Analysis of Public private partnership in transportation projects and social impact assessment

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Abstract: Public-private partnership (PPP), partnership between an agency of the government and the private sector in the delivery of goods or services to the public. Areas of public policy in which public-private partnerships (PPPs) have been implemented include a wide range of social services, public transportation, and environmental and waste-disposal services. Although PPPs are an ancient phenomenon, they were not studied seriously by scholars until the late 1980s, when they began to be adopted in public administration and management in both developed and developing countries. PPPs have been a topic of political controversy and scholarly debate, especially regarding the advantages and disadvantages of PPPs in comparison with traditional government-run services and the nature of the partnerships they bring about. Life-cycle profits from bus terminal activities turn out to be considerably higher than capital expenditures and total operating & repair expenses, allowing bus terminal ventures financially feasible. Net annual sales often surpass average annual operational and construction expenses, suggesting that the project is financially viable. Models were tested on different metrics to establish their feasibility, and a comparative evaluation was made. Qualitative assessment of different models against various criteria, models, and/or mixture as mentioned model infere is likely to be feasible and desirable for both private proponent and authority in order of choice. This paper clearly indicates that most of the respondents accepted and neutral to address the query, so we can infer that the respondent is rational and not quite negative.

Keywords: Public-Private Partnership (PPP), Social Impact Assessment, Bus Terminal Ventures

1. Introduction

A public-private partnership, also called a PPP, P3 or 3P, is a long-term cooperative agreement between a private company and the national or local government. Public-private partnership arrangements have existed throughout history, but have become significantly more popular across the globe since the 1980s as governments attempt to obtain some benefits from the private sector without having to make the full privatization jump. In a PPP arrangement, private companies carry out aspects of government work. According to the World Bank Group, public-private partnerships do not usually include turnkey construction or service contracts – these are classed as public procurement projects, or privatization of utilities where the public sector still has a limited ongoing role. The PPP Knowledge Lab says the following regarding PPPs: “A public-private partnership (PPP) is a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance.”

When the government is short of funds for a much-needed project, a public-private partnership, which benefits from an injection of money from the private sector, is a promising option. The PPP Knowledge Lab adds that a private-public partnership encompasses
several different types of contracts – there is not a standard, internationally-recognized definition of PPP. Different jurisdictions how their own unique terminologies to describe similar projects. A growing number of nations are enshrining a definition of public-private partnerships in their laws. In countries whose civil laws follow the tradition of the Code Napoleon, there is a difference between public contracts such as concessions and PPPs where the private company is delivering a service to the government in the form of bulk supply, such as a BOT (Build-Operate-Transfer) project for a water treatment plant, or the management of hospital facilities or other existing facilities for a fee. In other jurisdictions, some specific sectors are excluded from the PPP definition, especially those sectors where there is an extensive private sector initiative or where extensive regulations exist. In some nations, arrangements involving more limited risk transfer, including management contracts, are excluded from the PPP definition for institutional reasons. In such cases, the public authorities prefer to call them traditional procurement processes for goods and services. PPP Legislation and Laws has a summary of some sample laws.

1.1 Public-private partnership

In its most basic sense, a partnership is any business or institutional association within which joint activity takes place. A PPP exists from the moment one or more public organizations agree to act in concert with one or more private organizations. PPPs embrace public-sector partnerships with both businesses and organizations in civil society, including community organizations, voluntary organizations, and nongovernmental organizations (NGOs). The partnership involved in a PPP is not equivalent to any simple contractual relation. Although such relations are sometimes labeled “partnerships” by the parties concerned, they do not by themselves constitute a genuine PPP, which implies a triadic relationship between the public authority, the private-sector partner, and members of the public concerned with the service. A PPP is or should be a mutually beneficial agreement directed toward serving a social purpose. But it is also true that a multiplicity of agreements or contracts, more or less formal in nature and sometimes very informal, may give rise to a genuine partnership. The most-institutionalized forms of partnership may evolve into formalized permanent structures. In practice, PPPs tend to change over time, because it is in the nature of a partnership to develop and to adapt to the special circumstances of its particular field of operation. In the latter regard, political cultures and traditions have considerable impact. It is possible to distinguish between substitutive and collaborative forms of partnership. Under substitutive partnership, the private partner replaces the public agency more or less completely, as has happened in the French system of outsourcing public services. Under collaborative partnership, typical of German organizations, each private partner has a specific function, which is determined by the particular profession with which the partner is associated.

PPPs have been widely adopted. Indeed, in many developed countries (e.g., the United States, the United Kingdom, France, Italy, and the Netherlands), their use has been mandated through legislation. In France, for example, the PPP concept is of quite long standing, and, since the 1980s, PPPs have been implemented in almost all areas of public policy. Concerning the international level and developing countries, partnerships between international donors and nongovernmental development organizations (NGDOs) have also increased in scope and significance. The World Bank has sought to cooperate with NGDOs as partners, and several reports and evaluations have called for improvements in World Bank procedures regarding partnerships with NGDOs.

There is no one widely accepted definition of public-private partnerships (PPP). The PPP Knowledge Lab defines a PPP as "a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance". PPPs typically do not include service contracts or turnkey construction contracts, which are categorized as public procurement projects, or the privatization of utilities where there is a limited ongoing role for the public sector. For a broader discussion, see PPP Knowledge Lab. An increasing number of countries are enshrining a definition of PPPs in their laws, each tailoring the definition to their institutional and legal particularities.

1.3 Rationale of PPP

The Provision of value infrastructure services with reasonable cost is an essential condition for achieving sustained economic growth process. In fact, one of the major challenges being faced by the Indian economy is enhancing infrastructure investment, improving the delivery system and quality of service. The government recognizes the critical importance of the infrastructure sector and accords high priority to the development of various infrastructure services such as power, telecommunications, seaports, airports, railways, roads etc. Investments in these sectors involve high risk, low return, vast investment, high progressive capital-output ratio, extensive payback periods and superior technology. During 11th Five Year Plan, GDP was set to achieve 9 percent growth rate and for this physical infrastructure was given top priority. Consistent with the above projection, the investment in physical infrastructure alone during the Eleventh Five Year Plan was about Rs. 2,002 thousand crores. These prerequisites posed a constraint on the government’s efficient delivery of quality infrastructure services. Government is moving from its ancient role of supplier of services to facilitator and regulator of services. This has given an approach to public-private partnership (PPP) models. The success of the government’s effort at infrastructure development critically rests on the success of Public-Private Partnerships (PPPs) projects. As per Researcher, followings are the main rationale of PPP in our country:

- Budgetary resources of the government of India are not enough for fulfilling the increasing demand of public infrastructure.
- Increased borrowing is the main reason for the failure of the government to prepare the new public projects and upgradation of the existing ones. So the private involvement in the public sector is required.
- Operation and maintenance cost of assets is increasing day by day, if it is maintained by government alone due to its inefficient mechanism.
- To bridge the gap between demand for infrastructure and its supply by inviting the private owners, the government will be able to reduce its budgetary pressure.
• By considering the past few years, the economy of India’s gross domestic product growth rate is in between 7-8 % per annum. So to continue the progress in it, GOI needs a huge investment.
• The government has to look for new innovative ways of funding by which the investment through non-public sector can be attracted.
• The main reason and advantage of taking PPP in consideration is to enhance the means of funding from the non-public sector.
• The impact of the investments has been increased and extensive benefits have been shown by Public Private Partnership.
• Fast implementation, decreased costs of various processes and allocation of optimum risk is a result of PPP projects.
• To improve public service delivery and mutually encourage reforms introduced by the public sector.

2. Origin and Evolution

The term “PPP” was first used in the 1960s in the USA to denote to typical urban development projects involving private investors. From here, the concept spread to the other parts of the world and is still applied in many countries now-a-days. Larger cities try to find the involvement and assistance of private investors in order to develop Brownfield and unplanted sites for use that effectively reflects the aims of urban planning while offering a commercial interest for the investors. The city provides the land to private partner who uses its capital to develop, construct and market the real estate and the corresponding infrastructure, taking into consideration the relevant urban planning standards and other public requirements but applying its own ideas at its own risk. The partnership is created with the goal of a joint concept of urban development and once the goal is reached usually the public partner withdraws and leaves the business to the private partner. Thus, private sector participation in the delivery of public services is not a new concept; PPPs have been used for over three decades, preceding the contracting out initiatives of 1970s in the USA. In Asia, countries like China, Malaysia and Thailand started some projects with private participation in 1980s, but later on in the 1990s most of the countries in the region involved private sector in the provision of the infrastructure facilities. Since a long time, PPP model has been a form of public tasks execution widely used in the countries of Western Europe. Now-a-days, PPP model has become more and more popular in other parts of the world. The aim of the parties involved in institutional development and practical implementation of PPP model was to make PPP model corresponding to the traditional methods of financing and implementation of public tasks. During the past two decades, in both developed and developing countries, PPPs have become the main route for delivering public services. Between 1985 and 2004, there was a total of 2096 PPP projects across the world with a total capital value of about US$ 887 billion. Countries worldwide with PPP involvement include Australia, Italy, Japan, Korea, Germany, Spain, Hungary, the USA and the UK. Among these countries, the UK is widely viewed as the one with the most widespread PPP experiences. For example, during 2003 and 2004, the UK was the country with the largest PPP investments. Even though PPPs have been executed in many countries, they are not applied equally to all infrastructure sectors. In almost all countries, PPP projects focus on transportation projects such as roads, railroads, bridges, tunnels, and airports. Nevertheless, the expansion of PPPs has been increased across various sectors in recent years. For instance, in the U.S., PPPs are found in sectors such as prisons and water supply and wastewater treatment; in Korea, PPPs are used in the development of schools, hospitals, and public housing. Chart 1.1 represents the total private finance investment in the different sectors of the world during the period of 1991-2015. A PPP model is association between the public and private sectors, particularly formed for the implementation of huge projects or to provide the services which the public sector was traditionally providing. This cooperation is based on the assumption that each party is able to perform its own tasks more efficiently than the other party. In this way, the parties complement each other, perform best with that part of the common task. With the allocation of tasks, responsibilities and risks, under PPP, the most profitable way to create the infrastructure and delivery of public service are achieved. Under PPP model, each party draws its own benefit, equivalent to its interest. Indian economy is developing at a very fast pace and it has a dynamic and strong financial system. A constant policy environment is confirmed by its democratic status and its independent institutions promise the rule of law. This highly expanded economy has shown swift growth and remarkable flexibility since 1991, when economic reforms were initiated with the progressive opening of the economy to international trade and investment. During the Tenth and Eleventh Plans in India, private participation has marginally increased the investment. Normally, PPP was the main source of investment through concession agreements which lay down the performance commitments to be settled by the private party. For construction and operation of infrastructure projects in developing sectors like highway, airport, ports, railway stations and urban transit systems, PPP projects are more preferable. This would help in acquiring a prospective economy as stated in the 11th Five Year Plan (FYP). Fund investment of over US $ 494 billion has been conceived of according to the 11th FYP with effective from 2007 to 2012. The investment sectors under consideration are inclusive of telecommunications, electric power, transport, road, rail, air, water supply as well as irrigation. To accelerate the growth of PPP programme, government has developed new policy, legal and institutional frameworks such that required organizational and individual capacities are provided. These go beyond that needed to create and financially viable PPP deals, as they must also confirm that these deals are reasonable to users and the public sector and provide ex-post evaluation of the success of PPPs in meeting their objectives. This framework needs to be in place to ensure a vigorous and fruitful PPP programs.

PPP Evolution: International Level

Initiation of this concept gets place in the USA in early 1970’s. PPP has evolved to consolidate the social infrastructure assets procurement and minor services. Public-Private Partnership gets extended to infrastructure development, health, education, power supply, water, urban development. At the global level, PPP has mutually evolved as public sector manage a regulatory framework to procure infrastructure. The UK has been an immediate initiator of this concept of involvement of non-public sector with the launch of the PFIs. It has been used to generate and deliver all type of services. The growth in the procurement of PFI motivated government throughout the world to acquire PPPs concept. The government of Australia has used PPPs to generate different types of social infrastructure. In the Kingdom of the Netherlands, social housing and urban regeneration programs are being delivered.
by PPP’s arrangement. In Ireland, PPP is used for the infrastructure of transportation. In Canada, many infrastructures are designed and operated by Non- Public sector. And on the same base further PPP has been followed by Japan, Europe for a different type of services. During last 2 decades, PPP has become an extensively important way for delivery services to the public in every developed and developing countries. In most of the country’s main focus of PPP projects is on transportation services like a highway, roads, flyover, tunnels, airport, etc. The usage of PPP is also getting diverse in many sectors, as in Korea, it gets developed into hospitals, urban development, college. In the US, PPP is seen in different types of sectors like jail and treatment of waste water. In the developing countries, the concept of PPP established in 1980’s middle. This policy is procured to deal being with the inefficiency of government managerial abilities and to stop depending on the state enterprises on subsidies.

**PPP in India**

The researcher does not find any specific time period which may confirm the starting of PPP model in India. On the basis of some evidence, it could be said that it all began in mid of 1980’s by private sterling investment in Indian railways after that it all resumed in mid of 1990’s when private developers have been contributed in power sector in Kolkata. In 1991, the government of India made a policy regarding PPP, which was the moment when a new wave was experienced in PPP. When PPP policy was made, it was decided to permit participation of private partners in the power sector, which generated the new ways for private power producers. Further, the reforms were made in Telecommunication and National Highway Act, to seek more effective role of private developers. In the real sense, a big change in PPP was experienced, when IDFC was introduced in 1997. This was the most serious effort made by the government for permitting participation of private sector in the development of infrastructure. By using their skills in management, expert advice and, capital funding. To make PPP more reliable and way more prior to application, the alteration and amendments were made in many legislations, some of them are NHAI Act, 1995, Electricity Act 2003, SEZ Act 2005, Land Acquisition bill etc. For promoting the PPP model, government of India managed the financing for PPP projects through ADB, VGF, IIPDF, etc. Many states have shown an enthusiastic approach towards PPP, for this M.P, Tamil Nadu, Gujarat, Punjab, Karnataka, Maharashtra, A.P. were the front runners.

### 3. Methodology

**Generation and Evaluation of PPP Models**

The activities involved in the entire value chain of city bus private operations have been mapped. Based on the allocation of responsibility for undertaking each of these activities, four types of PPP models have been developed. These models have then been evaluated on several parameters to assess their viability and a comparative assessment has been made.

**Value Chain Activities in Bus Terminal Development and Operations**

A number of activities are involved in the operation of city bus services. The first phase is planning and designing, which involves activities such as demand assessment, operations planning, tariff fixation and setting service level benchmarks. The successive phase is the implementation phase, involving the broad activities of fleet and permit procurement, set up of control room, marketing and branding. This is followed by the Operation and Management of the city bus services which covers a host of activities for undertaking the day to day operation of the bus services. The activities involved in the value chain of city bus operations are described below. These have then been assigned to the private player or the public authority, and four PPP models have been developed.

**Planning and Designing**

**Demand Assessment and route planning:**

The demand for city bus services in terms of number of buses required and routes to be covered needs to be assessed. Both spatial as well as temporal demand needs to be estimated, based on which, the routes would be planned. Routes may also be bundled to be assigned to various private operators in case of a multioperator model.

**Setting service standards:** The public authority needs to clearly specify the standards of performance that that its city bus service is expected to deliver on. This would enable monitoring of performance against set standards, and also ensure accountability. The standards set must be as precise and quantifiable as possible, and must not leave any scope for ambiguity or subjectivity. The service standards would be based on parameters such as accessibility, regularity, adequacy, punctuality, reliability, safety etc. Operations

**Planning:** Based on the demand assessment, the detailed plan for operation of the city bus services needs to be drawn, including time tables, frequency of the service, stoppages etc. The method of fare box revenue collection also needs to be decided at this stage, depending upon the infrastructure and cost-effectiveness of various systems. Two broad ways of collecting fares are:

- **On-board** – user of system pays for travel fare on-board the bus. The conductor collects fare and issues ticket to user. This is the most common form of revenue collection mode.

- **Off-board** – in this system passenger pays fare before boarding the bus. There may or may not be a ticket verification system on-board. This system is common in developed countries. It requires adequate infrastructure for ticket dispersion, collection of money and ticket verification system on the buses. This also includes specifications of the fleet to be procured, such as the type, capacity, design and technical specifications of buses.

**Tarrif fixation/ structuring/ revision:** An important step in the planning stage is the fixation of bus fares, as well as their periodic revision. This activity is suggested to remain with the public authority, since fares are governed by a host of factors, which include social and political considerations. City authorities are suggested to go through World Bank’s Toolkit on Fare Collection Systems for Urban Passenger Transport particularly the practice on fare structures for a more detailed treatise on the subject.
Investment planning and funding: The city authority needs to develop a financial plan which clearly specifies the strategy for funding its bus operations. Since fare-box revenues are often insufficient to cover bus operation costs, non-fare box revenue such as revenue from advertisements, congestion charges, and innovative taxes (such as employer tax and green tax) should be exploited. Grants and loans from international financial institutions, and public-private partnerships could also be used for supplementing the massive funding requirement for city bus operations. The financial strategy formed by the city authority would determine the operating surplus or shortfall as well as mechanisms to close the gaps in the case of the latter. The strategy will estimate potential cost savings from outsourcing of city bus operations.

Implementation

Procurement of fleet and permits: This activity involves the actual procurement of the bus fleet, which could be done by either the private operator or the public authority, depending on the financial strengths of the two parties. If a public authority is financially strong and does not want to be captive to the private operator, it may choose to procure the fleet on its own. Alternatively, if the authority is not financially strong enough to invest in the fleet, it may ask the private operator to procure the fleet. Procurement of fleet by the operator enables it to hold bus manufacturers directly accountable for after-sales support, without the involvement of the authority. The Motor Vehicles Act stipulates that no public service vehicle can operate without a 'permit'. The city authority has to obtain these permits, clearly stating type of permits the authority plans for its bus operations. The options include area permit, route permit or a combination of area and route permits.

Set up of control room: A control room serves as a centralized center for capturing ITS data, as also for broadcasting passenger information in the terminal/bus shelters. The responsibility for setting up and operation of the control room would need to be assigned to the appropriate party.

Marketing and Branding: Developing an overarching marketing and branding strategy is essential to ensuring a successful implementation of improved provision of bus transit services in the city. The importance of outreach of any public transport services cannot be overstated. The challenge is to develop a customized communications strategy for city bus services including customized messaging for audience, selection of media tools, etc.

Operations and Management

Operation of buses: This involves the operation of bus services on a day to day basis, in line with the operational plan set out in the planning stage. The operation of buses would include provision of drivers and conductors, and operating the services along the designated routes as per the timetables decided.

Revenue collection: The city authority may collect fare box revenue on its own, or may outsource to a third party. In both cases, either the authority or revenue collection agency procures, owns and maintains equipment for collection of revenue. When outsourced, the fare collection contracts need to be for periods in line with the serviceable life of the equipment. Alternatively, the private bus operator may collect the fare box revenue when it itself assumes the revenue risk. In this case, the equipment is owned and maintained by the operator.

Service quality monitoring: Operation of city bus services needs to be monitored against set standards to ensure that the service quality envisaged is actually being delivered to the commuters. Irrespective of the type of PPP model selected, the public authority would undertake this activity of monitoring day to day operations. Any deviation from the set standards could invite penalty as per the provisions in the contract document.

Operation of control room: Operation of the bus services would need to be controlled from a common command and control centre. Staffing of the control room and day to day operation including collection and analysis of data would need to be carried out.

Bus fleet maintenance: Maintenance of the bus fleet involves activities that ensure that the buses being operated are in a good condition. It involves day to day cleaning of buses, repair of broken parts etc.

PPP Models in Bus Terminal Development and Operations

Based on the allocation of responsibilities for the various identified activities in the value chain of bus terminal development and operation, the following five types of PPP models have been proposed:

1. Build Operate Transfer (BOT) model
2. Activity wise contract
3. Composite service contract
4. System Management Contract
ANALYSIS & INTERPRETATION

For this analysis asked 10 question to 100 respondent all those questions are “Did the project outcome meet the end user’s requirements of user charge?”, “Was the project outcome delivered to the end user on time?”, “Was the project outcome utilized for a long lifespan?”, “Has the project outcome substantially improved the end user’s quality of life?”, “Is the end user satisfied with the project outcome?”, “Public Private Partnerships – Creating an enabling environment for state projects”, “Report of the Inter Ministerial Group - Customs Procedures and Functioning of Container Freight Stations and Ports” and “Guidelines - Financial Support to Public Private Partnerships in Infrastructure” and try to cover all age group in that. Find below table and graph as per the response.

For the question “Did the project outcome meet the end user’s requirements of user charge?” we asked the question to 100 respondent and conclude that 7% respondent completely disagree, 4% Disagree, 26% Neutral, 40% Agree and 23% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.

For the question “Was the project outcome delivered to the end user on time?” we asked the question to 100 respondent and conclude that 13% respondent completely disagree, 17% Disagree, 19% Neutral, 37% Agree and 14% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.
For the question “Was the project outcome utilized for a long lifespan? “ we asked the question to 100 respondent and conclude that 21% respondent completely disagree, 16% Disagree, 27% Neutral, 23% Agree and 13% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.

For the question “Has the project outcome substantially improved the end user’s quality of life?” we asked the question to 100 respondent and conclude that 15% respondent completely disagree, 17% Disagree, 22% Neutral, 35% Agree and 11% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.

For the question “Is the end user satisfied with the project outcome? “ we asked the question to 100 respondent and conclude that 20% respondent completely disagree, 15% Disagree, 25% Neutral, 28% Agree and 12% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.
For the question “Public Private Partnerships – Creating an enabling environment for state projects” we asked the question to 100 respondent and conclude that 9% respondent completely disagree, 13% Disagree, 21% Neutral, 37% Agree and 20% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.

For the question “Report of the Inter Ministerial Group - Customs Procedures and Functioning of Container Freight Stations and Ports” we asked the question to 100 respondent and conclude that 15% respondent completely disagree, 15% Disagree, 25% Neutral, 29% Agree and 16% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.

For the question “Guidelines - Financial Support to Public Private Partnerships in Infrastructure” we asked the question to 100 respondent and conclude that 15% respondent completely disagree, 17% Disagree, 26% Neutral, 26% Agree and 16% Strongly Agree. Hence we can conclude that maximum number or respondent Agree on above question.
For the question “What criteria are used to decide whether a PPP approach should be used for project delivery in your agency?” we asked the question to 100 respondents and concluded that 2% completely disagree, 10% Disagree, 15% Neutral, 36% Agree, and 37% Strongly Agree. Hence, we can conclude that the maximum number of respondents strongly agree on the above question.

For the question “Consideration of alternative of PPP models” we asked the question to 100 respondents and concluded that 10% completely disagree, 13% Disagree, 21% Neutral, 24% Agree, and 32% Strongly Agree. Hence, we can conclude that the maximum number of respondents strongly agree on the above question.

5. Conclusion and Future Scope

Life cycle revenues from bus terminal operations turn out to be significantly higher than capital expenditure and operation & maintenance costs combined, thus rendering bus terminal projects financially viable. Average annual revenue is also higher than average annual operation and maintenance costs, thus indicating that the project is financially sustainable. The models have been evaluated on diverse parameters to ascertain their viability and a comparative assessment has been made. The qualitative evaluation of various models against diverse parameters, the models and their combination as discussed in the paper, the models are likely to be viable and attractive both for private proponents as also the authority in order of preference. As per the above table and graph, it’s...
clearly shows that most of the responded agreed and neutral to response the question, so we can conclude that respondent are not very negative nor positive they are neutral.

References