

Good Practice Public Transport Concessions: the Cases of London and Melbourne

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Discussion Paper 2021 • 10

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Discussion Paper No. 2021-10

Prepared for the Working Group on
Public Transport Market Organisation and
Innovation (2016)

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February 2021

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Acknowledgements

The authors would like to thank Professor Peter White, Emeritus Professor of Public Transport Systems at the University of Westminster, United Kingdom for his expert opinion and input to earlier drafts of this paper. The authors also interviewed those involved in contracting out services as well as contractors in both London and Melbourne. Their time and inputs to this research are much appreciated.

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Introduction

Sustained global urban population growth¹, resulting increases in urban traffic congestion, environmental transport pollution and a decline in the quality of urban lifestyles in cities have driven a global desire to enhance and grow urban public transport systems. A major barrier to developing urban public transport is the effectiveness and efficiency with which state run legacy systems are managed; the traditional model of government owned and operated public transport systems have been found to possess inherent financial and market development constraints that can limit innovation and escalate costs (van de Velde and Karl, 2018). Rising costs and declining service quality have thus led to a growing interest in introducing cost competition and private sector experience in market development in public transport.

Considerable experience in designing, implementing, managing and renewing contracts for the delivery of public transport service by private providers has been accumulated in a small number of jurisdictions which were among the earliest adopters of this model in the 1980s and 1990s. This includes London, England with its comprehensive bus tendering and contracting reforms started in 1985 and Melbourne, Australia with its franchising system for train and tram services commencing in 1999. Both cities have evolved and refined these reforms from lessons learned. This paper reviews the experiences in implementing and refining public transport concessions using two relatively successful implementations of public transport concessions for rail and trams in Melbourne and buses in London. It is based on a review of the published literature and interviews with key personnel in both cities. The paper highlights key lessons learned through these experiences and the responses adopted in terms of the design and management of public transport concessions. The paper identifies broadly applicable good practices in the design of concessions for the delivery of public transport services based on these experiences.

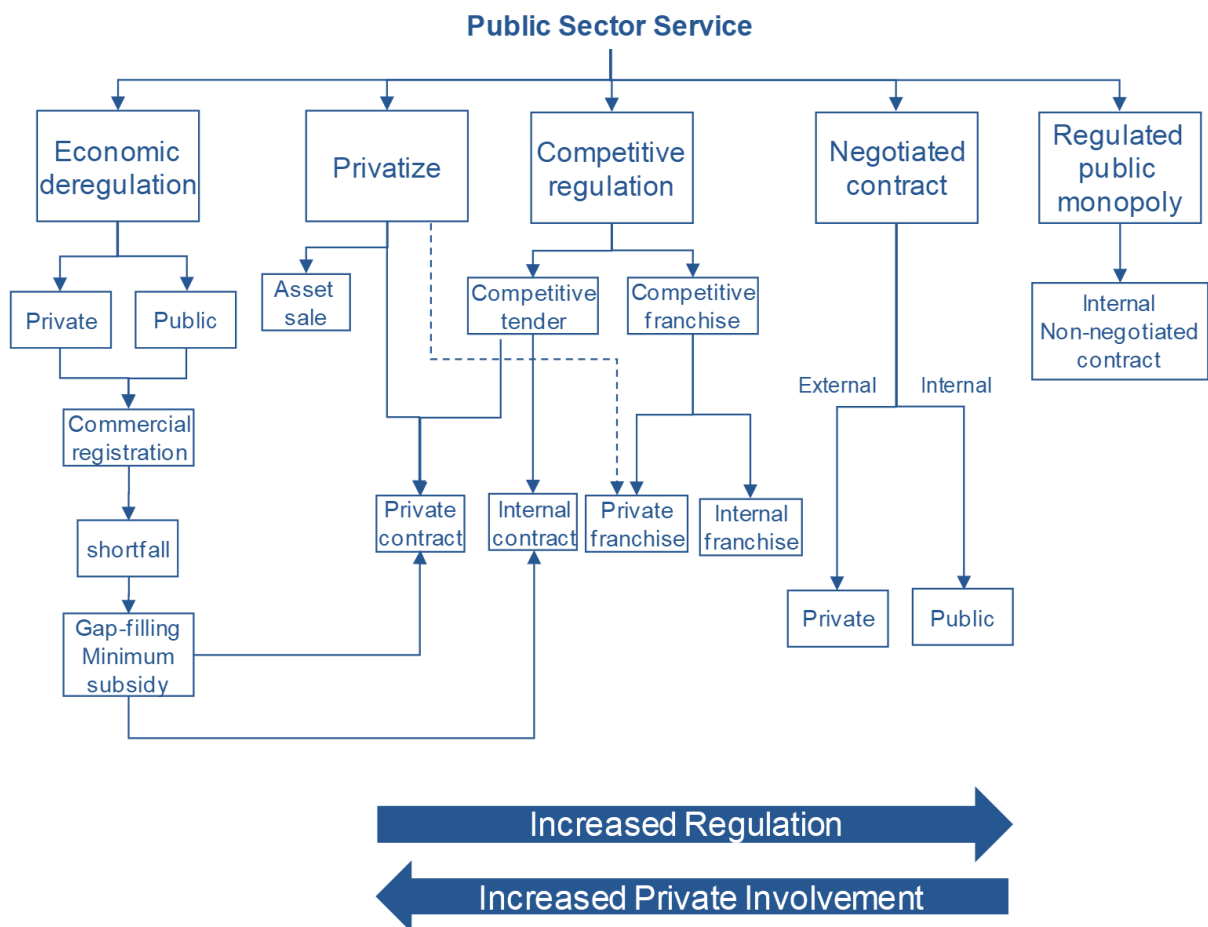
Following this introduction, the next section of the paper outlines a framework describing the ranges of models whereby private sector involvement can be provided. This is followed by a description of the events involving rail franchising in Melbourne, Australia. Bus tendering experience in London is then described. An assessment of lessons learned from both Melbourne and London is then outlined. The paper concludes with a summary of key findings and a synthesis of good practices for contracting/franchising.

Private sector involvement in public transport

The introduction of competition into public transport has taken place across different modes, cities, countries and continents from very different contexts. In general, this has involved a transition from conventional government owned and operated control to a range of private sector involvement model variations. Figure 1 presents a typology of these arrangements (Currie, 2016).

Transitions to more private sector involvement can be undertaken in part, or in whole, in a spectrum of activity from a regulated public monopoly (small private involvement) to full deregulation (high private sector involvement). Contracting is an umbrella term for any agreement to provide transport services, which can occur at any point along the spectrum. The key distinction is risk allocation and ownership. Generally, as private ownership increases, so does risk and responsibility, but a *concessions* contract can be designed in such a way that risk can be placed on the operator while still retaining public ownership. Franchising is a type of concession where some level of both partial ownership and risk are imparted upon the operator.

Figure 1. The Spectrum of models of private sector involvement in public ownership



The London bus and Melbourne rail franchise case studies examined in this paper explore variants of the competitive regulation model shown at the centre of Figure 1.

In both London and Melbourne, regulatory reform has also occurred for other public transport modes in the case study cities (i.e. rail in London and bus in Melbourne). However, this paper specifically focuses on bus contracting in London because rail reforms are not isolated to London, but are also part of a range and mix of reforms associated with reinvestment, modernisation, and expansion of rail in the United Kingdom. Bus contracting in London presents a more defined assessment area for the case study of contracting reform. Similarly for Melbourne, rail reforms (specifically metro trains and trams) have been much larger

and more transformative, providing a more substantive and easier to assess experience than those in the bus sector in Melbourne.

The case studies reviewed in this paper also focus on operations rather than infrastructure development and service expansion. Hence private sector measures such as design build operate manage (DBOM) and associated infrastructure development contracting types are not a focus of this paper.

Melbourne rail franchising experience

The public transport system in Melbourne prior to 1999 was a public monopoly of bus, tram and rail services. In the 1990s, the newly elected liberal government sought to achieve substantial cost savings by eliminating inefficiencies, enacting sharp cuts and renegotiating union agreements. By 1998, a number of unproductive rail lines had been closed, Melbourne's publicly operated bus operator had been privatised and public transport staffing was cut in half (Auditor-General of Victoria, 1998). With such successful cost savings achieved, the stage was set for privatisation where further advances were sought.

In 1999, Melbourne adopted a performance-based franchising model for the concession of its public rail and tram transport systems. The model has stumbled and evolved over the years, providing an instructive case study with lessons learned and is currently in its fourth iteration of franchise contracts. The following subsections provide a chronological background of these four franchise model stages.

First franchise model (1999-2004)

Long before 1999, the Liberal (right-wing) government sought to reduce costs and improve services by reintroducing competition to public transport. However, it was a prominent public transport labour strike in 1997 that largely provided the fanfare and justification for privatisation of public transport to proceed, with reform officially occurring in 1999. The resulting franchising model was developed (Williams, Greig and Wallis, 2005):

- **Yardstick (or peer) competition:** Two tram and two train operators were formed. Each was responsible for half of the respective networks and they were vertically integrated with track maintenance and operations responsibilities within the respective companies. The intention was to retain competitive pressures while still providing manageable coordinated high-frequency urban operations.
- **Rolling stock:** Successful bidders were required to lease existing rolling stock and to purchase new stock.
- **Long terms:** A relatively long-term 15-year franchise length, due to substantial rolling stock investment.
- **Infrastructure standards:** A condition index was developed to measure the standard for infrastructure (particularly near the end of the franchise so that a hand over of adequate quality infrastructure was made).

- **Performance standards:** An operation performance regime was instigated to penalise bad performance and reward good. This covered punctuality and reliability.
- **Risk:** All risks were assigned to the operator other than sovereign (policy) risks and latent defects in infrastructure.
- **Fare structure:** Existing fare structures were retained and updated using the consumer price index.
- **Level of service standards:** A specified level of service (i.e. the volume of vehicle-kilometres supplied) was set.

The United Kingdom based National Express Group won a rail and a tram franchise while international companies Connex and TransDev won the remaining rail and tram operations respectively.

Key short-term impacts were:

- **Reduced costs:** Savings of some AUD 1.8 billion (1999) were announced, including a substantial reduction in annual government operating subsidies to almost zero by the end of the franchise period. The average costs were 24% lower than under public sector operation (Greig, 2002).
- **Increased ridership:** Growth of 40–84% over 10–15 years was *expected*.
- **Contractual disputes:** A range of contractual disputes emerged surrounding revenue sharing and maintenance disagreements.

As one author puts it: “In short the government made a financial gain, shed most of the operating cost, revenue and investment risks and provided for better services” (Greig, 2002: 8).

The initial outcomes of the competitive tendering process for the first franchises were very impressive, but short lived. By 2002 operators became entangled in contractual disputes, which were largely caused by (Currie, 2009):

- **Unrealistic expectations:** Bidders were overly optimistic about revenue growth and cost-cutting expectations. They failed to have fully appreciated the extent of the historical reductions in costs already made since 1992. In addition, bidders seemed to have expected “European style” ridership growth, but Melbourne is largely a low-density, car-dependent city.
- **Contractual flaws:** While some innovative contract measures worked, others were difficult to implement in practice, e.g. the infrastructure condition index.
- **Revenue sharing:** The formula for splitting fare box revenue among the franchisees was complex and prone to disputes. Delays in the introduction of a planned magnetic swipe ticketing system compounded this problem.

These disputes eventually lead to a AUD 110² million payment for dispute settlement (Greig, 2002). By the end of 2002 a new Labour (left-wing) government was elected, which had initially opposed privatisation, and initiated a review of the franchising process. The government commenced negotiations for interim operating arrangements seeking to create stability in the system until further review. However, negotiations stalled and collapsed, eventuating in National Express withdrawing from its contract and forfeiting its performance bonds to the value of AUD 135 million (Department of Infrastructure, 2005) and a financial write-off for National Express estimated at AUD 300 million. In effect the first franchising round failed and a major franchisee walked away with substantial financial losses. The government had to find a solution since in effect no one was running a large share of the system and a solution needed to be found quickly.

Second franchise model (2004–2009)

A second franchising model was introduced in 2004. In general, it retained most elements of the first franchising model, such as vertical integration and the fixed, variable and performance incentive/penalty form of the contract payments. However, the new model incorporated the following changes to minimise the potential for conflict (Williams, Greig and Wallis, 2005) and to ensure a workable model prevailed:

- **Shorter terms:** With much of the rolling stock investment already taken place, the contract terms were shortened to 4.5 years to reduce revenue and construction risks on the operator, with possibility of an 18-month extension.
- **Single operator per mode:** Consolidation of the two tram and two train contracts into a single tram and a single train franchise with operations transferred to the remaining franchisees, TransDev and Connex.
- **Revenue sharing:** Fixed proportions of revenue sharing were set between both parties to ensure revenue stability and remove disputes.
- **Coordinating agency:** A single coordinating agency, Metlink, coordinated the functions of revenue collection and apportionment, ticketing and marketing for the operators and the government.
- **Maintenance and investment contracts:** Maintenance and investment in new infrastructure were based on a collaborative approach where plans and costs were agreed with the government.

In effect, an “open book” accounting system was put in place to ensure the government understood where funding was going and where it was needed. A form of partnership with shared understanding commenced to ensure there were fewer risks for both parties.

Third franchise model (2009–2017)

The terms of the second franchise agreements ended in 2009 and a new tendering round for a third franchise contract was offered. This model was largely the same as the previous in terms of structure, but with the following changes (Williams, Greig and Wallis, 2005):

- **Medium length contracts:** A contract period of 8 years with rollovers possible after that based on good performance for up to an additional 7 years.
- **Maintenance responsibilities:** Maintenance responsibilities were brought back under the control of the operator, but a generally “open partnership” model continued.
- **Broader performance measures:** A wider range and form of performance measures with rewards and penalties were developed for the third franchise model.

Both incumbent operators, Connex (Veolia – rail) and TransDev (tram) lost to new bidders during the competitive process for the new contracts. For rail, a consortium of Hong Kong’s MTR Corporation, Australia’s John Holland Group and the rail division of United Group Limited (UGL) won a new franchise called Metro Trains Melbourne (MTM). For trams, a partnership of international company Keolis and Australia’s Downer EDi formed a company called Keolis Downer to operate the Yarra Trams franchise.

It is interesting to note that this third model focused primarily on performance and reliability factors, whereas the previous two iterations were focused on cost savings and dispute mitigation. This played a major factor in the rail tendering process as Connex received relatively poor performance ratings and its

competitor, MTR, was highly promoted for its reliability performance. In the 5 years after the MTR-based franchise (MTM) took over, the following changes in performance occurred:

- **On-time performance:** Arrivals within five minutes of scheduled times increased from 86.5% (2009) to 92.8% (2013); a considerable improvement.
- **Train cancellations:** Train cancellation performance was largely unchanged.
- **Overall customer satisfaction:** Customer satisfaction of train services improved from 69% in 2009 to 77% in 2012 (Wallis Consulting Group, 2012).
- **Ridership:** Ridership experienced modest growth of 3% net increase from 2009/10 to 2012/13, which is considerably lower than the prior growth boom. This may also have been influenced by effects from the global financial crisis which occurred at this time.

Overloading, already a concern when the franchise started, was a major policy thrust of the early years. Between 2009/10 and 2013/14 rail-kilometres operated increased by 16% largely driven by government investment in new trains to increase peak capacity. Given ongoing overloading problems and the problems of fitting new trains into an already congested and ageing rail network, the MTM performance data shown above can be seen as a positive outcome.

Fourth franchise model (2017-2024)

The third contracting term ended in 2017, with all incumbent operators winning another seven-year rollover contract. The fourth round of franchises included what have been called tougher performance and maintenance standards (Carter, 2017):

- **Increased infrastructure performance:** AUD 10 million fine for failure to improve network infrastructure standards in first 2.5 years of contract.
- **Increased maintenance investment:** A 37% increase in maintenance and renewal investment will improve network infrastructure to minimise the number of faults on the system, reducing delays and cancellation.
- **Increased failure penalties:** If more than 50% of the network experiences cancellation or delays of 30 minutes or more within a 30-minute period, a penalty of up to AUD 700 000 will compensate passengers.
- **Penalties for poor operational practices:** Penalties are imposed to address poor operational practices, such as city-loop and station skipping, short running of trams, graffiti, poor communication and passenger information, and dirty trains and trams.

Starting in 2014, with the newly elected Labour government, a series of major infrastructure investments began largely in response to significant population growth in Melbourne over this period. This included the Level Crossing Removal programme (cost AUD 2.4 billion increased later to AUD 6 billion) and the Melbourne Metro Tunnel project (AUD 9-11 billion) both funded and managed by the Victorian Government. More recently, the Victorian Government announced an even larger project for a 90 kilometre suburban (metro) rail loop circling the city. None of these projects were on the table during the development of this franchise agreement, but would certainly impact franchised rail services both during and after construction.

At this time, MTM and partners presented an “unsolicited” proposal to introduce higher capacity trains, including advanced (in-cab) signalling and a series of rail crossing grade separations to the Dandenong and Pakenham lines, as a commercially-based package to further increase rail capacity. This package was accepted; an example of a non-franchise agreement contract expansion where contractor initiative is accepted by government.

These investments, notably the acceptance of the MTM unsolicited proposal provide evidence that commercialisation of rail planning and operations has become more palatable across the ideological spectrum. This is in contrast to the former Labour government which opposed franchising during the first franchise development. Now unsolicited proposals are being accepted from private franchises. Indeed it was the Labour government who could have re-nationalised the entire system after the first franchise failure; they did return part of the failed franchise to government operation (the small regional rail operation; V/Line passenger), but the majority of franchises remained in private operation. The same opportunity arose in 2009 at the end of the contracts, but again a Labour government kept the rail franchising model.

There has been some concern and criticism on the lack of transparency and details of the commercial packages not being made available to the public (Ashmore, Stone and Kirk, 2018). These investments also illustrate that rail franchising does not occur in isolation; contracts need to be flexible to enable significant changes to infrastructure and operations while the franchisee meets its contractual obligations.

London bus contracting experience

With concern over escalating costs of public transport, the newly elected Conservative (right-wing) government embarked on an effort to deregulate bus services in the United Kingdom in 1984. This resulted in a two-tier concessions model for inside and outside of London. Outside of London services were fully deregulated (within safety minimums) allowing for on-route “in-the-market” competition of bus operators. Inside London, contracted bus routes were coordinated by a central governing authority and operated by contracted companies competing for the rights to operate particular routes. The sequence of events for London bus contracting is outlined in the following sections.

Gross-cost contracts (1984-1993)

The London Regional Transport Act of 1984 required London Transport (the consolidated central government run public transport agency) to be broken up into subsidiaries. London Transport retained responsibility for route planning, but eventually set up 13 subsidiaries. Key features of the first contracting model were:

- **Gross-cost contracts:** A fixed-fee (gross-cost) contract was adopted. This means the authority took any risk should ridership fall, but also would be rewarded if revenue rose. It also reduced risks for the private sector regarding changes in the market (and revenue) for travel³.
- **Central planning:** Route planning remained the responsibility of London Transport.

- **Risk:** Revenue risk was placed on the public sector since operators were paid a fixed fee.
- **Government bidder:** London Buses Limited was created as a former government operator, but it was required, over a period of several years, to compete with private bidders to win routes in a staged programme.
- **Service levels/fares:** London Regional Transport retained control of fare setting and also required specified service levels on each route.

This first model produced substantial initial savings, but resulted in some loss in service quality⁴ with the main operator incentive being cost cutting. Outcomes from this first model are as follows:

- **Reduced costs:** An average 25% reduction in operating costs by 1993, which was largely associated with a reduction in staffing (Kennedy, 1995a; Kennedy 1995b; Matthews, Bristow and Nash, 2001).
- **Stable ridership:** Ridership in London remained relatively stable during this period (Rowney and Straw, 2014).
- **Reduced service quality:** Without any performance incentives, cost reduction was the primary incentive, resulting in service quality falling over time (White, 2018).
- **Problematic management:** London Regional Transport staff also stumbled frequently in procuring and managing contracts, a practice they were unaccustomed with (Eno Center for Transportation and TransitCenter, 2017).
- **Weakened unions:** Unions lost collective bargaining power to negotiate with the authority, but instead were required to negotiate with the individual private companies.

Net-cost contracts (1993-1998)

To improve service quality, London Regional Transport changed its approach to a net-cost contract model. In this model, revenue risk is assigned to the operators to incentivise operators to provide better service for financial gain. Key features of the 1993 reforms of bus contracting included:

- **Net-cost contracting:** London Transport paid the operator a subsidy and operators retained the cash fares. Fares paid for with multi-ride passes were distributed among operators based on passenger-volume estimates using passenger surveys undertaken by London Regional Transport.
- **Risk:** Revenue risk of ridership fall is placed on the operator as is the potential for revenue growth if ridership can be encouraged to grow.
- **Service levels/fares:** These, as previously, were determined by the authority.

The second model did not produce any significant improvement in service quality since net-revenue incentives were found, in practice, to only cover a small portion of operating costs compared to contract payments and cost cutting. The outcomes of this second model are as follows:

- **Reduced costs:** Unit costs were further reduced; a study found that for the whole period from 1985 (prior to net-cost contracts) to 2000 (including net-cost contracts) costs were reduced by approximately 40-45% (Matthews, Bristow and Nash, 2001; White, 2018).

- **Reduced service quality:** Service quality did not improve suggesting cost cutting remained the primary incentive. Low staff wages and poor conditions affected recruitment in the industry and staff turnover increased⁵.
- **Fare increases:** Fares increased and hence subsidy was reduced; this is not a contracting issue since the authority determined fare levels. It is believed that lower costs were the main factor in reducing subsidy (White, 2018).

Unfortunately, this model also failed to address service quality because in practice contracts acted to reward cost cutting. Operators had little incentive to improve service levels since fares were a small proportion of costs and fare levels and service levels were set by the authority. Operators therefore focused on providing cheap service to a captive market (i.e. people who did not have many alternatives), rather than providing high-quality service (Eno Center for Transportation and TransitCenter, 2017). As a result, quality of service deteriorated or was at least static, performance targets were not met, and little was invested in updating or improving buses (Transport for London, 2015). It was clear that another reform of bus contracting was needed.

Performance bonus model and authority restructuring (1998-present)

The Labour Party was elected to run the national government in 1997 and sought to bring back more local government roles in overseeing London's public transport service. A return of transport to full public operation was not considered, but instead a restructured London authority was implemented in 2000, when London Regional Transport was replaced by Transport for London (TfL). At around the same time a democratically-elected Greater London Authority filled a gap left since the abolition of the previous Greater London Council in 1986. TfL was chaired by the directly-elected Mayor of London, with responsibility for overseeing buses, light rail, overground rail, underground rail and other transport policy matters (e.g. taxis) (Matthews, Bristow and Nash, 2001). Key features of the 1998 reforms of bus contracting included:

- **Integrated responsibility:** TfL not only acts as a central planning body for London's bus and rail systems, but also has the Mayor of London as its official chairman. This restructuring provides a link between policy makers (local and national) and transport, allowing for complementary policies and management to be developed (Transport for London, 2015).
- **Gross cost *with* quality-incentive contracts:** Quality-incentive contracts awarded operators with bonuses for exceeding agreed-upon targets and penalties for not meeting them. Targets were based on measurement of passenger Excess Waiting Time (EWT) for major routes (which measures delay caused by poor reliability).
- **Staggered tendering schedule:** The tendering of London's 675 bus routes is staggered to provide a more manageable and ongoing tendering process. Approximately one-sixth of the routes are up for tendering every year⁶. This measure went some way to recognising the scale of the task of managing bus contracting in London.
- **Contract length:** Contract length was set at five years, with an option to extend for two additional years based on good (above specified) performance. This is another incentive for contractors to improve performance.

- **Ongoing audit:** TfL conducts ongoing reliability, perception, customer satisfaction and driver performance surveys, including “mystery traveller” audits (where a researcher poses as a customer to assess service quality).
- **Service levels/fares:** These are again specified by the authority.

This third iteration has generally been considered a success, with the following outcomes:

- **Increased ridership:** Bus ridership in London was reported to have increased by nearly 90-100% since 2000 (Rowney and Straw, 2014). Latest DfT data show 1 347 million trips in 2000-01, peaking at 2 384 million in 2014-15 (+77%) then falling to 2 225 million in 2017-18 (Department for Transport 2019).
- **Improved service quality:** reliability measures have shown improvement despite growing traffic congestion and road disruptions. Overall service excess waiting time reduced by about 50% (Eno Center for Transportation and TransitCenter, 2017). Investment to achieve this (e.g. bus lanes) was mainly driven by authority policy investment to cater for the needs of a growing city.
- **Improved satisfaction:** Customer satisfaction levels improved from 77% to 85% between 2003 and 2014 (Iossa and Waterson, 2019).
- **Increased costs:** Unit costs have risen, but are still below 1986 levels. This is largely attributable to wage increases due to cost of living rises in London (White, 2018)⁷.
- **Subsidy increases:** Total subsidy has also risen sharply due to service expansion, an increase in fare concession allowances for older and younger travellers and more recently from capping of fares⁸.
- **Fare increases:** Fares initially decreased until 2003, but have since risen 30% (in real terms) since 2000 (Rowney and Straw, 2014). Fares are set by the authority hence this issue is one of revenue governance rather than contracting outcomes.

A major feature of the current London bus contracting model is the high and continuous volume of contracts being competitively tendered every year. This appears to have enhanced competitive pressures on bid prices but at the same time gives operators more opportunities to re-enter the market if they lose a contract. Bus depot resources remain a key barrier to entry for new players but competition has been intense suggesting enough experienced players in the market with access to depots; certainly a losing bidder with access to a depot has incentive to sell on to new contractors if they no longer have a use for that resource. TfL certainly have no plans to provide depots as part of contracts at this stage.

The potential to extend the 5-year contract by two additional years has been seen as a useful means of incentivising operators. This is based on good performance which in practice means they must perform above the defined metrics for the contract. About half of the contractors have managed to achieve this.

There is some debate from the operators about what is reasonable in terms of reliability performance targets that can be achieved in practice. Performance metrics are not recorded when a major unplanned traffic disruption occurs on their route, yet no allowances are made for traffic gridlock spillover caused by a disruption on nearby roads. Another example is the introduction of the Mayor of London’s “Cycle Superhighways”. These are cycle lanes which considerably reduced traffic capacity in central London causing traffic delays which affected buses. It has been suggested that no allowance for the impact of these measures was made for in the performance standards for bus contractors and that as a result very few contract extensions were made immediately after the Cycle Superhighways were introduced.

Service level expansion since 1998 has been welcomed by the public but this has increased costs and subsidies to the authority. Costs have also been increased with the introduction of hybrid electric buses and a push for a newer, higher quality fleet (London has a very young bus fleet). None of these initiatives have been particularly led by the operators who must adopt policies set by TfL. However, operators will benefit from larger cost reimbursement for a bigger bus fleet and newer buses are generally cheaper to maintain. Ridership has also grown as a result of these measures (90-100% in 10 years). It is fortunate that a gross cost contract is in operation, since revenue growth resulting from these investments is returned to the authority which made the investment. If a net cost contract was in operation, these investments might represent a “windfall gain” to the operators in terms of farebox revenue growth.

More recently there have been some shifts in policy, with cutting of services to reduce authority subsidies due to a “tight” financial situation at TfL. Short-term bus ridership has declined, at least in part, as a result. The ability of the contracting system to adjust to these policy shifts is important but it does increase risks for operators who have to adjust plans accordingly. Clearly operators need to be aware of these risks when bidding.

Lessons learnt

The following observations suggest a degree of convergence of lessons learned in both London and Melbourne:

A significant reversal in fortune

Compared to the period prior to contracting/franchising, both London and Melbourne have achieved significant positive change in the performance of their urban public transport:

- unit costs (cost per unit output) which were increasing, have been considerably reduced
- ridership, which was declining, has grown
- service levels, which were in decline, have grown.

The costs and subsidies to run public transport have however increased, but largely because all systems have grown their levels of supply and the level of investment in the service.

It is interesting that in both cases, right-wing governments instigated private sector involvement measures, largely to reduce costs, but in both cases these measures were adjusted by more left-wing governments over time. However, none of the left-wing governments returned public transport operations to public operation; rather a refocusing of policy on performance was implemented. Private sector involvement was retained in each case but adjusted and refined over time.

Regulatory reform takes time, trial and error

Both London and Melbourne implemented significant major changes in their regulatory systems after contracting/franchising commenced. In most cases these have followed changes in the ideological nature of government. Nevertheless, it's clear in all cases that a good regulatory system requires evolution, a degree of experimentation and the development of experience through some degree of trial and error. Indeed it might be argued that regulatory reform is a continuous process, since it is unlikely that current regulatory models in Melbourne and London will continue exactly in their current form in the future.

The retention of government-based planning and control

Both London and Melbourne opted for regulatory models that retained a significant role for government in planning routes and system development futures. This recognises an important imperative for centralised planning in the public interest and implies significant weakness in private sector based planning of urban infrastructure and operations in growing cities. London best demonstrated this issue as buses outside London were fully deregulated with almost no government involvement in planning. Outcomes strongly support a view that London's approach of competition "for-the-market" provides a better balance between competitive pressures and the need to protect ridership and service quality concerns (Gulibon, 2006; White and Robbins, 2012; Rowney and Straw, 2014; White, 2018; Iossa and Waterson, 2019). A study of wider European experience of competition models provides additional support to this (ICLEI, 2003). Also, in London, during the second bus contracting period, the private sector, despite improved incentives to grow the market, found this almost impossible as they had little or no control of road-space management which a stronger government role could have provided.

There is something of a contrast between Melbourne and London with regards to the involvement of private contractors in the planning process. In Melbourne, while central planning is still a government role, an unsolicited proposal from a private contractor to grade-separate line sections and provide higher capacity trains was accepted. In London, TfL has made it clear that planning is their responsibility and has discouraged private sector bus development proposals. Contractors in both cities believe they have much to offer in route/network planning, but only in Melbourne are contractor inputs being adopted.

Contracting in changing cities

In theory, contracting/franchising enables a predetermination of what is expected by both the government and contractor such that management of operations can be agreed, delivered and planned for. In practice, regulation of both London and Melbourne contracts/franchising have had to be undertaken in a context of almost continuous substantive change requiring a great deal of flexibility on the part of all involved in these agreements. London bus contracts have had to deal with major infrastructure construction and its impact on road congestion, such as Crossrail, and citywide planning shocks such as the delivery of the 2012 Summer Olympics and the introduction of congestion charging. In Melbourne, a booming population growth has required significant investment in new rail lines, a major redesign of rail infrastructure through the Level Crossing Removal Project and significant need for new and higher capacity heavy and light rail trains. Most of these major shocks were not even envisaged when early regulatory models were being developed.

Regulatory convergence

Table 1 presents a summary of the major features of the current contracting/franchising models for bus contracting in London and rail franchising in Melbourne. Despite that fact that both cities have very different historical, economic and socio-economic histories and contexts and that bus contracting is very different to rail contracting, the prevailing regulatory models in Melbourne and London have very similar features. Both are effectively gross cost contracting models with performance-based incentive and penalty systems.

Table 1. Comparison of current contracting/franchising models in Melbourne and London

Item	Melbourne rail	London buses
Payment type	Gross cost with performance incentives/penalties ^a	Gross cost with performance incentives/penalties
Payment method/formulae	Fee-for-service Revenue payments every 2-years Payments/penalties are paid as a portion of the capped amount.	Fee-for-service 75% upfront, remainder paid at end, less the bonuses and deductions
Contract length	8 years with a possible 7-year extension contract	5 years with 2-year extension based on good performance
Vehicle ownership	New stock owned by operator, existing is leased.	Operators own vehicles with the exception of routemaster buses owned by TfL
Spatial contract type (area vs route)	Entire network, formerly split area based	Route-based contracts (some grouping of routes)
Vertical/horizontal integration	Vertical integration Only separated by mode Operators are responsible for infrastructure, rolling stock, facilities and operations.	Horizontal separated
Barriers to entry	Operators take over full control of operation	Operators must obtain a depot and fleet; depot sites a major constraint on new entry
Performance - contracting	Specific performance measures with penalties	Bonuses/deductions are based on a graduated performance scale for high/low frequency routes (based on EWT). No payment at all for missed bus trips
Competitive tendering	Tendering occurs after end of term for both rail and tram simultaneously	Staggered annual tendering One-sixth of the 675 bus routes are tendered each year
Coping with change	Earlier model overestimated anticipated demand growth, resulting in financial crisis. Revenue sharing led to fare revenue disputes. Performance incentivised, gross contracts prevailed	Earlier net-cost model had difficulty forecasting ridership change, resulting in under or over estimation of operator payments. Performance incentivised, gross contracts prevailed

Note: Technically revenue remains a part of the formulae for payment of Melbourne's contracts but payments are split between many partners and are aggregated in such a way that they do not directly represent a major element of funding; as a result these are considered gross-cost contracts.

Most features of these models are very similar; indeed, it is easier to consider areas where there are differences. The major areas of difference include:

- Contract lengths – longer for rail as might be expected given the higher fixed costs for infrastructure investment; however, both cities permit contract extensions based on good performance as a mean to incentivise contractors.
- Spatial contract type/vertical-horizontal segregation – London bus contracts are route based while Melbourne rail is network wide with vertical integration of track and operations. Again, the rationale for the different contracting types lies in the modes involved; rail lends itself to better coordination by network wide management and integration of track and operations; an important consideration for high frequency urban public transport operations. Bus route-based contracting in London provides more opportunities for bus tendering, encouraging more competition for routes, which is a major aim of regulatory management in London⁹.

So overall differences in current regulatory approaches in London and Melbourne have more to do with the modes being regulated i.e. bus and rail, than with the differences in approach to regulation and contracting.

Divergent problems with common solutions

While the prevailing contracting models in Melbourne and London have similarities, the problems each city faced with regulatory reform were quite different.

Melbourne

Faced significant early problems in contractual disputes associated with revenue splitting and a complex, poorly specified and hence unworkable infrastructure maintenance condition system. The key major start-up issue with the first round of franchising was unrealistic expectations of revenue growth and cost savings which were not achievable.

London

The central problem faced by London bus contracting was the lack of incentives for bus operators to improve service quality and grow markets.

Interestingly, solutions in both cases were similar. As noted, both systems moved to gross cost contracts with performance incentives. Other aspects of the solutions were also shared between both cities. Both recognised the need to improve the management of regulatory reform, with a number of measures introduced in London to make the contracting system more manageable. In addition, both regulators and contractors got to learn more about regulating the system. In Melbourne “open book” accounting required in the second and third phases of franchising removed the “mystery” from private sector and government accounting of franchising enabling a better understanding on both sides. In both Melbourne and London, a healthy degree of interest from private sector contractors increased understanding and the intellectual capital linked to the contracting process, making it possible to better understand and address contracting challenges as they emerge.

Conclusions: Good practice in concession development

This paper reviews the experiences in implementing and refining public transport concessions using two relatively successful implementations of public transport concessions for rail and trams in Melbourne, Australia and buses in London, United Kingdom. Both cities have evolved and refined these reforms from lessons learned. In both cases contracting/franchising has resulted in a significant reversal of fortunes in public transport performance: ridership has grown, unit costs decreased, subsidies decreased and services developed. However, regulatory reform in both cases was far from smooth; significant mistakes were made. Melbourne's rail franchising failed at the end of the first franchise model with the major contractor withdrawing entailing substantial financial losses and leaving the city without an operator. In London, two rounds of contract reform failed to incentivise operators to improve the service quality and grow the market. Despite substantive contrasts between the cities and modes being regulated, a convergence in approach to regulation has occurred, with both cities operating effective gross costs performance-based contracts with bonuses and penalties based on performance. In both cases regulatory reform transitioned from a focus on reducing costs to developing service quality. Both cities have also transitioned to more of a partnership approach to regulation, recognising the need for better understanding between the regulator and contractor in improving service quality.

While both Melbourne and London represent cases of “competitive regulation” (Figure 1), the middle of the spectrum for private sector involvement in public operations, the lessons learned from these cities also provide useful examples for defining good practices in concession development and management. Here are some key suggested good practices based on these lessons:

Competitive tendering reduces costs but also has wider benefits

The competitive process enacted in both Melbourne and London has transformed the focus of public transport service management around the issue of value for money in service provision. Competitive tendering has been at the core of this process. Considerable savings have resulted, enabling improved service levels for similar levels of subsidy.

A wider range of more subtle and unexpected benefits are also emerging when Melbourne and London are compared with public transport systems in other cities. The contracting/tendering process requires governments and treasuries to agree on a plan for management of its assets in such a way that the private sector can become involved in an acceptable contract. This requires a degree of rigour for the government, which might be seen to be lacking in other cities where public transport assets are not considered a priority. In addition, in Melbourne, with 15-year (8+7 year) contracts, a degree of stability is apparent in service management, whereas in other cities management of rail services can “swing with the wind” as governments of various colours and persuasions take office holding different priorities. Stability in management was never envisaged as a benefit of franchising but is increasingly important as priorities for public financing are increasingly under pressure from competing needs.

Avoid ideological dogma – be pragmatic in contract design

Contemporary transport privatisation has been evolving for just over 30 years and continues to evolve. Early models were based on right-wing ideological concepts and in Melbourne were unrealistic in creating “unbelievable” outcomes which proved to be quite unworkable. As Stanley and Hensher (2003) put it: “if it's too good to be true then it probably isn't.”

It is important to avoid radical reactionary swings when problems are encountered. It is also important to manage expectations and avoid hard-lined dogmatic approaches (Currie, 2016; Eno Center for Transportation and TransitCenter, 2017). Contracts should be kept simple, but not be purist. The best contracts are hybrid mixtures to balance both social and commercial objectives (Thompson, 2004; Preston, 2018). Although introducing competition can improve services, the vast majority of transport systems are still subsidised, so it is unreasonable to expect market outcomes from market reform.

Introducing competition can reduce costs, but major effective savings have been found to happen when public sector services are first contracted (Currie, 2016). For London, savings did occur in the second round of contracting, but they were found to be unsustainable and later contracting increased funding to compensate for this. In Melbourne, many savings occurred pre-franchising; while the first franchising round appeared to make big savings, they were found to be unrealistic and later franchises acted to compensate for this short-term saving. On this basis, regulators should not expect substantial savings from round two plus contracting.

The savings prior to the Melbourne franchising also demonstrate that savings do not necessarily need private involvement; the run up to franchising provided competitive pressures for publicly run agencies. Governments should recognise the value of these pressures and be sure to leverage them to improve cost effectiveness.

Trust

Trust, transparency, and accountability are essential to a successful privately-operated public-regulated system (Currie, 2016). A trusting relationship between managers and operators can make the negotiation of contracts much smoother and less costly (Kavanagh, 2016). This relationship goes beyond just operators and public managers, but also the public itself as any breach of trust can have amplified repercussions (Currie, 2016; Preston, 2016). While trusting partnerships are worthwhile; it is important for governments to avoid “regulatory capture” – the use of a charming, persuasive contractor to achieve selective advantage with a regulator compared to other valid contracting parties.

Concession length

Longer contracts encourage investment and stability (best suited for higher investments and rail service). Shorter contracts are more suitable for lower-end asset investment (bus contracts) and ensure more rounds of tendering and thus increase competitive pressures. They also provide more opportunity for market entry and also enable more frequent fine tuning of contract design. However, they entail more contract management resources and can encourage instability. Appropriate concession length is also a function of the stability of transport system; contractors prefer shorter contracts that they can more quickly get out of if they have to agree to liabilities which might prove too expensive. In London half of the 5-year contracts are not extended; a small share of these are contractors who do not wish to renew their contract as they have made a loss or the costs are too high. Longer contracts should also incorporate significant performance reward/penalties to ensure the incumbent is subject to appropriate discipline, rather than delaying an improved performance until contract renewal.

Good practice is balancing these variables for the conditions being managed.

The right incentives and penalties

Gross cost contracts are easier to manage, but provide little incentive to increase service quality and patronage. Net cost contracts can be used to incentivise operators to grow patronage, but in practice farebox revenue covers only a small portion of costs (Wallis, 2003) so wider incentives are often needed. In general, contracts should be performance based; the threat of competition can sometimes be incentive

enough to manage costs. A clear statement of what good performance is in a contract enables all parties to better manage performance. Linking required operator performance metrics to clear authority statements of objectives is a useful way to clarify direction for all involved. There is also a need for a degree of realism and pragmatism; buses in London are largely impacted by growing traffic congestion, something bus operators have little control over. Understanding and agreeing what elements of performance are controllable by the contractor is an important task on the path to an effective performance management contract.

Concession design

Area/network design contracts encourage a comprehensive, area wide focus, enabling contracts to concentrate on market development and service management. Route-based concessions encourage more competitive transactions and discourage area/network wide management. However, route-based concessions are problematic where ridership/revenue is shared across routes since good planning in cities encourages easy network wide passenger transfers but route-based contracting can act to discourage this. Route-based contracting is best used for systems where revenue transfer between contracts/routes is not important, such as where gross cost contracts are in operation. Synchronisation of schedules between routes remains an area for improved coordination of route-based contracts, but is less of an issue where headways are short, such as in London. This is a much more significant issue when headways are long. Route-based contracting also implies less input from contractors on route planning since the alignment is predetermined; this aligns with TfL's lack of interest in contractor ideas for route planning expertise.

Overall good concession design needs to balance the above factors to fit an appropriate concession design for the catchment and regulatory model context.

Barriers to entry

Much evidence now supports the view that competitive bid prices are lower the larger the number of bidders (Hensher and Stanley, 2010). The number of bidders is a function of the size of the "barriers to entry" to the market; barriers can include the need to own assets, e.g. vehicles and depots. Depots are considered a big barrier in London; leasing of buses can assist in easing barriers. These barriers can also be reduced by retaining public ownership of these assets and leasing them to the concessionaire. Agreeing on an approach to maintaining assets to an agreed standard is an important part of such arrangements and has proven difficult to manage in the case of Melbourne's earlier rail franchises. In effect good practice is to remove barriers to entry to encourage more bidders. However, managing government-owned assets leased to a private company is difficult to achieve effectively.

Buyer beware and the optimism bias problem

There are no benefits to either the contractor or the regulator for incorrect or limited information being available on a contracting approach or service under offer. The first rail franchising model in Melbourne may have failed partly because contractors believed significant savings were feasible when they were not. Unrealistic bids may appear a success but only for a short time.

Contractors also need to avoid winning at all costs since the "winner's curse" is to win, but then to lose money and have to provide the service to the required standard over a long period of time. "Optimism Bias" may play a key role in this problem; it occurs when bidders believe they can achieve unachievable targets or cost savings, which can be caused by overly positive bid teams encouraging competitive measures that they cannot deliver. There is an important role for objective independent peer review of bid proposals to avoid the optimism bias problem. The winner's curse can also include never winning again, as poor performance in a won franchise with unachievable targets ensures regulators are warned off the contractor forever. A long-term pragmatic and unbiased view is needed from all parties.

Need to manage “gaming” of the contracting system

It has been proposed that some bidders deliberately bid at low prices or inflate ridership growth expectations to beat the competition during the tender process. The rationale is that they can then negotiate directly with the authorities after the tender is won to make the contract more workable financially. It is important that tendering authorities discourage “gaming” of the contracting system in this way. An open and clear contracting system and the open and clear communication of pricing during bids is one of the many ways this can be achieved.

Risk allocation

All potential risks (revenue/patronage drop, labour dispute, policy shift, disaster, etc.) should be properly addressed and allocated and balanced with incentives (Wallis, 2003; Wallis and Bray, 2014). A key contracting principle is that risks should be allocated to the parties best able to manage or control them. Moreover, different modes have different abilities to handle risks. For example, bus operators have little control over service reliability (e.g. congestion) and fuel prices (Currie, 2016). Fuel price risks are generally handled through pricing mechanisms such as agreed industry price indices which capture fluctuations in prices over time. These will need to be adjusted as transport fuels are transitioning to alternative fuels (e.g. electric or fuel cell). Fuel prices for London’s electric buses for example are still based on diesel bus indices. Prices for electricity can be highly volatile; authorities in Los Angeles recently contracted an electric bus fleet where the power costs were paid directly by the authorities to better manage this risk.

Skilled regulatory management

In maintaining a functional relationship between public contract managers and private operators, it is essential to maintain skilled and competent regulatory managers (Wallis and Bray, 2014), or else the regulator risks “outsourcing their brains” in a contracting process. This leads to private operators exploiting the government, such as artificially low bids to win the contract which can lead to expensive renegotiations that the government must accept or risk service disruptions (Currie, 2016).

Overall there is much to learn from the regulatory reforms of London bus and Melbourne rail. While both systems have had much success in the management of costs and operations, regulatory reforms have evolved into a continuous process of change, adapting to new challenges and needs as cities grow and the pressures on management change. Future research needs to explore regulatory experience in a wider range of cases on the spectrum of private sector involvement (Figure 1). It would also be valuable to contrast the experience of Melbourne and London with those of cities who have not been so active with regulatory reform to better understand relative performance over the last 30 years. Research also needs to explore regulatory issues and the future needs for mass transit in cities, since cities are becoming increasingly larger and congested and the need for coordinated investment in public transport remains a priority for world cities well into the future.

Notes

1 The United Nations' 2018 Revisions of World Urbanization Prospects states that the world's population residing in urban areas is projected to increase from 55% in 2018 to 68% by 2050.

2 At May 2019 values AUD 1 is equivalent to EUR 0.63, GBP 0.54 and USD 0.70; allowance should be made for changes in inflation from the years when values are quoted which also differ between countries.

3 The decision for gross-cost contracts was also taken for simplicity and manageability reasons; A shift from cash-paid tickets to off-bus ticketing through travelcards etc. also raised concerns about how to go about revenue allocation if a net-cost model had been used. These risks were avoided with gross-cost contracts.

4 There is some debate about this; certainly service quality was low during public operation. A more balanced opinion might be that it did not significantly change in the first round of tendering.

5 Personal communication from Peter White, Emeritus Professor at the University of Westminster.

6 About half of the 5-year contracts achieve an extension of two years suggesting about one-sixth of routes being re-tendered every year.

7 Approximately 60% of operating costs are related to labour, with real average weekly wages of drivers rising 21% from 2000 to 2013. In addition, concessionary costs have risen 247% since 1990 in real terms, as reported in KPMG (2016). Local Bus Market Study: Report to the Department for Transport.

8 Personal communication from Peter White, Emeritus Professor at the University of Westminster.

9 It is noted that most bidders for London bus contracts are now large national/international companies; the industry is now consolidated into a handful of large players (source: personal communication from Prof Peter White).

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