SESSION ON FINANCE AS KEY ENABLING FACTOR
THE ROLE OF PUBLIC PRIVATE PARTNERSHIPS (PPPs)

by

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PPP Independent Expert

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Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation, 4th session (sustainable freight transport)

Session on Finance as Key Enabling Factor
> The role of Public Private Partnerships (PPPs)

Ansgar KAUF, Expert, PPPs in Transport
Geneva 14-16th October 2015
I. Introduction

1. the role of transport services in the context of international, regional and international trade: taking overall transport sector approach encompassing all modes (road, rail, water, air), inter-modality, supply chains, role of logistics

2. the need of a sustainable development approach: 3 core aspects must be jointly addressed: economic viability, social development and equity and environmental protection & preservation.

3. Question for freight transport:
   - Infrastructure -> **PPP**: yes!
   - Transport services -> **Privatisation**: yes! // **PPP**: ???
Transport: services and infrastructure
many options for PPP & Privatisation

- **Quite distinct subsectors**
  - **land transport**
  - **overseas transport**
  - **a combination of all**
  - (modes: road, rail, air, water)

- “Bundled” in
  - **Infrastructure (networks)** &
  - **Transportation / other services**

- Clear distinction of roles:
  - **Regulator**
  - **Infra / network**
    - Provider, Operator
  - **Transport service**
    - Supplier -> Forwarder, Haulier, Agent, Transport company (road, shipping, …), … -> Client
  - **Client**
Transport in Supply Chains

Hinterland
Procurement, Distribution, Production

Maritime Transport

Hinterland
Procurement, Distribution, Production

- Factory
- Supplier
- Warehouse
- Terminal
- Client
- Waste incineration
- Disposal

e.g. Hamburg

e.g. Tianjin

HPTI Hamburg Port Training Institute GmbH
Basic constituents of Transport(ation)
> Infra (network) // Transp. & other services

Who provides the infra / network – who the services / transportation?

> Trend to unbundling

"i.e. split infra / network & its use / transp. services: provision"

<table>
<thead>
<tr>
<th>Asset &amp; Service Sector / Progress</th>
<th>Infrastructure Asset</th>
<th>O&amp;M /FM</th>
<th>Transport / associated Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. one provider for all (Monopoly)</td>
<td>Monopolist provider (Public or private)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Unbundling &amp; Privatization (Demonopolize &amp; Privatize)</td>
<td>1 or several Providers (Public or private) Competition via concession tender</td>
<td></td>
<td>Competitor 1, competitor 2, competitor 3, ..</td>
</tr>
</tbody>
</table>

Infrastructure PPPs
Transport services Privatisation
Difference btw Private Participation (PPP) and Privatization

PPP: No full Privatization !!!

- PPP models = Private Participation
  - Design + Build + Finance + Operate
  - no transfer of ownership / for limited time
- Pre-financing models
  - Design + Build + Finance
- Functional Contracts
  - Design + Build + Maintain
- General contractor
  - Design + Build
- Awarding lot-by-lot

Public Partner as « orderer (+ regulator)

Outsourcing > PPP

100% Private Company

Mixed-economy Corporation with permanent transfer of ownership

Public sector operating on its own

Departing from tradit. Public Operation & Administration
Possibly new management models (« New Public Management »)

Towards Functional Privatization: outsourcing of tasks

PPP: No full Privatization !!!

Public Partner as « orderer (+ regulator)

Outsourcing > PPP

1. PC = Project Company

Source: Alfen / Weber:
Transport infrastructure: **Public procurement** or **Public Private Partnerships**
## Range of Options: from tradit. procurement to PPP

<table>
<thead>
<tr>
<th>Approach</th>
<th>Contract type</th>
<th>Risk &amp; Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fully Privatize</strong></td>
<td>Generally not in public infrastructure / service</td>
<td>High Risk</td>
</tr>
</tbody>
</table>
| Concession (private finance / equity) | Asset Sale  
BOO: Build-Own-Operate | Long Term       |
| **PPP** | BOT: Build-Operate-Transfer  
DBFO/M: Design-Build-Finance-Operate/Maintain |               |
| Long Term Contract (“pre-finance”, no equity) | Contracting model (incl. modernization) |               |
| | Leasing / Affermage |               |
| **Tradit. Public** | **DBOM**: Design-Build-Operate-Maintain  
O&M: Operation & Maintenance | Short Term      |
| Works contracts (including turnkey) | |               |
| **CM@Risk**: Construction Manager at Risk | |               |
| Services contracts | DB-W: Design-Build with Warranty  
DB: Design-Build = Design & Construct (DC) |               |
| Contract Maintenance | |               |
| Fee-Based Contract Services (consulting, installation, technical) | |               |
| Product Delivery | B2B |               |
PPP models: main phases in the life-cycle

- Pre-Planning & Acquisition
- Finance
- Design / System Integration
- Build / Turnkey
- Invest
- Operation & Maintain
- Modernize
- Hand Back
- Tender
- Transfer back
PPP models: life-cycle: phases & Contracts

Pre-Planning & Acquisition → Finance

Design / System Integration → Build / Turnkey

INVEST

Design-Build
Construction Manager at Risk

D-B CM@Risk

Operation & Maintain.

Modernize

Preservation
Asset Management

D-B-O-M
Design-Build-Operate-Maintain

D-B-F-O/M BOT/BTO
BOO/BOOT

Design-Build-Finance-Operate Build-Operate-Transfer
Build-Own-Operate/Build-Own-Operate-Transfer

Source: Finnish Road enterprise - AECOM
## Risk mitigation

<table>
<thead>
<tr>
<th>Risk category</th>
<th>Who and how?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>government</td>
</tr>
<tr>
<td></td>
<td>private sector</td>
</tr>
<tr>
<td>1. Political Risks</td>
<td>government</td>
</tr>
<tr>
<td>2. Operational Risks</td>
<td>private sector</td>
</tr>
<tr>
<td>3. Market Risks</td>
<td></td>
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<tr>
<td>4. Economic Risks</td>
<td></td>
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<tr>
<td>5. Security and Safety</td>
<td></td>
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<tr>
<td>6. Environmental/climate risks</td>
<td></td>
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<tr>
<td>7. Financial Risks</td>
<td></td>
</tr>
<tr>
<td>8. Risks Relating to Technical Partnership &amp; Manage</td>
<td></td>
</tr>
</tbody>
</table>
Risk management principles

Identify Risk: Identifying the events or actions which effects the viability of the project.

Determine Severity of Risk: In Case the Event occur the effect of the same on the cost/time of the project.

Allocate Risk: Identifying and allocating the risk to the party who can manage it best.

Mitigate the Risk: Steps/actions which can be taken to reduce the chances of the event occurring.

Price the Risk: Cost of addressing the risk have to be determined.

Source: Vijay Sarma, Risk Management in PPP Projects, 2007
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
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</tr>
<tr>
<td>Change in law</td>
<td>X</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Political and social risk</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Expropriation</td>
<td>X</td>
<td></td>
<td></td>
<td>(X)</td>
</tr>
<tr>
<td>Planning and Design services / cost and delay</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Permits and authorizations</td>
<td>X</td>
<td></td>
<td>(X)</td>
<td></td>
</tr>
<tr>
<td><strong>Construction phase</strong></td>
<td>Grantor</td>
<td>Concessionaire</td>
<td>D&amp;C Contract.</td>
<td>O&amp;M Contract.</td>
</tr>
<tr>
<td>Existing infrastructure / utilities conditions</td>
<td></td>
<td></td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Ground conditions (Geology / Contamination)</td>
<td>(X)</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Constr. price overrun (Lump sum price)</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Constr. price escalation</td>
<td>(X)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Construction delay overrun</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Unforeseen events / Force majeur</td>
<td>X</td>
<td></td>
<td>(X)</td>
<td></td>
</tr>
<tr>
<td>Permits and authorisation</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>User demand / Revenues</td>
<td></td>
<td></td>
<td>(X)</td>
<td></td>
</tr>
<tr>
<td>Revenue collect./accounting/fraud/ violation</td>
<td>(X)</td>
<td></td>
<td>X</td>
<td>(X)</td>
</tr>
<tr>
<td>Supply of services / level performances</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Enforcement</td>
<td>X</td>
<td></td>
<td></td>
<td>(X)</td>
</tr>
<tr>
<td>O&amp;M costs overrun</td>
<td></td>
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<td>X</td>
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<tr>
<td>Price escalation</td>
<td>(X)</td>
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<td>X</td>
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<tr>
<td>Unforeseen events / Force Majeur</td>
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<td>X</td>
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<tr>
<td>Heavy Repair and Maintenance</td>
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</tbody>
</table>
Risk Transfer – vital issue in PPPs

- Allocate risks to the party that is in the best position to mitigate it

-> Price risk to be included in PPP price. That is why a PPP project is more expensive in absolute terms.

-> This additional cost is then compensated by efficiency gains and, most importantly a price cap for capital expenditure (CAPEX) and operating expenditure (OPEX) i.e. all cost overruns (usually some 20 – 100% are at the expense of the concessionaire, apart from exceptions stipulated in the contract
## The Revenue stream - > Payment Mechanisms

<table>
<thead>
<tr>
<th>Payment Mechanism</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct user charges</strong></td>
<td>Tolling, (interurban + tunnels / bridges) is a common charge for road use, with 2 objectives: revenue generation and demand management. Care has to be taken to win users to tolling as a fee for service. Parking fees are an even more common payment method for drivers, do not meet public resistance.</td>
</tr>
<tr>
<td><strong>Access control to Cities / Area tolling</strong></td>
<td>Urban charging / road pricing with fixed or variable tariff (peak hour). Difficult to introduce (politicians fear public resistance). Access control systems that privilege area inhabitants over incoming visitors, meet generally stronger acceptability. A clever way is the combination of access and parking charges (&quot;Parkraumbewirtschaftung&quot;: users get a grace period for a “free ride” during 20 to 30 minutes. Either they park their car then with a tag, or when they still drive, the same tag is used for urban charging.)</td>
</tr>
<tr>
<td><strong>Traffic fines</strong></td>
<td>Traffic fines from speed and red light enforcement (and other violations) create a project budget, the technology provider retains x % or possibly funds other systems, in addition (e.g. red light and speeding fines funding UTC system). Although unpopular, have advantage that drivers are already used to them.</td>
</tr>
<tr>
<td><strong>Energy savings (liberating budget)</strong></td>
<td>By upgrading a Traffic Management System to energy saving technology, up to 90% of the previously due electricity bill and O&amp;M cost can be saved; up to 60% for public lighting. The advantage is that it takes the existing budget (governments cannot switch off street or traffic lights), and uses the liberated funds for the new project. Also environmentally very acceptable.</td>
</tr>
<tr>
<td><strong>Shadow tolls</strong></td>
<td>A shadow toll is a payment based on traffic volumes made by the public sector partner rather than users paying directly through a toll. In the United Kingdom traffic is divided into bands representing different levels of annual traffic volumes with different per-vehicle payments attached to each. Banding is intended to cap the public sector partner's liability.</td>
</tr>
<tr>
<td><strong>Availability payments</strong></td>
<td>Currently main payment mode for &gt; 80% of new PPPs, but not affordable for governments any more. These payments are based on availability of infrastructure and/or services to an acceptable standard. They typically vary for on-peak/off-peak periods and additional features such as cycle ways or bus lanes. Effective availability payments need to be easily measurable, take into account factors affecting availability (damage, accidents, …) and define unavailability (max.time before being re-stored).</td>
</tr>
<tr>
<td><strong>Lump sum contributions</strong></td>
<td>Lump sum payments towards the cost of the project are used in both conventional &amp; PPP procurement. 1. In public procurement, such payments are usually paid upon completion of construction. 2. In PPPs they usually are annuity payments, within a fixed schedule over the contract duration.</td>
</tr>
<tr>
<td><strong>Annuity payment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Active TM payments</strong></td>
<td>Active traffic management payments are based on combination of traffic volumes, average traffic speed &amp; availability. This payment mechanism can be used to create incentives or drive desired outcomes.</td>
</tr>
</tbody>
</table>
From project appraisal to project financing as “Stand alone” or with subsidy?

**Case 1: Commercially viable**
- Link between econ. & project return through sufficient user demand!
- Project is profitable: Benefits – costs > 0
- Solutions to bridge gap:
  - Shift benefits to private stakeholders

**Case 2: Commercially not viable**
- Project is profitable: Benefits – costs > 0
- Project is unprofitable: Revenues - expenditures < 0
- Decrease expenditures (efficiency measures)
- Increase revenues

**Project Appraisal**
- Socio-econ. cost benefit analysis (CBA)
- Financial Analysis (FA)

**GAP**
Financing PPPs

Sources

- Taxes / debt public sector
- Subsidies (nat. / internat.)
- User:

Project Finance

Equity + ...

Debt + senior debt
**Sources**

- Taxes / debt public sector
- Subsidies (nat. / internat.)
  - Viability fund
- User pay mechanism:
  - "as you drive" (distance, moment, category/emission class, ...): **toll**
  - other charges: **congestion charging**

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**Project Finance**

**Equity**

- « Sponsors »
- Financ. Investors
- Mezzanine
- Government
- cash flow (intern.)

**Debt**

- Senior Debt
- Bonds
- Mezzanine
- Instit. Investors
- Junior Debt
- Government

+ Risk sharing mechanisms
+ Garanties
India: Viability Gap Funding

Key Principles:

- “The quantum of financial support (VGF) to be provided under this scheme shall be in the form of a capital grant at the stage of project construction. The amount of VGF shall be equivalent to the lowest bid for capital subsidy, but subject to a maximum of 20% of the total project cost. In case the sponsoring Ministry/ State Government/ statutory entity proposes to provide any assistance over and above the said VGF, it shall be restricted to a further 20% of the total project cost (see Rule 4.1 and 4.2)”

> Ministry of Finance of India, 2006
http://finmin.nic.in/the_ministry/dept_eco_affairs/ppp/GuidelinesPPPapp250106.pdf
### Combine Payment Mechanisms with PPP options

<table>
<thead>
<tr>
<th>Payment Mechanism</th>
<th>BOT - DBFO/M</th>
<th>Contracting model</th>
<th>DBOM - O&amp;M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct user charges</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Toll</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Parking fee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic fines</td>
<td>(x)</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Energy saving creating budget</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Shadow tolls</td>
<td>X</td>
<td></td>
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<td>Availability payments</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Lump sum contributions</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annuity payment</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Active traffic management payments</td>
<td>(x)</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**PPP Model**

- **Concessions**
- **Long term contracts**

**Self-financing**

**Budget financed**
Good governance principles in PPP
(acc.to UNECE guidebook, proposing practice-oriented modifications)

1. **Policy & Strategy** (devising a coherent strategy and framework, in which PPPs have their place); ensure **full government support**!

2. **Putting people first, scoping adequate projects**
   - Is the project needed, for which users: 1. socio-economic justification
     2. careful traffic forecast – user-financed, standalone?
   - involving all stake-holders
   - Develop project scope and functions acc.to needs and financiability
   - Project adequate for the PPP approach? PPP stress test

3. **Capacity-Building** (administrative)

4. **Adequate legal frameworks and Regulation**

5. **Risk** (appropriate transfer to private partner)

6. **PPP Procurement** (transparent, efficient, competition)

7. **The environment / sustainable development**

8. **PPP contract management** *(during operations phase)*
A true Partnership!

A World Bank Cartoon, used in many PPP presentations, also took it for highways.