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## Demand and service impacts of competition for the market – Australian urban bus case studies

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## ABSTRACT

In the urban bus sector, the international literature on the effects of competition for the market (through competitive tendering) has focused mainly on the resulting efficiency gains and public sector cost savings. Relatively little attention has been paid to the effects of the competitive environment on the quantity, quality and customer focus of the services provided and on the resultant patronage impacts.

This paper contributes to addressing this knowledge gap, focussing on assessment of the service and demand-side effects of introducing competitive tendering for bus services in two Australian metropolitan areas – Adelaide and Perth. In both areas, a government monopoly operator was replaced (in the late 1990s) by competitively-tendered gross cost (area) contracts with operator incentives to enhance service quality and increase patronage.

The following aspects of experience with these contracts are addressed:

- Contract design aspects, focussing on performance standards and operator incentives, and their effectiveness in influencing the quantity, quality and customer focus of the services provided, leading to increases in patronage.
- Roles and responsibilities of the public authorities and operators relating to these aspects.
- Views of operators and authorities on the effectiveness of the contract incentives in 'driving' service enhancements and patronage increases.

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## 1. Introduction

An extensive international literature exists on the effects of periodic competition for the market, through competitive tendering, on the supply costs for urban bus services (eg refer [Hensher & Wallis, 2005](#) for a summary of the literature and evidence up to that time). Most of this literature addresses the cost impacts where services were previously provided by monopoly government (public) operators; while, more recently, and particularly in Australia, a number of situations have been reported where previously private monopoly operations have been offered to periodic competition through competitive tendering (eg refer [Wallis & Bray, 2014](#)).

Periodic competitive tendering in the urban bus sector (and elsewhere in the transport and other sectors) has been viewed primarily as a means of reducing the costs of service provision to the initiating party (usually a government department or authority). There has been limited attention, and limited literature, on the potential benefits from periodic tendering in inducing improvements

in service quality and customer orientation of services, and hence in increasing patronage. Such benefits would potentially not only reduce government funding requirements (through increasing fare revenues), but would also contribute to the wider policy goals often sought through urban public transport (eg reduced traffic congestion, reduced transport system externalities, improved accessibility for people dependent on public transport).

This paper addresses the current knowledge gap on the service and demand effects of periodic competitive tendering, with the hypothesis that these benefits may be more significant, relative to the cost efficiency benefits, than is generally recognised. In this context, the paper focuses particularly on the role of incentives in encouraging contracted operators to pursue the service quality and patronage goals sought by the public authority.

The paper takes an essentially empirical case study approach, examining the experience in two Australian metropolitan areas, Adelaide and Perth, since their government bus operations were outsourced through competitive tendering in the mid/late 1990s. Both areas have somewhat similar contracting arrangements (with large area-based contracts and 'gross cost plus incentive' funding models), but have taken significantly different approaches to

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incentivising operators since competitive tendering was introduced. Further, the two case studies also differ, in part reflecting the differences in available data:

- For Perth, the main focus is on the ongoing effects of the 1990s bus reforms on service levels, service quality aspects, patronage and fare revenues at a system-wide level.
- For Adelaide (for which some aggregated analyses have been undertaken previously – refer Bray & Wallis, 2008), the focus is more on the effectiveness of operator incentives, principally those to increase patronage, on operators' behaviour and on market (patronage) response.

The remainder of the paper is structured as follows:

- Section 2 provides a brief review, drawing mainly on more recent Thredbo conference papers, of international evidence and experience on the impacts of competitive tendering in general and operator incentives in particular on achieving service development, service quality and patronage gains.
- Section 3 presents the case study for Perth and Section 4 that for Adelaide.
- Section 5 provides a summary of perspectives on the Perth and Adelaide experiences by senior management staff directly involved with the authorities or operators in the two centres.
- Section 6 sets out the paper's main conclusions.

## 2. International experience and evidence

The international literature on the impacts of competitive tendering in the urban bus transport sector on service level and service quality aspects, and hence on patronage, appears to be sparse generally; and the literature specific to the impacts of operator incentives on these aspects appears to be sparser still. Much of the limited literature in this field focuses on general arguments for or against specific approaches, and very little of it provides empirical evidence on the size and type of impacts that have occurred in practice. Most of the more relevant papers on this topic were presented at previous Thredbo conferences and the following summarises the most relevant points from these.

Over the last 10–15 years, the country that has been most active in terms of research and experimentation on this topic is the Netherlands – where the 2001 legislation introduced a requirement for competitive tendering of bus services, with one aim being to improve the attractiveness of services through stimulating innovation in service design. The legislation gave powers to operators to redesign services at the tactical level (routes, timetables, vehicle types, fare schedules etc) as part of the tendering process and/or during the contract period, although the extent of these powers in practice depended on the decision of the provincial/regional passenger transport authorities which were responsible for the tendering/contracting process.

A **Thredbo 10 conference** paper (Van de Velde, Veeneman, & Lutje Schipholt, 2008) reported on experience (up to 2007) under the 2001 legislation. It noted that the CT models formulated by various passenger transport authorities covered a wide range, varying between the extremes of (i) full 'functional' tendering, with the operator taking the main responsibility for service design and quality aspects and for bearing revenue risks; and (ii) service design primarily by the authority, with shared revenue risks and with tender evaluation largely based on inputs. The paper stresses the importance of consistency in contract design aspects: where a market-led approach is sought, a functional contract design is appropriate, giving the operator sufficient flexibility and performance incentives to 'pursue the market'.

The paper contains only brief reference to the impacts of the various contracting models on patronage and was not in a position to draw firm conclusions on the effectiveness of operator incentives. However, it does note the clear opinion of the various experts involved in the Netherlands developments in favour of 'relational contracting', involving functionally-oriented specifications and agreement on process rather than specifying 'complete' contracts.

Two further Dutch papers were presented at the **Thredbo 11** conference. One of these (Eerdmans, van Kooij, Van de Velde, & Westerink, 2010) focuses on the factors under the Netherlands CT legislation and contracting procedures that resulted in the 'disappointment' of the authorities with operators' efforts to develop services that were more attractive to the market and hence result in increased patronage. It does not provide any quantitative evidence on the effects of operator tactical scope and associated incentives on the service levels or quality and hence on patronage. It includes several recommendations on means of stimulating operators' efforts to enhance service design, including (i) improvements in contract design, including realistic incentives for operators; and (ii) developing greater understanding and trust between the two parties, including the use of joint development teams (at the tendering stage and throughout the contract period).

The second Thredbo 11 paper (Bakker & Van de Velde, 2009) reviews the experience with 'super-incentive' contracts in the Amsterdam area. Essentially, such contracts involve all payments to operators being directly related to patronage carried (with provisions to prevent bidders exaggerating their patronage and revenue growth forecasts at the tendering stage in order to win the contract). The contracts give the operator considerable flexibility to redesign services at the tendering stage and during the contract, subject to some minimum service requirements specified by the authority. This model is one of the very few examples internationally (outside the deregulated UK market) of urban bus contracts where all payments to the operator are directly based on patronage levels.

The evidence indicates that the model was largely successful in stimulating patronage. In one of the Amsterdam contracts, the patronage growth target of 25% was achieved by the third year of the contract; in another contract, half of the patronage growth target of 35% was achieved within the second year of the contract. However, some difficulties arose through the complexity of the tendering process and the contracts, sufficient to discourage some potential bidders. It is perhaps notable that no further super-incentive contracts have been offered since 2007 in Amsterdam or elsewhere in the Netherlands.

At the **Thredbo 12 conference**, limited attention was given to the service quality and patronage impacts of competitive tendering, and less attention to the role and impacts of incentives in service enhancement. The coverage of the topic was divided between two workshops: workshop 1: 'Performance measurement and compliance' (Nelson & Merkert, 2013) and workshop 4: 'Designing contracts/concessions: what has worked and what has not and why?' (Bray & Mulley, 2013). In workshop 1, one of the key themes specified was: 'What are the incentives to operators and authorities to deliver a quality service?' While there was considerable discussion on this theme, no clear conclusions appeared to emerge, probably reflecting the wide range of papers presented and the diversity of views among workshop participants.

Workshop 4 also addressed the role of contract incentives, stating that the lack of incentives and penalties was one of the three main factors considered most detrimental to effective contracts: "The absence of features that incentivise operators to serve the outcomes desired by authorities will substantially weaken the likelihood of these outcomes being achieved. A complementary need is for operators to have the freedom to manage their activities so that they can seek to gain the incentives and avoid the penalties. The absence of

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