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Towards a simplified performance-linked value for money model as a reference point for bus contract payments

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ABSTRACT

The burgeoning commitment to contracting the delivery of bus services through competitive tendering or negotiated performance-based contracts has been accompanied by as many contract payments schemes as there are contracts. We are now well placed to design a simplified performance-linked payment (SPLP) model that can be used as a reference point to ensure value for money, given the accumulation of experiences throughout the world which have revealed substantive common elements in contracts. Whether the payment to the operator is framed as a payment per passenger or as a payment per service kilometre, the SPLP identifies efficient subsidy outcomes that are linked to a proxy indicator of net social benefit per dollar of subsidy. We illustrate how the SPLP model can be applied to obtain the gross (subsidy) cost per passenger (or per passenger km) from measures of gross cost efficiency and network effectiveness. This model can then be used as part of a benchmarking activity to identify reference value of money prospects in respect of passengers per $ subsidy outlay by adjusting for influences not under the control of the service provider. A single framework to identify contract payments to operators, and to assess (i.e., benchmark) operator performance on critical KPIs, is provided by internalising critical key performance indicators (KPIs) in the design of the SPLP. The proposed SPLP model is sufficiently general to be independent of the procurement method (competitive tendered or negotiated, for example) and of the treatment of revenue allocation (net or gross based contracts), with the additional advantage of being able to assess value for money for government.

1. Background

Since the first Thredbo conference in 1989 (see Hensher, Beesley, & Battellino, 1991), we have seen an explosion worldwide in reforms to the provision of local bus services. At each conference we identify additional locations beginning their reform agenda that involves, to varying degrees, a move away from a predominantly public monopoly supply, and a greater engagement in contracting reforms (see Bakker & van de Velde, 2009; Hensher, 2007; Hensher & Houghton, 2004; Hensher & Stanley, 2008; Hensher & Wallis, 2005; and Stanley & van de Velde, 2009). These reforms vary from economic deregulation through to competitive tendering and negotiated contracts, with different amounts of performance-based prescription. Countries and jurisdictions within countries, engaged in institutional reforms in service delivery for many years, are seen to sway back and forth between the regimes as they 'learn' from their own experiences as well the experiences of others. As an example, we see a proposal to return to economic deregulation in Sweden, after employing competitive tendering for the last 15 years; it is however economic deregulation with a twist.[1] This paper relates to

[1] The Swedish Public Transport Authority (PTA) will design a services statement expressing demand for services, including strategic goals. Operators then apply for commercial based services, and the PTAs evaluate applications with respect to the goals set in the services statement. Some commercial traffic results and the non-commercial services will be tendered as Public Sector Obligations. This is controversial: there is a fear that co-ordinated services will be fragmented, that cherry picking will occur, and the prevention of cross-subsidy will increase costs to society. Some observers believe that this scheme is more about controlling cost than improving services and increasing passengers. Some proponents believe that commercial and non-commercial services can co-exist, as in the UK model outside of London; although the current financial stringency is showing how this model makes it is easier to 'cut' non-commercial services requiring subsidy. A long term concern is that the removal of cross subsidy through deregulation may well have equity impacts if non-commercial services are cut back through the need to meet budget constraints. The New Zealand experience with economic deregulation has not been as good as the UK with commercial services focussing only on the peak, and the incumbent peak service provider successfully winning non-commercial tendered services in the off-peak, offloading all shared costs to the tendered services because there are insufficient competing bids to prevent this happening.

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contracts for services for which an Authority makes a payment and does not relate to commercial services in a deregulated environment.

Some core elements of the contract payment regime can be identified by looking at the diverse range of procurement and payment mechanisms used to contract the provision of bus services (see Wallis, Bray, & Webster, 2010; Wallis & Hensher, 2007). Despite the heterogeneity of such payment methods, these core elements are characterised by mixtures of demand and supply criteria in both baseline and incentive linked contracts.

Candidate payment models can be classified as:

(i) A pure cost-based model associated with cost per bus kilometre and no patronage or service incentives,
(ii) A hybrid model based on (forecast) patronage allocation and residual cost per bus kilometre without incentives,
(iii) A pure cost-based model with patronage and/or service incentives, and
(iv) A hybrid model with patronage and/or service incentives.

A pure gross cost-based model associated with cost per bus kilometre is typically the conversion of a total cost, and is determined by the operating environment and efficiency of scheduling. The operating environment varies for many reasons, but the key cost drivers include average speed, spread of service hours over each weekday and weekend, vehicle utilisation,[2] dead running time, fleet financing (noting that a contract under negotiated performance based contracts must have agreed terms of depreciation, risk and economic life of assets; in contrast under competitive tendering when operators put this into their bids), and scheduling efficiency issues such as layovers between trips which are often influenced by the degree of union influence in scheduling, but which is likely to affect vehicle scheduling as well.

Patronage and service kilometre incentive payments also exist in a growing number of contracts, and are based on a range of approaches. In simple terms, the patronage incentive payment is linked to growth in patronage above an agreed benchmark; and service kilometres in these cases must be related to some gain in patronage otherwise it is an inefficient (and ineffective) cost driver.

Some contracts are net and others are gross. A net contract is where operators retain fare box revenue and bid for, or negotiate a (net) subsidy. In contrast, under a gross contract an operator bids or negotiates for the total cost of operating a pre-specified service, and the Authority retains the fare box revenue. Performance incentives, more commonly aligned with gross contracts, are typically related to reliability and other input measures for service quality, but can also include patronage-based incentives. Allocating and managing the revenue risks and uncertainties is the significant issue in contract design. Gross contracts have some advantages over net contracts; in particular they remove one of the barriers to entry, as new entrants[3] generally have significantly less information (especially information on patronage and revenue potential) on which to base their tender or negotiated prices. A gross contract also facilitates the introduction of integrated fares[4] because it removes the need to allocate the revenue between operators and modes, but with gross contracts, the patronage-related risk is on the side of the Authority. In contrast operators have generally a greater incentive for patronage growth if the contract is net, because in keeping the fare box revenue they gain from the revenue of any additional passengers generated.

We have not seen a net cost tender where bidders were provided with an accurate picture of the current revenue and/or patronage. This means that net cost tenders will have a high risk premium for non-incumbent bidders, and this in turn gives a strong advantage to the incumbent. That is in large measure how NZ Bus has been able to maintain their effective monopoly in Auckland[5] and Wellington for so long. Net cost contracts also have a higher risk to "network integrity" where operators put too much focus on their own position (especially where it operates within and between contract areas) without considering their role as part of the wider network.

Given the accumulation of experiences throughout the world, that have revealed substantive common elements in contracts, we are now well placed to design a simplified performance-linked payment (SPLP) model that can be used as a reference point to ensure value for money to government. Whether the payment to the operator is framed as a payment per passenger or as a payment per service kilometre, the SPLP identifies efficient subsidy outcomes that are linked to a proxy indicator of net social benefit per dollar of subsidy.

In this paper we set out the SPLP model and illustrate how it can be applied to obtain the gross (subsidy) cost per passenger (or per passenger km) from measures of gross cost efficiency and network effectiveness. This model can then be used as part of a benchmarking activity to identify reference value for money prospects in respect of passengers per $ subsidy outlay by adjusting for influences not under the control of the service provider. A single framework to identify contract payments to operators, and to assess (i.e., benchmark) operator performance on critical KPIs, is provided by internalising critical key performance indicators (KPIs) in the design of the SPLP. The proposed SPLP model is sufficiently general that it is independent of the procurement method (competitive tendered or negotiated, for example) and the treatment of revenue allocation (net or gross based contracts), with the advantage of being able to assess value for money to government.

The paper is structured as follows. We begin with an outline of the proposed SPLP model, presented in the absence of any consideration of benchmark references. This defines the baseline value for money position. We then propose a way to determine the extent to which the baseline value for money defined in terms of passenger per $ of subsidy outlay satisfies a performance benchmark standard to ensure that the operator awarded a contract satisfies the status of an efficient service provider. Confirmation of this status requires a comparison of operators in similar operating environments, after controlling for factors that are not under the control of the operator. We finish with some concluding comments.

2. A proposed simplified performance-linked payment (SPLP) model

We start with the assumption that an Authority such as government defines the budget (B) for services (regardless of

[2] Similar to the cost allocation formula used to use for costing contracts in Britain before competitive tendering, which allocated costs according to three variables – bus kilometres, bus hours, and peak vehicle requirements.

[3] In the UK this did not deter new entrants – if they get it really wrong, they bow out of the contract and it is retendered. It is a steep but fast learning curve with information out there on successful contracts to use for information. Having said this, it does lead to less stable outcomes in the short run.

[4] Although it has been shown in Holland, France, and the UK that patronage surveys of an ongoing nature are acceptable as a way of allocating revenue. In Sydney, for example, gross contracts still seem to inhibit integrated fare because of the unsubstantiated claim by government that different modes 'need' to have receipt of the flagfall fare component.

[5] Although this is exacerbated by cherry picking of commercially attractive peak services which led to the residual off-peak services being tendered out and won in almost all situations by the incumbent operating the peak commercial services (utilising the opportunity to 'allocate'; all shared costs to the tendered services in order to benefit from the lack of competition in the bid process). The contracting position in New Zealand is set to change with the intention of ameliorating this situation.