Innovative Methods of Contracting for Infrastructure Development in Indian Railways

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Model Concession Agreements Finalised and Issued under Policy for *Participative Models for Rail Connectivity and Capacity Augmentation Projects*:

- Non Governmental Railway Private line (NGR)
- Joint Venture (JV)
- Build Operate and Transfer (BOT)
- Customer Funding
- Annuity
a) NGR Model

Usually for providing last mile connectivity to ports, large mines, Logistic parks/industries. Beneficiaries can create JVs with co-Beneficiaries/Infrastructure Financing and development Institutions.

- Common carrier system (multiple users)
- No investment by IR
- Private Land to be acquired by developer
- Land acquisition by Developer at his cost
- Land for connection on lease by IR on token rate
- Maintenance by developer or by IR on payment
- Construction by developer or by IR as deposit work
- No competitive bidding feasible.
NGR Model

*Reserved services*: these pertain to train operations and cannot be undertaken by the developer. Such as provision and operation of rolling stock and locos, fixing of tariff and booking of freight. Cost of these is recovered from payments made.

C. Payments:

- User fee equal to 95% of revenue (Apportioned freight as per extant rules-cost of O&M, other charges and fee in accordance with Agreement).
- IR has right to permit new sidings/lines from project line.
b) Joint Venture Model

- For financially viable and bankable new lines/GC projects already sanctioned/ proposed.
- Clearly identifiable stakeholders/ beneficiaries (Ports/Mines/ Exporters/ Plants/State Governments)
- Partners to be selected through transparent Expression of Interest (EOIs) or nomination basis.
Joint Venture Model

B. Details of the Model:

- Debt to be raised by JV without any sovereign guarantee
- Project construction has to be done by JV and by IR if requested on payment
- Maintenance by JV and by IR if requested on payment of charges due.
- Land acquisition by IR at the cost of JV to be treated as interest free advance and to be refunded to JV on expiry/termination of concession.
- Railway Land on token annual lease rent.
- IR/PSU to have 26% share in SPV.
Joint Venture Model

- To be run on common carrier principle.
- Concession period to be 30 years.
- CP can be increased/decreased by one year if decrease/increase in traffic is 4% subject to limit of 25 to 35 years.
- Cost of Land will not be considered for the purpose of equity IRR.
- No termination payment on natural expiry of CP and the entire line would revert to Railway without any cost except payment for original cost of land.

C. Payments:
- Revenue to JV from apportioned revenue from freight operation.
- This is to be only 50% as remaining 50% is to be recovered as cost of reserved services.
- Provision for inflated mileage
- No apportionment of passenger earnings.
c) Build Operate Transfer (BOT)

Sanctioned projects where it is not possible to identify a stakeholder or strategic investor. E.g. embedded projects, new lines sandwiched between long-rail corridors being operated by IR.

- Investor selected through competitive bidding.
- Concessionaire to design, finance, build, operate, maintain and transfer line at the end of concession period.
- Preparation of DPR, Revenue model, bankability and subsequent project structuring/development to be done by MoR through consultants.
- Amount of Premium or Grant (VGF) as the sole bidding parameter.
- Concession period 25 years including construction and can increase or decrease depends as per decrease or increase in traffic (one year for each 4% +,-) limit of 20 to 30 years.
Build Operate Transfer (BOT)

- Land to be acquired by IR at own cost and leased out @ Rs.1 annum.
- Construction and Maintenance by concessionaire
- Operation by IR (reserved services)

C. Payments:
- IR to pay user charge to concessionaire at the rate of 50% of the freight revenue.
- MOR shall guarantee at least 80% of the Projected revenue. Projection is of revenue not traffic so as to provide certainty to investor. Thus, even if tariff rates change the minimum revenue will be guaranteed.
- Risk of inflation would be mitigated through provision of year on year escalation on base tariff to calculate revenue.
- Benefit of inflated mileage can be given.
d) Customer Funding Model

A. Likely customers:

- Customer likely to benefit from doubling etc. may be ready to provide funds for early completion of the project.

B. Details of the Model:

- Project to be sanctioned as a normal railway project after MOU with customer(s) ready to invest in full or part.
- To be constructed and maintained by IR.
- Fund provided by customers to be treated as deposits and to be used exclusively for nominated project.
- Ownership and O&M to be always with IR.
Customer Funding Model

C. Payments:

- Freight rebate up to 7% of the amount invested by customer to be paid to him annually till total investment with interest is repaid. Repayment of both principal and interest is subject to the amount of freight earning from the line.

- Rate of interest will be equal to the dividend rate payable by IR to central exchequer at the time of signing the agreement.

- Interest payable on reducing balance.

- It is important to ensure that IR earns more than present value of traffic rebate during the rebate period for value addition.
e) Annuity Model

Likely to be used when there is no specific user(s) to fund it. E.g. applicable to sanctioned doubling projects catering to a diverse customer base.

- Concession for financing, construction and maintenance of the Project during the construction period.
- Not simply an EPC. Since funding responsibility is with developer and he/she is to get payments only after completion of the Project.
- IR responsible for DPR, final location survey, project formulation, etc through consultants.
- Bidders will carry their own due technical and financial diligence on the feasibility report to determine annuity.
Annuity Model

- Lowest contract price/annuity amount is the sole criteria.
- IR responsible for providing site and clearances 90% of the land has to be provided at the outset and written schedule of handover for the rest prepared.
- Penalty for each days delay. Bonus for early completion
- Supervision and certification of construction by IR under guidelines specified in the CA. Railways will appoint its engineer for the purpose designated as “Authority’s Engineer”
- IR to obtain CRS sanction on the basis of requisite papers submitted by concessionaire.
- O&M completely with IR
Annuity Model

C. Payments:

- Concessionaire to be paid fixed annuity in form of 60 quarterly payments
- Annuity would be budgeted and paid on committed basis.
- It is important to ensure that IR earns more than present value of annuity from traffic revenue by clear margin to ensure value addition to IR.

- Status of PPP projects
- Port Connectivity Projects:
Other innovative contracting models:

Model Concession Agreement also finalised for Engineering, Procurement and Construction (EPC) mode of contracting

- Unlike strictly PPP modes this requires Railways to pay for construction without linking payments to revenue from the project. Thus, requires investment of Capital.
- However, unlike conventional rate contracts it avoids time and cost overruns by linking payments to outcome milestones rather than inputs.
- In most other aspects similar to annuity model
Factories under PPP mode

Success stories
- 12000 HP electric locomotive factory at Madhepura, Bihar
- 6000 and 4500 HP Diesel Locomotive factory at Mahrowra, Bihar
- Innovative method of AOT based PPP arrangement
- Current PCMA is worth nearly 20,000 crores each

Factories in Pipeline
- Kanchrapara Factory, WB for 5000 self propelled MEMU/EMU/Shatabdi type coaches
- Kolar, Karnataka - proposed factory for rail coaches
- Palakkad, Kerala- Proposed factory for Aluminium Rail coaches
- Sonepat, Haryana- proposed rail factory for refurbishing of passenger coaches
- Bhilwara, Rajasthan- Proposed factory for EMU coaches
- Vidisha, M.P. – proposed factory for equipments of locomotives
- NJP, WB- proposed factory for axels
- Latur, Maharashtra- proposed factory for self propelled coaches
A dilemma for IR

- **BUY** or **MAKE**

- Assured off-take mode (AOT) - an *innovation* or a *quagmire*?
Other innovative contracting models:

- **SWISS CHALLENGE for station development**
  - Proposals for station development to be called from technically and financially eligible firms
  - Standing technical committee to examine them for technical feasibility and a standing financial committee to examine them for financial feasibility. An advisory committee of 3 independent experts from finance, design and civil engineering will also examine the recommendations of the committees and give their advice to the GM for considered decision.
  - To qualify the proposal must score at least 70% on technical parameters. Only in that case will the financial offer be opened. The weightage of technical to financial bid in the final ranking will be 60 to 40.
  - The design so selected will be labelled Project Proponent and the same is uploaded for further financial bids labelled as counter proposals. At this stage the BOQ is fixed and only the financial offer is to be made.
  - If Project proponent is not the highest bidder (highest premium) he will get the right of first refusal.
Other innovative contracting models:

- **Installation of solar panels in developer mode**
  - Bids to be invited for installation of solar panels at selected locations on Zonal Railways
  - No capital investment by Railways.
  - Instead Railway to only enter into Power Purchase Agreements (PPAs) to buy the electricity at a decided rate. Eligible offer with the lowest offered rate is selected.

- **Operation of Radiology machines in Railway hospitals under PPP mode**
  - No investment by Railways save provision of space
  - Private operator to be paid only CGHS rates. To be allowed to conduct private tests without hindering functioning of Railway hospitals.
High Speed Railway Projects

- 508 kms long Mumbai-Ahmedabad High Speed rail Project (Standard Gauge) at an estimated completion cost of Rs 1,10,000 crore.
- The corridor will be fully elevated apart from tunnels.
- 81% of it is through JICA ODA, interest rate fixed at 0.1%, 50 year tenure. Payment to start after a period of 15 years and to be repaid over 35 years.
High speed Railways under examination

- Consultancies given out for the following routes and studies under examination.
  1. Delhi Kolkata – Spanish consortium
  2. New Delhi Ahmadabad – G2G China
  3. Mumbai Nagpur – G2G Spain
  4. Mysore Chennai - German consortium
  5. Mumbai Chennai - French consortium
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<th>S.No.</th>
<th>Details</th>
<th>2015-16</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19 (upto July)</th>
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<td>I. Private Investors</td>
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<td>Investments by container train operators</td>
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<td>Terminals</td>
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<td>Investments in Private Freight Terminals (PFTs)</td>
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<td>Investments in Wagons under Freight Marketing Schemes</td>
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<td>Own Your Wagon Scheme (oyws)</td>
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<td>Liberalized Wagon Investment (LWIS)</td>
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<td>Automobile Freight Train Operator (AFTO)</td>
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<td>Special Freight Train Operator (SFTO)</td>
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<td>Special Parcel Train Operator (SPTO)</td>
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<td>Projects under participative policy for rail connectivity (Jv, BOT etc.)</td>
<td>6457.00</td>
<td>8595.35</td>
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<td>Investments in manufacturing facilities through private investors</td>
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<td>Locomotive factories</td>
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<td>Sidings</td>
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<td>2725.992</td>
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<td><strong>II. Other Non-Budgetary sources</strong></td>
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<td>Expenditure against external aid flowing directly to executing entities under DFCCIL</td>
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<td>Cost sharing projects investment made by State Governments, Central Ministries i.e., ROBs/RUBs, NL/DL, NHAI etc. (excluding the items under Nil(iii))</td>
<td>454.82</td>
<td>178.73</td>
<td>1005.6</td>
<td>65.91</td>
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<td>(A) Investment in Cost Sharing Projects of New Line</td>
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<td>i</td>
<td>Investment against the Construction Activity</td>
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<td>ii</td>
<td>Investment against the acquisition of land. If State Governments are providing land free of cost, the cost of land acquisition should be given in this sub head.*</td>
<td>2544.56</td>
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<td>(B) Cost Sharing projects investments in doubling</td>
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<td>(C) Cost Sharing investment in State Government in ROB/RUB.</td>
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<td>(D) Investment made by MoRTH/NHAI/ State Government for construction of ROB/RUB on the railway track.</td>
<td>2462.082</td>
<td>2275.07</td>
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<td>(E) Any other investment against cost sharing projects by State Government/ Central Ministries etc.</td>
<td>44.03</td>
<td>0.00</td>
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<td>Capital investments made by Railway PSUs in the rail sector other than the amounts provided through Railway Budget - CONCOR, IRCON, RVNL, IRCTC, KRCL, RITES, MRVC, RAILTEL etc.</td>
<td>979.78</td>
<td>1579.5</td>
<td>2254.65</td>
<td>155.06</td>
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<td>12</td>
<td>JV or customer funded projects</td>
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<td>Private lines by developers (NGR)</td>
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<td>780.9</td>
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<td>23.41</td>
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<td>Any other deposit works</td>
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<td>1282.866</td>
<td>1685.61</td>
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<td>Any other activity not covered above</td>
<td>583.98</td>
<td>478.96</td>
<td>955.41</td>
<td>487.84</td>
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<td><strong>Total</strong></td>
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<td><strong>Figures for PSUs</strong></td>
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<td><strong>Grand Total</strong></td>
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<td>26834.09</td>
<td>22116.00</td>
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Thank you!