

PPP Modalities

Types and characteristics of PPP are presented in several sections of the Toolkit: refer “Types of PPP” in Key Issues. This section provides some consideration of which modality, or which PPP modalities, should be selected for consideration at this stage in the PPP project cycle for a specific PPP project.

There are in fact many more potential types of cooperation between public organizations and private enterprises than often listed. However, in practical terms, there are only a few PPP types or modalities related to the need to encourage major private sector investment. These include Build Operate Transfer (BOT), Build Transfer (BT), Build Own Operate Transfer (BOOT) and Build Own Operate (BOO). These are for new roads. The Rehabilitate Own Operate Transfer (ROOT) modality is also appropriate and popular where an existing major road can be upgraded into a toll road.

In UK under the PFI, these modalities are similar but have somewhat different names, such as **DBFO (Design Build Finance Operate)**¹.

PPP modalities vary mainly in (i) risk transfer to the private sector, (ii) the investment by each party and (iii) the control and ownership of assets (including whether during the concession period or ultimately at transfer). The modalities listed in Module 2 generally provide an increasing investment and risk by the private sector and, relatedly decreasing control and ownership by the Government.

There is a fine but significant distinction between Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) that is often not made. BOT projects are usually those financed and operated by a government institution; those financed by the private sector are called **BOOT**². Clearly, under the generic BOT, it is possible to extend PPP further through a service or operation and maintenance (O&M) contract awarded to a private company.

In BOO, the private company retains ownership of the facility in **perpetuity**³.

ROOT is a variant of BOOT and refers to a rehabilitation of an **existing facility**⁴ and likewise ROO is a variant of BOO.

1 A variant of BOOT.

2 BOT generally is both a generic description and a specific modality. Most often when BOT is referred to, it normally means the former ie in reality the specific BOOT type.

3 The company could subsequently sell off the facility to another investor. This could be an infrastructure fund, for example, allowing the original investor an exit.

4 There are many examples of ROOT in the toll road sector in China. An example is the Hangzhou toll road.

Selecting a PPP Modality

The contracting agency is required to propose initially a realistic modality in the interest of all parties. The choice of modality depends on many considerations (see Table). The relative importance of private investment as an objective is a major consideration.

Private investment would only materialize if a project is commercially viable. Fiscal support can be used to turn a non-viable project into a viable one. Without some form of government financial support, the private sector would not be interested. However, if the project is essentially a weak one, then the cost of fiscal support may be too high for the government to bear. Under this circumstance, then the attempt to use a BOOT or B00 modality would be highly inappropriate and unlikely to succeed. This is why project preparation is important and includes VfM and estimation of the PSC as described in Stage 1.

CHARACTERISTICS OF PPP MODALITY TYPES					
PPP Modality Type	Main Features	Risk Transfers	Access to private finance	Ownership	Comment
1. Service Contract	<ul style="list-style-type: none"> Certain services are out-sourced to a private company. Private company provides agreed services to the GOV GOV retains general control and supervision. 	<ul style="list-style-type: none"> Service contracts provide a relatively low-risk option for expanding the role of the private sector. No equity risk borne by the private company. 	<ul style="list-style-type: none"> Limited infusion of private capital i.e. working capital. 	<ul style="list-style-type: none"> Government* 	<ul style="list-style-type: none"> This type of PPP has limited benefits. Service contracts can be a competitive form of operational type PPPs, and require a well-developed service industry. Not suitable for initial Toll Road development / investment.
2. Operation and maintenance contract (O&M)	<ul style="list-style-type: none"> Management and operation of a public infrastructure is out-sourced to a private company. Similar to a service contract but the scope of services is wider with greater control passed to the private company. 	<ul style="list-style-type: none"> Similar to the service contract with additional risk of keeping the facility up to certain technical standards. No equity risk borne by the private company. 	<ul style="list-style-type: none"> Limited infusion of private capital i.e. working capital. 	<ul style="list-style-type: none"> Government 	<ul style="list-style-type: none"> Suitable for projects with a significant operating content. O&M could be applied to a BOT, BOOT, B00, ROOT and R00 project. A method to import private sector efficiencies and technical know-how. Not suitable for initial Toll Road development / investment.
3. Build Transfer/ or Annuity Type	<ul style="list-style-type: none"> Private company finances the infrastructure. Private company builds the infrastructure. Upon completion of construction, the infrastructure is transferred to the government. Government pays the private company on an agreed schedule the total cost, plus a reasonable markup. 	<ul style="list-style-type: none"> Private company only assumes construction risks. No equity risk is borne by the private company. 	<ul style="list-style-type: none"> Much greater infusion of private capital i.e. for construction. 	<ul style="list-style-type: none"> Government 	<ul style="list-style-type: none"> Suited to capital projects where the government can retain operating responsibility. The government might end up paying more, as it is in effect borrowing from the private sector. Can be suitable for toll roads but limited benefits Can be suitable for high risk and/or low financial return projects

4. Build Operate Transfer (BOT)	<ul style="list-style-type: none"> • Government finances the facility. • Private company builds the facility. • Private company operates the facility on a concession. • At the end of the O&M concession the facility is transferred to the government. 	<ul style="list-style-type: none"> • Government bears the equity risk. • Private company bears the risks associated with the construction. 	<ul style="list-style-type: none"> • Limited access to private finance. 	<ul style="list-style-type: none"> • Government 	<ul style="list-style-type: none"> • Suited to projects that involve a significant investment and operating content. • Suitable for toll roads. • Does not overcome shortage of State funding for infrastructure
5. Build Operate Transfer (BOOT)	<ul style="list-style-type: none"> • Private company finances the facility. • Private company builds the facility. • Private company operates the facility on a concession. • At the end of the concession the facility is transferred to the government. • Also known as DBFO in UK: Develop- Build-Finance-Operate. 	<ul style="list-style-type: none"> • Private company assumes equity and other commercial risks. • Private company assumes construction risk. 	<ul style="list-style-type: none"> • Significant infusion of capital for construction and working capital for operation and maintenance. 	<ul style="list-style-type: none"> • Private company until transfer 	<ul style="list-style-type: none"> • Especially suitable if government has a large infrastructure financing gap. • Suited to projects that involve a significant investment/operating content. • Good solution for most projects.
6. Rehabilitate Own Operate Transfer (ROOT) Rehabilitate Own Operate (ROT)	<ul style="list-style-type: none"> • Same as a BOOT/BOT. • But for the rehabilitation of an existing facility rather than the construction of a new one. 	<p>As in BOOT</p>	<p>As in BOOT</p>	<ul style="list-style-type: none"> • Private company until transfer 	<ul style="list-style-type: none"> • Suitable for capacity expansion/road upgrading but essentially BOOT • Suited to projects that involve a significant investment/operating content. • Market risk is lower because there is a demand history.
7. Build own operate (BOO) and Rehabilitate Own Operate (ROO) (Effectively regulated Divestiture)	<ul style="list-style-type: none"> • Similar to a BOOT, except that the facility is not transferred to the government. • Operation and maintenance typically outsourced to another private company. • But for the rehabilitation of an existing facility rather than the construction of a new one 	<p>As in BOOT</p>	<p>As in BOOT</p>	<ul style="list-style-type: none"> • Private company 	<ul style="list-style-type: none"> • Suited to projects that involve a significant investment/operating content. • Market risk may be lower if there is a demand history. • The step before privatization and can be a good solution for toll roads.
8. Privatization	<ul style="list-style-type: none"> • Initial public offer (IPO), wholly or partly of a state-owned company (SOE). • Partial divestiture means government still owns a percentage of the SOE. • Total divestiture means the SOE has been completely privatized i.e. the company is now 100% owned by the private sector. 	<ul style="list-style-type: none"> • The private company is responsible for all aspects hence risks in infrastructure provision. 	<ul style="list-style-type: none"> • Private company funds future developments of the business. 	<ul style="list-style-type: none"> • Private company 	<ul style="list-style-type: none"> • Need to establish a strong regulatory body to prevent abuse of monopoly power. • Suitable if government wants to import private sector efficiencies into the SOE. • Privatization can be politically controversial.

Commonly Used Modalities

The purpose of this section is to describe in more detail and to inform the user of the underlying complexities involved in structuring a successful BOOT project. The structure requires that each stakeholder, and there are many (see figure below).

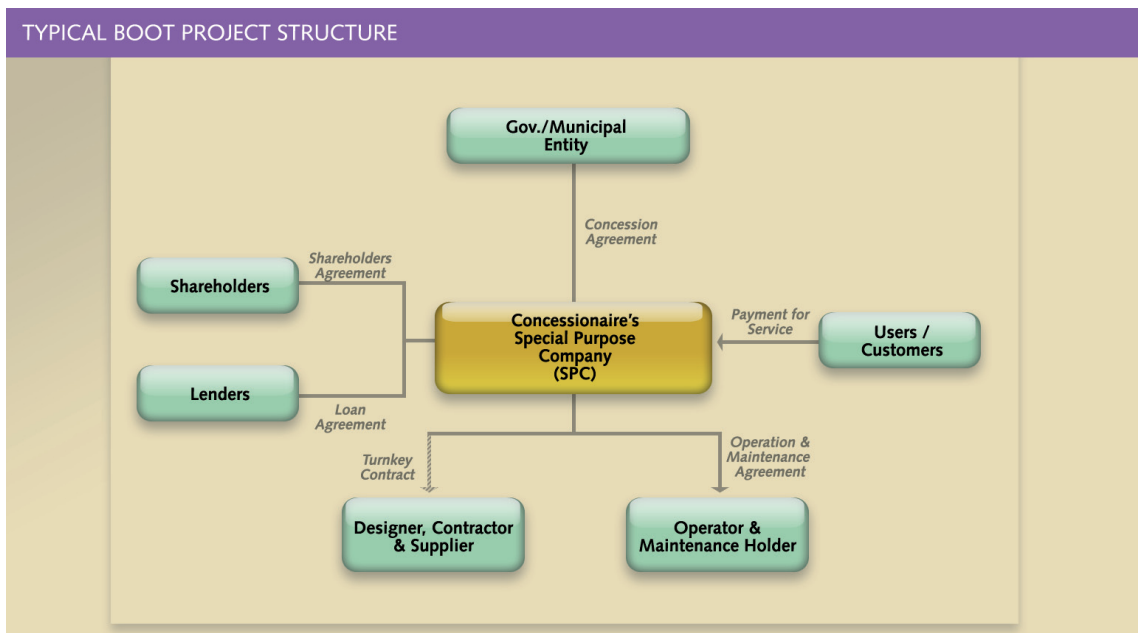
The BOOT modality is very common for new, greenfield projects. A BOOT project is one for which a government grants a concession for a pre-determined period of time to a **private consortium**⁵ to finance, build, operate, maintain and manage the project. The consortium recoups its investment costs and makes a profit through a user charge or toll. At the end of the **concession period**⁶, the project is transferred to the government in a condition defined in the concession contract.

A key characteristic of BOOT is private financing. In BOOT, major risks are borne by the private company. Firstly, it provides all the financing, through an **equity contribution**⁷ and debt, which it raises from the capital markets. Secondly, it bears the risk that the revenue yield may be less than what it needed to yield the requisite rate of **return on equity (ROE)**⁸.

Revenue yield depends on projected demand (or usage) and the initial toll rates and their subsequent adjustments. If government intervenes to change the toll rates or **financial terms**⁹ as agreed in the concession contract, then there is a strong possibility that the project would not achieve the expected ROE -unless the government provides some form of compensation.

A BOOT project structure is very complex, involving many stakeholders who are contractually bound, as shown in the following figure:

- 5 Sometimes called the concessionaire. The consortium subsequently forms a special purpose company (SPC) or vehicle (SPV) to implement the project.
- 6 The length of the concession period varies from project to project and from sector to sector. The concession period for a toll road ranges from 25 to 30 years or more.
- 7 Equity ranges typically between 25% to 30% of total financing.
- 8 The requisite ROE varies over time and from sector to sector. It is essentially the “market” rate.
- 9 This could happen for political reasons. If this happens, then the government should make appropriate restitution, otherwise investor confidence will suffer.



Other Aspects of BOOT Modality

In a BOOT project, the principal is usually the contracting agency assigned by the government or local government to procure the PPP concessionaire.

The concessionaire is usually a consortium and takes the responsibility of developing (designing, financing and constructing), maintaining and operating the infrastructure on behalf of the principal. It is expected to contribute equity finance to the project. The concessionaire is the owner during the concession period and realizes profits on the initial investment from toll revenue.

Debt financing¹⁰ is obtained from the capital markets. supplied by the private sector and the investors include both shareholders and lenders. The lenders support the concessionaire during negotiations with the principal, and may insist on some form of fiscal or other support from government to render the project bankable.

The concessionaire commissions a contractor, through a turnkey **EPC**¹¹ contract, to construct the facility. In some cases, the contractor is part of the consortium and expects to be awarded the EPC contract for its participation as an investor. Ultimately, the contractor is responsible for the construction of the project and for hiring subcontractors, suppliers and consultants.

10 **Debt finance** could come from a multilateral or bilateral agency, commercial banks (sometimes in the form of a syndicated loan), and institutions such as pension funds and insurance companies.

11 **EPC** stands for engineering, procurement and construction.

The operator is the concessionaire or it could sub-contract operation and maintenance to another private company. This company could also be a member of the consortium i.e. a shareholder of the **SPC**¹².

Performance-Based Contract (PBC) and Road Network Maintenance

In recent years the World Bank has been promoting a model contract management system/modality i.e. "Performance-Based Maintenance and Management of Road Networks. This system differs from the traditional format of unit prices and quantity-based contracts. The performance-based contract (PBC) requires a contractor to manage and maintain a road network to agreed performance standards. The contract extends over several or many years and is a partnership between client and contractor. It allows the contractor greater flexibility on how to meet the client's requirements for maintaining road networks to specified levels of service. In return, the client can benefit from a more predictable financial outlay for maintenance of its road networks.

The World Bank experiments in PBC in Latin America have been successful. Over the period 1997-1999 approximately 40% of the national paved road network, some 14,400km, was maintained by PBC. The network was divided into different sub-networks, one for each "CREMA" (Contracts for Rehabilitation and Maintenance) - a typical contract consisting of initial rehabilitation works and maintenance of the sub-network according to contractual performance requirements. Road conditions have improved considerably.-

Experience from the use of PBCs in Australia, the United States and New Zealand, has shown considerable cost reductions in road maintenance. In Africa the use of PBC is at an early stage, although trials in Chad have shown promising results.

The Centre for Enterprise Development (CDE) has an ongoing programme to develop small and medium-sized contractors in road maintenance, focusing on PBC, in Burkina Faso, Cameroun, Madagascar and Tanzania.



CDE: <http://www.cde.org.za>

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12 On the M1-M15 toll motorway in Hungary, Transroute, the former French toll road operator, was awarded the O&M contract.