Public Private Partnerships in Toll Road Projects

Structuring Options

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1 OVERVIEW

OVERVIEW – PPP OPTIONS

As per global precedent transactions in the road sector, PPP structuring options can broadly be classified based on the payment mechanism adopted by the government and private sector. A brief overview of the typical structures has been provided below:

Direct user toll options

Concessionaire receives toll revenues directly from road users; toll revenues cover the capital expenses (capex), debt service, operating expenses (opex), and equity returns

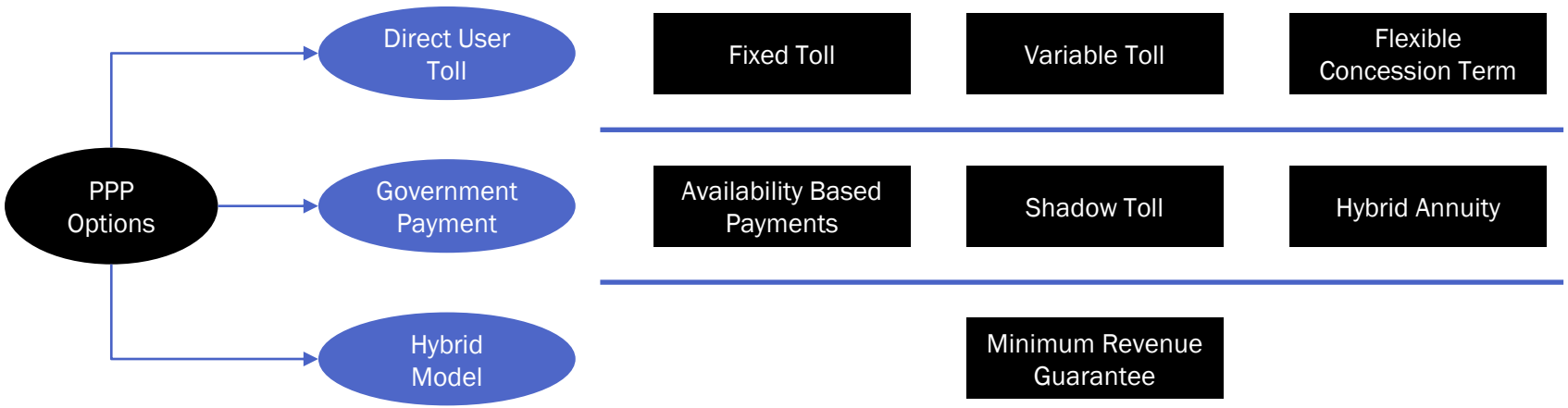
Government payment options

Government makes payment to the Concessionaire, which cover the Capex recovery, debt service, Opex, and equity returns

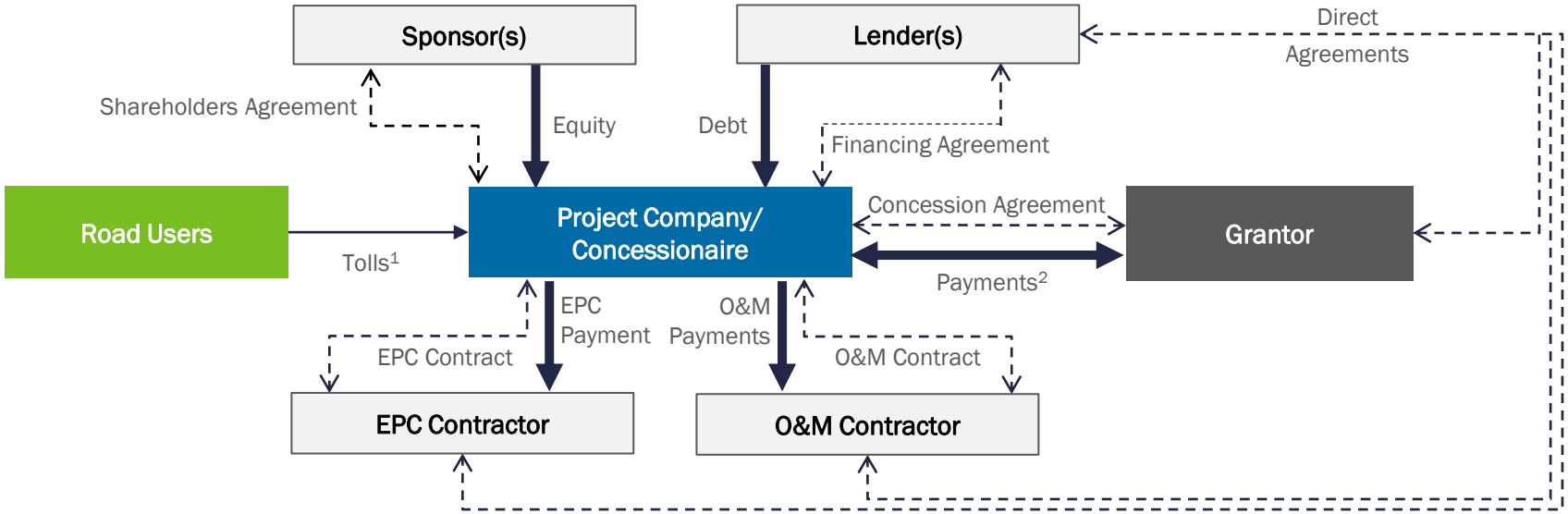
Hybrid options

Combination of the other two options with elements of both toll revenue and Government payment

Examples of PPP options



TYPICAL CONTRACTUAL STRUCTURE



1. Depending on the commercial structure
2. Possible payments in either direction depending on the commercial structure

Key Highlights

- Concessionaire designs, finances, builds, maintains the road and transfers the asset to grantor at the end of concession period
- Concessionaire and grantor are bound by terms of the concession agreement and the payments vary according to the adopted structure
- There may be structures wherein the grantor makes payments to concessionaire, e.g., availability based payments, grants, etc.
- In other cases, the concessionaire may make payments to grantor, e.g., revenue share, annual concession fee, etc.
- EPC and O&M contracts include suitable provision for delays and cost over runs
- Lenders enter into direct agreements with EPC and O&M contractors to facilitate step-in in case of an event of default

TYPICAL RISK ALLOCATION (1/2)

Category	Description	Allocation	Mitigation
Demand risk	Demand for project less than projected	Concessionaire or Grantor depending on the structure	• Independent traffic studies • Exclusivity/ non-compete provisions • Availability based payments • Minimum revenue guarantees
Right-of-way risks	Delayed acquisition of the right-of-way or total impossibility in achieving right of way	Grantor	• Advance land acquisition • Obtaining the necessary consents related to the alignment of the project
Technical specifications risk	Technical characteristics of the project do not meet standards and specifications	Concessionaire	• Independent construction quality control • Penalty mechanism to be included in the agreement with EPC contractor
Design risk	Errors while developing project design parameters, viz. technical parameters etc.	Concessionaire	• Technical inspections and agreement of the project parameters between the concessionaire and the grantor • Design risk to be passed onto EPC contractor on a back-to-back basis
Completion risks	Completion of construction works delayed	Concessionaire, if the delays cannot be attributed to the Grantor	• Penalty mechanism to be included in the agreement with EPC contractor
Cost over-run risk	Actual costs exceed budgeted/ projected project costs	Concessionaire	• Fixed price lump sum EPC contracts • Provision for contingencies

TYPICAL RISK ALLOCATION (2/2)

Category	Description	Allocation	Mitigation
Environmental risk	Adverse impact on the environment	Concessionaire	• Due diligence by the concessionaire • Independent surveys of the project site
Utilities risk	Shortage of utilities (such as electricity, water), necessary for construction and/or operations	Grantor/ Concessionaire	• Emergency back-up facilities
Operations risk	Operation & Maintenance and rehabilitation costs vary from the projections	Concessionaire	• Fixed price O&M contracts • Risk passed on to O&M contractor
Force Majeure (FM) risks	Occurrence of unexpected events beyond the control of the Parties (natural disasters, civil riots)	Political FM: Grantor Natural FM: Grantor and Concessionaire	• Insurance of natural disaster risks
Inflation risk	Actual inflation rate exceeds the projected inflation rate	Concessionaire or Grantor depending on structure	• Toll-rate/ availability payment adjustment
Interest rate risk	Increase in interest rates during construction and operations stages	Concessionaire	• Hedging instruments
Exchange rate risk	Negative exchange rate fluctuations	Concessionaire or Grantor depending on structure	• Protection under tariff structure • Hedging instruments
Tax rate change risk	Changes in tax rates or new taxes	Grantor	• Advice of competent tax experts • Protection under change in law regime

2 PPP OPTIONS

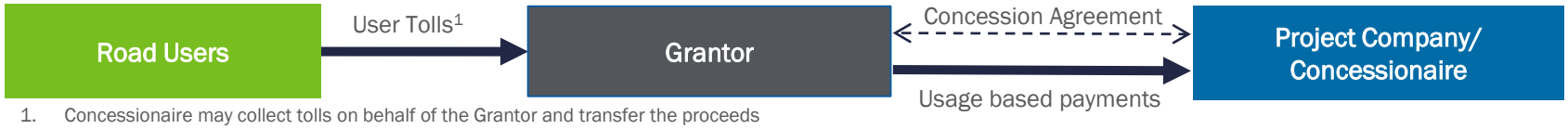
BOT (TOLL) MODEL

- Concessionaire exposed to traffic/ demand risk and collects tolls directly from road users
- The toll rate is fixed for a particular period and escalated based on a pre-agreed mechanism
- Concessionaire pays periodic revenue share/ concession fee or expects grants, depending on project economics
- Typically suitable for projects with strong base case viability and limited traffic variability in downside/ upside traffic scenarios
- Suitable projects include roads with limited alternatives and/ or those that offer significant user benefits or brownfield projects
- A well-defined toll strategy, non-compete protection from competing transport infrastructure important for success of projects

	Bid Parameter	Implications
Bid Structuring	Highest periodic revenue share	• Upside/ downside revenue risk shared with the grantor
	Highest periodic concession fee	• Upside/ downside revenue risk retained by the concessionaire
	Highest upfront premium to grantor	• Upside/ downside revenue risk retained by the concessionaire
	Lowest upfront grant from grantor	• Upfront premium increases project cost for the concessionaire; and upfront grant is required in case project has viability concerns

Implications for Concessionaire
• Fully exposed to demand risk – debt serviceability and recovery of equity dependent on actual traffic
• Higher risk exposure – expectation of higher returns than other models
• Potential debt serviceability challenges (especially in greenfield projects) in initial years due to ramp up in cash flow profile
• Impact on lender interest due to market risk exposure, especially commercial lenders
• Stringent debt covenants (higher DSCR, pricing, lower leverage) than other PPP models
• Exposure to political and social risks (due to toll collection on roads)

SHADOW TOLL MODEL



1. Concessionaire may collect tolls on behalf of the Grantor and transfer the proceeds

- Concessionaire exposed to traffic/ demand risk and receives periodic payments (shadow tolls) from grantor based on traffic
- Grantor receives toll proceeds from road users (and shall have flexibility in relation to setting of toll rate to end users)
- User toll and shadow toll rates may be different; shadow toll rates determined upfront and escalated as per pre-agreed mechanism
- Grantor may consider shadow toll model for projects which are not financially viable purely on user tolls or where willingness of users to pay tolls may be limited; however, the traffic risk should be acceptable to concessionaire for success of the model
- Non-compete protection from competing transport infrastructure and establishment of EIRR important for success

	Bid Parameter	Implications
Bid Structuring	Minimum shadow tolls	• The concessionaire bidding for the lowest shadow tolls shall be awarded the project • Upside/ downside traffic risk shared with the grantor

Implications for Concessionaire
• Fully exposed to demand risk – debt serviceability and recovery of equity dependent on traffic
• Expectation of higher returns than revenue guarantee/ availability payments models
• Impact on lender interest due to market risk exposure, especially commercial lenders
• However, possibility to include exchange rate protection in payment structure (shadow tolls can be FX rate adjusted)
• Stringent debt covenants (higher DSCR, pricing, lower leverage) than revenue guarantee/ availability payments models
• Lower exposure to political and social risks, in comparison to BOT (Toll) model

MINIMUM REVENUE GUARANTEE MODEL

1. Either of the two in any period, depending on project economics

- Concessionaire exposed to traffic/ demand risk and collects tolls directly from road users
- Grantor guarantees minimum annual revenue and compensates shortfall from toll collection; minimum revenue guarantee (MRG) level is typically set to at least cover the debt service amount and fixed costs – shared demand risk between the parties
- Concessionaire shares upside from toll collection with the grantor
- Suitable for projects having base case financial viability, but showcasing considerable variability on profitability in downside/ upside traffic scenarios (high perception of traffic risk)
- Improves bankability as debt service is typically covered by MRG level guaranteed – traffic risk exposure of lenders reduced; tradeoff offered by the grantor to improve the bankability

	Bid Parameter[1]	Implications
Bid Structuring	Lowest MRG level	• Upside/ downside revenue risk shared with the grantor, as floor is guaranteed, and upside is shared with the grantor
	Highest periodic revenue share	

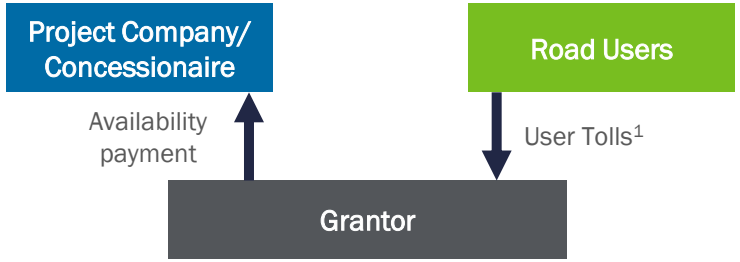
1. A combination of both may also be considered for bid evaluation

Implications for Concessionaire
• Exposed to demand risk, especially in relation to recovery of equity and equity returns
• Expectation of higher returns than availability models due to market risk exposure; but lower expectation than BOT (Toll) model
• Improved bankability over BOT (Toll) and shadow toll models since MRG level typically covers debt service; better financing terms/ covenants expected than BOT (Toll) and shadow toll models
• Upside may be limited in case the project is structured as a 'cap-and-collar' (revenue share) model
• Exposure to political and social risks (due to toll collection on roads)

GRANTOR PAYMENT MODELS

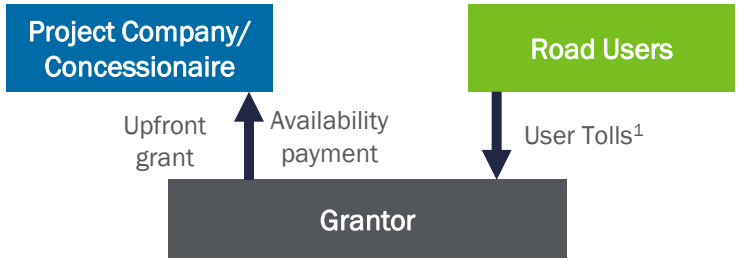
Below models suitable for projects with financial viability issues, higher traffic risk or concerns around users' willingness to pay tolls

Availability Payment (Annuity) Model



- Grantor receives toll proceeds
- Grantor makes fixed periodic payments to concessionaire based on availability (during operations)
- Concessionaire not exposed to traffic/ demand risk

Hybrid Annuity Model



- Grantor receives toll proceeds
- Grantor makes fixed periodic payments to concessionaire based on availability (during operations)
- In addition, grantor also makes certain construction linked payments during construction
- Concessionaire not exposed to traffic/ demand risk

1. Concessionaire may collect tolls on behalf of the grantor and transfer the proceeds

Model	Implications for Concessionaire	Potential Bid Parameter
Availability Payment (Annuity)	• Strong bankability and better financing terms than market risk models • Exchange rate protection possible, improving international lender interest • Lower return expectation than market risk models	• Lowest availability payment
Hybrid Annuity	• Lower project cost (and hence funds requirement) than availability models due to construction linked capital payments from the grantor • Strong bankability and favorable financing terms; international lender interest possible if exchange rate protection offered • Lower return expectation than market risk models	• Lowest NPV of upfront capital grant and periodic availability payments