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A Case Study of Metronet PPP in the UK: Implications for India[1]

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ABSTRACT

This paper analyses the challenges faced by the policy makers in the U.K. in designing, managing, and winding up of a Metronet Public-Private-Partnership (Project), with a value of nearly GBP 16 billion. The PPP project, initiated in 2003, was envisaged to be a 30 year project, but by 2008 the project was wound up and reverted to the public authorities. The paper examines the reasons for this outcome, and the performance of the London underground since the wounding up of PPP in 2008. The paper is an instructive case study for India, a middle income which plans to use the PPP method extensively in meeting its infrastructure and social sector challenges. Among the key implications arising from the Metronet PPP case study for India are the government's willingness and ability to rethink major decisions, and even reverse them; flexibility in re-skilling its government agencies to fulfil mission objectives; and demonstrated intent and accountability to meet citizen's emerging and aspirational needs. Intangible aspects involving social and political norms of the stakeholders were found to play an important role in the outcome of the Metronet PPP project.

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1. INTRODUCTION

The Public Private Partnerships (PPPs) are widely regarded as potentially useful complement to traditional method of public sector financing, undertaking construction and operations of infrastructure projects and public amenities. The ideal structuring of a PPP involves setting up a separate public sector organisation for a given project, procurement of capital and other goods and services globally, appropriate project governance and execution structures,and a low-cost effective arbitration process. A PPP method of undertaking a public sector project should centre on delivering cost-effective outcomes to meet current and emerging aspirational needs of the citizens.

While there is recognition of the benefits of the PPPs, including in India, there remains a considerable gap in "knowing" (knowing what to do in a context-specific PPP) and "doing" (how to implement a PPP in a specific context) of the PPPs, including of concessional agreements and medium to long term service contracts. A centralised "model" PPP contract is unlikely to be effective as context specific nature of PPP requires detailed understanding of risk and other implications of PPP contracts.

This paper presents a case study of one of the largest PPPs undertaken by the United Kingdom (UK) for London's transport sector called the "Metronet PPP". This PPP, initiated in 2003, was designed to carry out refurbishment of a part of the London Underground. Envisioned as a 30 year project, the private holding company of the PPP was declared bankrupt in 2007, and was fully taken over by the public sector Transport for London (TfL) in 2008. Hence, the PPP was wound up a few years after its inception, with operations fully reverting back to the public sector organisation, and this continues until today (as of July 2015).

This paper has several objectives. The first is to explain the rationale and the organisational and governance structures of the Metronet PPP. The second is to provide an analysis of the reasons for the evident lack of success of the Metronet PPP initiative. The third is to draw implications for PPP policies and structuring in India. The paper thus makes an instructive case study for understanding the dynamics of a large transport PPP in a high-income[5] country with a reputation for good public financial management.

[5] The World Bank's estimate for UK's Gross National Income (GNI) per capita was US $ 42,690 in 2014. In July 2015, the World Bank has defined high-income economies are those with a GNI per capita of $12,736 or more for 2014.

This study hopes to fill a gap in the academic literature on analytical case studies of PPPs and their implications for India, a middle-income[6] country. The case study is structured as follows. Initiation of the PPP arrangement for the purpose of upgradation of the London Underground, often referred to as the London Tube, is discussed in section 2. The same section presents the details of the PPP arrangements; and explains the roles of the key players in the case of the Metronet PPP. Alongside the Metronet PPP, another PPP for part of the London Underground was undertaken – this was called the Tube Lines PPP. Some of the key comparisons between the two PPPs are also highlighted. Section 3 describes the details of the PPPs, as they operationalised between 2003 and 2007 including the emergence of the challenges faced by the Metronet PPP.

Section 4 presents an analysis of the reasons for the operational challenges that the Metronet PPP faced and for its subsequent failure. A brief comparison of the outcomes of the Metronet PPP and the Tube Lines PPP is presented in section 5. Section 6 describes the performance of the London Underground since 2008, when public sector ownership was restored. The final concluding section of this paper discusses the implications from the case of the Metronet PPP in the UK for India.

This case study is based on an analysis of data from various information sources including reports of Transport for London (TfL), London Underground Limited (LUL), the National Audit Office (NAO) of the UK, and the UK House of Commons, as well as the existing academic literature.

2. THE PPP ARRANGEMENTS FOR UPGRADING LONDON UNDERGROUND

From mid 1997 to early 1999, the UK Government and the then operational London Regional Transport (LRT) engaged in a wide ranging debate on the future arrangements for the London Tube. Till then, the upgradation of the London Tube had been undertaken through the conventional public sector procurement processes. There was a growing recognition that these upgradation plans were severely constrained by under-funding and insufficient predictability of requisite financial flows (NAO, 2004). In 1997, Price Waterhouse Coopers (PwC) carried out a review of the options available for future funding, development and management of London Underground Limited (PwC website).

[6] The World Bank's estimate for India's Gross National Income per capita was US $ 1,610 in 2014. In July 2015, the World Bank has defined middle-income economies as those with a GNI per capita of more than $1,045 but less than $12,736 for 2014.

Following this, in 1999, London Underground Limited was split into one operating company and three infrastructure companies (referred to as the Infracos), which were created to manage and refurbish trains, stations, track and signal infrastructure for different parts of the London Tube. These Infracos were: Infraco BCV (for Bakerloo, Central and Victoria lines), Infraco JNP (for Jubilee, Northern and Piccadilly lines), and Infraco SSL (for Sub Surface Lines including District, Circle, Hammersmith & City, Metropolitan & East London lines).

In February 2002, it was announced that maintenance and renewal of the London Underground's infrastructure would be carried out through three PPP contracts which the three Infracos would enter. The PPP mode was considered ideal for the purpose as it was expected to combine stability of funding (since the private sector would raise the capital) and management skills of the private sector for the duration of the 30 year contracts.

While the responsibility to carry out the renovation and refurbishment of different parts of the London Tube would be handed over to the private sector, the day-to-day functioning of the London Tube including responsibility for stations, train operations, signalling and safety, service patterns and setting fares would be retained by the London Underground Limited (hereafter referred to as LUL), a public sector organisation.

Subsequently, PPP contracts were signed and "Tube Lines" took over the Infraco JNP in December 2002 and "Metronet" took over Infraco BCV and Infraco SSL through two separate contracts, in April 2003. Hereafter, in this paper, the PPP contracts which Metronet and LUL entered into, under which the renovation of two different parts of the London Tube were to be carried out, will be jointly referred to as the "Metronet PPP".

Tube Lines and Metronet were each a consortium of private sector companies – three private companies in case of Tube Lines and five in case of Metronet. It is notable that at the time of signing in 2003, the Metronet PPP was the largest PPP (in terms of value) signed until then (Johnson and Fahey 2003). In 2002, for the work under the PPPs, an investment of about GBP 16 billion (in terms of present value in 2002) was expected over the next 15 years including nearly GBP 8.5 billion to be spent on trains and signalling, nearly GBP 4 billion on track renewal and replacement, and more than GBP 3.5 billion on stations (UK Parliament, 2002). Further, as compared to conventional public sector funding, the PPP arrangements were expected to lead to a saving of GBP 2 billion and faster and more reliable journeys on the London Tube, as compared to the alternatives, worth as much as a further GBP 2 billion to the passengers through the life of the projects (UK Parliament, 2002). The structure of the PPPs is provided in Figure 1.

As noted, the PPPs were structured such that London Underground Limited (LUL), a wholly owned subsidiary of Transport for London (TfL), would retain responsibility for operations and all engineering and safety standards, whereas Tube Lines and Metronet would maintain and renew the infrastructure on their respective London Tube lines over the course of 30 years.

During these projects, the Department of Transport (DfT) of the UK Government would provide a grant of between GBP 1 to 1.1 billion each year to TfL, which in turn would provide these grants to LUL. LUL would use this grant to pay the three Infracos an annual "Infrastructure Service Charge" for their services: about GBP 0.6 billion to Metronet and GBP 0.4 billion to Tube Lines (NAO, 2009).

This service charge varied depending on four key performance indicators: 'availability' measuring the reliability of the tube network under Metronet's control; 'capability' measuring the capacity of the tube network under Metronet's control; 'ambience' measuring the customer experience of the trains, platforms and station facilities under Metronet's control; and 'service points' measuring delivery against a number of varied contractual obligations such as the speed with which service faults were rectified (NAO, 2009). The PPP agreements detailed a performance-related incentive and penalty scheme to remunerate the Infracos for the improvements they would make to the London Tube network (UK House of Commons 2008).

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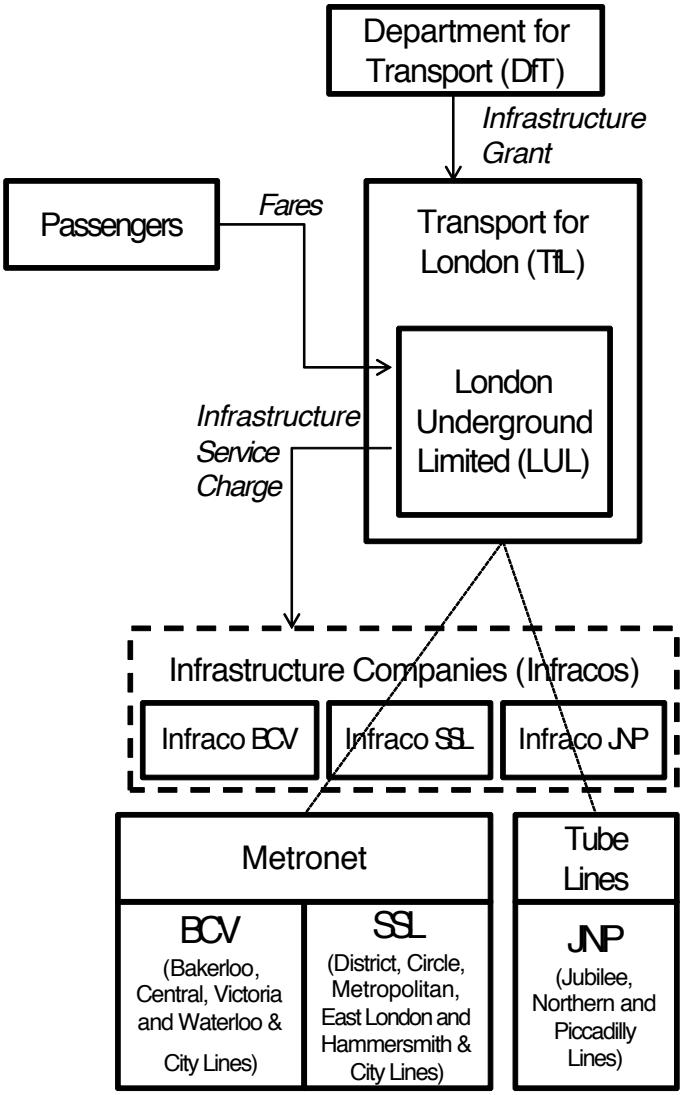
The PPP agreements detailed a performance-related incentive and penalty scheme to remunerate the Infracos for the improvements they would make to the London Tube network (UK House of Commons 2008). A comparison of the PPP contracts for Metronet and Tube Lines is presented in Table 1.The overall structure of the PPPs appear to be quite similar.

The PPP contracts were for a period of 30 years, however all contracts had provisions for periodic review of the contractual obligations at 7.5 year intervals. This was because neither the programme of work, nor its cost, could have been forecast so far ahead, and no private sector company would have agreed to do so (TfL 2011a). Moreover, LUL could not have committed to a fixed performance specification for 30 years, without any flexibility to adjust services in the light of London's changing needs (TfL 2011a). The reviews would allow the London Underground to re-specify its requirements at these time intervals, the first being due in 2010 (NAO 2009, UK House of Commons 2008).

Figure 1: Structure of the Metronet and Tube Lines PPPs[7]



[7] Adapted from National Audit Office, UK 2004

The funding structure of the PPPs had more than 85 percent debt and remaining project costs in the form of equity. Specifically, for the Metronet PPPs, the underlying financial structure reveals that following the financial closure in 2003: GBP 0.35 billion of equity was equally divided among five shareholders; GBP 1.6 billion was in the form of "senior debt" implying that this would have to be paid off first in case the PPPs failed or needed to be dissolved; and the remaining financing was in the form of bonds (UK House of Commons, 2008). This is summarised in Table 2.

Table 1: Comparison of the Metronet and Tube Lines PPP contracts[8]

Parameter for Comparison	Metronet PPP	Tube Lines PPP
Lines responsible for	BCV – Bakerloo, Central, Victoria and Waterloo & City lines	JNP – Jubilee, Northern and Piccadilly lines
	SSL – District, City, Hammersmith & City and until its closure, East London line	
Assets under management	Over 690 km of track 150 stations 350 trains Associated infrastructure such as signals, lifts and escalators	Over 370 km of track 100 stations 250 trains Associated infrastructure such as signals, lifts and escalators
Present value of expected expenditure in cash terms during the first 7.5 year period of the contract	GBP 8.7 billion	GBP 4.8 billion
Funding	Debt: GBP 2,650 million (88%) Equity: GBP 350 million (12%)	Debt: GBP 1,800 million (85%) Equity: GBP 315 million (15%)
Funded contingency	GBP 360 million Nothing for unallocated risks	GBP 135 million GBP 76 million for unallocated risks

Note: The debt of Tube Lines' increased to GBP 1,972 million (including GBP 273 million of standby and safety charge facilities) and equity reduced to GBP 180 million (including GBP 45 million on a contingent basis) after refinancing in May 2004

[8] Reproduced from National Audit Office, UK 2009 The overall structure of the PPPs

Table 2: Financial structure of the Metronet BCV and SSL PPPs following financial closure in 2003[9]

Type of Finance	Financer	Amount (GBP Million)
Equity	Atkins	70 million
Equity	Balfour Beatty	70 million
Equity	Bombardier	70 million
Equity	EDF Energy	70 million
Equity	Thames Water	70 million
Senior Debt	Commercial Bank Loans	1,000 million
Senior Debt	EIB	600 million
Bonds	Index-linked (AMBAC wrapped): BCV	165 million
Bonds	Index-linked (AMBAC wrapped): SSL	165 million
Bonds	Fixed rate (FSA wrapped): BCV	350 million
Bonds	Fixed rate (FSA wrapped): SSL	350 million

Note: AMBAC = American Municipal Bond Assurance Corporation and FSA = Financial Services Authority

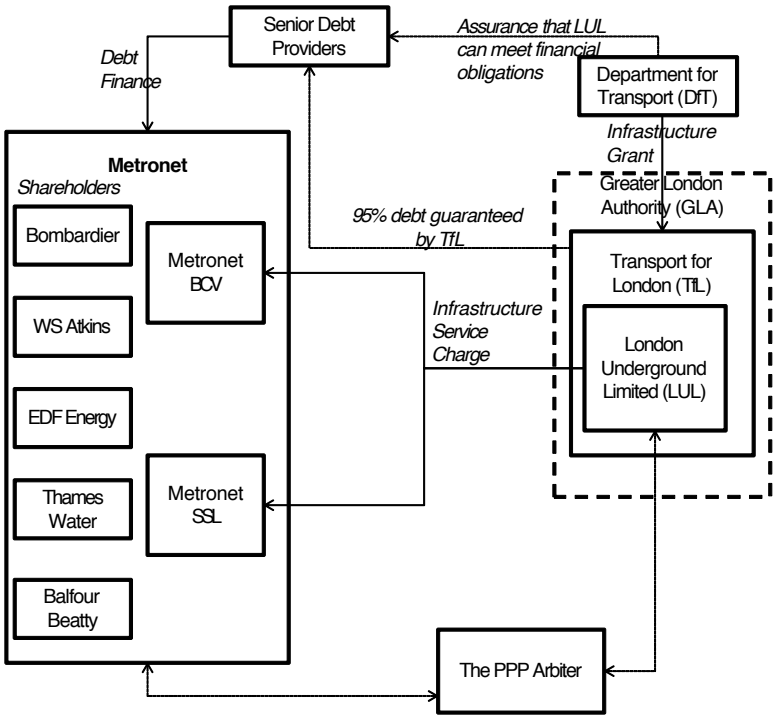
Some specifics of the contracts however differed. While the Metronet PPPs had GBP 360 million as contingent funding, there was no money for unallocated risks; whereas the Tube Line PPP not only had 135 million as contingent funding, it had an additional GBP 76 million for unallocated risks.

Another significant difference between the Metronet and Tube Lines PPPs was the way their respective supply chains were structured and managed. While in the case of Metronet, the five equal shareholders of the equity also had supply contracts with Metronet and the project management arrangements were unclear; in the case of Tube Lines the major supply contracts were competitively tendered and the project management was clearly controlled by one private company (NAO 2009). Since the major supply contracts under the Tube Lines PPP were competitively tendered, there was a higher probability that prices of these contracts were benchmarked in a competitive market place and provided value for money; on the other hand, the Metronet PPP's shareholders were only focused on their own financial returns as suppliers rather than on efficient use of resources (Gannon et al. 2013).

[9] UK House of Commons, 2008

The relationships among the key players in the case of the Metronet PPP are presented in Figure 2.

Figure 2: Relationships among Key Players in the Metronet PPP[10]



As mentioned earlier, the Department for Transport (DfT) of the UK Government provided grant payments to TfL. But more significantly, DfT gave an assurance to the senior debt providers that LUL would meet its financial obligations. The assurance was for a 95 percent debt guarantee by the TfL to these senior debt providers in turn for the debt finance that they had provided to Metronet. Effectively, DfT had underwritten Metronet's debt though the DfT was not a party to the PPP contract and nor was it represented on the Boards of either TfL or Metronet (Shaoul et al. 2012).

LUL paid an annual Infrastructure Service Charge (ISC) to both, Metronet BCV and Metronet SSL. It is crucial to note that the shareholders for the two Metronet Infracos were five companies: Bombardier, WS Atkins, EDF Energy, Thames Water and Balfour Beatty. Not only did these five companies have equal shareholdings in the Metronet PPP, but they also were the main suppliers for the PPP.

[10] Adapted from National Audit Office, UK 2009

A key player to note in Figure 2 is the PPP Arbiter. The post of the PPP Arbiter was created under the Act that established the Greater London Authority (GLA) – the authority of which the TfL and LUL are a part. The main rationale for appointing a PPP Arbiter was because the PPP agreements were not fixed price contracts and instead the prices would be fixed for four separate 7.5 year periods (TfL 2011a). Hence, the question arose: "how should the price be set if the parties could not agree at the relevant time?" and the PPP Arbiter's position was created to address this, as also to address the issue of information asymmetry between LUL and the private companies (TfL 2011a).

The PPP Arbiter was appointed by the Secretary of State for Transport of the UK Government and his statutory duty was to achieve the following objectives (as mentioned in Section 231 of the GLA Act 1999):

- to ensure that London Underground has the opportunity to revise its requirements under the PPP Agreements if the proper price exceeds the resources available;
- to promote efficiency and economy in the provision, construction, renewal, or improvement and maintenance of the railway infrastructure;
- to ensure that if a rate of return is incorporated in a PPP Agreement, and taking into account matters specified in the Agreement, a company which is efficient and economic in its performance of the requirements in that PPP Agreement would earn that return; and
- to enable the Infracos to plan the future performance of the PPP Agreements with reasonable certainty.

The most important role of the PPP Arbiter was to give direction on the price for the services provided which would have to be paid when disputes, between Metronet and LUL, would be referred to him. In case of extra spending, judgments on "economic and efficient extra spending" would be made by the PPP Arbiter as well. The PPP Arbiter could obtain any relevant information he needed to determine at either the periodic review at the end of every 7.5 year period of the contract or between periodic reviews through annual reporting, or an extraordinary review (upon request by either LUL or Metronet or Tube Lines) or at any time when LUL or Metronet or Tube Lines asked the PPP Arbiter for guidance on any matter (NAO 2009). The PPP Arbiter also had powers to inspect railway infrastructure (to obtain first-hand information, about issues such as asset condition) and to undertake preparatory work so that he had the ability to build his base of knowledge over an extended period without having to wait for a specific matter to be referred to him (TfL 2011a).

Once the amount of "economic and efficient extra spending" was determined by the PPP Arbiter, the specifications on the source of funding were specified in the contract as part of the risk for additional expenditure. For instance, for the Metronet PPP contract for each 7.5 year period of each contract, the first GBP 50 million of economic and efficient extra spending, by either BCV or SSL, had to be funded by Metronet itself; and once the economic and efficient extra funding spending exceeded GBP 50 million for either BCV or SSL, Metronet was able to ask the Arbiter for an increase in payments, which would then have to be paid to Metronet by LUL (NAO 2009).

To carry out its most important role of assessing "economic and efficient extra spending", the PPP Arbiter also needed to carry out associated activities such as cost and performance benchmarking, and securing relevant information from the Infracos including disaggregated cost and volume data on works conducted by them (TfL 2011a). After having decided on the level of "economic and efficient extra spending", the Arbiter was also required as part of the periodic review to set the corresponding Infrastructure Service Charge (ISC) which LUL was to make to the Infracos (TfL 2011a).

3. METRONET PPP'S OPERATIONAL CHALLENGES

From 2003-04 to 2007-08, operational improvements were observed across the London Tube network. For instance, there was about a 20 percent decline in the lost customer hours i.e. the aggregate cost of delays due to asset failures in terms of customers' time; the volume of train services had increased by nearly 2.8 million kilometres, and in 2007-08 there were almost 125 million more journeys on the London Tube as compared to 2003-04 (UK House of Commons 2012).

Specifically, since the time Metronet had taken over the two Infracos (BCV and SSL), it had been successful in achieving its main contractual benchmarks of operational performance: availability, capability and ambience; however, it was facing problems delivering its capital works programme within the timeline and contracted costs which had been agreed (NAO 2009). For example, as NAO (2009) suggests, by March 2005, the Metronet PPP had not completed any of the eight stations due, a year later less than one third of the due stations (11 out of 35) were completed, and two years later, fewer than half of the due stations (28 out of 64) had been completed.

Not only was the completion of the refurbishment of stations delayed, huge cost overruns were being experienced. In 2007, it was estimated that for a sample of 31 stations due for completion by April 2008, Metronet's work would cost on average 2.2 times the budget (NAO 2009). This represents a significant budget over-run.

As it faced large increases in its spending, by October 2005, Metronet informed the PPP Arbiter and LUL that it had identified unanticipated extra costs amounting to GBP 566 million for the first 7.5 years, above the bid price of its PPP contracts (NAO 2009). These extra costs were offset partly by GBP 416 million of identified savings and costs of additional work separately paid for by LUL, as well as the use of contingency funding of GBP 89 million (NAO 2009). After accounting for these offsets, Metronet BCV had a projected extra spending of GBP 27 million and Metronet SSL had a projected extra spending of GBP 35 million, in comparison to the GBP 50 million which they could together claim additional economic and efficient costs from the public sector (NAO 2009).

In February 2006, Metronet updated its financial model and projected an additional cost of GBP 1.2 billion for the first 7.5 years. The reliability of this figure was uncertain (NAO 2009). Under these circumstances, LUL commissioned PwC to undertake an audit of Metronet in March 2006. PwC concluded that it was unable to fulfil the objectives of the audit mainly because Metronet did not meet many of PwC's requests for information (OPPPA 2011).

However, PwC reported that Metronet had limited access to cost information held by its supply chain and hence it was unable to exercise cost controls; Metronet's management attention was focused on delivering contractual outputs at the expense of cost control; and the risk management processes established by Metronet were still very immature (OPPPA 2011).

By February 2007, Metronet had spent an additional GBP 860 million in capital expenditure and GBP 300 million in operational expenditure since the extent of its problems emerged a year earlier (NAO 2009). At this point in time, the Mayor of London publicly asked Metronet to have an Extraordinary Review (NAO 2009). On 17 July 2007, Metronet concluded that it had become insolvent and asked the Mayor of London to petition for the appointment of a PPP administrator. The day after, both Metronet BCV and Metronet SSL "entered administration" and TfL provided a loan to enable Metronet to continue operations.

In February 2008, in line with Department of Transport's assurance to Metronet's lenders, it provided Transport for London (TfL) with a grant of GBP 1.7 billion GBP to enable LUL to purchase Metronet's loans, and another grant of GBP 630 million over the next four years to replace the debt Metronet was expected to borrow during that time. In May 2008, Metronet was fully transferred to TfL in the public sector and taken over by LUL.

4. REASONS FOR OPERATIONAL CHALLENGES LEADING TO FAILURE OF THE METRONET PPP

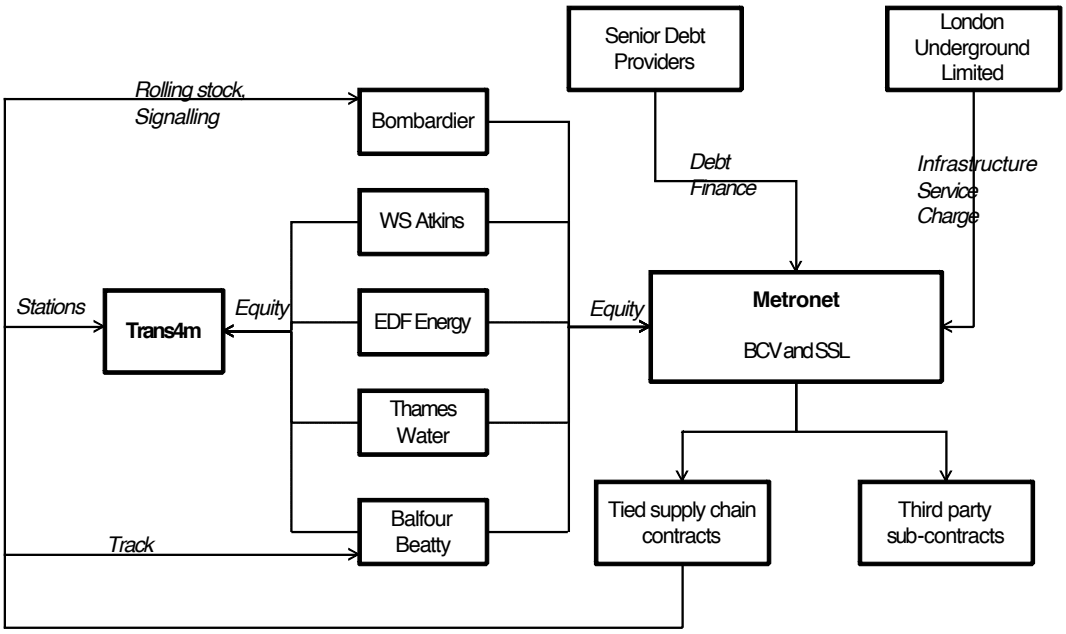
Official reports of the NAO, UK and existing academic literature identify several reasons for the operational challenges leading to failure of the Metronet PPP. Firstly, there was a conflict between the goals which the public sector and the private sector were pursuing (Vining and Boardman 2008). While TfL and LUL acted as if they had purchased an output-based contract at a fixed price; the five, equal shareholders of the Metronet PPP acted as if they had agreed to a series of heterogeneous cost-plus contracts (Vining and Boardman 2008). As a result of this goal conflict, the PPP had high transaction costs, and incentive structure linked with cost-plus contracts resulted in a positive correlation between costs and profits for Metronet.

As mentioned earlier, the equity of Metronet was held by five shareholders in equal measure. However, a crucial feature was that a significant part of Metronet's obligations under its PPP agreements were intended to be delivered through contracts with its own shareholders: nearly 60 percent of its projected capital expenditure in the first 7.5 year period was to be awarded to its five parent companies (UK House of Commons 2008). A majority of this work involved refurbishment of stations, which was organised through another company, Trans4m, which was in turn owned by four of the Metronet shareholders: Atkins, EDF Energy, Thames Water and Balfour Beatty; the work relating to rolling stock and signalling was managed solely by the fifth company: Bombardier (UK House of Commons 2008).

The above suggests that, each equity partner had contracts to supply services to Metronet. This provided opportunities for obtaining much larger profits from this function, as compared to profits from their equity shares. This, in turn, lessened the disciplinary role of equity provision.

The Metronet PPP arrangements were thus characterised by a tied supply chains: the shareholders, who were suppliers too, had the power over scope of work, much better access to cost information and they expected to be paid extra as they viewed the contracts as cost-plus contracts (NAO 2009). The fact that LUL allowed this arrangement to function without understanding the harm it was causing to the PPP outcomes implies that it had not fully understood the motivations, mostly self-serving in this case, of the private players in the partnership. The tied supply chain of Metronet is illustrated in Figure 3.

Figure 3: Metronet's Tied Supply Chain[11]



Metronet's funding structure had a high debt to equity ratio, involving 88 percent of debt funding (a high debt to equity ratio such as this is often referred to as "highly leveraged" or "highly geared"). Hence, the financial risk was with the debt owners. However, TfL had given a 95 percent guarantee to the senior debt providers, and the DfT had given an informal assurance to them that LUL, which was part of TfL, would meet its financial debt obligations. NAO (2009) noted that although DfT had not guaranteed Metronet's borrowing formally, the Secretary of State for Transport of the UK Government had given an informal assurance to Metronet's lenders. This created contingent fiscal liabilities[12] for the UK Government, which turned into actual liabilities when Metronet failed.

There were differing estimates of the actual liabilities subsequent to Metronet's failure. The National Audit Office (NAO) estimated that the total cost of Metronet's collapse was GBP 1.75 billion – of this, the five private companies, part of Metronet's consortium, were only liable for GBP 70 million each (their equity component). Further, tax payers were liable for GBP 1.7 billion, equivalent to 95 percent of Metronet's debt obligations which had been guaranteed by TfL and had to be released by DfT as a grant.

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[11] Reproduced from National Audit Office, UK 2009

[12] Contingent fiscal liabilities are defined as those obligations that may or may not become due, depending on whether particular events occur (Polackova 1999). The probability of the occurrence of these events may be exogenous or endogenous to government policies (Polackova 1999). On the other hand, direct liabilities are those obligations where the outcome is predictable. As Polackova (1999) notes, conventional fiscal analysis tends to concentrate on direct liabilities which are explicit in nature i.e. those obligations which are created by law or by a contract and which the government(s) must settle.

However, NAO asserted that not all of this amount was a loss since the public sector had received the benefit of Metronet's capital investment, despite some of the capital spending being inefficient (NAO 2009).

The NAO estimated the direct loss to the taxpayer was between GBP 170 million and GBP 410 million (in 2007 prices), based on the difference between the public sector costs incurred and the value of the work done. However, the Mayor of London at the time said that this was an underestimate. He estimated that the loss to the taxpayers was GBP 550 million because, he argued, the NAO did not take into account work left undone by Metronet, which LUL had to address subsequently, or work outstanding which needed to be completed by LUL after it took over (UK House of Commons 2010).

In this context, it is also worth highlighting that it was only in 2007 that the Metronet and Tube Lines PPPs were reclassified to being part of the 'public sector', prior to which they had been classified as being in the 'private sector' and hence, their financials not accounted for with the public sector until then (Box 1).

Box 1: Metronet and Tube Lines PPPs – Private or Public?

When the three Infracos of the London Underground Limited (LUL) were set up in 1999 they were classified as "public non-financial corporations" by the Office of National Statistics (ONS) of the UK. The ONS collects and produces data relating to government expenditure. In 2002-03, when Metronet and Tubelines took over, the classification was changed to "private non financial corporations".

However, in 2007, ONS decided to reclassify both Metronet and Tube lines from "private sector" to "public sector" retrospectively. Implying, the reclassification took effect from the dates in 2002 and 2003 when they signed the contracts and took over management and improvement works in London Underground.

This reclassification meant that the profits, interest payables and receivables, dividend and tax payments and borrowings of Metronet and Tube Lines would impact the public sector current budget, the public sector net borrowing and the public sector net debt (PSND). The largest impact was on PSND because there was a substitution of LUL's debt to pay off capital investment work with debt associated with raising finance to fund the work; consequently, bringing the debt into PSND at an early stage at higher amounts. According to estimates at the time, as a consequence of the reclassification, PSND would have risen by GBP 300 million at the end of March 2006.

In the case of Metronet, since DfT had informally underwritten most of TfL's financial obligations, the risk faced by the private players was almost nil. In other words, given its assurance about TfL's financial obligations, it is clear that DfT faced most of the financial risk in the case of this PPP. However, DfT had very few levers to manage this risk (NAO 2009). Indeed, at best, a minimal transfer of risk to the public sector had taken place.

To manage the risk, DfT heavily depended on other stakeholders in the PPP who did not act as was expected as the governance structure and terms of the PPP contract did not incentivize them to do so (NAO 2009). The main reasons for this outcome may be briefly summarised as follows.

First, LUL and TfL were expected to manage the performance and financial risk associated with the PPP but they did not have sufficiently detailed information on either the finances of Metronet or on its performance. For instance, LUL only had a very aggregative budget for Metronet and no details of the broad budget heads (NAO 2009). Additionally, LUL found it difficult to define and measure performance due to ambiguities present in the contract, for example, regarding the stations programme there was no clear definition of "modernisation", "refurbishment" and "enhanced refurbishment" which left them open for interpretation by Metronet and also led to repeated, time consuming disagreements between Metronet and LUL (NAO 2009).

Second, a linked issue was the selection of the contract model. Gannon et al. (2013) explain that the PPP contract was a combination of an output-based contract for rolling stock and signalling and an input-based contract for track, stations and civil works. While the former contracts worked relatively well, the latter did not – this was because the scope of work for tracks and stations kept changing since the condition of the associated asset base was not well known (Gannon et al. 2013).

Third, DfT, TfL and LUL expected that the shareholders of Metronet would monitor its finances but since they were suppliers too (due to the tied supply chains as explained earlier) there was a conflict of interest. Instead of keeping the costs at a minimum, the expectation of the shareholders (and suppliers) was that they would get paid by the public sector for the higher costs they reported. Thirdly, the debt owners who financed a majority of the PPP were also expected to protect DfT's financial risk but they faced only 5 percent risk (since they had a 95 percent debt guarantee), and consequently, they had little incentive to act and monitor the finances of Metronet.

Fourth, the PPP Arbiter had no statutory mandate to protect public interest. Formally, the PPP Arbiter did not have a requirement to help DfT to monitor the PPP contracts. This reveals that not only did the public sector bodies involved in oversight, monitoring and management of Metronet's PPP contracts not have a common agenda, but the misalignment of their interests with those of the remaining stakeholders (i.e. the shareholders and debt lenders) implies that there was a lack of overall organisational coherence (NAO 2009).

5. METRONET AND TUBE LINES PPPs' OUTCOMES

Given the similarities between the Metronet and the Tube Lines PPPs, it is worth noting that as of 2008, the Tube Lines PPP was functioning relatively well, in comparison to the Metronet PPP. This was primarily because the Tube Lines PPP did not have a poor corporate governance structure, and project management was clearly controlled by one company, with no tied supply chains. Consequently, as NAO (2009) noted, Tube Lines followed a commercially sounder approach while being mindful of keeping the scope increases to a minimum. While comparing the two PPP arrangements, Gannon et al. (2013) assert that the tied supply chains in Metronet created an inward looking consortium of companies who were focused on achieving the financial returns rather than the efficiencies which had been anticipated through a PPP mechanism. As a result, the Metronet consortium did not benchmark its own prices with a competitive market place and thereby help provide value for money to LUL; on the other hand, the Tube Lines consortium tendered a majority of its works competitively (Gannon et al. 2013).

Tube Lines procured their contractors for individual contracts through open competition, but as it gained experience over time, it also changed its approach slightly for efficiency gains (Williams 2010). Initially, Tube Lines used the traditional design-bid-build model with the low bidding contractor typically used as subcontractors, but it found that if it used many subcontractors, the communication time increased when problems surfaced: for instance the refurbishment of stations required many design changes and scope of work issues often arose with LUL which needed to be resolved (Williams 2010). Hence, over time, Tube Lines took a more efficient approach by acting as a construction manager while giving work packages to different specialised subcontractors (Williams 2010).

Further, not only did Tube Lines enforce its interpretation of the contract but it also improved the efficiency of its supply chain over time (NAO 2009). An instance which clearly contrasts the project management approaches of Metronet and Tube Lines is related to the scope and compliance in the improvement works of their respective stations. As NAO (2009) explains, Tube Lines quickly established the potential impact of the problems and responded by completely halting most of the work on its stations within six months of the beginning of the contract, to negotiate a consistent and comprehensive framework with London Underground, which would include all stations. On the other hand, when Metronet encountered the same problems it continued to work and negotiate with LUL on a station by station basis. Moreover, Tube Lines took the remarkable initiative to make procedural improvements by streamlining the assurance and compliance process to considerably reduce the duplication of procedures (NAO 2009).

Tube Lines also faced cost increases. But, as it did so, it consistently tracked them and notified LUL regarding them in letters submitted with their work project plans (NAO 2009). LUL and Tube Lines attempted to renegotiate the PPP contract, which involved much disagreement between the two parties especially on the upgrade of the Jubilee line.

In 2009, a disagreement emerged between LUL and Tube Lines on the price of the PPP contract for the second period of 7.5 years, which was due to start in mid-2010. In September 2009, TfL called upon the PPP Arbiter to set a "fair price" for the Tube Lines contract for the upgrade of the Jubilee, Northern and Piccadilly lines for the second 7.5 year period (TfL 2009a). By December that year, the PPP Arbiter estimated the price of the contract at GBP 4.4 billion (TfL 2009b). This price was much lower than the GBP 6.8 billion which had been originally sought by Tube Lines for it (later revised to GBP 5.75 billion), but much closer to LUL's price evaluation of the contract which was at GBP 4 billion (TfL 2009b, 2010b). In early May 2010, TfL and Tube Lines reached an agreement whereby TfL would subsequently buy the entire equity component of Tube Lines for GBP 310 million (TfL 2010b). Once the agreement would be concluded, there would be no extra financial burden on the UK Government, London Underground users or taxpayers in relation to the upgrade of the London Tube (TfL 2010b). By end June 2010, TfL completed its purchase of Tube Lines and this, effectively brought the Tube Lines PPP fully back to the public sector.

6. PERFORMANCE OF LONDON UNDERGROUND LIMITED SINCE 2008

As noted, the Metronet PPP came fully under LUL in 2008 and subsequently, in 2010, the Tube Lines PPP also came fully under LUL. In other words, within less than a decade since the PPPs began, they were completely taken over by the public sector. It has now been more than five years ever since LUL, the public sector company responsible for day-to-day operations of the London Tube, has been conducting all the refurbishments as well. The question then arises, was the London Tube better run under the PPP contracts or now, when it is fully with the public sector? Further, what have been the improvements that have been made, internally by LUL, to improve its services? This section aims to address these questions.

First, one of the performance metrics which was a part of the PPP contracts: the 'availability' metric could be considered. 'Availability', as measured by the lost customer hours against a benchmark, on the lines formerly managed by Metronet, and managed by LUL for 2008-09 are presented in the Table 3. The data suggests that in 2008-09, LUL's performance on lost customer hours was better than the benchmark target on all lines apart from the Waterloo and City line, which was much lower than the benchmark as it performed 219% percent worse.

For comparison, one can also consider the performance of those London tube lines which were under the Tube Lines PPP. The lost customer hours against benchmark on the lines managed by Tube Lines are presented in Table 4. While Tube Lines performed consistently well on the Piccadilly line, improving upon its own performance each year; its performance on the Northern line only improved in 2008-09 – this was because when Tube Lines took over the Northern line in 2002, it was in a particularly precarious condition (UK House of Commons 2010). As the UK House of Commons (2010) further noted, taken together, the performance of Tube Lines on these two lines, compares well with the record of Metronet. Overall, Tube Lines had also shown greater consistency in its day-to-day maintenance performance (UK House of Commons 2010).

It is notable that when LUL took over the Metronet PPP, it also had to take steps to eliminate inefficient practices of Metronet. These included removal of a number of central support functions, elimination of duplications by reducing 1,000 jobs and renegotiation of Metronet's key contracts, and other measures that were estimated to save GBP 2.5 billion (oral and written evidence presented before the Transport Committee, UK House of Commons 2010).

Table 3: Lost customer hours against benchmark on the lines formerly managed by Metronet

Note: ↑- better ↓- worse

London Tube Line Name	2003-04 Metronet	2004-05 Metronet	2005-06 Metronet	2006-07 Metronet	2007-08 Metronet	2008-09 London Underground Limited
Metropolitan, Circle, Hammersmith & City Lines	21% ↑	50% ↑	39% ↑	37% ↑	44% ↑	48% ↑
District Line	43% ↑	35% ↑	16% ↑	19% ↓	53% ↓	14% ↑
East London Line	4% ↑	2% ↑	34% ↑	29% ↑	20% ↑	Line closed
Bakerloo Line	15% ↑	34% ↑	13% ↑	10.7% ↓	3% ↑	34% ↑
Central Line	16% ↓	2% ↑	14% ↑	24% ↑	33% ↓	33% ↑
Victoria Line	16% ↓	9% ↓	11% ↓	26.7% ↓	40% ↓	23% ↑
Waterloo & City Line	58% ↓	12% ↓	66% ↓	29.2% ↓	66% ↓	219% ↓

The TfL has been releasing regular performance data and reports on various parameters related to LUL including LUL's number of lost customer hours, operated kilometres during peak and off-peak times, percentage of scheduled trains operated and excess journey time. For the time period from 2008-09 to 2014-15, TfL reported that LUL had improved on a range of performance metrics: there was an overall 43 percent reduction in the amount of time customers lost to delays; the average trip time was 2 minutes quicker and the cost of transporting one passenger for one kilometre had reduced by 18 percent from GBP 0.25 to a little over GBP 0.20 (TfL 2015b). By 2014-15, LUL also became the only Western metro to cover all its operating costs (TfL 2015b).

Table 4: Lost customer hours against benchmark on the lines managed by Tube Lines

Note: ↑- better ↓- worse

London Tube Line Name	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Jubilee	33% ↓	1% ↑	8% ↑	20% ↑	0%	9% ↓
Northern	32% ↓	95% ↓	62% ↓	23% ↓	25% ↓	31% ↑
Piccadilly	8% ↑	52% ↑	63% ↑	51% ↑	49% ↑	54% ↑

In continuation of the earlier example of examining the 'availability' metric, we consider the lost costumer hours for the various lines of the London Tube from 2008-09 to 2014-15 (Table 5). The data reveals that for the Bakerloo, Central and Victoria lines (or BCV together) which were being managed by LUL throughout this period, though there was an increase in the lost customer hours from 2008-09 to 2010-11, a sharp decline was experienced from 2010-11 to 2011-12 and a further decrease in the subsequent year of 2012-13. Overall, the lost customer hours decreased by 18 percent from 2008-09 to 2014-15 for the BCV lines, together.

On the other hand, for the Sub-Surface Lines (SSL), taken together, which were also being managed by LUL during this period, a sharp decline was experienced in lost costumer hours from 2008-09 to 2009-10. Though this was followed by an increase in 2010-11, a sharp decline was again experienced in 2011-12. Overall, the lost customer hours decreased by a significant 46 percent from 2008-09 to 2014-15 for the Sub-Surface Lines, together.

For the Jubilee, Northern and Piccadilly lines (or JNP together), which were managed by Tube Lines until June 2010 and then taken over completely by LUL, an increase in lost customer hours was experienced from 2009-10 to 2010-11. However, subsequently, from 2010-11 (the year when LUL fully took over these lines) to 2014-15, the total lost customer hours decreased by nearly 50 percent (or, nearly halved) for these three lines, considered together.

In late 2008, TfL recognised that it needed more skilled people to support the delivery of its projects, especially that of the upgrade of the London Tube (TfL 2008). Hence, it drafted a Skills and Employment Strategy (SES) for a period of ten years. The strategy was finalised in 2009 and subsequently, revised in 2011 (TfL 2011b). The strategy primarily focuses on three themes: the first on staff solutions with the aim that TfL can recruit, support and develop its staff to fulfil its requirements; the second on education to develop the future workforce in associated sectors within the industry; and the third on supply chain and industry solutions. To implement its SES, TfL established a central governance structure called the "SES Governance (or SESG)" to provide leadership across TfL on all skills (TfL 2008).

TfL's focus on project management and commercial management deserves to be highlighted. According to its own analysis, starting 2007-08 until 2013-14, it estimated that in any one financial year, it would require at least one third of its executives (or "non-manual" full time employees as referred to by TfL) to have project management and commercial management skills (TfL 2008). To improve the skills of its existing staff, TfL created four work streams for them of which one solely focused on enhancing project management skills. Moreover, TfL also started working with associated sectors to educate and develop skills of the industry's future workforce in areas such as engineering, planning and project management (TfL 2008).

7. IMPLICATIONS FOR PPPs IN INDIA

From the Metronet PPP case study examined in this paper, several generic and specific implications for PPP in India and for its public organisations emerge.

7.1 Generic Implications for India

Various generic implications for India arising from the Metronet PPP case study may be summarised as follows.

7.1.1. Minimise use of Tied Supply Chains

Tied supply chains where shareholders and the suppliers are the same entities must be avoided since it leads to a clear conflict of interest.

Table 5: Average Lost Customer Hours (in thousands) per period on the various lines of the London Tube, 2008-09 to 2014-15[13]

London Tube line Name	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Bakerloo	134,547	122,391	132,692	84,327	128,419	79,786	72,638
Central	378,720	417,906	438,268	321,259	303,719	339,225	410,144
Victoria	234,805	260,487	369,435	267,520	156,455	203,457	129,010
BCV	***748,072***	***800,784***	***940,395***	***673,106***	***588,593***	***622,468***	***611,793***
Waterloo & City	17,313	16,859	17,622	8,836	7,228	12,831	12,314
Circle + Hammersmith & City	388,706	314,117	267,328	149,762	146,285	194,924	165,973
District	391,038	271,056	362,412	232,091	229,788	197,556	222,237
Metropolitan	122,895	136,101	192,324	139,563	124,437	116,044	94,441
SSL	***919,952***	***738,133***	***839,685***	***530,252***	***507,737***	***521,355***	***494,964***
Jubilee	567,377	464,464	640,937	538,108	347,611	338,750	292,033
Northern	307,662	268,515	297,321	207,759	157,581	191,029	139,253
Piccadilly	273,543	275,521	323,690	243,172	156,745	189,575	205,014
JNP	***1,148,582***	***1,008,500***	***1,261,948***	***989,039***	***661,937***	***719,354***	***636,300***
Total for the London Tube Network	**2,816,607**	**2,547,417**	**3,042,028**	**2,192,397**	**1,758,267**	**1,863,178**	**1,743,057**

If tied supply chain arrangements are to be considered, then Gannon et al. (2013) recommend that during the bid evaluation stage the contracting authority must evaluate whether prospective bidding consortiums have satisfactory governance arrangements at their Board levels and across its tied supply chain; and the contracting authority must include governance safeguards within the contractual documents and strictly regulate the tied supply chain to prevent failure.

7.1.2. Assess Motivations of the Parties to PPP

Possibilities of tied supply chains need to be assessed at the very early stages of a potential PPP. If a strong linkage between supply contracts tied to partnership status is evident, the underlying motives of the partner need to be carefully assessed, and risk mitigation steps incorporated.

[13] London Underground Performance Data Almanac, TfL 2015c

The key question to consider is whether the private sector partner is committed to delivering an outcome sought in the PPP or is the intent to earn excessive profits from a tied supply chain. If the former applies, then there is potential for a partnership; however, if significantly above normal profit is the primary motive behind participation then, the risk exposure to the private sector partner is minimal, and the partnership is akin to a 'marriage of convenience'. It appears that in many cases, the latter has been the dominant intent in entering into PPPs in India. This could help explain why projects languish after an initial burst of procurement, possibly because the capital expenditure has been front loaded to recover the investment. Mitigating this tendency should thus be a high priority of PPP authorities in India at all levels of government.

7.1.3. Establish Capacities and Procedures for Monitoring Performance of each PPP

In addition to clarity on allocation of risks, the risks have to be managed adequately with emphasis on regular performance data which aids in monitoring the PPP. Even before setting up a PPP arrangement, the specifications of monitoring information should be agreed with consideration, at the very outset, to the appropriate processes for providing and verifying data (OPPPA 2010). The level of detail in the data which is available to the concerned public sector agencies (and/ or a PPP Arbiter or similar agency) while the PPP is in operation needs to be given critical attention, and processes which can prove the integrity of this data should also established (TfL 2011).

If it is a large PPP which involves several decentralised units engaged in similar activities then consistency in recording time and cost across these units would also have to be maintained. Information captured by monitoring processes should also be made available to all relevant stakeholders so that it can be validated and corrected before it is utilised (TfL 2011).

7.1.4. Consider Tools Assisting Management-for-Results Approach

One of the useful management-for-results tools is a dashboard which maps alignment between outcomes promised and various stakeholder expectations, with a combination of objective, measurable metrics and subjective periodic surveys. There should be a mechanism to evaluate and monitor the reality versus the plan on an ongoing basis, during and after implementation of a PPP project.

This assessment requires that, in addition to aligning the various outcomes with the super ordinate deliverable, the metrics should be linked to activities (or tasks or deliverables) on the ground reality, facilitated by specific metrics, reported on line, on a regular basis.

The combination of alignment and linkage would necessitate an oversight office at the PPP entity's level of government. The gap between the desired goals and the actual delivery could help highlight both need and timing for corrective intervention for on - time delivery, as well as for establishing the probabilities of failure.

7.1.5. In Risk Evaluation, include Value Generation and Cost

While all risk evaluation must necessarily evaluate financial consequences; it is also desirable to assess impact on value generation and cost. All risk metrics should relate to specific enabling events and derived activities to deliver the goals of each event and sub event. There is a reason to consider an expanded role for the PPP Arbiter, or an agency placed in a similar position, to include the mandate of providing oversight of the contract through its life, especially to the public sector department or agency which faces maximum risk.

Whole-life costing of the project must be carried out to the extent possible and there should be limited use of cost-plus contracts. While whole-life costing is preferable, it needs to be understood that all aspects of the contracts may not remain the same across duration of 30 years – the typical length of a PPP contract – and hence, it is essential to have periodic reviews of the contract.

7.1.6. Build Consequences of PPP Failure in Project Planning

This strongly suggests that risk frameworks should also incorporate probability of a failure of the project, and the materiality of the impact and the magnitude of the consequences both at the strategic and operational levels is such failure occurs. This requirement is a reason why model PPP frameworks are not effective.

7.1.7. The Role of PPP Arbiter: Align Responsibilities with Authority

The significance of cost and performance benchmarking, which was carried out by the PPP Arbiter in the case of the Metronet and Tube Lines PPPs, cannot be over emphasized. Assessment of efficiency requires relevant international benchmarking, but such exercises are time consuming, and require commitment from those involved, and hence, it is important to establish them early and maintain them to provide time series data (OPPPA 2010). It is imperative that capacity be developed by an independent stakeholder, such as a PPP Arbiter, whose mandate it is to monitor the PPP to benchmark cost and performance and the process of benchmarking also be clearly communicated to the public sector and private sector agencies involved in the PPP.

7.1.8. Incorporate Principles of Value for Money

Cost and performance must necessarily relate to the principles for value for money management. Specifically, the value for money evaluation should include measures of economy, efficiency, effectiveness and in India's case, perceptions of fairness and equity. These would constitute the super ordinate outcomes mentioned above and would be the core apex deliverables in addition to the specific outcomes for which the PPP was constituted.

Arising from the experiences of multi-lateral institutions, the alignments between outcomes (or goals), and metrics and measures, the periodicity of reporting and review, the course correction and change mechanisms for timely interventions should form an intrinsic elements of the PPP charter, which in addition, combines purpose, objectives, intent , scope, deliverables and time lines.

7.1.9. Create Arrangements for Public Sector Agencies to Acquire Needed Skill-Sets

After the two PPPs were bought off by LUL and brought back into the public sector, the emphasis by TfL on skills, and specifically on project management skills, has been commendable. It not only has a central governance structure which focuses on skill development across TfL to improve the skills of its existing staff, but it also works with associated sectors to educate and enhance skills of employees across the industry.

Any organisation, particularly as complex as city transport and railways, requires appropriate skill sets which need to be reconfigured. This, in turn, requires a degree of autonomy in recruitment, but with accountability for performance.

7.2 Specific Implications for Indian Public Organisations

Currently, various government departments and agencies in India, especially those in those engaged in physical infrastructure such as highways and railways are reviewing their strategy related to PPPs. This has been indicated in many policy announcements, as well as in media reports, recently. As India's public sector departments and agencies reconsider the policy and implementation surrounding PPP projects, there are implications (additional to the generic ones mentioned previously in this section) that Indian organisations could consider from the Metronet PPP in the United Kingdom.

7.2.1. Improve Public Sector Organisations' Project Management Capabilities

Any government body or department which is involved in a PPP/ any such project with other parties must get involved in the implementation with the aim of improving its project management capabilities. The Metronet's case demonstrates that although Department of Transport (DfT) faced the highest risk in the project, it did not have the abilities to manage this risk as it depended too greatly on others to manage its risk. This also requires structures and human resource policies which enable government organisations to nurture needed skill-sets. This will require less rigid recruitment policy for government officials, compared with the current practices.

7.2.2. Government's Role Should Extend to Organisational Co-Ordination and Policy Coherence

For the PPPs for critical infrastructure[14], Dunn-Cavelty and Suter (2009) suggest that the government's role should no longer consist in merely directing and monitoring, but of co-ordinating the networks (of public and private players) and identifying instruments that can help motivate networks to meet the task of such infrastructure. The PPP Division (or Cell) at the Ministry of Finance, Government of India, is well-placed to improve project management abilities in the public sector, as well as co-ordinate across a network of public and private actors with a common agenda. This could also enable retained in-house government knowledge to support informed client role (Gannon et al. 2013).

The above will also require policy coherence to facilitate project design, financing, implementation, and assessment for value for money. Such coherence could also involve accounting methods, budget systems, and costing.

It is essential that the private sector and public sector players who are involved in a PPP contract agree on a common agenda such that any conflict of interest is avoided. Moreover, strong public sector institutions have a key role to play in case of wrong decisions or failure. In this context, two challenges, among others, that the recent Economic Survey of India (2014-15) identified with regard to PPPs in India were: the weak public institutions that have led the private sector to bear project implementation risks (and hence, associated costs) relating to activities such as delays in land acquisition and environmental clearances, and the absence of structures for ex-ante negotiation (GoI 2015).

7.2.3. Critically Examine Reasons for Opting for PPP Prior to Project Decision

As Shaoul et al. (2012) argue the study of the Metronet and Tube Lines PPPs are important because they refute the assumptions that are central to choosing the PPP route instead of conventional public procurement. These assumptions include: the private sector is more efficient than the public sector; risk (and therefore cost) is transferred to the private sector; and the private sector's greater financial and commercial expertise will ensure viable and sound deals capable of delivering the specified contract performance (Shaoul et al. 2012). This suggests that the question of "why a particular PPP is being considered?" should be rigorously analysed before entering into a PPP.

[14] Critical infrastructure is defined as those amenities which are vital to a country that any extended incapacity or destruction of them would have a debilitating impact on security, the economy, national public health or safety (Dunn-Cavelty and Suter 2009).

7.2.4. Build Responsibility in PPP Contract

A remarkable feature of the Metronet PPP case is that when the Metronet PPP failed, the structures and institutions of the UK Government were able to reverse the PPP decision within a relatively short time of around five years, demonstrating welcome capacity for reversal, albeit at high cost. This implies that reversibility scenarios be explicitly considered and institutions and processes be strengthened to prepare for such possibilities.

7.2.5. Understand and Manage Contingent Liabilities of PPP Method

Appropriate incentive structures need to be in place. The challenge with risk definition and management in large infrastructure PPPs is they that involve land owned by the state and other fixed assets, such as electricity, sewerage, drainage, water, effluent management systems. While there can be extensive definition and clauses relating to mitigating financial risks, the critical factor is that all recourse and contingent liability related to the deployed fixed assets is, in practice, ultimately borne by the state, or more accurately, by the citizens. Hence, it is essential for the associated contingent liabilities to be estimated for a scenario in which the PPP fails.

It may be useful to consider penal levies on the private sector partner, which may be proportionate to the fair value or cost of the asset, if projects are unfinished. There is a strong merit to argue that while it is useful to encourage performance and timely delivery of PPP outputs using appropriate incentives, strong disincentives to minimise fixed asset misallocation or underutilisation are essential when structuring a PPP.

7.2.6. Importance of Whole-Life Costing

During the formulation of a PPP contract, processes such as whole-life costing need to be carried out by experts placed at a higher, more central level. In case of India, this can be carried out at the Union government level by the PPP Division (or Cell) at the Ministry of Finance, Government of India. The Union Budget for 2014-15 had proposed the setting up of an entity called “3P India” which would be entrusted with the primary task of mainstreaming PPPs and increasing focus on delivery of efficient PPPs (GoI 2014). Not only does such an entity merit consideration, but as NITI Aayog has recently suggested, it could carry out restructuring of the PPP contracts with specialised skills in the area, that it is expected to house (NITI Aayog 2015).

Moreover, sector specific units such as the PPP Division at the Indian Railways or National Highway Authority or the Ministry of Defence could also develop its own knowledge base. India’s large population and federal structure requires several such “shared services” centres, which can provide expertise and create databases for evaluation of comparative performance.

Such expert divisions can also review contracts prior to them being signed to check for the language while ensuring that there is as much clarity as possible. The NITI Aayog has also suggested that every Ministry engaged in PPPs should create a dedicated division for monitoring of PPPs with full time staff and budgets to hire appropriate experts (NITI Aayog 2015).

7.2.7. Model PPP Contract Inappropriate, Focus on Service Delivery to Citizens

No two PPP contracts can be identical. The case of the Metronet PPP and its close comparison with the Tube Lines PPP (both of which were implemented alongside and were for the same purpose), reveals that in relative terms, the Tube Lines PPP was more successful. This implies that it is very difficult to have a "model PPP contract" or a "blueprint" for PPP projects even within the same sector.

In the Indian context, it is necessary to note that standardised documents such as model concession agreements across infrastructure sectors were developed previously; however, concerns have been raised about their rigidity and the need to introduce greater flexibility for unforeseen circumstances (NITI Aayog 2015). The risks and the relationships among various stakeholders are unique in each PPP contract and hence, a "one-size fits all" approach is not likely to be effective.

The PPP is a method of service delivery to citizens by governments and not merely a financing algorithm. Since citizens' needs and expectations change with time, every PPP contract must have a mechanism to identify and adapt the delivery framework, which implies that the framework has to be necessarily flexible, over its lifespan. The approach should be focused on sound economic principles and the contract tailored according to each situation.

7.2.8. Strengthen Information and Data Systems for Better Management

Finally, information and data systems for performance monitoring as well as for benchmarking would need specific attention. This would not only need to be established as soon as the PPP is implemented, but the data would also need to be periodically analysed to give feedback to the private and public sector stakeholders involved in the PPP, through the life of the project.

7.2.9. Importance of Intent and Accountability

No method, including the PPP method, can deliver citizen-centric value for money if those entrusted with project responsibilities exhibit insufficient intent to fulfil their role as agents of the ultimate principals, i.e. citizens; and the governance system does not demand high degree of effective accountability, including appropriate and speedy judicial sanctions.. It is in these areas that India's organisations, private, public, non-far-profit, and civil society groups, have substantial scope for improvement.

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