

Experience of Implementing PPPs in India

Asia Regional Workshop on Public Private Partnerships

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Experience of Implementing PPPs in India

India has witnessed successful PPPs across several infrastructure sectors – Power, Telecom, Roads, Ports, Airports, Urban Infrastructure, etc., both at the National & Provincial level

Structure of this Presentation – Case Studies in two sectors:

- Roads / Highways
- Urban Water Supply

PPPs in Roads / Highways

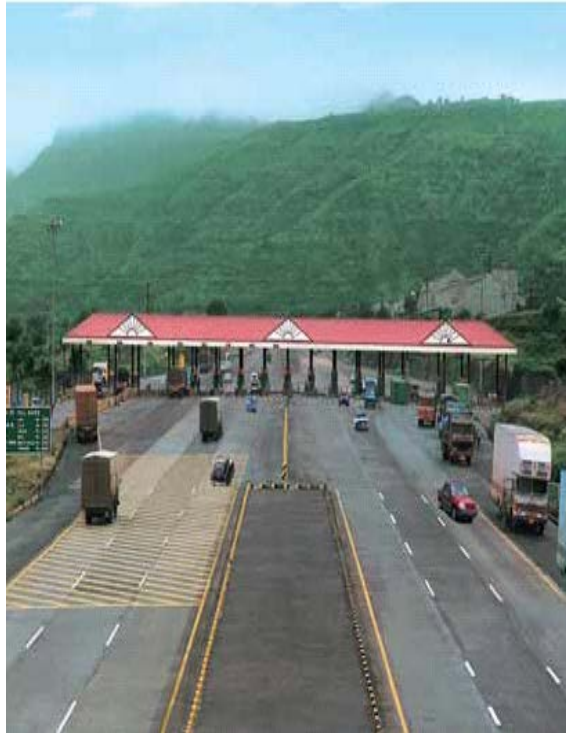
Delhi – Noida Toll Bridge

- April 1992, MoU signed between IL&FS, NOIDA and Delhi Govt., to develop a bridge over river Yamuna on BOOT basis
- Steering Committee with representatives of GoUP, GoD, MoUD Gol, IL&FS, was set up
- In 1996 SPV, NTBCL was established to implement the project
- In Nov. 1997, BOOT based Concession agreement was signed:
 - Concession Period of 30 years or till 20% IRR is achieved
 - Initial Toll fees determined by committee; to be revised annually based on inflation indexation
 - Non-compete within 5 km for 10 years
 - Govt. support on land acquisition & Clearances / approvals
- Project cost of US\$ 100 mn, financed through 70:30 Debt:Equity ratio; one of the first non-recourse lending to Project SPV
- EPC and O&M Contracts to reputed players – project operational since Feb. 2000



- ***Current annual revenue ~ US\$ 16 mn***
- ***Listed on the Indian stock exchange with a market cap of US\$ 100 mn***

Mumbai – Pune Expressway : Implemented by a State Government Corporation



- 94 km, 6 lane of access controlled concrete expressway, connecting the commercial capital of India, Mumbai, to the manufacturing hub of India, Pune
- Bid out as a BOT with a guaranteed return of 20% (and land, fiscal incentives, etc.)
- Only one company bid, at a project cost of INR 38 bn (almost twice the estimated project cost)
- Government of Maharashtra (the provincial Government) set up MSRDC, as a 100% owned limited liability company, to undertake this and other projects in the state
- Developed, Constructed, Operated & Maintained by MSRDC,
- Constructed at a total cost of INR 21.36 bn (US\$ 475 mn); project completed in 2001
- Annual toll revenue in 2003 ~ US\$ 17 mn; Toll Rate = US\$ 2.3 for a car per trip

Mumbai – Pune Expressway : Securitization

- In 2004, MSRDC undertook a securitization transaction :
 - O&M of Mumbai-Pune Expressway for 15 years
 - Including strengthening & widening (4 lane) of NH4 connecting Mumbai & Pune (111 kms) and O&M of the same for 15 years
 - Right to entire toll revenues for 15 years (est. US\$ 23 mn p.a. after NH4 construction)
 - (Highest) Upfront one time fee – Reserve bid of US\$ 210 mn

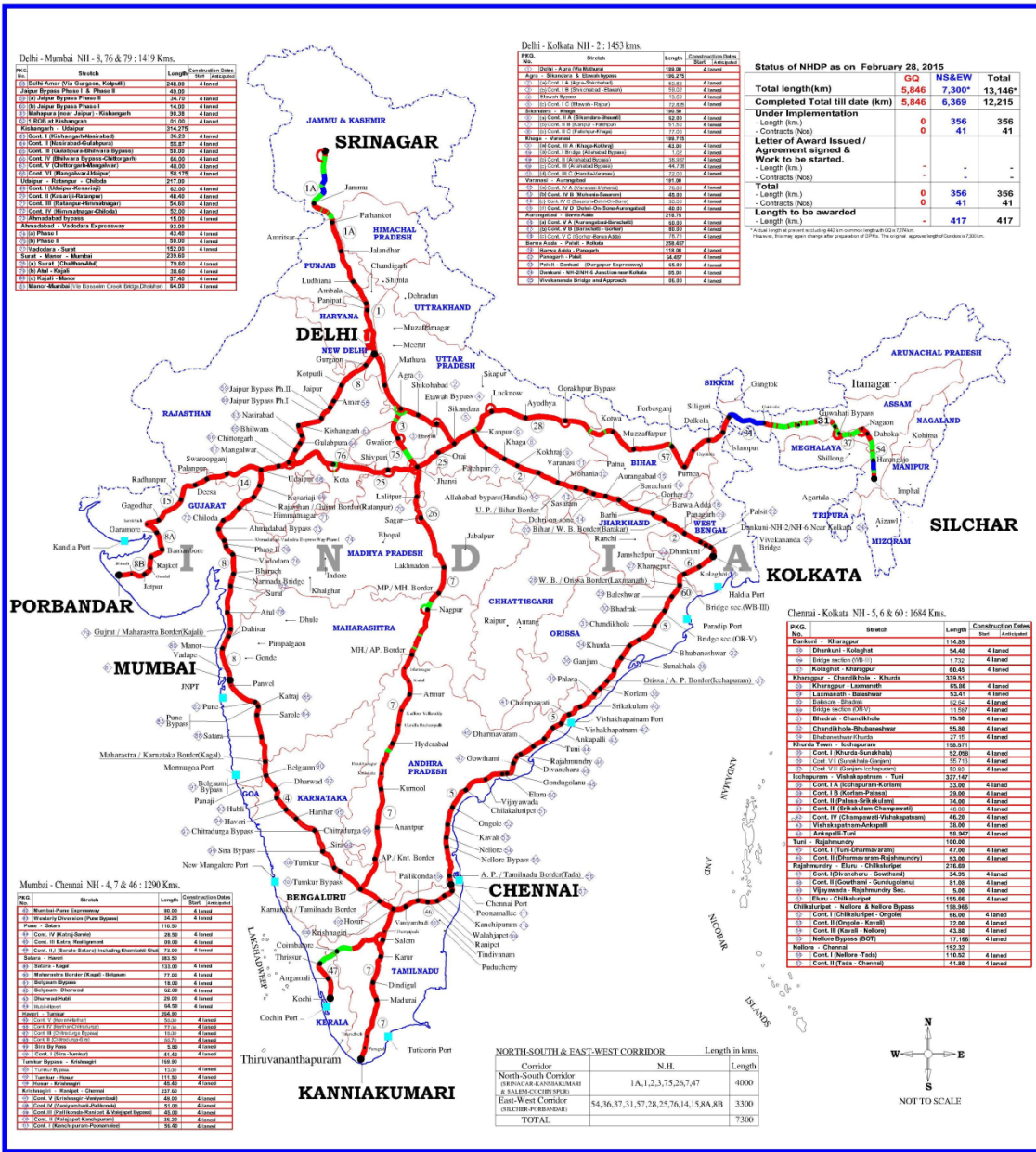
- Winning bid – US\$ 213.5 mn

Reserve bid was based on Traffic Growth at CAGR of 4%; actual traffic growth significantly higher

- In 2014, MSRDC bid out US\$ 114.5 mn of additional construction and US\$ 167 mn of fee payment to MSRDC for 8 years and 8 months

NATIONAL HIGHWAYS DEVELOPMENT PROJECT

Status as on February 28, 2015



Status of NHDP as on February 28, 2015

Total length(km)	GC	NS&EW	Total
Completed Total till date (km)	5,846	7,300*	13,146*
Under Implementation			
Length (km)	0	356	356
Contracts (Nos)	0	41	41
Letter of Award Issued / Agreement signed & Work to be started	-	-	-
Contracts (Nos)	-	-	-
Total	0	356	356
Length to be awarded			
Length (km)	0	41	41
Contracts (Nos)	0	41	41

National Highway Development Program (NHDP)

- Allocating responsibility of NHDP to the National Highway Authority of India (NHAI)
- Total length : 50,618 km
- Already completed : 23,500 km
- Under Implementation : 13,000 km
- Yet to be awarded : 13,118 kms
- Estimated Project Cost : US\$ 13.2 bn (1999 prices)
- Proposed Financing Plan:
 - Cess on Petrol & Diesel : US\$ 4.90 bn
 - External Assistance : US\$ 4.9 bn
 - Market borrowings : US\$ 2.4 bn
 - Private Sector Participation : US\$ 1 bn

NOTE
 1. Based upon Survey of India map with the permission of the Surveyor General of India.
 2. The responsibility for the correctness of internal details rests with the publisher.
 3. The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.
 4. The external boundaries and coordinates of India agree with the Record/Master Copy certified by Survey of India.
 5. Certified for Publication by Survey of India. White letter no. 21 dt. 407 162-M received -XXX Dated 13/3/2003

Annuity Projects

In 2002-03 NHAI awarded 8 projects on Annuity basis

- Panagarh – Palsit (West Bengal): 64 km four-laning; expected to cost US\$ 70 mn; 15 year concession; L1 quote by Gamuda-WCT : US\$ 16 mn (second round; first round L1 quote : US\$ 20.6) => US\$ 250,000 per km
- Tuni-Anakapalli (Andhra Pradesh) : 60 km four-laning; Semi-annuity L1 quote : US\$ 6.9 mn => US\$ 110,000 per km



Cost advantages of breaking the developer – construction contractor nexus

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Cost advantages of breaking the developer – construction contractor nexus

- Tindivanam – Tambaram (Tamil Nadu) : 93 kms; GMR semi-annuity L1 quote : Rs. US\$ 9.5mn; Project Cost : US\$ 85 mn; Concession period – 17.5 years (Total Payment ~ US\$ 330 mn)



Cost – Benefit analysis of Annuity Projects ?

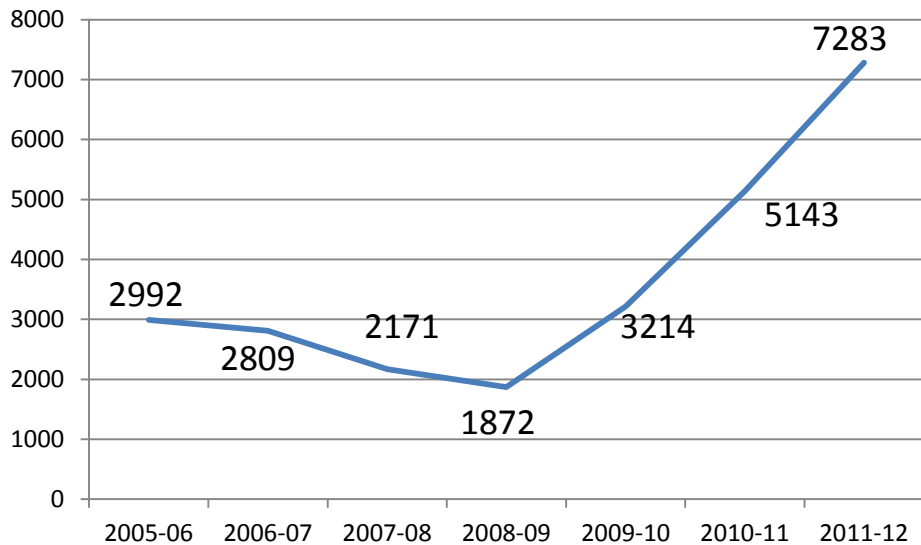
Model Concession Agreement (MCA)

MCA drafted and adopted in 2000 (and modified in 2008) laid out the following framework for Highway projects in India:

- PPP on Design Build Finance Operate Transfer (DBFOT) basis
- **Govt. of India prescribed per km user fee**; MCA provided for indexing user fee up to 40% of Wholesale Price Index (WPI) plus 3% (*average 7-8% p.a.*)
- Phased development of Highways based on standards specified by India Roads Congress
- Focus on Output specifications
- Concession period to be determined based on carrying capacity
- **Selection of concessionaire based on open competitive bidding; on minimum grant or maximum premium**
- Detailed risk allocation, based on ability to manage
- Handing over 80% of required land and obtaining all environmental clearances are conditions precedent to be satisfied by the Authority prior to Financial Close
- Substitution rights to lenders and other clauses to provide adequate comfort to lenders

Successful Model of PPPs in Highways

National Highway BOT Projects Awarded in Kms



- MCA first used in 2002, for project cost above US\$ 17 mn
- More than 20,000 kms of road projects have been developed under DBFOT till 2014
- As of 2014, about 300 projects completed and another about 300 projects under implementation

Delhi Gurgaon Expressway – the first BOT Road project with “Premium”



Total Revenue (2012-13) :
US\$ 33 mn

Of which US\$ 20 mn came
from the Delhi-Gurgaon
border toll plaza

- 27.7 Kms; 8 lane access controlled highway, with 11 flyovers and over-passes
- 20 year BOT concession, including construction period
- Commenced operations in Jan 2008
- Concessionaire : Consortium of Jaypee & DS Construction
- Upfront Project Cost : US\$ 150 mn
- Negative Upfront Grant : US\$ 13.5 mn

- 3 Toll Plazas : Delhi-Gurgaon border (32 lane toll plaza); near International airport and at 42nd Milestone
- Toll of INR 20 per PCU
- Total about 180,000 PCUs per day

Delhi Gurgaon Expressway

Termination Notice was issued to the Concessionaire by NHAI for the following three reasons:



- Failing to decongest the Expressway;
- Failing to finalize the operation and maintenance plan (O&M Plan); and
- Committing fraud in the form of re-financing the Project without getting NHAI's approval the Project.

Current Status :

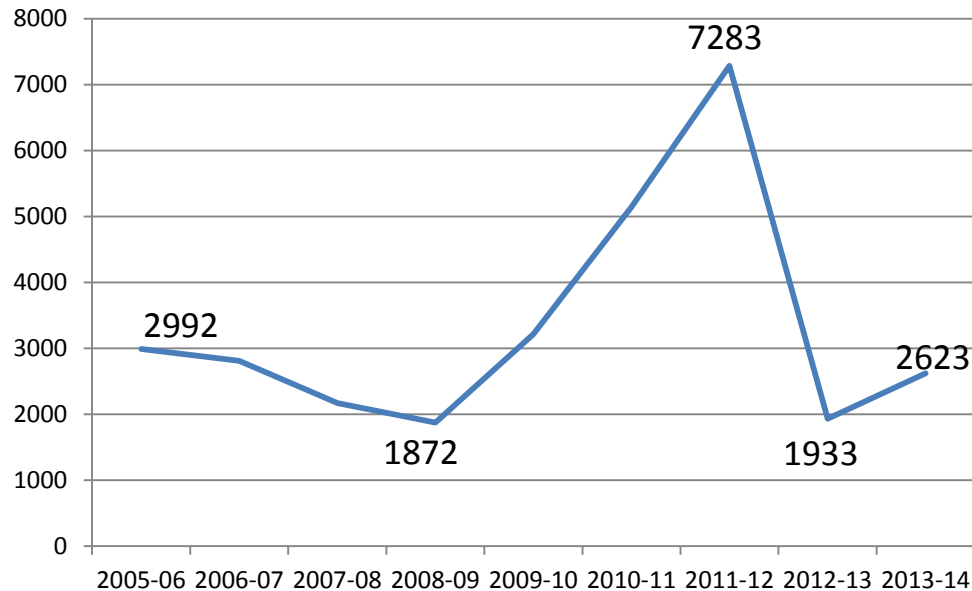
- Lead Lender, IDFC, owns 74% of the SPV and the consortium of private concessionaire owns the balance 26%
- IDFC is responsible for management of the project; has appointed a O&M operator
- Abolished toll at the Delhi-Gurgaon border toll plaza

Kishengarh-Udaipur-Ahmedabad – the country's largest highway project

- 555 km highway project, estimated to cost US\$ 1.25 bn
 - Negative grant or Premium of US\$ 103 mn
 - Concessionaire : GMR Infrastructure Ltd.
 - Project awarded in July 2011
 - **GMR exits project in January 2013**
-
- Many other developers exited / terminated BOT projects with NHAI between 2012 - 2013
 - Re-scheduling of payment of Premium (approved by UPA II Govt for 13 projects)

Challenges in DBFOT Projects

National Highway BOT Projects Awarded in Kms



- Aggressive bidding due to irrational exuberance
- Crowding out of reputed developers
- Bids based on aggressive traffic projections that didn't play out
- Delays / Non-availability of unencumbered land (RoW)
- Delays / Non-availability of environmental clearances
- Weakening financial position of developers / high gearing resulting in increasingly stringent norms for disbursement by lenders

(Some) New PPP Models under Consideration

- Hybrid PPP : Interest Free Loan + Toll
 - Concessionaire to partly finance, construct, toll & maintain
 - Authority to offer interest free loan (part-finance)
 - Concessionaire to repay interest free loan after pre-determined traffic levels have been reached
 - Quantum of interest free loan as the bid parameter
- BOT model, with construction being financed by Authority
 - Authority finances construction
 - Concessionaire constructs, maintains and tolls
 - Concessionaire pays annual concession fee (from toll revenues)

PPPs in Urban Water Supply



Water PPPs in India: Achievements

India has witnessed about 15 PPP projects in Urban Water Supply:

- Focus on service delivery (24 X 7)
- Bottom up demand for PPP
- Targeting private sector efficiency, NOT capital
- Cities have designed solutions that suit their need
- Recognized the sensitivities around tariff
- Attracted both domestic and international operators
- Competitive bidding for all projects

Case Studies

	Nagpur	Aurangabad	Mysore	Latur	Khandwa
Population (mil)	2.5	1.2	1.0	0.4	0.2
Mandate	Rehab. + operations	Bulk+ Reconstruction + operations	Reconstruction + operations	Operations + select rectification	Bulk +Reconstruction + Operations
Duration (yrs)	25	20	6	10	25
Operator	Veolia & Vishwaraj	Essel-SPML	JUSCO	SPML	Vishwa
Project Cost (US\$ mn)	65	130	21	-	22
Pvt. investment	30%	50%	Nil	Nil	10%
Govt. grant	UIG (70%)	UIDSSMT +State	UIG (90%)	Nil	UIDSSMT (90%)
Revenue Model	Fee/ KL	Tariff + Annual subsidy	Mgmt fee	Tariff	Tariff
Contract signed	Late 2011	2011	Mid 2009	2008	Late 2009
Contract mgmt	City	City	Parastatal	Parastatal	City
Current Status	WS system handed over	Preparation in progress	Rehab, O & M in progress	Under suspension	Construction in progress

Learnings : Issues with Water PPPs

- Poor project preparation prior to bidding – lack of information / data on existing system / assets (**Very few greenfield projects**)
- Most projects have been financed largely through public funds =>
 - Focused on capital expenditure; not on enhancing service efficiencies;
 - Lower accountability for capital efficiency / optimization;
 - Poor rigour in project preparation
- Cities did not link Operator remuneration to performance adequately
- Treatment of risks was ad-hoc and not standardized (*Model Contracts for urban water may be difficult; but standard principles can be adopted*)
- Pre-Qualification parameters were non-standard and “tweaked”; bid process was rushed through => bidding was not truly competitive
- Cities did not focus on financial sustainability of projects
- There was no attention to over-sight capacity or to build city’s own capacity to take-over operations post contract period

Attracting Private Investment in Urban Water Supply : Pre-requisites

- Water operations in most cities are financially unviable => Tariff reform
- Ensuring city financial health to support private investment
- Clear policies on critical issues to support economic (oriented) operations – eg., decisions on connections & disconnections
- Guarantees to private investors to compensate for unreliable data and information
- Strong & independent dispute resolution mechanism
- Significant enhancement of city capacity to handle and monitor complex private investment driven PPP contracts

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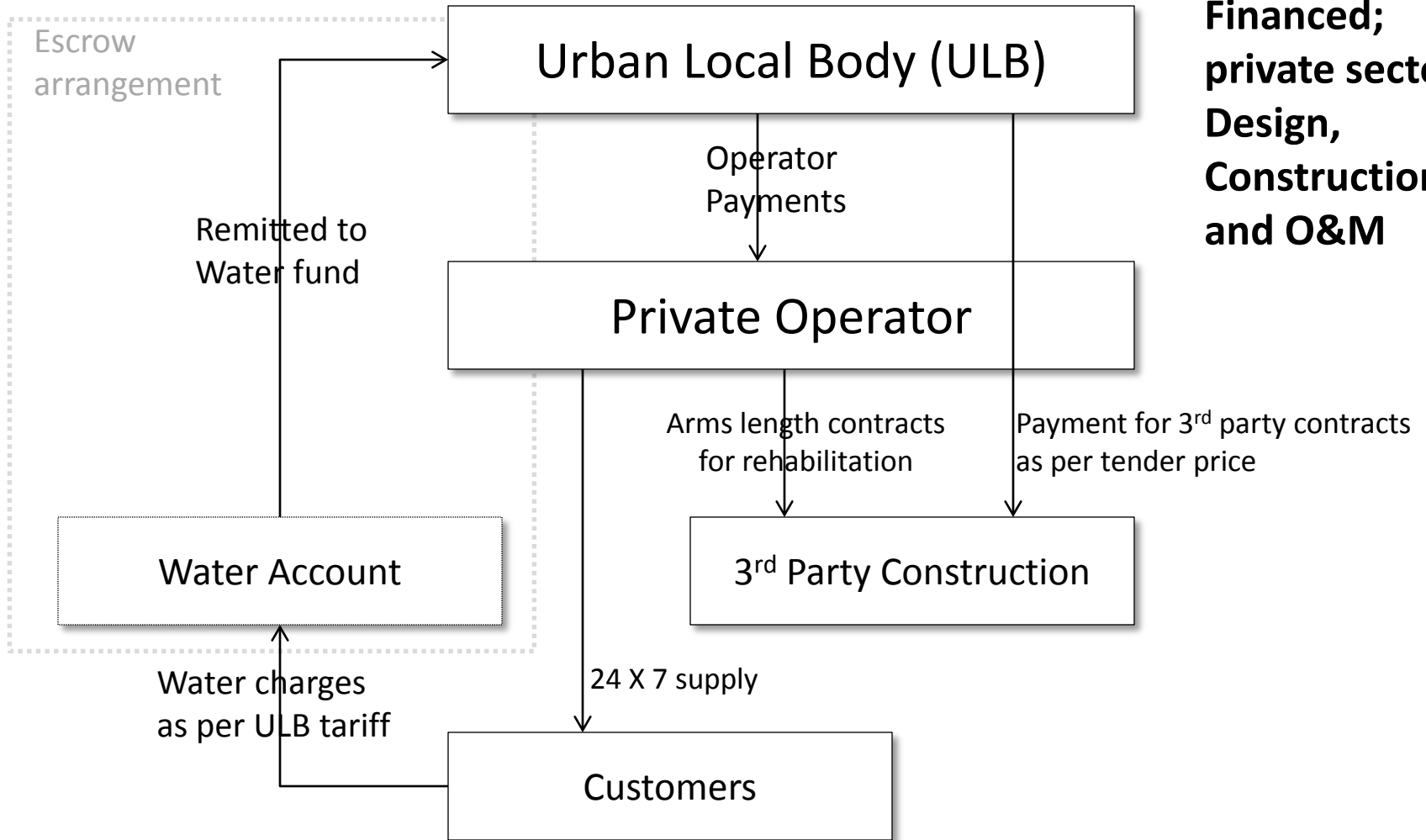


(at least in the near future)

Publicly funded projects, with private sector operating efficiency & customer orientation

PPP Structure

**Publicly
Financed;
private sector
Design,
Construction,
and O&M**



Key Principles of Management Contract

Socially acceptable PPP structure

- Tariff setting power remains with elected members
- Operator fee delinked from tariff
- Public sector funding

Poor information on existing system

- Preparatory phase
- Operator due diligence of DPR

Cost effective; focus on rehabilitation

- Operator due diligence of DPR
- Rehabilitation over 3-5 years
- Third party construction
- Capital expenditure savings incentive

Operator accountability for performance

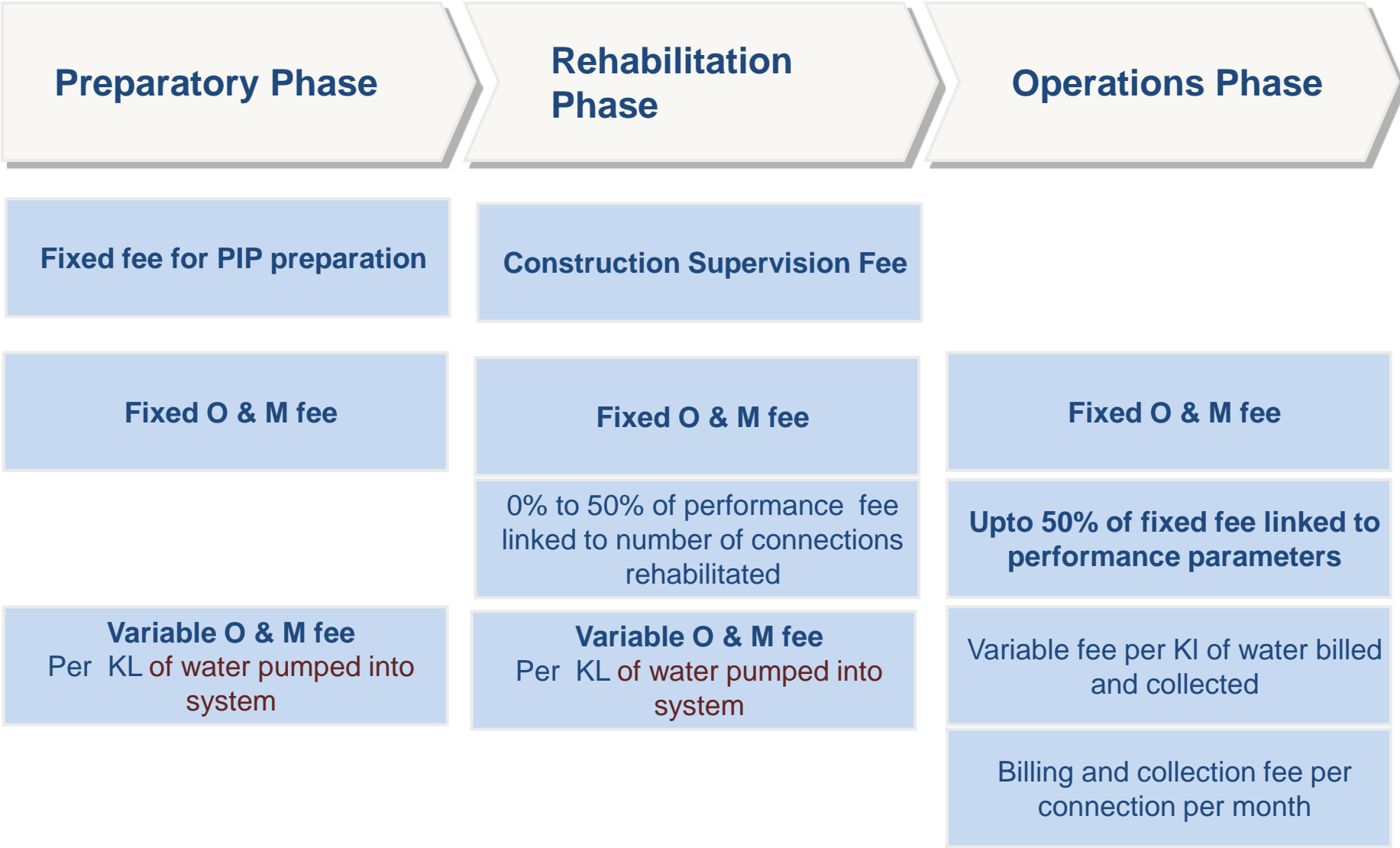
- Pre specified performance targets
- Phased linkage to operator revenue
- [Operator revenue linked to performance](#)

Addresses institutional issues

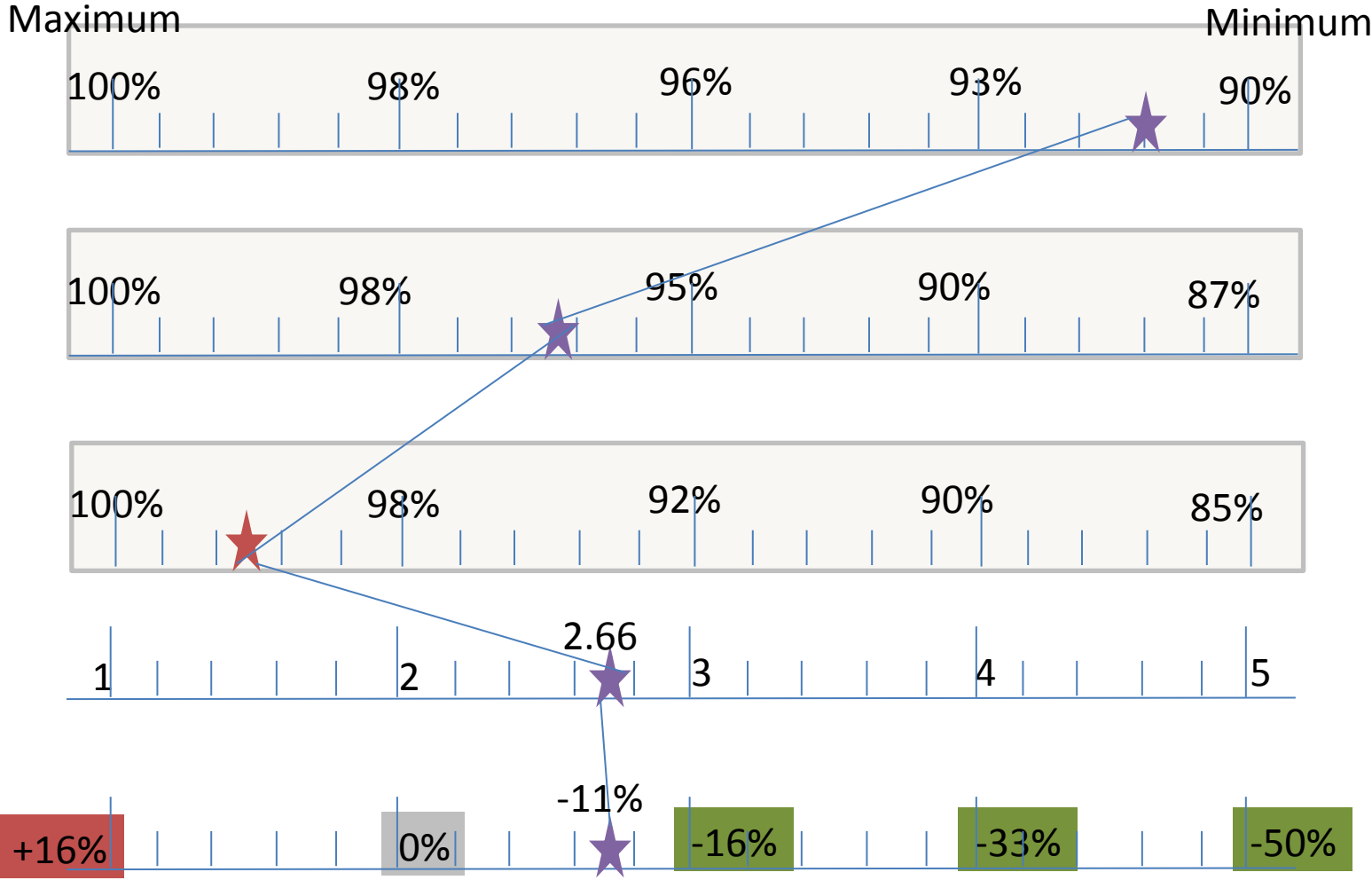
- Options for deputing ULB employees
- Institutional framework for contract monitoring and oversight
- ULB responsibility for water bye laws

Thank You

Private Operator fee structure



Sample calculation of Operator's performance fee



Annual adjustment = $\frac{\text{Composite score} - 2}{3} \times (\text{Fixed fee linked to performance, e.g. } 50\%)$