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Delivering Value for Money  
to Government through  
Efficient and Effective  
Public Transit Service  
Continuity: Some Thoughts

By

David A Hensher

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**ABSTRACT:** This paper documents some thoughts on the reform agenda in public transit that is occurring throughout the world. The specific focus is on a growing commitment to competitive regulation through competitive tendering, and the efforts by a few governments (notably in Australia) to take control of the tangible assets used by private operators as a mechanism to exercise the opportunity, if so taken, to put services out to competitive tender. We review the theoretical arguments and the empirical evidence on contracting regimes and asset ownership, and the role that government and operator might play in a setting in which building trusting and collaborative partnerships has merit in delivering services that are in the main funded from the public purse.

**KEY WORDS:** *Public transit, competition, tendering, asset ownership, efficiency, trusting partnerships, incomplete contracts, contractible quality, non-contractible quality*

**AUTHORS:** David A Hensher

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**CONTACT:** Institute of Transport and Logistics Studies **(C37)**  
An Australian Key Centre  
The University of Sydney NSW 2006 Australia

Telephone: +61 9351 0071  
Facsimile: +61 9351 0088  
E-mail: [itlsinfo@itls.usyd.edu.au](mailto:itlsinfo@itls.usyd.edu.au)  
Internet: <http://www.itls.usyd.edu.au>

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## 1. Introduction

This paper documents some thoughts on the reform agenda in public transit that is occurring throughout the world. The specific focus is on the commitment to competitive regulation through competitive tendering, and the interest by a few governments to control the tangible assets used by private operators as a mechanism to exercise the opportunity if so desired to put previously private sector protected services out to competitive tender. The views presented herein are in part based on knowledge of what ensued in the Metropolitan Reform process in Sydney leading to the signing of contracts in 2005 and the focus of the 2006-07 reform program outside of the Sydney metropolitan area; and an appreciation of the evidence from around the world presented at the International Conference Series on Competition and Ownership of Land Passenger Transport, known as the Thredbo series (see Hensher 2005)<sup>1</sup>, as many jurisdictions have undertaken wide ranging reform of their public transport systems, especially bus and coach. The Thredbo series provides a rich array of real world experiences as many countries test the full gamut of procurement and funding models (Macario 2001, Norheim and Longva 2005, Preston 2005, Preston and van de Velde 2002, Viegas and Macario 2001, van de Velde 2001, Van de Velde and Pruijboom 2003 and van de Velde *et al.* 2005).

We review theoretical arguments and empirical evidence on contracting regimes and asset ownership, and the role that government and operator might play in a setting in which building trusting and collaborative partnerships, within the context of formal procurement contracts, has merit in delivering services that are in the main funded from the public purse. The focus on cost efficiency and quality (or service effectiveness), and incentives to innovate as contractible and non-contractible elements, is key to the arguments.

### *1.1 The Indisputable Strategic Objective of Government on behalf of Society*

The broad objective(s) of government might best be summarised as follows: to provide a *good quality, integrated and continually improving* transit service for a *fair price*, with *reasonable return to operators that gives value for money under a regime of continuity*. From an operator's point of view, there should be no argument with this, provided there is industry buy-in and confidence in the procurement and continuing funding procedures.

There are a lot of valuable signposts in this objective, focused on securing appropriate services for the community in the context of a *trusting partnership* between all stakeholders (especially the government and the service provider), mindful of the social and commercial imperatives that each stakeholder works towards, given each parties legally sanctioned contractual obligations. There is a strong recognition from the outset that the service provider (i.e., transit business) is a crucial input, but only one input, into the overall obligations of government to provide mobility and accessibility services to the community, that are consistent with value for money per taxpayer dollar.

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<sup>1</sup> Co-founded by David Hensher and the late Professor Michael Beesley, and now recognised globally as the premier conference on competition and ownership of land passenger transport.

Given the requirements to meet social obligations, there is the risk that *social obligation* gets misinterpreted as either delivering value for money (a popular phrase, defined so often as doing more with less), rather than the preferred definition (globally) of *maximizing accessibility or net social benefit per dollar of government funding*<sup>2</sup>. The latter is useful under all contractual arrangements since government still has substantial investment in the infrastructure and demand management of the system. Underlying this focus is recognition that building an efficient and effective supply chain of stakeholders in public transit provision requires a foundation strong in trust, with its distinct commitment to cooperation and collaboration. As far as we can tell, many jurisdictions have a way to go in connecting through a trust chain.

## 1.2 Trust, Cooperation and Collaboration

*Trust* is the expectation that arises within a community of regular, honest and cooperative behaviour, based on commonly shared norms, on the part of that community. There are two types of trust: thick and thin trust. Thick trust should be present when there is a set of complex intertwined relations covering many aspects of economic and social life. Thin trust involves more limited contractual relations; such as an exchange relationship in the market. *Cooperation* and *collaboration* are distinct levels of relationship (Golicic *et al.* 2003). Collaboration, which is a stronger magnitude than cooperation, involves decision making in an active capacity whilst sharing key information. Collaboration requires trust, integrity and reliability, which can help lead the relationship to grow stronger over time.

*Repetition* leads to cooperation and collaboration and the by-product is trust. The evidence can be attributed to Professor Robert Oumann, a game theorist, who was awarded the 2005 Nobel Prize in Economics. Oumann showed in his writings that repeated games, compared to a single game, leads to greater cooperation. An interpretation of this in the transit context, given the focus on efficient and effective continuity in the context of *incomplete* contracts, is the growing of partnership by building on relationships; something that is arguably relatively limiting with competitive tendering (especially short term contracts such as 5-7 years<sup>3</sup>), but reinforcing through negotiated PBC's with incumbents and rules for non-compliance. Another way of viewing this is to think of it as "ironing out the wrinkles" over time and moving forward with continuity in the delivery of efficient and effective services. Importantly, the trust building paradigm must exist within a framework that has clarity on the obligations under legal contracts; however we will argue below that it is the incompleteness of such contracts that makes for the case for combining trust and legal contracting obligations, rather than promoting one or the other<sup>4</sup>.

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<sup>2</sup> This phrasing avoids the ambiguity of subsidy since government is also investing in the system.

<sup>3</sup> We often are told that the incumbent tends to win back the tendered contract. If this is the case then why are we undertaking tendering instead of seeking out efficient solutions through negotiated performance-based contracts (see Hensher and Houghton 2004, 2005a)?

<sup>4</sup> It is true that there are plenty of examples of mistrust that lead a loss of performance (e.g., aspects of the UK rail regulatory regime and the operator collusion that occurred in France – see Yvrande-Billon, A. (2006) – the latter linked to lack of expertise within the public authorities); however this should not be read that the 'solution' lies in competitive tendering, but in a better aligned trust chain conditioned on clear contractual obligations, incentives and non-compliant conditions.

This links to the broader literature of transactions economics and costs, and property rights and the boundaries of a business, offers ideas on a range of contractual mechanisms for buying transparency, efficiency and effectiveness.

### *1.3 Supporting efficiency and effectiveness through the life of a contract (and not at the time of tendering)*

The focus of any reform process must be on (cost) *efficiency* and (service) *effectiveness*, promoting *continuously uniform* competitive pressure through the life of a contract, with competitive tendering only one of a number of options, but an appropriate instrument for non-compliance under all regimes. In presenting the arguments, it is important to recognise that some elements of the efficiency-effectiveness dyad will be contractible, but many may be non-contractible; and it is often through the non-contractible dimension that we see innovation and benefit that is typically delivered better by private ownership than by government ownership of tangible and intangible assets.

Transaction cost economics (TCE) provides a relevant framework within which to develop the arguments for the roles of the *market* and *governance* which is so central to the reform process. A transaction occurs when one stage of activity finishes and another begins. With a well-working interface, these transfers occur smoothly. TCE supplants the usual preoccupation with technology and distribution costs, with an examination of the comparative costs of planning, adapting and monitoring task completion under alternative governance structures. It is as much about transactions within a single entity (e.g., one transit operator, a regulator) as it is between entities. It pays special attention to information signalling and processing and its asymmetry throughout the system (i.e., where the expertise really resides), bounded rationality (i.e., the ability to process a limited amount of information), hazard, opportunism and asset specificity (Williamson 1979).

Importantly for any ongoing reform process, transaction cost economics maintains that it is *impossible* to concentrate all of the relevant bargaining action at the ex ante contracting stage (which is what competitive tendering essentially does; especially in the presence of inadequate ex post monitoring). Instead bargaining is pervasive, in which case the institutions of private ordering and the study of contracting in its entirety take on critical economic significance. Performance-based contracts (PBCs), which can be negotiated under an unambiguous condition of expected performance, align with this view (Hensher and Houghton 2004, 2005) since the market operates actively throughout the contract period, under signals delivered through incentive payments and benchmarked efficiency – or what is known as yardstick competition. The behavioural attributes of human agents, whereby conditions of bounded rationality (‘doing what each party is best at’ i.e., specialisation) and opportunism (e.g., ‘looking for appropriate opportunities to grow patronage’) are joined, and the complex attributes of transaction with special reference to the condition of asset specificity, are responsible for this condition (Williamson 1987, 178). *Alignment of incentives is central to efficient contracts and property rights.* The latter emphasises that ownership matters, with rights of ownership of an asset (tangible and intangible assets) defined as the rights to use the asset, the right to appropriate returns from the asset, and the right to change the form and/or substance of an asset.

Transaction cost economics acknowledges merit in both monopoly and efficient risk-bearing approaches to contracting. It insists, however, that efficiency and effectiveness purposes are sometimes served by restraints on trade (Williamson 1987, 188). This statement is crucial to the discussion, because it puts forth the argument that examination of the underlying attributes of transactions discloses that restraints on trade can help to safeguard the integrity of transactions when transit operator-specific investments are at hazard, with downside consequences on service delivery.

#### *1.4 Asset Ownership – a key issue linked to the boundaries of a transit operator's business*

The relationship between asset ownership and incentives is an important kernel of the debate in some reform processes. What we are seeing in Sydney in particular, where assets are currently owned by private transit operators<sup>5</sup> is a position of progressively relinquishing ownership of tangible assets (vehicles in particular) through new financial arrangements when assets are being replaced, opening up in time, (potentially) to competitive tendering. If an incumbent operator is cost efficient and service quality effective, what does this do to incentives to invest and grow the business<sup>6</sup>? And what incentives are provided by competitively tendered management contracts, as for example in Adelaide and Perth in Australia (Hensher and Wallis 2005), where one is starting with a 'clean slate' in the sense of no initial private incumbents?<sup>7</sup>

Transaction cost economics (Williamson, 1985) can assist in addressing the question of what determines business boundaries. The basic tenets of the property rights framework can be usefully discussed in terms of an arrangement between a principal (i.e., the government) and an agent (i.e., the transit operator) hired to accomplish some task. As principal-agent theory has long argued, appropriate incentives must be provided for the agent. In general, because the principal cannot directly measure the effort level of the agent, incentives need to be provided by making the agent's remuneration partially contingent on benchmarked performance. An example is the incentive payment that a transit operator might receive from improved service quality. A basic conclusion of the theory is that agency problems can be mitigated, and sometimes even solved, by offering the agent a sufficient share of the output (i.e., rewards) produced, commensurate with the risks they take and an agreed margin.

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<sup>5</sup> Often with assumed Grandfather's rights.

<sup>6</sup> I am reminded of what happens when a private plumber as a service provider services one's hot water system. One does not argue that the equipment he uses, which I am paying for in part, belongs to me. It is capitalized in the price charged and he keeps the equipment. So why should not the cost of a transit service provided by an operator be treated the same (as the cost of providing a service), with the service charged back to the government through a funding model? Indeed even if one goes to competitive tendering, this should apply.

<sup>7</sup> The Adelaide and Perth success under competitively tendered management contracts appears to be due in the main to the patronage and service incentive payment schemes and not tendering per se (except in the initial round of moving from public to private service provision). It is also noteworthy in a growing number of countries that the average number of bidders is declining. For example, the average number of bids per route tender in London is currently 3 but was 4.5 in the late 1990s. One would expect more interest in less risky route-based contracts. For area wide contracts in New Zealand the average number of bids is 1.2 with the incumbent winning nearly 90 percent of the contracts.

However, problems arise when it is not possible to specify clear performance measures in advance (i.e., a poorly structured contract that does not build in clear performance benchmarks and agreed variations). For instance, the government may have insufficient information to pre-specify the decision-making activities of the transit operator; after all, that's presumably what they were hired to do. The solution prescribed by agency theory calls for a *comprehensive contract* that considers the marginal value of all possible activities of the transit operator and the marginal cost to the transit operator in all possible states of the world, such as innovative improvements, and the ability of government to commit to pay the appropriate compensation for each outcome (Hart and Holmstrom, 1987). Lacking such a comprehensive contract, incentives, and therefore production, will be sub-optimal.

Rich economic theory has emerged in recent years that combines the insights of transaction cost economics on the importance of bounded rationality and contracting costs with the rigour of agency theory. The theory focuses on the way different structures assign property rights to resolve the issues that arise when contracts are incomplete. This provides a basis for defining different organisational structures by the ownership and control of key assets. Grossman, Hart and Moore (GHM - Grossman and Hart, 1986; Hart and Moore, 1990) pioneered this approach, and its relationship to earlier approaches has been lucidly documented by Hart (1989).

A key tenet of the GHM approach is that, unlike the contracts typically analysed by agency theory, real world contracts are almost always "incomplete", in the sense that there are inevitably some circumstances or contingencies that are left out of the contract, because they were either unforeseen or simply too complex and/or expensive to enumerate in sufficient detail. Schliefer (1998) broadly describes all non-contractible elements as "quality", which in the transit case may include innovation, planning expertise, driver attitude and manners, vehicle cleanliness, etc. Incompleteness is a natural consequence of the bounded rationality of the parties.

Each of the parties will have certain rights under the contract, but its incompleteness means that there will remain some "residual rights" that are not specified in the contract. *When these rights pertain to the use of an asset*, the institution which allocates these residual rights of control is referred to as property ownership. All rights to the asset not expressly assigned in the contract accrue to the person called the "owner" of the asset. For example, if a bus purchase contract says nothing about its maintenance protocol, then it is the transit owner who retains the right to decide on the level of investment (which may not be optimal).

The allocation of the residual rights of control will have an important effect on the bargaining position of the parties to the contract after they have made investments in their relationship. In the absence of comprehensive contracts, property rights largely determine which ex post bargaining positions will prevail. What we are seeing in Sydney is a very explicit allocation of property rights moving towards Government. Is this likely to be a trend or has Sydney got it wrong? In particular, a party that owns at least some of the investment in the asset will be in a position to reap at least some of benefits from the relationship that were not explicitly allocated in the contract, by threatening to withhold the assets otherwise<sup>8</sup>. A party who does not control any assets must rely on the letter of the

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<sup>8</sup> Operators in Sydney have to apply to the Government for permission to purchase new vehicles, and the Government will decide if this is supported. The operator will then offer quotes from suppliers, and the Government will choose one and provide funding over the life of the asset. The asset life is government determined, in contrast to

contract or the goodwill of the asset owner to share in the output. As a result, an agent who controls no assets risks going unpaid for all effort not explicitly described in a contract<sup>9</sup>. In contrast, the agent who controls assets that are essential to the relationship can "veto" any allocation of the residual rewards not considered sufficiently favourable. Thus, the ownership of assets and the receipt of any residual income stream go hand in hand.

Ownership matters when an organisation makes specific investments (Williamson 1975, 1985) and where contract incompleteness leads to distorted ex ante investments (Grossman and Hart, 1986). Grossman and Hart show that the agent whose ex ante investment is 'essential' to making the most productive use of an asset should own it. Hart and Moore (1990) suggest that an asset should be owned by an agent, or a coalition containing the agent, who is *indispensable* to the asset (i.e. without their participation the asset has no effect on the marginal benefit of others). They further argue that an agent who is *dispensable* should have no ownership rights over assets.

Efficient ownership would seem to depend both on where the investment is taking place and which is the indispensable party. Could there be a case for Government ownership of the physical assets if Government is either the party that undertakes all 'essential' investment (with operators therefore dispensable) or the party viewed as indispensable? Schliefer (1998, 137) point out that GMH theory does not model Government participation specifically, and goes on to demonstrate that Government ownership is rarely the most efficient at providing 'essential' investment in non-contractible elements. Public managers have relatively weak incentives to make 'essential' investments (particularly innovation) as they are not the owner and will receive only a fraction of the returns. Schliefer (1998, 138) argues that the question of ownership in the Government context is rather one of whether high-powered (market) incentives are appropriate to the procurement context.

Schliefer (1998) outlines a small subset of cases where low-powered incentives (provided by Government ownership), such as legal rules on compensation of bureaucrats, complexity of government objectives and public setting rules (which reduce the return to public managers), are more appropriate when private ownership would otherwise lead to excessive cost reduction<sup>10</sup>, to the detriment of non-contractible quality. Private ownership

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allowing an operator to determine the write off period according to the financial state of their business. A related matter that arises when determining the cost of capital is the opportunity that exists for either party to recognise ways in which one party might have a comparative advantage in the ability to raise capital to fund assets. This will depend on the performance rating of a specific government (AAA etc.), the taxation regimes in place for private and public sector loans and interest rate cycles. Importantly, the source of funds can be treated in such a way that the party best placed to get the most attractive financial deal for the sector can then make the assets available to the operator (unless the operator is the best financier), at an agreed price, without having ownership transfer along the lines being implemented in Sydney.

<sup>9</sup> Hart and Moore (1990) show that this provides incentives to act in the asset owner's interests.

<sup>10</sup> For example, when a private operator does not invest in service planning and employs lower quality tangible and intangible assets. The 'power' of incentives must be looked at in 2 dimensions: Current income - Flat fee (lowest) through to entirely performance-based (highest); and Future income - No chance of losing contract (lowest) through to certainty that contract will be lost if performance is in any way sub-standard (highest). This is more complicated where bonuses or contract renewal depend on the subjective assessment of the principal. These incentives are generally considered to be relatively low-powered (if performance criteria are unknown they are ignored, although you would expect the agent to have some idea). We certainly see subjective assessment in the Sydney contracts (e.g. operators are required to "work cooperatively with neighbouring service providers" - how is this assessed?). In the bus context, government ownership provides low powered incentives as there is little threat of termination and



is, however, generally considered superior even where there is strong incentive to sacrifice quality for cost savings for three reasons: gains from innovation through private ownership may outweigh the negative effects of cost pressures; where there is competition (especially with the car), demand influences quality as well as costs; where there are repeat transactions the reputational effect tends to negate cost pressures. Schliefer does not consider public transit as a case requiring low-powered incentives through Government ownership. High-powered incentives embedded in Performance Based Contracts (PBC's, see Hensher and Houghton 2005) such as patronage and service incentives can provide the incentives for an efficient outcome.

Our focus has been on physical assets (e.g., vehicles) despite the fact that 'essential', specific investment in the transit industry is more likely to involve intangible human assets (e.g., information, experience, skills). Simon (1982) has long argued for a greater emphasis on these intangible assets:

“My central theme has been that the main productive resource in an economy are programs -- skills, if you prefer -- that in the past have been partly frozen into the design of machines, but largely stored in the minds of men.”

Given the continuing information explosion, the role of "intellectual capital" is becoming more significant. As Drucker (1992) put it:

In this society, knowledge is *the* primary resource for individuals and for the economy overall. Land, labor and capital -- the economist's traditional factors of production -- do not disappear, but they become secondary.

Hart and Moore (1990) show that control over a physical asset can lead indirectly to control over human assets, where the owner exercises their ability to exclude others from the use of that asset. The owners of the human assets are provided with incentive to act in the owner's interest in order to make use of their asset-specific, human investment. Schliefer (1998) emphasises, however, that Government ownership of any kind of asset is usually inefficient. Given the interdependence between tangible and intangible assets across the full spectrum of contractible and non-contractible activity, if you take the ownership of contractible tangible assets away from the private sector, we engender higher risks of malfunctioning (also see footnote 8), especially where there is a sizeable amount of non-contractible quality.

In summary, a specific asset should be owned by the organisation that can use it most productively. Importantly it is the interaction of contractibility with the need to provide incentives via asset ownership that defines the costs and benefits of market coordination. Government ownership is rarely efficient, and private ownership with appropriate performance incentives can provide the least distortion to ex ante investment incentives.

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current income is often not related to performance. For private operators, examples of contractual elements that contribute to the overall 'power' of the contract include: contract length (longer contract, lower powered), relative size of performance payments (less performance-based, lower powered), KPIs and other explicit measures of performance (less extensive, lower powered), contract renewal clauses (automatic renewal, lower powered), clauses relating to the transfer of private information (easier to hide poor performance, lower powered), clauses relating to termination/replacement with another operator (harder for principal to terminate contract, lower powered).

## 2. Conclusions

This paper offers some alternative perspectives on the role that government and operator might play in the future in the delivery of transit services. In particular, we are of the view that efficient and effective services can be provided under a carefully crafted regulatory framework that provides appropriate competitive pressures which does not necessarily require competitive tendering to deliver the appropriate outcomes.

This can be achieved under a strong continuing trusting partnership through negotiated performance-based partnerships that have strict rules on commercial relationships and deliverables. As part of a program of reform to achieve these ideals, the matter of property rights and incentives form the backbone of establishing a framework capable of meeting the obligations of all parties.

It is possible to build a quality trusting partnership with well defined commercial (contracted) obligations; however the contracting process will always be incomplete in practice, and hence there is a need to recognise that the contribution of each party in a service delivery chain requires close cooperation and collaboration. Continuity of *compliant* contracts is one important way of ensuring this.

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