

Lessons Learned from PPIAF Activities: Highways Maintenance PPPs

Background

In many developing countries, roads and highways are the dominant mode of transport. Road-based transport typically accounts for more than 80% of the distance travelled by individuals and more than 50% of that travelled by goods. Consequently, a country's road assets form a crucial backbone to any economy by seamlessly linking up people and goods to their respective markets, which in turn improves economic efficiency and reduces poverty. However, the condition of these assets is too often sub-standard and not fit-for-purpose due to a lack of routine and heavy maintenance programs which in turn significantly reduces the service quality of the highway and in some cases makes key routes un-passable, unsafe and prone to weather-related damage (e.g. flooding). Increasingly governments are recognizing the role that highways maintenance public-private partnerships (PPPs) can play in instilling contractual discipline and private sector risk transfer into the crucial tasks of highway rehabilitation and maintenance.

PPP models move the sector beyond the traditional approach to road construction and maintenance contracting which in many instances has proven inadequate. Under traditional contracting, the contractor is responsible for the execution of works and is paid on the basis of unit prices for different work items, i.e. a contract based on "inputs" to the work. Such an approach can often provide the private sector with the wrong incentives, which is to carry out the maximum amount of works, in order to maximize turnover and profit. Even if the work is completed at a satisfactory cost, the 'whole-of-life' quality of the work will depend on the design and quality of the materials used by the contractor and yet it is not the contractor who will be accountable for the work when defects might start to appear (e.g. 2-3 years following completion of the works).

In contrast, various PPP models try to re-align the incentives of the private sector contractor. Whilst these models have many different characteristics, they all typically share the same underlying philosophy which is for the private sector to propose fixed pricing for bringing the highway assets up to a certain service level and then maintaining it at that level for a relatively long period. In this sense, the contractor is not paid for its "inputs" or the actual physical works it will actually complete but on an "output" basis for achieving a specified contractual service standard. In return for achieving these standards, the contractor will receive a periodic (e.g. monthly) fixed payment (typically established during a competitive bidding process) that should cover its costs in delivering the required works. In some periods, the payment may be higher or lower than the actual costs incurred but the contractor is expected to manage its cashflow accordingly. Failure to meet the standards will often result in deductions or the withholding of the payment according to a deduction mechanism outlined in the contract.

The perceived benefits of such models are several:

- The contractor is incentivized to be efficient in any necessary works and not over-spend
- Payment is linked to performance and thus there is a clear financial incentive to achieve required standards, which in turn 'locks-in' contractor performance
- Contractors are responsible for and paid for maintenance over an extended contract period, thus ensuring that any works should be delivered on a 'whole-life' basis so that any unnecessary repetition of works is avoided
- A fixed payment regime creates budgetary certainty for government and a deduction regime for underperformance means government payments are clearly linked to quality
- An 'output' based approach encourages the private sector to use its innovation in "managing" the assets—it can achieve the outputs using any combination of inputs it requires. Such asset management skills are often missing in government road administrations and agencies

As a result of these perceived benefits, many governments are increasingly looking to launch PPPs for highways maintenance and PPIAF is available to provide vital technical assistance to assist them through the process.

PPIAF's Contribution

PPIAF can provide technical assistance to governments in developing countries to develop the enabling environments to facilitate highways maintenance PPPs. For example, PPIAF can:

- Prepare and review policy frameworks that will underpin the project
- Develop and implement legal and regulatory frameworks to govern the project
- Provide targeted capacity building for government officials to be able to manage highways maintenance PPPs
- Design and develop new institutions to support the PPP project
- Assist in developing and preparing the project for market
- Provide specific transaction support

Below are some example PPIAF activities in the highways maintenance sector:

- In 2007 PPIAF provided technical assistance to the government of Egypt to help develop a legal, institutional, and policy framework that would allow the introduction of performance-based road contracts in the country. This support then led to detailed implementation support and capacity building for government officials
- In 2006 PPIAF provided support to the government of Mozambique for the development of a performance-based management and maintenance contract for 272km of unpaved roads in the district of Maputo. Funding was provided for the relevant technical studies, preliminary designs and to develop the bidding documentation
- In recent months PPIAF has approved funding to support the government of Vietnam in reviewing their current approach to performance-based road maintenance contracting and our technical assistance will provide recommendations and capacity building to improve the implementation of these contracts in Vietnam

Lessons Learned

From our portfolio of highways maintenance activities, we have developed a deep understanding of some of the challenges facing governments in trying to launch PPP projects in this sector. Below are some of the key lessons we have learned and how PPIAF support could be leveraged to help governments manage some of the risks of these projects.

Affordability: Unlike many other assets, highways do not often yield a cashflow. Most of the highway network in developing countries remains free at 'point-of-use' and thus it is typically governments (rather than the user) who are burdened with the financial liabilities of maintaining the network to an acceptable standard through government budgets. Under a PPP arrangement, this situation is unlikely to change; government is still likely to be the 'sole-payer' for the maintenance of the network, albeit with much of that payment contingent on the adequate performance of the private sector. On that basis, the affordability of any proposed PPP contract (regardless of structure) is a key concern. Governments are often faced with having to delicately trade-off desired network quality with what is affordable. This is not an easy and obvious trade-off and governments often need technical assistance in establishing what their total 'whole-life' liabilities will be of demanding more or less network quality from the contract and over what time horizons. This is an intricate calculation and relies on good knowledge of the baseline condition of the assets and an estimation of what the 'whole-life' costs of maintaining it will be under many different scenarios. PPIAF can fund various pre-feasibility and feasibility studies to provide governments with the relevant technical advice.

Funding: Also key to deciding the level of quality to be specified under the contract is the fiscal position of the government and its ability to meet the future liabilities under the contract. Governments need to be able to fund the services they are asking the private sector to deliver if they are to avoid future financial difficulties and to be able to attract the private sector to bid for the contract, who will understandably be wary of the payment risk of the government. This can often be a very difficult challenge for transport

ministries and agencies that work within the constraints of single-year (rather than multi-year) budgets. As such, governments have to carefully consider whether special longer-term funding provisions are required to underpin their contractual payment obligations—these may range from softer ‘promissory’ type arrangements through to harder ‘ring-fencing’ of funding, such as the establishment of road funds or ancillary revenue raising activities (e.g. road-user charging). The decision of what funding provisions to use will depend not only the fiscal position of the government, but also on the proposed financing and structure of the contract. For example, if private finance (i.e. debt) is used to fund any rehabilitation or capital intensive works, then the level of security required against the government’s payment obligations may need to increase as third-party lenders typically require greater certainty on payment risk.

Contract Structure: When setting the contract outputs and standards, governments inevitably need to understand what inputs and services will be required to deliver against these standards, as this will have a direct impact on the costs and risks of the contract. For example, a large step-change in road standards from a low-quality baseline is likely to require some rehabilitation and capital intensive works, but this will be expensive and will open up the contract to construction risks. Likewise, the contract outputs may require the contractor to perform heavy maintenance works deep into the contract, which brings different risks and costs for the contractor. Expert technical advice is required to show governments the link between contract outputs, inputs, risks and costs so that the government can be assisted in drafting an ‘output specification’ and contract structure that is affordable and offers value for money.

Risk Allocation: All highways maintenance PPPs involve some degree of risk transfer to the private sector. However, the key question is: how much risk to transfer? In assessing this, governments should follow the basic notion that the contractor should only be burdened with the risks that it is best positioned to manage and mitigate. This is because excessive risk-transfer will typically likely lead to the contractor applying a significant risk premium to the contract costs so that the risks are financially mitigated. Thus an inefficient risk allocation can undermine value for money and the private sector’s appetite for the contract. Governments need technical, commercial and legal assistance in understanding what risks can be efficiently transferred and what risks may need to be shared or retained by the government.

Market Sounding: Governments may also need assistance in carrying out a market-sounding exercise so that the private sector can offer their views on the key commercial aspects of the contract before any formal bidding and negotiation process starts; this will allow the contract to be better informed by market expectations.

Baselining and Latent Defects: One of the key risks for special consideration with highways maintenance PPPs is latent defect risk. This is the risk that the private sector cannot fully perceive the extent of the road network’s condition before the contract is signed and therefore cannot accurately assess and price the works required to achieve the contract’s standards. Governments need to consider how this risk may be mitigated in advance of contract signing so that the private sector does not add excessive risk-premiums to the contract. One option for government is to undertake significant surveying of the network’s condition so that the private sector is provided with a much better understanding of the baseline from which it will need to assess its program of works.

Financing: If the contract involves significant rehabilitation works and a capital intensive period then the key question is: how will these works be funded? One option is for the government to simply increase their contract payments during this period by effectively making ‘milestone-payments’ to the contractor on successful completion of specified elements of the capital works. However, such an approach makes the contract payment structure very ‘front-ended’ and this requires that the government has sufficient capital budget, when in reality, the government may be budget-constrained and have other capital expenditure priorities. An alternative approach can be for the private sector to finance the works and then be repaid later with increased contract payments over the duration of the contract. However, the use of private finance requires very careful consideration by the government because its application can be expensive and can simply increase and defer the government’s payment liabilities into the future. Government’s need diligent financial advice to obtain a clear understanding of the likely cost and future contingent liabilities that will be created by the use of private finance. Debt-finance, in particular, can be very expensive because of the fact that highways maintenance projects are much more ‘operationally geared’

than many other infrastructure projects—i.e. the contractor's risks remain very high throughout the operating period rather than being skewed to the construction period. Debt providers typically feel more comfortable about 'banking' construction risk because the risk is near term, better understood and can be more easily quantified. In contrast, 'operating' risks that crystallize a long way into the future can cause uneasiness because debt providers are being asked to take the risk on cost estimates produced today that will not crystallize for many years and therefore there is great uncertainty over their accuracy. Debt providers respond to this risk by increasing credit margins on their debt but also reducing the amount of debt provided relative to equity (i.e. lower gearing) so that they are more adequately shielded from higher-than-anticipated costs. In combination, this can significantly increase the cost of capital for the contractor and lead to governments paying significantly more over the contract payment. Governments need assistance to fully assess the value for money case for using private finance.

Contractor Capacity: Another consideration for governments who are designing highways maintenance PPPs is whether there are local or domestic contractors who have sufficient capacity and expertise to undertake the type of works required to meet the specified contract standards. This may mean that international contractors are needed, particularly if there is a capital intensive element of the project that will need to be funded by private finance because private finance will likely need financially strong contractors. However, international contractors will likely perceive the risks of the contract differently and this can have a significant upward impact on costs. Moreover, international contractors need to be mobilized and, whilst their scale and size typically minimizes costs, the overheads of mobilizing can offset these benefits. Again, this is an area where governments need assistance to understand the delicate and circular relationship between contractor capacity, the cost of the contract and the setting of the contract standards themselves. Governments need to optimize this relationship in order to achieve value for money from their contract.