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Private finance, public roads: configuring the supply chain in PFI highway construction

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Abstract

During the 1990s the UK witnessed a change in public procurement strategy. Under the private finance initiative (PFI) the obligation of the UK Government shifted from procuring capital assets to purchasing (directly or indirectly) the flow of supply services from such assets. The concomitant change within the private sector requires its involvement not only in the construction of an asset, but in its conception, its long-term financial viability and its operational integrity. What is supplied through the construction chain to the client is not an asset or components thereof, but services. The attitudes prevalent within the tender, design and construction phases of a current PFI variant (the design build finance operate or DBFO) road project were investigated in order to establish the potential impact upon the quality, cost and function of supply resulting from the change in procurement form. Attention was paid to the crucial links in the supply chain, from the client through the first and second tier suppliers, analysing the changes instilled in those parties by their being exposed to the DBFO from of procurement. Significant differences were found in how the suppliers regarded the tender, design and construction phases. Where previously suppliers' attention was paid to claims positioning and the potential for leveraging profit through the identification of liabilities, under the DBFO problem-solving attitudes overrode those of problem avoidance. This confirmed the prevailing opinion among the construction industry that DBFO road schemes constitute a valuable influence over the mode of supply, worthy of development.

Keywords: Construction procurement; Road construction; DBFO supplier relationships.

1. Introduction

The procurement route in construction establishes the environment within which the relationships both up and down the supply chain are configured. This is because, rather than dictating the de facto relationships on a day-to-day basis between the participants, the procurement route provides the formal links within which these relationships are attained and sustained. Therefore, any consideration of the formal contractual terms is not only a consideration of the legal ties but also a consideration of the ways in which knowledge and activity flow between the organisations within the construction project supply chain. The procurement route does not just initiate the supply chain relationships but acts as a catalyst that enables them to persist over the construction project timeframe. The research presented aims to emphasise the importance of procurement to subsequent supply relations and consequent construction project performance.

Recognition of the potential influence of procurement decisions on the whole mechanism of project supply performance has been experienced in the increasingly influential private finance initiative (PFI). The spirit of PFI is one of reconciliation between controlled public expenditure and capital accumulation (Kerr, 1998) governed by the use of market-based contracts. The intent is to re-orient the public and private parties to be driven by a mutual interest in the whole-life performance of an asset described in terms of supply quality and availability; the service is primary, the asset secondary. In effect, the geographic and economic presence of the state becomes subject to extensive supplier influence (Kerr, 1998) because the tendency to specify everything to suppliers is replaced by the stipulation of required service standards, leaving the private sector supply chains free to determine how best to reach them. As the private sector becomes more embroiled in directing service provision, it moves

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closer to the policy agenda, allowing its interests and values to join with those of public interest. This link is balanced to the extent that the projects remain privately financed (they only exist through a degree of public subvention in the form of shadow tolls or availability fees) and not privately funded (stand-alone projects such as bridges funded directly through use) (Glaister, 1999; Broadbent and Laughlin, 1999).

A common form of this emerging method of procurement are the design build finance and operate (DBFO) contracts, developed for the provision of motorway and trunk roads. The private sector becomes responsible for the supply of a specific length of maintained road over a 30-year period (including provision of the capital finance), the use of which is paid for by the UK Government in the form of 'shadow tolls'. This differs considerably from 'traditional' road construction contracts (let under, for example, the ICE 5th and ICE 6th form of contract). This was extremely hierarchical and was widely regarded as promoting a confrontational and contractual supply approach, together with high associated transaction costs (Broome and Hayes, 1997). Of the eight projects representing the first two tranches of DBFO road projects, the average saving from using DBFO has been 14% (Haynes and Roden, 1999). When taking into account the further three projects scheduled to be procured using DBFO, fully 16% of the core network will then be managed under this form of procurement (DETR, 1999), with a mind to 'roll out' its use even further in subsequent tranches. As each tranche matures, the experiences and lessons from the contract negotiations and its operation are fed into the next, so seeking to improve the quality, function and cost of service supply in line with realising what the UK public sector terms 'value for money': the lowest out-turn cost over the whole life of the contract (Grout, 1997). This iterative approach to improving procurement ideally instils in the procurer a responsibility for establishing the supply framework by providing prompt, clear information and making imaginative judgements set in the light of a good business case for requiring the supply (Timmins, 1977).

In the first tranche of DBFO projects, risk was synonymous with exposure to the specificity of the asset, along with service demand. As the use of PFI style contracts expands, there is the possibility of a change in perception, as performance is measured by a 'menu of performance events' far less defined than those of the traditional DBFO. Road tunnels, for example, are likely to be exposed to an unpredictable range of natural forces that cannot be reasonably contained within tight contract terms at the inception stage. Similarly, urban projects will be assessed on grounds of their contribution to minimising car use (for example, by providing shadow tolls for public transport and haulage vehicles and not cars) (Masons, 1999). Roads, conceived as a service, are seen less in terms of asset ownership risk, but as supply that carries with it responsibility for long term health, social safety and economic and environmental sensitivity, merging the procurer's strategic need for long-term planning with the suppliers' requirements for realising a long-term income stream (Terry, 1996).

2. Background to DBFO

Once both the planned route and the choice of DBFO as a means of its procurement are established as both desirable and possible, tenders are invited, from which the government agency employer (the procurer with executive responsibility for managing the UK trunk road and motorway network) draws a short-list. Each tenderer on the short-list is required to submit a detailed 'best and final offer'. From these a preferred bidder is selected on criteria that, in addition to price, include quality assessments of the technical merit and environmental soundness of the solutions offered together with the financial strength and track-record of the parties who together have created the DBFO Company - the 'vehicle' responsible as the first tier supplier for organising the delivery of maintained highway. The contract with the DBFO Company determines (Highways Agency, 1997):

- the outline road design;
- the core client and environmental/planning requirements forming the output specification;
- the operational performance of existing and new roads consequent upon or affected by the project;
- the requirements for the operation of construction works and maintenance;
- change mechanisms to deal with project variations;
- default and no-fault events;
- performance (bank) guarantees that are released on the satisfactory completion of the construction phase covered by the guarantee;
- step-in rights.

It also details payments to the DBFO Company based on volume and type of use coupled to the contract terms on lane availability and safety performance over the thirty years of its project responsibility with specified penalties for failure to perform under the contract. The payment structure is split between vehicle size (to distinguish between haulage vehicles and cars), and volume of use. The tenderers are asked to split their traffic flow predictions into rising bands, each attracting different tolls; the higher the volume, the less the toll, with the highest band set at zero, so effectively capping the possible revenue stream in the event of continual, excessive use.

The DBFO Company organizes requisite debt servicing, and subcontracts the construction (usually on a fixed fee, turnkey basis) and so transfers much of the design and construction risk to the construction company who, in turn, transfers elements of risk through