achievable</strong></td>
<td>Maintain internal temperature at X degrees when outside temperature is between Y and Z degrees</td>
<td>Ensure that internal temperature is always maintained at X degrees</td>
</tr>
<tr>
<td><strong>Realistic</strong></td>
<td>Ensure that faults with the temperature control system are rectified within eight hours during business hours and 16 hours outside business hours</td>
<td>Ensure that faults with the temperature control system are repaired within two hours</td>
</tr>
<tr>
<td><strong>Timely</strong></td>
<td>Maintain a log of faults and report every month</td>
<td>Provide an annual report on performance</td>
</tr>
</tbody>
</table>
Section 6 – Inception & Feasibility (Business Case)

2. *Options Analysis*

- Identifies the best way of responding to a service need
- List all the solution options potentially available
- Evaluate each option against applicable technical, economic and regulatory criteria
- Score and rank the options and agree a preferred option for further development

**Note: PPP is a procurement choice not a solution option**
Options Analysis - Examples

Water Supply
• Bulk water deficit 300l/sec.
• Options available:
  ◦ Distant high quality raw water source (high capital cost)
  ◦ Near poorer quality raw water source (lower capital cost; higher O&M cost)
  ◦ Reduce water losses (cheaper but technically complex)

Office Accommodation
• Employees do not have adequate office space; spread out over many buildings making coordination difficult
• Options available:
  ◦ Rent better space in another building (only affects routine cost)
  ◦ Renovate current building and add capacity (increased capital and routine cost)
  ◦ Build a new building outside of town (increased capital and routine cost plus higher employee transport)
3. *Project Due Diligence*

- Conduct legal, land and site, technical, social and environmental due diligence

- Early identification of issues and quality of exercise is essential for future success

- The importance of DD issues should not be underestimated including:
  - Zoning and land use regulations
  - Environmental and social impact assessment
  - Site ownership and availability
  - Existing asset quality and residual life
  - Service demand
4. Economic Analysis

- Cost-benefit analysis of preferred options
- Must consider all economic costs and benefits including any externalities
- Should take account of social and environmental factors
- Consider impact of end-of-life, residual value issues (if applicable)
- Usually based on a discounted cashflow model
- Methodology may be pre-set by Government Authority
- Economic NPV should calculated using the applicable public sector Discount Rate

Note: Economic Analysis is not the same as the Financial Analysis which focuses on direct project costs (next slide)
4. Financial Analysis

Assumptions
- Assumptions in real terms
- Capital expenditure
- Capital structure
  - Debt / Equity
  - Shareholder loans vs pure equity
- Pricing assumptions / Indexation
- Revenue projection assumptions
- Staff costs
- Operating leases
- O&M and warranty
- Security
- Utilities
- Tax rates
- Inflation
- Working capital requirements
- Depreciation rates
- Financing – interest rates, margins, drawdown and repayment profiles, covenant ratios
- Development fees
- Success fees

Calculations
- Nominal (inflated) figures
- Main sources of revenue
- Operating expenditure (detail)
  - Employee costs
  - Operating and maintenance costs
  - Other expenses
- Financing costs and interest payable
- Capital expenditure
- Depreciation
- Working capital (A/R, A/P, cash)
- Tax allowances
- Loss carry-forwards and tax allowances
- Current and long-term portion of loans payable
- Reserve accounts for debt service and major maintenance

Outputs (forecasts)
- Statement of cash flows
  - Net operating
  - Pre-finance and pre-tax
  - Post-finance and post-tax
  - Cash carried forward
- Profit and loss (gross profit, EBITDA, EBIT, net income)
- Balance sheet
- Annual funding requirement schedule
- Loan summary schedules:
  - Drawdowns and repayments (sculpted vs amort)
- Interest expense
- Capital assets and depreciation
- Tax allowance and losses summary
- Profitability ratios, liquidity ratios, gearing ratios (debt to equity)
- Distributions to shareholders
- IRR (post and pre-tax) – shareholder, project
- Illustrative Graphs

Create scenarios by varying key assumptions

Sensitivity Analysis
Value for Money (VfM)

What is your understanding of Value for Money (VfM)?
5. Value for Money (VfM) Assessment

“Value for Money (VfM) describes a net benefit, both in quantitative (financial) and qualitative terms, from the outcomes of a PPP project compared to the same project delivered by the public sector over the entire lifespan of the project.”

- VfM is not the choice of the goods or services based on the lowest cost bid

- Factors that influence the VfM:
  - Risk allocation between the Public and Private sector
  - Focus on whole life rather than upfront costs
  - Use of output specification
  - Flexibility in relation to design and service delivery

VfM calculated by comparing Public Sector Comparator (PSC) with the PPP Reference or Shadow Bid Model
Section 6 – Inception & Feasibility (Business Case)

**Risk Adjustment**

- Identify all relevant risks
- Estimate potential impacts on project cost if risk crystalizes;
- Calculate probability of occurrence
- Calculate probability-adjusted cost
- Confirm risk allocation (retained/shared/transferred)
- Aggregate cost of transferred risks & include in PSC calculation
## Illustrative Risk Allocation

<table>
<thead>
<tr>
<th>Risk</th>
<th>Allocation</th>
<th>Mitigation/comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Risks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geological risk</td>
<td>Contractor/shared</td>
<td>A major risk on some road schemes given extent of tunnelling work required. Contractor unlikely to accept full risk. Extensive site investigation required.</td>
</tr>
<tr>
<td>Construction cost over-run</td>
<td>Contractor</td>
<td>Key risk given scale of expenditure and length of build period. See comment re geological risk above. Fixed price construction contracts (EPC or multi-contract), liquidated damages and bonding etc. to be in place.</td>
</tr>
<tr>
<td>Construction delay</td>
<td>Contractor</td>
<td>As for construction cost; incentive payments and liquidated damages for delay. Appropriate time contingencies.</td>
</tr>
<tr>
<td>Commissioning risk</td>
<td>Contractor</td>
<td>Technology well-proven. Post commissioning testing programme.</td>
</tr>
<tr>
<td>Connection risk</td>
<td>Transmission company</td>
<td>The provision of adequate transmission capacity by commissioning date is a critical risk. Investors/funders will require indemnity or similar from relevant Transco</td>
</tr>
<tr>
<td>Operating Risks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrological risk &amp; water rights</td>
<td>SPV/Government</td>
<td>A core risk in say Hydro power plant projects. Water usage agreement.</td>
</tr>
<tr>
<td>Demand/market risk</td>
<td>SPV/shared</td>
<td>Due diligence required to confirm market, ideally supported by long-term PPAs in respect of significant proportion of output. May require take-or-pay guarantees.</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Off-takers</td>
<td>Contract with offtakers underpinned by appropriate security arrangements</td>
</tr>
<tr>
<td>Grid access</td>
<td>Transmission company</td>
<td>Access agreements required with appropriate compensation arrangements in place if access/capacity is not available</td>
</tr>
</tbody>
</table>
Value for Money Analysis [1/2]

Section 6 – Inception & Feasibility (Business Case)

Value for money

NPV

Tax neutrality

Transferrable risks

Funding costs

Operating costs

Untransferrable risks

Risk adjusted PSC

Funding costs

(debt and equity funding)

Operating costs

Untransferrable risks

Shadow Bid Model

Value for money

PPPs Workshop •
Value for Money Analysis [2/2]

Private sector efficiency in delivery of public goods or services, when either same quality of service is delivered at lower cost, or superior quality of service is delivered at same cost/lower cost

The best available outcome after taking into account all benefits, costs and risks over the whole life cycle of the project.

If a project is not expected to provide VFM for the public sector then the project should not be implemented as a PPP.
6. **Affordability Assessment**

- Affordability is the ability of the public sector, or users to pay for the delivered works and ongoing O&M

- Areas to focus on in the affordability analysis
  - Current cost of service provision
  - Capacity to pay enhanced service fees through user charges or additional public sector support

- An area for consideration is whether or not to publish the affordability threshold as part of the information provided to Bidders in the RfP
7. **Confirm PPP procurement route**

• A Government institution should procure a PPP if:
  – the PPP reference model shows that the project is affordable as a PPP
  – a PPP will result in a lower net present cost to the institution than a public procurement
  – there is a value-for-money outcome
A good procurement process should be:

- **Clear and transparent.** The transaction objectives should be explicit, and selection criteria well defined. All parties, including external stakeholders, should understand the tender process and the basis for decision making.

- **Robust.** The process should be resilient to problems encountered during procurement and not open to challenge by losing bidders.

- **Fair.** Procurement should be undertaken on a level playing field, with all bidders competing on equal terms.

- **Cost-effective and timely.** The cost and duration of bidding should be commensurate with the potential rewards of winning.

- **Competitive.** Create conditions that will achieve best value for the procuring authority.
**Desired level of competition**

**Key issue**

- Only bidders capable of delivering a PPP project of relevant complexity should qualify
- A sufficient (but still manageable) number of bidders is required to ensure competition

**Implication for the procurement option selection**

Need to seek procurement option that enables:

- Participation of manageable number of potential bidders
- Shortlisting of potential bidders with required qualifications
- Competitive pressure throughout the process
Approaches to procurement

There are three basic approaches to procurement:

1. Competitive Bidding
2. Competitive Negotiation
3. Direct Negotiation
Competitive Bidding

Widely considered to be the best method of selecting the Preferred Bidder

Advantages

- Encourages transparency
- Provides a market mechanism for selecting the best proposal
- Protects the Government’s key terms from erosion through intensive negotiation
- Stimulates interest among a broad range of potential partners.

Disadvantages

- Can be hard to implement unless outputs are standardized and all technical parameters can be clearly defined, making evaluation of innovative or nonstandard proposals difficult
- May encourage underbidding (lowballing)
- May entail high costs for bid preparation, which can deter bidders

This is the prevalent procurement method in India.......

PPP's Workshop •
Competitive Bidding

A competitive bidding process generally has the following steps:

1. Government notifies the public that it seeks an private party to provide services and requests expressions of interest from private companies.
2. A formal process is developed for screening potential bidders and a list of qualified bidders is finalized.
3. Bidding documents and draft documents are distributed to potential bidders.
4. A formal, public process is used to present and evaluate bids and select a winner.
**Competitive Negotiation**

The contracting authority engages in simultaneous negotiations with two or more bidders

### Advantages

- Encourage bidders to be more creative and innovative
- Reduce the incentive for bidders to deliberately underbid in order to win projects
- Offers a richer way to screen bidders than price alone, since the contracting authority can get to know the bidder and judge how good a partner it is likely to be

### Disadvantages

- Bids can be difficult to compare
- Competition is less transparent than with competitive bidding, which may allow corruption and reduce the legitimacy of the process
- The cost of bidding may deter some firms.
Competitive Negotiation

A competitive negotiation process generally has the following steps:

1. **Government specifies its service objectives and seeks proposals from private bidders through a request for proposals.**
2. **Government reviews the proposals and selects those that are technically responsive to the request for proposals.**
3. **Government enters into detailed discussions with the selected bidders to develop solutions that best meet its requirements.**
4. **Final binding bids are requested from selected bidders and a preferred bidder selected based on bid responsiveness and price.**
Direct Negotiation

Direct negotiation with a single Bidder is often seen in jurisdictions where unsolicited bids are permitted.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides incentives for private companies to find innovative solutions</td>
<td>The absence of competition increases risk of over pricing</td>
</tr>
<tr>
<td>to complex service problems</td>
<td>The approach lacks transparency and may be more likely to be perceived as</td>
</tr>
<tr>
<td></td>
<td>unfair, which reduces political sustainability</td>
</tr>
<tr>
<td>Increases the chance of private interest when the costs of competitive</td>
<td>Difficult to ensure transparency and assess cost effectiveness of offer</td>
</tr>
<tr>
<td>bidding would be high relative to expected revenues</td>
<td></td>
</tr>
</tbody>
</table>
Procurement process in India
**Procurement Process – Approval stage**

1. **Project Identification by Sponsoring Ministry**
2. **Inter-ministerial consultations (if required)**
3. **‘In principle’ approval of PPPAC**
   - Submits proposal with pre-feasibility report and term sheet
   - *If Project is based MCA, ‘in-principle’ approval is not necessary*
4. **Appraisal/Approval of PPPAC (RFP, draft project agreements and project report)**
5. **Formulation of project documents – Different as per sectors and projects**
6. **Expression of Interest in the form of Request for qualification (RFQ)**
7. **Invitation of bids**
**Procurement process – Procurement stage**

After approval from PPP committee

- RFQ
- Queries / Response
- Shortlisting
- Issue of RFP
- Pre bid meeting
- Submission of bids
- 2 cover Tech & Fin submission
- Technical evaluation
- Financial bid opening
- Financial evaluation
- Scoring & selection of Preferred Bidders
- Negotiations, Contracting & FC
Section 8 – Procurement process in India

**Pre-Qualification process**

**QUIZ**

*What criteria might you use to pre-qualify bidders on a road PPP?*
1. **Pre-qualification process**

Typical qualification criteria for a road project:

| Professional standing                           | • Proper registration, licences or certificates  
|                                               | • No indebtedness towards the state              
|                                               | • No criminal offences, stated laws violation    
|                                               | • No insolvency, bankruptcy procedures, tax indebtedness |
| Financial and Economic Capacity                | • Financial statements, turnover (past three years)  
|                                               | • Professional insurance                        
|                                               | • Subcontractors may be used to provide criteria |
| Technical Capacity                             | • Past works and services delivered on other/ similar projects  
|                                               | • Personnel education and professional qualifications, personnel of supplier |
| Other Criteria                                 | • Systems of quality review to be used and quality assurance standards, inspection system on subcontractors  
|                                               | • Environmental management standards             |
Pre-Qualification process
Bidder shortlisting:

No Bidders Shortlisted
- Poorly prepared and developed project (fundamental issues)
- Poor market sounding (no interest)
- Project with poor political support

One Bidder Shortlisted
- Unattractive project in competition with other projects
- No competitive pressure

Three To Four Bidders
- Optimum number to manage
- Suitable for large, complex projects
- Sufficient competitive pressure, room for some to give up

More Than Four Bidders
- May be costly to administer
- Too many shortlisted as deterrent for some bidders
- Suitable for smaller standardised projects
2. Request for Proposal (RFP)

- Minimum requirements & Bidder commitments
- Service specifications
- Payment mechanism and penalty regime
- Compulsory & Variant Bids
- Evaluation criteria
- Bid process and formalities
- Bidder communication system
- Standard forms
- Draft contracts incl. PPP Agreement
3. **Bid evaluation**

- Bid submitted addressing RFP qualification criterion – financial, legal, technical, economic etc.
- Multidisciplinary Transaction Advisors / evaluation teams appointed
- Technical and Financial proposals are often evaluated separately, with the Financial proposals only considered after the Technical evaluation
- Assess compliance with tender qualification criterion – pass/fail
- Key focus – robustness and deliverability
- Consider deviations from the requirements
- Communication with bidders – clarification stage – consider supplementing of bids
- Shortlist qualifying bids
- Opening Financial proposal
- Scoring and selection of Preferred Bidders
Bid evaluation – selection of Preferred Bidder

Case 1: Lowest Price Wins

- **Stage 1: Technical Evaluation** - all bids passing threshold score taken forward to next stage;
- **Stage 2: Financial Evaluation** - Qualifying bids are ranked on price – least cost wins

Case 2: Best Technical & Financial Bid wins

- **Stage 1: Technical Evaluation** - all bids passing threshold score taken forward to next stage;
- **Stage 2: Combined evaluation** - financial price scored and combined with technical score from Stage 1 on weighted basis (eg 70% technical + 30% price) – highest score wins

Case 1 is the most prevalent in India especially in transportation...


4. **Best & Final Offer (BAFO)**

- May be used when:
  - No clear winner emerges from initial bid evaluation; and/or
  - The Authority wishes to clarify its requirements with and/or benefit from additional price competition between front-runners
  - Typical involves 2 (at most 3) bidders
  - Widely used as part of a Competitive Negotiation
5. **Negotiation & Financial Close**

- After the approval by government the Preferred Bidder is notified
  - The Contracting Agency negotiates the final contract documents with the Preferred Bidder
  - At the end of the contract negotiations, the bidder is allowed sufficient time to finalise and complete all third party agreements.
  - The bidder enters into agreements with the lender(s), sub-contractors and other parties within a given time period to bring the deal to Financial Close.
  - Financial Close is reached when the project documentation has been executed and the Conditions Precedent (CPs) have been satisfied or waived. Drawdowns are now permissible.
Conditions Precedent

CPs typically include:

- All government approvals and related legal opinions in place
- Execution of all project documentation and security
- Confirmation that all licences, approvals and consents in place
- All required insurances obtained
- Appointment of Independent Engineer
- Execution of land purchase options, wayleaves etc
- Execution of all contractor and sub-contractor performance bonds
- Equity subscription confirmed prior to initial debt drawdown
Post-deal Implementation
Construction / Development phase

- Permitting
- Monitoring
- Testing and completion
- Delays
- Commissioning, COD and Administration
Contract management and monitoring

Why is Contract management important?

“There is strong evidence to suggest that the existence of a dedicated team and frequent meetings between the two sides to review performance levels helps improve service levels”


“A great contract at signing can be the worst six months later, unless someone is carefully managing its operation”

• Source: Head of Procurement, University College London
**Operational phase**

- Monitoring compliance with contract specification
- Application of payment mechanism
- Handover (if applicable)

Possibly:
- Changes to the specification
- Re-financing
- Termination
PPPs in India – select sectors
PPPs in India - Roads

- PPPs in roads in India is a phenomenal and has come a long way since the NHAI days
- Key milestones with respect to NHAI road development

  - 1956: National Highway Act was enacted.
  - In 1996, Arbitration and Conciliation Act was passed which consolidated the law relating to domestic arbitration, international commercial arbitration and enforcement of foreign arbitral awards
  - In 1997, Road Sector was declared as an industry. It was a significant step towards attracting private investment
  - In 1997 National Highway Development Program was launched which clearly laid down the road stretches to be developed. First Toll project Thane-Bhiwadi Bypass was also awarded in this year
  - In 2002, Annuity model was introduced and adopted by NHAI
  - In 2005, Phase III and IV of NHDP were approved. These two phases were primarily expected to be executed via Public Private Partnership. The government in this year also approved 100 percent Foreign Direct Investment in the Road sector. Also, to support private sector CCEA approved Viability Gap Fund scheme.
  - In 2006, documents such as MCA, Model RFQ, and RFP were standardized. This was the time a project was awarded on premium (negative grant)
  - India Infrastructure Finance Company Limited was formed in 2006. The objective of this wholly owned Government Company was to provide long term financial assistance to various viable infrastructure projects
  - In 2011, Infrastructure bonds with income tax benefits were launched. MCA for Annuity projects was finalized
PPPs in Roads - Evolution

Shift from EPC to PPP
- 63% of projects on EPC in FY 2006, decreased to almost NIL in FY 2010
- Toll based model is preferred
- NHAI focus on commercial part
  - Least negative grant
  - Highest premium quoted
- Projects found unviable on BOT- toll have been awarded on
  - BOT-annuity, if not
  - EPC

Shift from grant to premium
- Ratio of projects awarded on ‘premium’, has increased from 43% in FY 2005 to approximately 68% in FY 2012

Transition to staggered premium
- In 2004, it was upfront premium payment
- In next 2 years, premium staggered over concession period, Highest NPV is the bidding criteria
- In 2008, it shifted to revenue share
- Later, it shifted to premium at first year of operation with 5% escalation
Situation now...

- Roads bid out on PPP basis have seen a drastic dip

- Fall from 6563 KMs as bid in FY 2012 to 1116 in FY 2013, a dip of about 83%

- Dipped further to just 123 KMs in FY 2014, a dip of another 89%

- Reasons have been analysed in further slides
Lessons learnt

Developers

• Aggressive bids from developers
  • Over estimation of traffic
  • Aggressive estimation of time for clearances
• Less stringent eligibility criteria
  • No provision on the requirement of net cash accruals of the bidder during bidding which was prevalent earlier, led to aggressive non serious bids
• Gaming the upfront costs
  • Project costs variation between NHAI and actual increased from 28% in 2007 to 52% in 2010
  • Translating to CAGR of 11% upto FY09 and 6.4% upto FY10 compared to average inflation of 5.4%
  • Double leveraging at Project SPV and holding company levels were noticed

Authority

• Only focus on commercial assessment of lowest grant / highest premium
• ‘Value for Money ‘ assessment is lacking in Indian context which fails to capture the value analysis
• Lack of assessment of Financial models and lenders’ comfort at bidding stage, which is internationally practised

Lenders

• Recourse based lending
  • No Non-recourse lending as a typical project finance
  • Due to gaps in enforcement in contractual claims, banks look security from promoters
  • When cash flows are constrained, the SPV is non performing
• Institutional investors
  • Institutional investors have stayed away due to inherent debt riskiness in the road project
Recommendation - *Contract preparation, procurement and management*

- Requires a technically robust approach than present model
- NHAI current approach favours BOT-toll model
  - Commercial characteristics is single parameter
  - This restricts the merit to look at other procurement models of Annuity etc.
- Bidders capability
  - No assessment on bidders’ financial model
  - No assessment of lenders’ comfort as is prevalent in developed international markets
- Tenders based on
  - Prefeasibility studies without detailed project assessments
  - Limits reliability of cost estimates, traffic projections and other technical considerations
  - Need to prepare detailed feasibility studies
- Enforcement of performance standards
  - Many contractual parameters on technical performance are not strictly enforced
  - No performance based availability payment system as is prevalent in international markets
PPP in Airports
Airport Operation – Regulatory Model

- Tariff setting is done by an independent regulator
- Tariff setting in India uses Till system
  - Single Till
  - Dual Till (Not used)
  - Hybrid Till
- The airport tariff is revised every 5 years (Control period) with a true-up/down of past earnings to reflect fixed returns for regulatory asset base.

Regulator

Airport Operator

Aeronautical services
Landing/ Parking charges

Airlines

Tickets Sales
Passenger service Fee,
User development fee

Passengers

Aeronautical Activity

Shops

Rental/
Revenue Share

Buy / Sell
Merchandise

Commercial Activity

PPPs Workshop •
## Tariff Setting

<table>
<thead>
<tr>
<th></th>
<th>Single Till</th>
<th>Dual Till</th>
<th>Hybrid Till</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regulatory Asset base</strong></td>
<td>Both aeronautical and commercial capex</td>
<td>Only Aeronautical capex</td>
<td>Only Aeronautical capex</td>
</tr>
<tr>
<td><strong>Tariff setting</strong></td>
<td>Principle airport activities (aeronautical and commercial) are fully taken into consideration to determine the level of airport charges</td>
<td>Only aeronautical activities are taken into consideration to determine the level of airport charges</td>
<td>Full aeronautical activities and a percentage (30%) of commercial activities are taken to cross-subsidise while setting the tariff</td>
</tr>
<tr>
<td><strong>Return on Investment</strong></td>
<td>Fixed return on the regulatory asset base. Typically 16% for the airport sector</td>
<td>Fixed return on the aeronautical activities and return earned from the commercial activities</td>
<td>Fixed return on the regulatory asset base and returns from 70% of commercial revenue</td>
</tr>
<tr>
<td><strong>Incentives</strong></td>
<td>No incentives</td>
<td>Full Commercial revenue</td>
<td>70% of Commercial Revenue</td>
</tr>
<tr>
<td><strong>Airports</strong></td>
<td>All airports except Delhi and Mumbai</td>
<td>Not used</td>
<td>Bigger Airports - Delhi and Mumbai</td>
</tr>
</tbody>
</table>
## Lessons from Indian Airport Privatisation

| **Incentives for Operator** | Fixed returns without incentives can lead to operator ensuring only the minimum maintenance standard  
|                            | The concessions for the 2nd round of privatisation is expected to incorporate incentives for improving traffic and passenger services. |
| **Timely fixing of tariff by regulator** | High tariff in some of the privatised Indian airport is due to delay by the regulator in fixing tariff on-time.  
|                            | Eg – 1st tariff setting of Delhi airport was delayed by 3 year thereby reducing the revenue period from 5 years to 2 years to recover its costs for the 5 year control period. This lead to a steep increase in airports tariff by 367% to give the airport, making it one of the costliest airport in the world for certain flight routes. |
| **High revenue share** | Airport Authority got high revenue share from brown field airports(38-46% of Gross Revenue), which was mainly dependent on the assumption of commercial exploitation of land adjoining airport given to developer.  
|                            | Airport Operators have not been able to develop the land fully due to stringent land use guidelines  
|                            | Airport Land has also not acted to incentivise and reduce airport tariff as it was originally intended to. |
| **Monopoly** | Non-competition clauses like no airport within 150 KM radius of privatised airport and giving first right of refusal for airport operator in case of second airport has led to a monopoly of airport operator |
Section 11 – Roads

PPP in Railways
# PPPs in Railways

- Railways is a recent entrant on mainline development of tracks on PPP mode
- Last mile connectivity models are prevalent where private sector can opt to collaborate with Indian Railways for connectivity with mainline rail network
- Following last mile connectivity models are in vogue

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Revenue Model</th>
</tr>
</thead>
</table>
| Model 1 | Non-Government Railway | • 95% of the freight revenues net of operations and maintenance to Private Party.  
• Usage charges to be paid to IR |
| Model 2 | JV Model for operationally necessary/ bankable sanctioned | • 95% of the freight revenues net of operations and maintenance to Private Party.  
• Usage charges to be paid to IR |
| Model 3 | Railway Projects on BOT awarded through Competitive Bidding | 50% of the apportioned freight to the Private Party |
| Model 4 | Capacity Augmentation (Doubling/Third line/Fourth line, etc) with | Railways pay, annually, upto 7% of the amount invested by the Private party till the amount is recovered with interest |
| Model 5 | Capacity Augmentation (Doubling/Third-line/Fourth line, etc)- Annuity | Annuity |
**PPPs in Railways – Risk allocation**

Moving towards higher involvement of Indian railways

<table>
<thead>
<tr>
<th>Operations &amp; Revenue Collection</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project development and structuring</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Land acquisition</td>
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<tr>
<td>Maintenance</td>
<td></td>
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<tr>
<td>Construction</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Majority Equity Funding</td>
<td></td>
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</table>

Private party (including JV)  
Indian Railways
CAG and PPPs
Accounting Treatment

An answer of yes (✓) to any of these questions = asset on balance sheet.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction risk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does government have an obligation to start making regular payments to the partner without taking into account the actual state of the assets that are delivered?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Availability risk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does government bear the availability risk?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Demand risk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does government bear the demand risk?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Guarantees</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does government provide a guarantee that fully covers the project-related borrowing of the private partner?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Does the government guarantee cover a majority of the capital cost of the PPP project (or the private partner's project-related debt) at inception or during the construction stage?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Early termination</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the contract require a refund by government based on the capital costs, instead of the assessed market value of the asset at the time in the event of termination due to the partner's default?</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Source: World Bank toolkit
A suggested framework for evaluation of PPP

Fulfilment of GoI objectives

- Output specifications and service delivery should be measurable in line with the project objectives
- The fulfilment of output specifications should be measured by CAG
- The enforcement of contractual rights and obligations should be measured

Creation of Value

- Post facto Value for Money of the project – in toto – is a desirable exercise
- VfM analysis helps identify the overall value enhancement over implementing by public sector
- It is not desirable to audit on specifics and instead enable further creation of value with the public resources provided, Lifecycle costs should be compared
- Private sector is providing services in exchange of return expectations is overriding principle of PPP and hence incentives, if any, should be presumed a loss but a requirement for value creation

Best practises

- Worldwide best practises can be suggested
- The focus should be on decision-making processes not just at the level of the operating company, or implementing special purpose vehicle but it should look into processes leading up to the award of the concession and its interpretation and renegotiation over the life of the award.

CAG is the competent authority to audit the PPP projects
Thank you