

Digital Public Transport in an era of Sharing and Collaborative Mobility

Presented by

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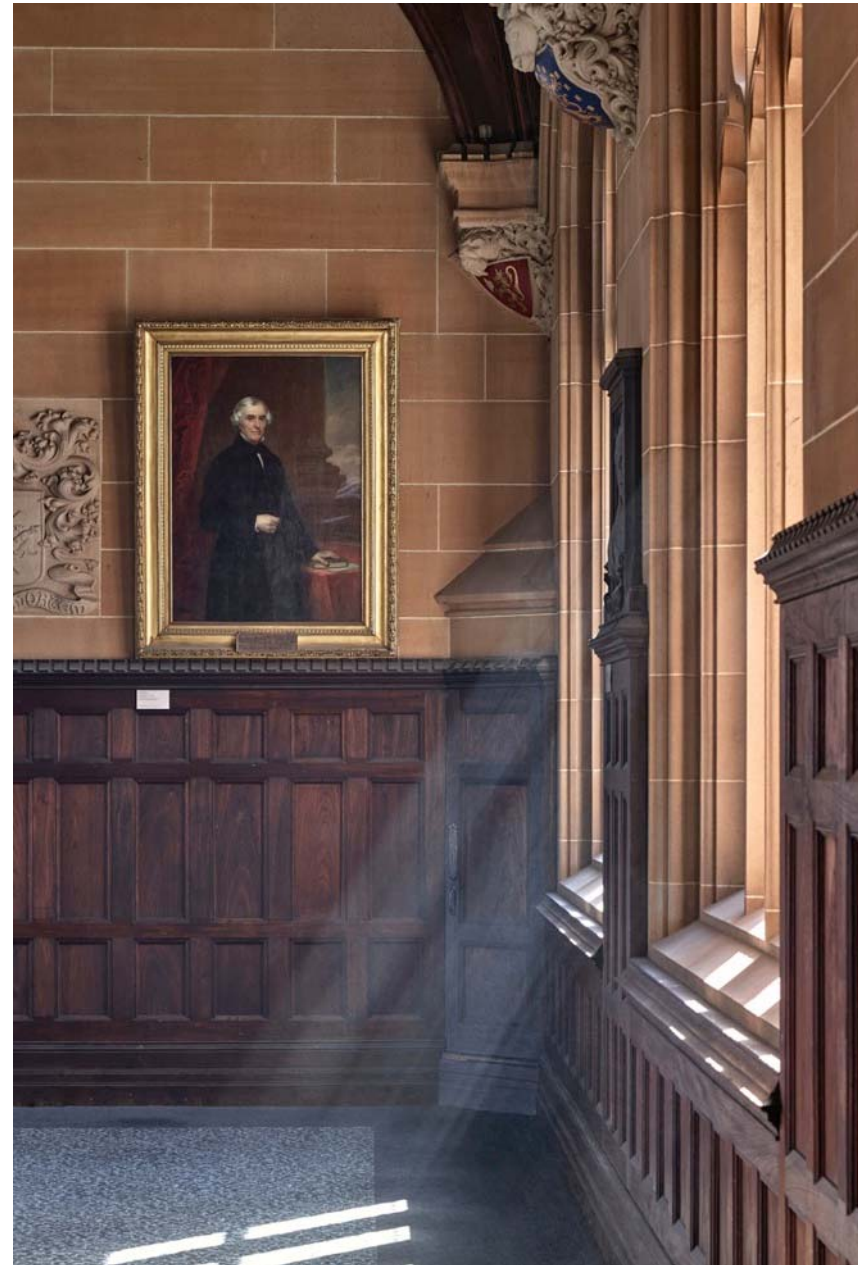
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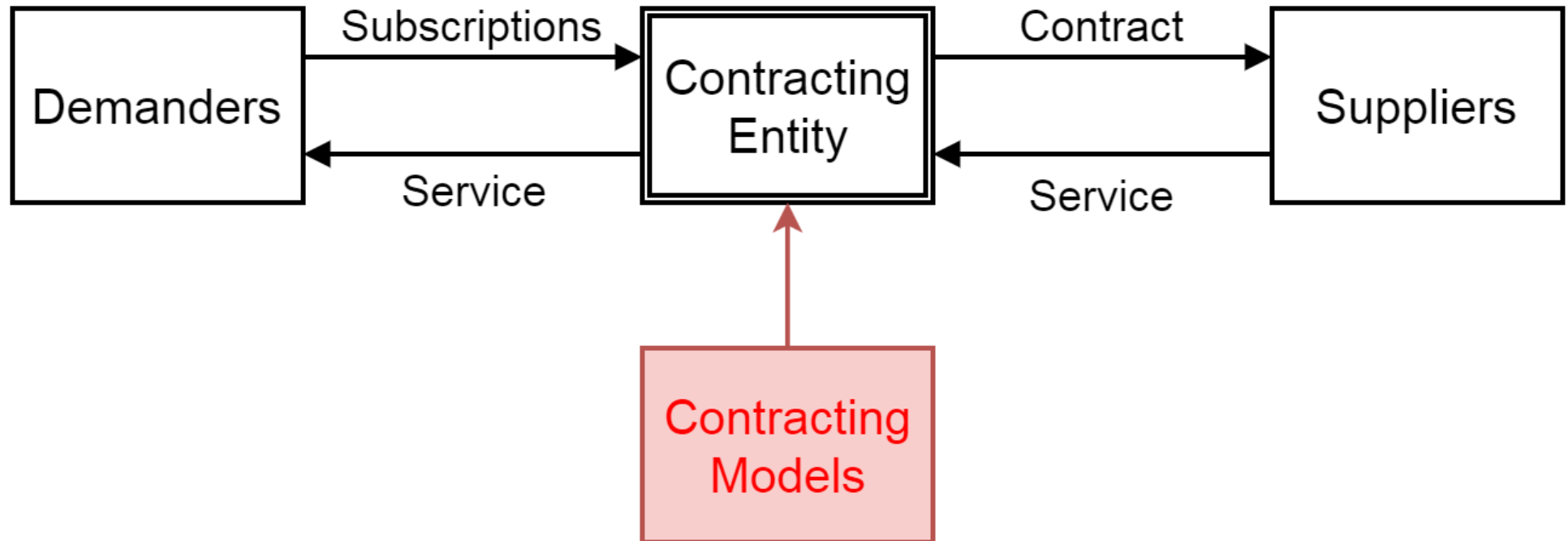
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What might MaaS mean for Future Bus Contracts?

**More Questions than Answers at this
stage on the Learning Curve**

A Framework for MaaS Linking Demanders and Suppliers (Wong, Hensher and Mulley 2017)



PT in the new Digital Sharing Age

- The existing (contract) model for delivering PT services may be a constraint on the ability of PT to fulfil a more useful role in point-to-point mobility as a service.
- Imagine a metropolitan world in which we:
 - no longer have geographic contract areas for bus services
 - a model in which operators run their business in a way that gives them the flexibility to provide traditional timetabled services along any specific routes
 - and a bookable system using smart technology that provides flexible point-to-point services, (e.g., home to a rail station, or longer distances from home to work).

PT in the new Digital Sharing Age

- Operators can then use this digital platform to compete for business and develop many ways to incentivise users to stay with them (an economic deregulated market w/wo CSO)
 - e.g., loyalty programs, fare discounts for multi-riding, discounts on products from various stores etc.

- Prior to the onslaught of digital apps, this was referred to as an agency approach whereby demand and supply are matched by an informed agency in the middle.

Bus in the new Digital Sharing Age – more Qs than As at this stage

- While bus operators are often encouraged to be innovative and to grow patronage, the contracting regimes in place often have limited incentives to do so
- We might imagine a future in which existing uni-modal urban bus services as currently structured and contracted might have reached their useful shelf life.
- **But if is this so, under what conditions might such a significantly disruptive future be limited to some aspects of traditional service delivery?**
- MaaS has the very real opportunity to match customer needs more closely to service supply and to reveal the real contribution of conventional public transport services.
- **What is of especial interest is the extent to which providers of conventional public transport will join the MaaS bandwagon as a way of complementing or indeed competing with their existing service provision. The big Q – depends on incentives!**





















PT in the new Digital Sharing Age: The Three B's

- I have referred to this (already) as the 3Bs future – **Budgets, Bundles and Brokers.**
- The roles of existing public transport providers might change as they see opportunities to be **brokers** for multi-modal **bundles** of services (like Telco plans or packages - **budgets**),
 - in which they may no longer deliver services themselves (or this becomes a totally separate business),
 - but act as a broker,
 - which may still require some public subsidy in some service components that cannot be commercial under the MaaS banner (e.g., Community Transport MaaS - partial CSO MaaS).

A Big Challenge – which Bus Services into MaaS?

- A starting position is a consideration of the conditions under which point-to-point MaaS, supported by smart booking technology, can be provided as **a substitute for conventional urban bus services**,
 - where the latter are typically offered under an areawide contract that is either competitively tendered or negotiated.
- **The question of interest is whether some of these services might be better delivered by point-to-point smart booking transport or whether the nature of transport service required makes the new digital inspired smart MaaS an inappropriate substitute?**
 - regular public transport services (timetabled) ?
 - contracted school runs (also timetabled) ? and
 - charter services ?
- **This issue is being investigated in:**
 - Ho, C., Hensher, D.A., Mulley, C.M. and Wong, Y. Prospects for switching out of conventional transport services to mobility as a service subscription plans – a stated choice study, paper prepared for presentation at the 15th *International Conference on Competition and Ownership of Land Passenger Transport* (Thredbo 15), Stockholm, Sweden, 13-17 August 2017.

MaaS as a Subscription Plan: End user preference for mobility packages (Ho, Hensher, Mulley, Wong 2017)

<p>The current travel record shows that this person uses public transport 4 days a fortnight and makes 8 trips in this period. They spend 12 hours driving a total distance of 196 km. When they use Taxi or Uber, they pay the full fare. The total costs of owning a car and using public transport is estimated at \$160 per fortnight for this person. Given MaaS option, they may want to subscribe.</p> <p style="text-align: center;">↓</p>	<p>Plan A, costs \$180 per fortnight, allows unlimited use of public transport; 20 hours use of Car2Go car-share (1 day of unlimited use = 10 hours). In using Car2Go the car needs to be booked 15 minutes in advance and returned to any available station in Sydney (i.e., one-way carsharing). In addition, they receive 20% off taxi bills and 10% off UberPOOL fares whenever they are used. Any unused credits such as car hours can 'roll over' to next periods.</p> <p style="text-align: center;">↓</p>	<p>Plan B, costs \$150 per fortnight, allows unlimited use of public transport on any 6 days; 16 hours use of goget car-share (1 day of unlimited use = 10 hours). They need to book a car 5 minutes in advance and must return the car to a station where it was taken from (i.e., round-trip carsharing). In addition, they get 10% off taxi bills and 5% off UberPOOL fares whenever they use. Unused credits will be lost at the end of the fortnight.</p> <p style="text-align: center;">↓</p>	<p>Pay-As-You-Go Plan costs \$10 per fortnight. This plan provides access to all public transport modes and goget car-share but you have to pay separately for the services you use. A goget discounted rate of \$8/hour + 40 cent/km is applied. They need to book a car 30 minutes in advance and must return the car to a station where it was taken from (i.e., round-trip carsharing). They also get 10% off Taxi and UberPOOL fares whenever they use.</p> <p style="text-align: center;">↓</p>
<p>Your Current Travel Record \$160 /fortnight</p>	<p>Plan A \$180 /fortnight</p>	<p>Plan B \$150 /fortnight</p>	<p>Pay-As-You-Go Plan \$10 /fortnight</p>
 8 trips 4 days	 Unlimited trips 14 days	 Unlimited trips 6 days	 Pay as you go
 12 hours, 196 km over 10 days	 20 hours (10 hours = 1 day) + 15min advance booking + one-way car sharing	 16 hours (10 hours = 1 day) + 5min advance booking + round-trip car sharing	 \$7.00 /hour + 40c/km capped at \$70 /day + 30min advance booking + round-trip car sharing
 Full fare	 20% discount	 10% discount	 10% discount
 Full fare	 10% discount	 5% discount	 10% discount
 N/A	 Unused credits will roll-over to next period	 Unused credits will be lost (use it or lose it)	 Pay-As-You-Go

Where MaaS may not be a substitute for conventional PT – School Transport?

- For school bus contracts, it is unlikely, but not impossible, that the smart point-to-point service model would apply,
 - and since in most contexts in many countries, including Australia and the USA, school children are the backbone of their patronage,
 - **the future of point-to-point services is likely to be focussed primarily on the very small segments of the non-school children market.**
- However, as a counter argument, some social aspects may push parents into using smaller bus-like vehicles with point-to-point travel provision (**the cost is the big challenge cf. free bus passes**)
 - a facility in 2016 legislation which is now possible in NSW provided the bus has a carrying capacity not exceeding 12 seats.
 - ‘Stranger Danger’ is also a growing theme.

Imagine the Future...

Small baby steps ?
MaaS skeptic ?
MaaS supporter ?

Final Comment – Imagine

- I see the growth of Mobility Contracts (linked to Digital mobility apps)
- Conventional PT will be folded into the Mobility Contract
 - With possibility of a single mode initially (giving future proofing on contract)
- Multi-modal Contract Brokers will play an increasing role
- PT operators may become providers of all modes, ensuring matching of vehicle to user need
- Geographical contract boundaries will disappear (they create inefficiency and poor services)
- New mobility regulations will replace mode specific service contracts
- The autonomous car and the autonomous bus (of varying sizes) will act as essentially the same 'mobility mode' but with differing passenger capacities
- Pricing will be market driven with a community service obligation built in as appropriate for specific users (it will be a user side and not provider side subsidy – like what is happening to community transport)

Thank You

Hensher, D.A. (2017) Future bus transport contracts under mobility as a service regime in the digital age: are they likely to change? (Presented at the *15th International Conference on Competition and Ownership of Land Passenger Transport* (Thredbo 15), Stockholm, Sweden, 13-17 August 2017 *Transportation Research Part A*, 98, April, 86-96.

Wong, Y., Hensher, D.A. and Mulley, C.M. Emerging transport technologies and the modal efficiency framework: a case for mobility as a service, paper being prepared for presentation at the *15th International Conference on Competition and Ownership of Land Passenger Transport* (Thredbo 15), Stockholm, Sweden, 13-17 August 2017.

