

The Challenge for Public-Private Financing of Transport: Aligning Benefits, Costs and Sustainability

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ABSTRACT

Many new urban transport facilities and services are enabled by some form of public-private partnership or contracting process. Particularly for developing regions, private sources of capital and expertise are now providing capital financing, management and/or operations that would otherwise not be available for developing roads, rail lines, bus services and ports. This points to a clear need for systematic and structured evaluation to assure that projects will be effectively designed and resulting services will be efficiently implemented, with reasonable return to all intended parties.

To assess those evaluation measures, it is important to develop pre-project estimates and post-project tracking of transportation performance indicators (e.g., volumes, travel times) and financial performance indicators (e.g., revenues and expenses). In addition, though, it can be important for major transportation projects to be designed with the explicit goal of facilitating greater economic development, as expressed through social and economic development performance measures (including mobility and accessibility impacts as well as resulting job and income impacts). That can help ensure the alignment of public and private benefits, as well as equity in financing and pricing. It can also serve as a basis for regulatory oversight to help ensure long-run financial, economic development and environmental sustainability.

1. Introduction

Worldwide, there is an increasing use of institutional arrangements to deliver goods and services that are hybrids of traditional public sector and private corporate entities. One of the more common arrangements is the “public-private partnership” (PPP). Such partnerships in transport are a growing phenomenon throughout the world. The developing world in particular has seen a veritable explosion of such arrangements. In 2005–06 for example transport investment in low- and middle-income countries rose to almost \$30 billion across 111 new projects.¹

A PPP is defined in one source as a “contractual agreement between a public agency (federal, state or local) and a private sector entity....In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility.”² A broader definition refers to “working arrangements based on a mutual commitment (over and above that implied in any contract) between a public sector organization with any organization outside of the public sector.”³ These definitions obviously cover a wide range of institutions. They can be applicable for financing transport infrastructure of any mode -- roadways, rail lines, airports or seaports, as well as passenger or freight transport services using those facilities.

There are many alternative financing and operating arrangements possible for urban transport facilities and services, and there is not always a consensus as to what portion of them is a true PPP. Some examples of alternative arrangements include:

- “Privatization” schemes, in which a public facility or service is sold to a private owner or operator, which then operates and maintains it.
- “Private concession” arrangements, in which a private operator pays for the right to set up, operate and maintain a service under contract to the government agency, which retains property ownership.
- “Lease” arrangements, in which a private operator pays for the right to operate and maintain a facility or service, through a lease payment payable to the government, which retains facility investment responsibility as well as property ownership.
- “Lease-back” arrangements, in which a private developer finances and constructs a facility, and then leases it back to the government.
- “Management contracts,” in which the private operator merely operates the service on behalf of the government, for a fee.

There are, of course, many possible variations in the form of contracting concepts. In all of these various types of contract, there may be fixed payments or variable payment tied to performance, in which case there may be some sharing of risk and return. Both public and private parties may have equity shares and revenue sharing roles. For purposes of simplicity, the discussion of PPPs in this paper may refer to any form of arrangement involving contracts between public and private parties in which there is some formal arrangement for sharing or allocating risk and return.

The common theme in all of these situations is a blending of private and public involvement that presumably results in synergies that purer accommodations (such as totally public or totally private ownership and operation) would not achieve. A *synergy value* is created whenever a combination of parties – involving government along with private operators, bidders and/or non-profit organizations– combine to create financial or operational capabilities greater than any one party can provide alone. For PPPs to succeed, there ultimately must be a clear balance among parties in terms of who pays, who bears risks and who benefits from project success. This paper lays out a common framework for considering the structure and performance of any kind of PPP financing structure for transportation projects. The benefits of setting up performance monitoring and regulatory oversight for PPPs is then discussed.

2. Value Creation

Why is there such interest in PPPs for transportation? The main justification for PPPs is that they create a synergy value that public ownership alone is unable to tap into. In general, that value may come in many forms, including cost savings, enhanced revenue, or expansion of public benefit, and it may accrue to a variety of different parties. However, in a finance-constrained environment as is the case in many developing countries, PPPs are especially attractive because they offer the ability to make use of private sources of capital, while also providing the additional benefits of public-private risk-sharing and greater efficiencies in operations, investment and management.

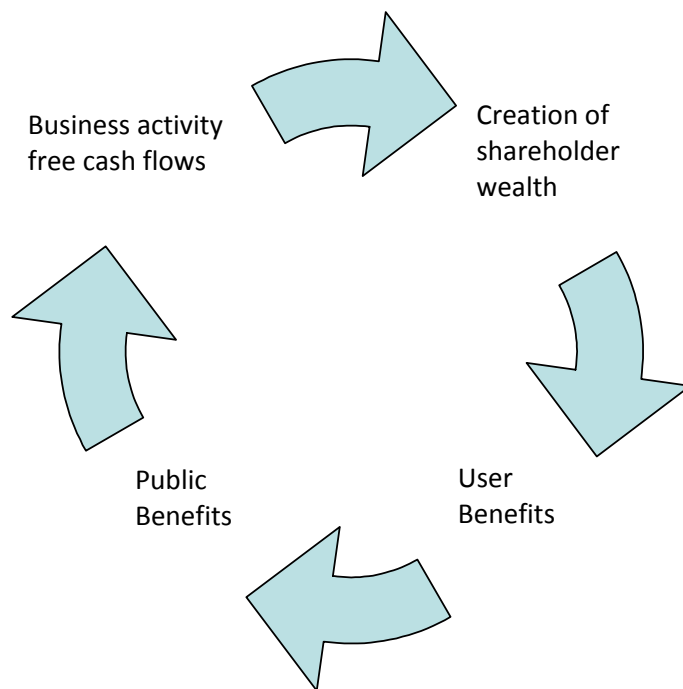
Value for private business entities is generally said to be based on the notion that the free cash flows generated by a business are capitalized into a single figure for the value of the underlying commercial activity as a going concern. These cash flows are either distributed to the owners of the enterprise or plowed back into the business and serve as the basis of creating new wealth through privatization.

There is nothing at all extraordinary about this theory, and, indeed, this is the standard claim made in favor of privatizing public facilities, namely that the private sector is generally better at managing assets to create new efficiencies and synergies which result in higher free cash flows and thus more value for money, hopefully for all concerned.

With privatized transport investments, there can be said to be potentially three main groups benefiting from the investment – investors, users, and the general public. There may, of course, be overlap between the three groups. The free cash flow model looks only at returns to investors. It does not explicitly examine the impacts on users and the general public.

If these other groups are included, one can plausibly speak of a ‘value chain’ in any privatization which links returns to investors to benefits to users and to the public at large. This chain is depicted in Exhibit 1, below.

Exhibit 1: The Value Creation Chain



While this model is conceptually fairly simple, in practice there are many details that need to be addressed to ensure that all parties stand to gain. On the private sector side, investors need to ask questions about how cash flows and income are measured. On the public sector side, there is an additional issue about defining the public good and determining whether maximization of shareholder value is consistent with maximum user value and value for the overall public. In effect it is possible for “links” in the value creation chain (shown in Exhibit 1) to be ‘broken.’ If this occurs, the privatization may not deliver the desired or promised outcomes. This possibility is the reason why a performance measurement framework for identifying problems, as well as a policy framework for responding to problems, is needed to make sure that the entire chain remains operational.

3. Alternative Perspectives and Performance Metrics

The most effective and appropriate design for a PPP is one that is tailored to the local situation, so that it can be both “financially feasible” (in terms of the providing a sufficient flow of money as to enable development and operation of the project) and “economically efficient” (in terms of providing benefits exceeding the costs) as viewed from the perspectives of all three parties identified in Exhibit 1 – private partners, users, and the broader public.

This points to a clear need for a systematic and formal evaluation framework to assess how well public-private contracts and arrangements are serving to achieve expected goals. Such a framework can apply for both project design and monitoring, and can serve three objectives:

(1) to assure that projects will be effectively designed, (2) with resulting services that will be efficiently implemented, (3) providing reasonable benefit or return to all intended parties. This third purpose refers to the creation of benefit in the value chain.

Now to satisfy all three objectives cited above, for all three parties shown in Exhibit 1, we need to establish a series of impact and performance measures. Exhibit 2 illustrates this concept.

Exhibit 2. Performance Measures Associated with the Objectives for Key Groups

Purpose> Groups:	(1) Project Design and Operation	(2) Service Provided and Obtained	(3) Benefit or Impact Value
<i>Private Business and its investors</i>	<i>Financial Performance:</i> investment, revenue, ongoing cost, cash flow	<i>Service Provided:</i> construction, management, operation, maintenance and/or administration	<i>Net Revenue:</i> return on investment
<i>Users</i>	<i>Service Design:</i> areas served, types of transport served, capacity, service features and fee structure	<i>Service Obtained:</i> speed or travel time, fare or fee, service frequency, comfort, safety, security, reliability	<i>User Benefit:</i> value of time, cost and productivity savings; increased mobility and access (to jobs, schools, shopping, health care); freight access (to markets, labor, materials)
<i>Public (including government)</i>	<i>Government Finances:</i> tax revenues, fees collected, expenses debts, asset ownership (land & infrastructure), in-kind contributions	<i>Change in Requirements:</i> Burden or relief of expected public infrastructure investment, government workforce, and provision of government services	<i>Sustainable Economic Development Impact:</i> business activity, productivity, income creation, employment <i>Sustainable Quality of Life:</i> environment, community, safety

There are several key findings to be extracted from the above table. First of all, each of the three groups focuses on a different aspect of project design, views the services provided and benefits to them in a very different manner. The different goals of these different parties (in terms of value creation) indicate a need for performance metrics that span three distinct dimensions:

- ***financial performance*** – in terms of impact on the flow of money, measured by changes in revenues, expenses, cash flow, debt and assets
- ***operational performance*** – in terms of the services provided or obtained, measured in terms of service frequency, speed, service quality and cost
- ***broader public benefit performance*** – in terms of economic development and societal impact, measured in terms of supported increase in business activity, employment, income generation, etc.

Among the benefits cited in Exhibit 2, the broader public benefit is least likely to be explicitly defined in advance, yet it is clearly an underlying motivation of many transport investment and expansion projects. The wider economic development benefits are, in fact, directly driven by the broad set of user productivity, mobility and access improvements that can be enabled by transport investment.

Experience to date with PPPs for transport investment indicates that it is not unusual for unforeseen circumstances to cause changes in costs, revenues and operating conditions over time. With the basic contract and project design (column 1) fixed, the result can be changes in the level of services provided (column 2) or benefits received (column 3) for any or all of the groups identified in Exhibit 2. This makes it potentially useful and important to establish ways of measuring and monitor the stability and sustainability of all of these dimensions of performance.

Initial performance measurement along all of these dimensions can help to ensure appropriate alignment of public and private benefits, and equity as well as efficiency in financing and pricing. It can also provide a basis for ongoing monitoring, which can potentially help to reduce or avoid shortfalls in any of the performance dimensions, as well as misalignment of performance among these various dimensions.

4. The governance connection

Of course public and private entities in and of themselves are generally organized with different purposes in mind, and that is explicitly illustrated by the different perspectives represented earlier in Exhibit 2. Within private corporations, “corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment.”⁴ Within public entities, the issues are a bit more complex; good governance in that context aims to deliver goods and services cost-effectively and efficiently to constituents while ensuring adequate democratic process and citizen voice.⁵

The common governance issue for public transport PPP’s is how to ensure that money invested for a particular set of public or social goals does, in fact, go towards achieving those goals and does so in an efficient and effective manner. Establishment of governance institutions to accomplish this goal can be difficult enough within purely private corporations

and within purely public entities. It can be more complicated when the two mix through a PPP.

There is a large literature on private corporate governance. Much of this literature focuses on the agency problem and the related theory of transactions costs to discuss why the firm exists and what governance institutions are best suited to ensuring its efficient operation.⁶ There is an equally large literature on governance within the public sector, where the themes of ‘networked’ and ‘distributed’ oversight and accountability are emerging.⁷ Finally, there are a burgeoning number of parts or elements of PPP arrangements, many of them discursive and descriptive.⁸

As for transport privatization in particular, there are a number of other policy and political issues to consider. In particular, there is a difference between an actual gain in resources and a mere transfer of resources from one account to another. Some research on transportation privatization indicates that what are often seen as efficiency gains are really budgetary gains to the public authority that are achieved through losses incurred by other groups.⁹

Maintenance of the public interest is also a prime concern with any PPP. For any given project, the government must have a clear picture of its public objectives, and must devise contracts that ensure that these objectives will be achieved. This private sector should not be presumed to act in the public interest. Incentives and controls must be in place to align public and private interests in any given project.

It must also be recognized that PPPs are not a cure-all for transportation infrastructure or policy challenges. They are seen as promising not because the private sector is inherently more competent or efficient than government, but because each has distinct strengths, and projects can be managed more effectively if the strengths of each can collaborate at the table. Indeed, successful PPPs – like successful transportation investments of any kind – *require* an engaged and strong public sector.

So how does one assure that PPP’s will be *governed* in such a way that the right mixes of public and private objectives are achieved? Put another way how can the management of PPP’s achieve both public and private value creation?

5. Policy and Regulation Mechanisms

For all their prospective advantages, there is often inadequate consideration given to the role that public policy should play once a PPP is up and running. For there are some significant potential pitfalls in the use of the device including: misalignment of public and private purposes (e.g. maximal shareholder return v. distributional equity); creation of a private, welfare-reducing local monopoly; and inadequate provision for long-term environmental sustainability. The policy framework (or lack thereof) under which PPP’s are carried out can play a critical role in minimizing these problems. Some of the mechanisms include:

Privatization has become widespread throughout the world with, however, a wide variation across industry sectors and countries. One study of transfers of State Owned Enterprises (SOEs) to private corporations from 1977 to 1999 counted 2459 deals in 121 countries worth approximately US\$1110 billion. (An SOE is a governmental corporation that is nominally operated as a company but which is typically majority-owned and usually controlled by a central government).¹⁰

Governments choose to privatize for numerous reasons, the major stated rationales being: that the private sector operates more efficiently and cost-effectively than the public sector in many instances; that government can achieve better overall outcomes by focusing on its core missions and core competencies while giving peripheral activities and programs outside its skill set to capable private operators; that privatization allows access to private capital which would otherwise be unavailable; that the method shifts risk to market-based entities better able to handle them; and that greater flexibility in operations are achieved.

There is no a priori case for or against privatization that prevails so the matter rests on evidence and this is mixed. There are examples of very successful privatizations that have delivered superior incomes for both public and private sectors (e.g. Japan Rail, mostly completed by the 1960's), those that did poorly on both counts (e.g. the initial privatization of British Rail), and many much more ambiguous cases. Probably the most overall successful set of privatizations has been the transfer of SOEs to private enterprises. Many privatized SOE's were running large losses and being corporate in organization there seemed to be little economic reason to keep them in public hands. Even here, however, there have been failures, even transfers back to the public sector in a few cases.¹¹

Keeping all of this in mind, there are a number of policy mechanisms that the public sector can use to safeguard the public interest when inviting the private sector in to manage urban transport.

The first avenue of public influence is the actual transfer of management, ownership and/or control of any aspect of an enterprise from the public (governmental) sector to the private (nongovernmental) sector. (In the case of completely new investment, a so-called 'greenfield' as opposed to an existing 'brownfield' asset, there is still a transfer of resources from public to private involved so these concepts apply in either case).

The purest example of privatization is the outright sale of a governmental asset or operation to a private corporate entity (or commissioning of a private entity to build, operate and own some public facility and service). Infrastructure assets such as roads and power generating facilities are often in this category, having in many cases been built, owned and operated by the government which then decides, perhaps many years later, to sell the asset to a private operator. The asset may be directly sold, in which case the method of transfer is referred to as an asset sale; alternatively the shares of an incorporated entity that holds the asset for the government may be floated on public share markets or those shares may be sold to selected private entities, in which case the method of transfer is referred to as a trade sale.

Even in this particular case, the public interest can be maintained in a number of ways. Of course the price obtained for such a transfer should be as high as economically justified. This allows the public sector to reap maximum revenue from any sale or commission. That revenue should then be dedicated to an appropriate public purpose such as investments to support the efficiency of the overall transport network of which the privatized asset is a part or perhaps some price subsidies to specific disadvantaged groups such as the aged or especially poor. If some sort of public regulation is implemented (discussed further below) some of the revenues could be used to finance this regime.

There is also the possibility of trading off some of the purchase price for investments from the private owner, e.g. building of public housing or parkland around transit stations by the developer as a condition of sale, or operating conditions such as price caps on toll rates. These concessions will mean trading off of revenue to the government but this may be a net gain to both parties, especially in the case of political constraints or efficiency advantages of the private sector.

An alternative method of public-to-private transfer is the *concession or lease arrangement*. For example, suppose a government decides to transfer a public commuter rail to a private entity. As noted above, the government could: sell the rail line directly (an asset sale) or sell the shares of a governmental corporate entity that owns the rail line (a trade sale). A third alternative is for the government to retain ownership of the rail line but lease the line to a private entity for some period of time, after which the line reverts back to public ownership. This arrangement would constitute a lease or concession agreement.

Terms of the lease or concession can be adjusted to ensure public objectives are met. The life of the lease term is especially important. It is generally agreed that lease terms should be long enough to provide incentive to the private sector to operate a facility but not so long as to make the private operator nonresponsive to public concerns. Spanish law, for example, generally requires terms of 20 to 40 years depending upon whether the lease is for a brownfield or greenfield prohibiting the 75 or 99-year leases that are quite common in the infrastructure field in which the government has de facto (i.e. in fact), though not de jure (i.e. by law) transferred ownership¹². Beyond this, leases and concession agreements can have many different legal provisions and through these provisions the degree of privatization can be modified and public concerns addressed. For example, public sector review of changes in key terms or conditions can be provided for (such as on imposition of new fees).

Additionally privatization can be completed in one step or completed through a series of intermediate steps. Corporatization, in which a public operation is first transferred to a new corporate entity that is governmental but is typically run outside of governmental budget and policy frameworks, is often a framework used for ultimate privatization. For example, when the Australian central government decided to privatize a number of airports that it owned and operated, it first transferred ownership of and responsibility for those airports to the Federal Airports Corporation (FAC). The FAC operated these airports for a few years before putting them up for sale, mostly utilizing trade sales. Corporatization can thus be used to create a governance structure that combines public and private aspects which might be more easily retained in a final privatization (and may even be a final outcome itself).

Whatever the means and ultimate end of privatization, it is often deemed necessary and desirable to have some sort of regulation to protect the public interest. Maintenance of the public interest is a prime concern with any privatization and this constitutes one of the main counter-arguments against its use. It is not a given that the public interest will be maintained when private parties with perhaps countervailing interests take over.

A related issue is that of equity: private operators are generally return-driven and may be inclined to charge market rates and/or cut costs to maximize returns. This may be inequitable if service cuts or charges fall upon groups deemed to be disadvantaged. In general economists note that there is a difference between an actual gain in resources and a mere transfer of resources from one party to another in which case government budgets may see a gain but other parties, such as labor unions or consumers, might see a loss. This is especially a problem where a natural or other monopoly exists (e.g. an electrical or telecommunications utility) and in which price and quality is not subject to much competition. Privatization can be said to enhance efficiency only if the gains are above and beyond any shifts of resources across different groups. In all of these cases, there is the possibility of imposing regulation, e.g. price or competition regulation. Any regulation should, however, be targeted and well-designed lest it create anew the same problems that privatization was designed to ameliorate.

In general it is clear that privatizations, being negotiated arrangements between governmental and nongovernmental entities, will be successful only if the agreements are sound and well implemented and, in some cases, regulated afterwards. Some transfers, such as an SOE, will be relatively straightforward to sell to the private sector, while others, such as complex public services, will be more difficult to arrange successfully. Privatizations certainly have wide applicability and do offer one of many alternatives for governments to use in providing services but to work they need to be designed properly.

6. Conclusion

While there are many alternative forms of public-private cooperation in financing and operating transport facilities, all of these alternative arrangements can benefit from a formal examination of the relative benefits and costs accruing to all contracting parties as well as to their constituents and broader public interests. That alone can help to design better projects, in terms of contract effectiveness, economic efficiency and the alignment of benefits and costs. Ultimately, the use of such metrics can also help raise more attention to wider economic development and societal benefits, and thus help to design projects that support broader social goals.

Equally important, the performance metrics can be used to track ongoing performance. They can serve as an “early warning system” to identify looming financial or operational problems that are likely to grow as time goes on. They can also provide a solid basis for renegotiating contracts, or reinterpreting them in a way that better aligns relative benefits and costs to all parties. Ultimately, they can empower active government oversight and regulation that is needed to ensure that societal objectives are maintained and met.

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