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2 Transport Industry Adapting to Change: An Australian Case Study

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27 **TOTAL WORDCOUNT: 7412**

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3 to this paper as follows: study conception and design; data collection; analysis and interpretation of
4 results; draft manuscript preparation; reviewed results and approved the final version of the manuscript.

1 ABSTRACT

2 The Victorian bus industry has long comprised a cohort of almost exclusively small to medium trans-
3 generational family businesses. Since the end of the Second World War, they have had contracts with
4 the State Government, commonly negotiated via their voluntary professional association (VPA) (or
5 industry representative body), to deliver scheduled (timetabled) fixed route and school bus services
6 throughout the state. However, a failure of the regulator to provide adequate bus services in rapidly
7 growing urban areas or meet public requests for an increase in bus service frequency and spread, set
8 against growing passenger preferences for demand responsive transport (DRT) modes and the use of
9 technology to access DRT is creating circumstances for significant disruption of the way bus services
10 are planned, contracted, delivered and regulated. This era of disruption represents a degree of
11 uncertainty for bus operators, but also represents an opportunity for operators to proactively adapt to
12 better meet passenger needs by diversifying their businesses and become total local transport providers,
13 placing the passenger in a central role, rather than the mode of transport. This is also an opportunity
14 for the operators' VPA to take a leadership role in supporting and enabling the current route service
15 operators to transition their capability from exclusively delivering timetabled, fixed route bus services
16 to delivering demand responsive service modes as well to a wider travelling public. Providing a new
17 transport business model and the technological platform that supports it will enable bus operators to
18 compete in the growing DRT realm and prosper.

19

20 ABSTRACT WORD COUNT: 249**21 Keywords:** Public transport, disruption, demand responsive transport, integrated governance

22

1 INTRODUCTION

2 Transport is likely to undergo considerable change in the next few decades. The public transport sector
3 will be caught up with these changes and unless it is able to adjust and be responsive and innovative,
4 risks becoming less relevant. This paper offers an overview of how the Bus Association Victoria, a
5 voluntary professional association for bus operators in Australia, is responding to these changes on
6 behalf of bus operators so as to take up new market opportunities, and in fact leading the direction of
7 change to offer a high quality passenger service because Government can't or won't. Such a response
8 for passengers is important to not only respond to technological change, but also be responsive to the
9 provision of good social and environmental outcomes.

10 The next section describes the Victorian bus industry, the varying nature of the different types
11 of bus operator governance models, the types of services operators offer, the stakeholders involved and
12 the nature of disruption occurring at present. This is followed by a discussion on the disruption and
13 uncertainty that is occurring around public transport and the need for the industry to change. The market
14 opportunities that arise from this disruption are described, followed by a description of a pilot of this
15 new approach that has been successfully trialled over a number of years in regional Victoria. The role
16 the voluntary professional association (VPA) for bus operators plays in facilitating the diversification
17 of operators' business is discussed, followed by a gathering of the conclusions that can be drawn from
18 the approach outlined in this paper.

1 BACKGROUND

2

3 **Types of Bus Operator Governance Models**

4 Until the early 2000s, almost all of Victoria's bus operators were either small, medium or large
5 *family businesses*, which with the exception of a handful of operators, traded only in Victoria. Today,
6 the overwhelming majority of family firm bus operators in Victoria are small, trans-generational mixed
7 businesses, meaning the bus business is not their only business interest. Small regional and rural school
8 bus businesses are often supplementary to other commercial interests, such as farming, freight and
9 haulage. Medium and large bus operators appear to have a lesser involvement in other business interests
10 (Lowe, 2016). Multinational enterprise (MNE) operators entered Victoria to deliver fixed route bus
11 services in the late 1990's, withdrew in 2003, then re-entered Victoria in 2009 by acquiring a large
12 family business. At time of writing, of the 13 operator consortiums contracted to the State Government
13 to provide fixed route bus services in metropolitan Melbourne, only two are MNE operators.

14 The long-term nature of family firm bus operators is one of their key characteristics, as they
15 tend to have lengthy tenures and anticipate long careers, not only for themselves but also for their
16 children. This long-term orientation means the topic of succession receives a significant degree of
17 attention by family firm bus operators, their industry representative body (or VPA) and the family
18 business associations to which most of them belong. The extent of interdependence among family firm
19 bus operators is another key feature of this governance model. Many firms work with other operators
20 that are either nearby or part of the network of members of the same VPA. Knowledge is shared and
21 exchanged between these firms, although this is often tacit (Lowe, 2016).

22

23 **Types of Services on Offer**

24 In Victoria, route bus operators are contracted by the state government to provide bus services that
25 operate on a pre-determined, fixed route at scheduled times. Operators are contracted to provide either:
26 local services that serve a social transit task and convey people around a community including major
27 community activity centres such as schools, shopping centres, medical centres, sporting venues and
28 other modal (tram/train/bus) interchanges, or; arterial/trunk road bus services that serve a mass-transit

1 task and operate at a high frequency (for example, every 15 minutes or better at peak times) over a
2 broad span of hours and carry passengers in and out of a neighbourhood.

3 School bus operators are typically located in regional and rural areas and are contracted by the
4 state government authority to convey eligible and approved students to and from school. Many of
5 Australia's school bus services started on the back of a farm business when families voluntarily drove
6 children to and from school.

7 Special school bus services for students with a disability who attend specialist schools are
8 procured and managed by the Education Department of the State Government, not the transport
9 department. Operators have a service contract with the government to pick these children up at a
10 designated point and take them to their special school in the morning, then pick them up from school
11 and return them to the designated point in the afternoon.

12 Community transport (mainly small buses, but also larger buses and cars) is available for
13 selected people and activities, commonly for those with a disability and the elderly, usually to travel to
14 and from a specific agency service or activity at a set day and time. Funding is often provided by
15 charitable donation, or federal and/or state government grants from the Department of Health and/or
16 Community Services. Community transport assets are owned by local welfare organisations,
17 community groups, councils and/or local businesses, and drivers are volunteers or employed staff
18 (Lowe, 2016). Community transport is not regulated like the formal 'legacy' public transport network,
19 which is one reason why it is often referred to as the 'informal', 'registered' or 'para-transit' (or parallel)
20 sector in other parts of the world. It has little connectedness with the state government department or
21 agency responsible for transport, its services tend to be invisible to the travelling public. It could be
22 described as an exclusionary transport network predicated on eligibility (Lowe, 2016.)

23 Hire and drive is a term given to a type of firm that rents out mini-buses to the public on a daily
24 rate basis. These firms are mainly rent-a-car companies and a small number of bus and coach operators.
25 Charter and tour bus operators run a completely commercial, unsubsidised business and are completely
26 exposed to economic circumstances.

27 Traditional taxis and point to point, car sharing and ride-sharing services (like Uber) also
28 operate in Victoria.

1 Demand Responsive Transport (DRT) in the public transport environment at present consists
2 of services that are often provided through low capacity vehicles such as small buses, minibuses or
3 'maxi taxis', although this service is offered by some route bus operators. They offer flexible routing
4 and scheduling and can be operated in shared-ride mode between pick-up and drop-off locations
5 according to passenger needs. Fares are flexible and are based on passenger journey requirements
6 allowing operators to charge higher rates than standard public transport fares resulting in improved cost
7 recovery for the service provided.

8 DRT is one such challenge that has been implemented in Victoria in only a number of areas
9 where fixed route bus services would typically operate, but where patronage demand does not, in the
10 view of Public Transport Victoria (PTV), justify investment in the procurement of standard fixed route
11 bus services. In Victoria, DRT services operate within metropolitan fringe and regional settings.
12 TeleBus, which operates in Melbourne's outer eastern suburbs was the first modern DRT system in the
13 state, being developed and implemented by the local bus operator, Invicta in 1978. The Telebus service
14 operates small buses within a defined area and along a number of fixed intermediate stops. Telebus
15 commences from a defined origin and picks up/ drops off customers either at the intermediate stops or
16 at customer requested locations. Pickups from locations other than the intermediate stops must be
17 arranged by phone booking prior to bus departure. A surcharge is payable for travel to or from locations
18 other than Telebus stops. Due to the routes flexibility to service customers, the timing for pick up/ drop
19 off at intermediate stops can vary by +/- 5 minutes from the allocated times. If no customers arrange a
20 pick up, Telebus still operates along a route that services the intermediate stops at the programmed
21 frequency. During peak morning and evening peak periods, TeleBus operates as a route bus to provide
22 a direct service to and from activity hubs (including train stations).

23 Regionally, PTV have procured a mix of taxis and minibus vehicles (up to 15 passenger
24 capacity) to provide low frequency, low capacity, low coverage DRT services within the public
25 transport fare structure (that is, there is no fare surcharge). Locations where these services currently
26 operate include fringe suburbs to Melbourne, under the "FlexiRide" banner. Unlike TeleBus which will
27 run the route if there are not any prior bookings, regional DRT service will only operate if booked by
28 the customer or, if it is hailed at its origin point at the start of the route.

1 There is considerable disaggregation between the types of public transport on offer in Victoria.
2 Although all people want to get from one place to another, these transport needs are commonly viewed
3 according to who they are and the affordability of the passenger fare. There has traditionally been few
4 alignments of the need and desire to travel to a particular location, with the accessibility of the end point
5 and the availability of transport to get there. As a result, the transport system is uncoordinated, not
6 integrated, under-utilises capital assets, particularly in regional areas, and leaves many people without
7 a transport service (Stanley and Stanley 2012). In a regional town of 32,000 residents, it was estimated
8 that there is a potential market of unmet trips amounting to perhaps 150,000 trips/year. The people who
9 have foregone these trips are largely those who are unable to drive, children, seniors, those on a low
10 income and those with a disability.

11

12 **Stakeholders**

13 The lack of coordination of transport services or an integrated transport system is reflected in the
14 government agencies overseeing transport. There are thirteen authorities or agencies of the State
15 Government that are involved in regulating the Victorian public transport network. Transport for
16 Victoria (TfV) undertakes the responsibility for policy and planning and is part of the Department of
17 Economic Development, Jobs, Transport and Resources (DEDJTR). The Department of Education
18 (DET) regulates special school bus services, PTV manages public transport service delivery and
19 coordination, including contracting, V/Line manages the regional rail and coach network, VicRoads
20 (VR) manages state roads, Transport Safety Victoria (TSV) regulates all public transport operator safety
21 systems, Taxi Service Commission (TSC) dispenses driver authority certificates and taxi licenses, the
22 Level Crossing Removal Authority (LXRA) improves traffic flow and safety at road/rail level crossings
23 (by grade separations), Victrack manages state owned rail assets, Melbourne Metro Rail Authority
24 (MMRA) is building Melbourne's new underground rail line and the Public Transport Ombudsman
25 (PTO) provides public transport external dispute resolution services. In addition to these transport
26 agencies, urban planning and land use agencies are also integral to public transport outcomes.

27 The Transport Workers Union (TWU) is the general representative for workers in the transport
28 and logistics industry, including roads, ports, warehousing and aviation. It is the union with which
29 VPA's engage regularly to discuss matters such as workplace agreements, awards, health and safety and

1 equal opportunity. Suppliers are the bus manufacturers and other providers that have a product or
2 service that assists an operator in delivering its bus service, such as air conditioning, seats, global
3 positioning systems, fuel and oil lubricants, as well as management consultants who provide legal,
4 commercial and other professional services.

5 VPA's represent their members' best interests to the State Government and the wider
6 community on matters including service contract negotiation, state-based industrial relations, legislative
7 and regulatory compliance, education (conferences, publications, exhibitions and seminars), public
8 safety and transport infrastructure. VPA's also offer their members products or services such as
9 purchasing incentives on items like fuel, insurance and finance, to varying extents.

10 Passengers of buses are not a part of the bus industry, but they are the most important
11 stakeholder in the public transport operating environment. The safe, reliable and efficient carriage of
12 passengers is the prime task of all bus (and public transport) operators.

14 **FACTORS CONTRIBUTING TO THE NEED TO CHANGE**

15 This section discusses the factors that are directly and indirectly causing operators and their VPA to
16 change.

18 **Uncertainty and the Sharing Economy**

19 Uncertainty is a key characteristic that envelopes any discussion of how future transport
20 systems will emerge, following many decades in which change has generally been slow. These
21 uncertainties relate, for example, to matters such as how, and how quickly, technologies develop, the
22 way they will be received by consumers, how governments decide to react (or not) and the range of
23 matters that bear on these questions (Stanley, Hensher and Wong, 2018).

24 While a wide range of subjects could be considered, there are a small number of issues that may be
25 game changers in terms of future land passenger mobility opportunities and impacts. These are (Stanley
26 et al. 2018 in press):

- 27 • Smartphone based apps and shared business models that depend thereon, including mobility as
28 a service (MaaS). This area is having an impact already, but that impact could grow
29 exponentially under the added impact of the following three areas of technological change;

- 1 • Autonomous vehicles (AVs), with potentially huge long-term benefits in store, or costs,
2 depending on the development pathway;
- 3 • Electric vehicles (EVs), which are a reality already but at small scale. Adding this element to
4 AVs presents opportunities for much bigger impacts within the transport sector and adds
5 opportunities for synergies that extend beyond transport, into matters such as distributed energy
6 systems;
- 7 • Shared vehicles are blurring the boundary between private and public transport, thus the
8 tradition model of the route bus service.

9 Until recently, travellers were choosing between driving, taxis, and fixed timetabled public
10 transport modes such as buses, trains, trams and ferries (cycling and walking notwithstanding). Now,
11 due to the rise of consumer technologies like smart phones, commuters' expectations have changed and
12 they can choose to travel by demand responsive modes like demand responsive buses, car share, point
13 to point bikesharing schemes. Public transport customers are ordering their transport options from the
14 same device they are ordering their coffee, buying their car, furnishing their house and stocking the
15 pantry with items delivered to their door.

16 Legacy bus routes and printed timetables tied to permanent bus stops and rail stations are not
17 as attractive or viable to commuters as they were in the past. This increasing preference for 'need it
18 now' transport options is, anecdotally, in part responsible for recent bus patronage (ridership) decline.
19 Patronage decline results in lesser contract payments to operators and lesser government funding to
20 regulators for services. The prospect of receiving lesser income due to carrying less people can stifle
21 operators' growth endeavours. This causes operators to look elsewhere for market opportunities to
22 increase revenue. It also reduces the travel options for those who can't take transport alternatives,
23 usually those at risk of social exclusion.

24 There are other reasons causing bus operators, regulators (agencies) and voluntary professional
25 associations to change, which are now discussed.

26

27 **Operator Uncertainty**

28 Most bus operators in Victoria have been awarded operating rights by the State by virtue of a
29 service contract that is negotiated subject to meeting certain conditions, every ten years or so (Stanley

1 and Hensher 2008; Lowe, 2016). The degree of trust between bus operators, their VPA and State
2 Government has diminished significantly of late due to an attempt by the Government to oblige
3 operators to transfer to the Government, or their nominee, the operators' assets (depots, buses, staff and
4 intellectual property) at the end of the new contract term. In early 2018, the operators mounted a
5 campaign to get the Government to take the asset requirements out of the service contract and
6 succeeded. However, the campaign has resulted in the need for the trust between government and
7 operators to be rebuilt. Operators fear the State will eventually tender their service contract – a service
8 contract that has been in the family in most cases generations. Hence, many operators have elected to
9 sell their business (or exit on their own terms) rather than face the risk of having their bus service
10 contract terminated by the State Government. In turn, some operators are looking to mitigate this risk
11 by applying their skills, knowledge, interests and values to new transport sector opportunities and
12 diversify their commercial interests.

13 The diversification of commercial interests by operators has repercussions for their VPA.
14 Member operators of the VPA have historically looked to their VPA to undertake the actual contract
15 negotiations on their behalf. The VPA has also represented them on industrial relations, legal and
16 commercial matters to the extent where the VPA has been involved and worked alongside the operator
17 in most business transactions. This has created a very high degree of reciprocal dependence between
18 the association and the operator. Thus, the uncertainty operators are experiencing in relation to their
19 business viability and desire for continuance causes their VPA to chart a course for certainty for them;
20 develop and commend a strategy to guide them through the changing nature of customer preferences
21 and the regulatory environment and ensure the continuance of their business. In implementing these
22 strategic objectives, the VPA itself needs to procure the skills, knowledge and interests in helping their
23 members diversify their businesses and enter into the demand responsive representation sphere:
24 understanding the regulatory and operating environment of taxi's and the ride sharing sectors. This is
25 a diversification task for the VPA itself, one that will require Association constitutional and governance
26 change as it's remit is no longer solely about bus. The VPA's remit has evolved to centre on moving
27 people.

28 The Victorian bus VPA is determined for it and its members fate to not resemble that of the
29 Victorian taxi industry. Many Victorian taxi operators have suffered a massive devaluation in capital

1 value of their taxi business due to a government policy change which saw the price of taxi licenses
2 dramatically reduced. The State is now incurring significant new liabilities as a result of the policy
3 change as taxi operators are claiming compensation for this devaluation. Further, significant social (or
4 external) costs are being incurred, particularly in the mental health area as a result a result of this policy
5 change. Further, the Victoria taxi VPA has all but closed up because the taxi industry did not see the
6 extent of change required associated with the advent of technology that has ushered in more demand
7 responsive modes of transport.

8

9 **Government Inaction**

10 The increased degree of commuter choice in transport modes causes governments to consider what is
11 and what isn't 'public transport'. The Victorian Government continues to fund and regulate (through
12 PTV) traditional (or legacy) modes of public transport (train, tram, bus, ferry) and is also funding several
13 trials of demand responsive taxi buses in regional centres, but this is the extent of their innovation and
14 adoption of other modes under the public transport umbrella. Taxi's and car share options (such as
15 Uber) are regulated by a separate Government agency, the Taxi Services Commission (TSC).

16 In North America and Europe, public transport agencies are transitioning to become mobility
17 integrators, that is, coordinate public transport operations along with taxis, other ridesharing modes and
18 bikesourcing. This sees the agency diversify their remit and transform themselves into mobility
19 managers with responsibilities that go beyond a being exclusively a public transport provider. Agencies
20 are endeavouring to link the full array of mobility services into an integrated system and bring
21 community mobility to a new level. At time of writing however, there is no offering of demand
22 responsive buses, ridesharing or other demand responsive modes of transport referred to on any
23 Australian public transport agencies website whatsoever. So no State Government in Australia is
24 offering an integrated transport solution to the public in any way shape or form.

25 Government's reluctance to provide a broader scope of services including demand responsive
26 services centres on a policy narrative that is yet to occur: to what extent, if any, should the new demand
27 responsive trips be payable or subsidised by the State's ticketing systems and what the ramifications of
28 such a decision are. Also contributing to the lack of inertia associated with an evolving public transport
29 structure is the fact that at present, the regulatory environment in Victoria is not integrated. As noted

1 earlier, there are presently thirteen transport regulatory agencies in Victoria, all with differing
2 objectives. This is hampering a fully integrated, holistic transport system and a transformation will be
3 required for the public sector to realise an integrated transport system.

4 This paper argues that private, demand responsive mobility services will be a permanent feature
5 of urban mobility and part of public transport. The public transport agency should be finding ways to
6 offer these services to commuters in order to increase commuters' expectations of their interface with
7 the public transport agency. Until we create a seamless platform for mobility services – particularly
8 those using more than one service in a single trip – commuters will continue to be encouraged to drive
9 (Zipper, D. 2018).

10 Government's reluctance to do this thus far, combined with the absence of any governmental
11 plan to do this in the future presents an opportunity for the private sector to lead, which is discussed in
12 the next section.

13

14 **MARKET OPPORTUNITY**

15 In an economic environment where governments are seeking ways to reduce operational expenditure
16 on low patronage public transport services or expand the level of service for the same level of
17 expenditure, the bus industry is experiencing challenges from a number of fronts. Within the Victorian
18 government, the policy informing the concept of DRT has evolved from the government providing low
19 frequency, flexible public transport services delivered by small multi passenger vehicles to support
20 social and accessibility obligations, to one that advocates the use of commercial ride sourcing apps such
21 as Uber. With no formal policy guiding how DRT services should operate and meet the government's
22 community service obligations, there is potential for uncoordinated, profit driven corporations to
23 influence high level government policy in a manner which will disadvantage low accessibility and
24 socially isolated Victorians. Worse, the potential exists for 'registered'¹ operators to deliver demand

¹ Registered bus operators are firms or individuals that operate buses for non-commercial or philanthropic reasons and do not have the same level of safety obligations as accredited operator.

1 responsive commercial services, including through the National Disability Insurance Scheme (NDIS)²,
2 where access to transport would be delivered by unaccredited transport operators, sold on a per seat
3 basis to families of the traveller which they would pay for to an extent with funding received from a
4 federal government agency. These operators do not have to adhere to rigorous safety regimes which
5 centre on the vehicle, the driver and the owner/operator, as bus operators do. This has ramifications for
6 public safety.

7 Recognising that the DRT transport system needs efficiency, service and safety improvements,
8 an opportunity exists for the Victorian VPA to demonstrate system improvements while at the same
9 time providing its members with an opportunity to take advantage of commercial opportunities based
10 on their existing business practices to provide integrated public and personal transport services to the
11 community. In other words, become total local transport providers rather than only providing one
12 transport mode.

13 Considering the concept of DRT as a broader personal transit enabler, a commercial opportunity
14 exists to develop an integrated transport network and booking system that provides a whole of journey
15 solution to meet the access needs of all Victorians. This evolves the thinking of DRT from a service
16 that fills in the low patronage gaps to one that is an enabler for an integrated personal transit network
17 across all modes of transport: including public transport, taxis, ride sourcing, community transport,
18 school transport and health care transport (excluding high care patients). The flexible operational and
19 pricing structure of DRT offers a commercial opportunity for bus operators to provide tailored services
20 to meet the access needs of the broader community in markets, as well as accommodate those who have
21 trouble finding transport fares.

22

23 The opportunities include:

- 24 • Rural and regional areas where there are no service or very infrequent services;

² The NDIS is a new scheme being progressively rolled out across Australia since July 2016. It plans to provide all Australians under 65 who have a severe disability with reasonable and necessary supports.

- 1 • Outer fringes of metropolitan areas where density is low and route bus services are absent or
- 2 infrequent;
- 3 • Customers with low mobility (those with a disability, seniors, families with prams) who find it
- 4 difficult to use/access the route bus service;
- 5 • Filling the gaps in outer/fringe metropolitan areas where bus routes are made more 'direct' to form
- 6 strategic transport corridors;
- 7 • Shuttle services between key activity / destination nodes;
- 8 • Surge capacity along peak public transport corridors;
- 9 • New growth areas where current demographics do not currently support a full bus service;
- 10 • Providing an integrated community transport services on behalf of councils and not-for-profits;
- 11 • Social services (playgroup bus, library bus, mobile community centre) to areas with poor public
- 12 transport accessibility (with additional subsidies from government);
- 13 • National Disability Insurance Scheme transport provider (NDIS);
- 14 • Health and patient transport services

15 A key aspect of DRT is the ability to structure fares to respond to different customer demands.
16 Variable pricing offers the opportunity for operators to tailor services to meet different market segments
17 at different times of the day to increase asset utilisation and reduce operating costs. Integration of
18 transport services should enable the operator to establish a pricing structure, which incorporates existing
19 state or federal government subsidies, to cover the cost of operations whilst delivering a cost effective
20 and enhanced community transit service across a variety of transport sectors at a reduced rate. To
21 provide an integrated transport network within the DRT environment, it will be necessary to adopt an
22 IT platform that is able to integrate customers with multiple service providers across multiple modes
23 whilst offering easy to use routing, booking and payment systems. This technology package, or solution,
24 is being developed, funded and delivered centrally by the Victorian VPA on behalf of its members. This
25 solution will be a tool that bus operator members of the VPA will use to diversify their business and
26 offer more than bus services to the communities in which they operate.

27 **PILOTING THE APPROACH: CONNECTU**

28

29 **Growth of a concept**

1 Concerns are being expressed internationally about the fragmentation of transport services including a
2 lack of leadership and monitoring of services, with poor data on costs and activities and the best use of
3 resources (Auditor General for Scotland and the Accounts Commission, 2011). In response to this, there
4 is increasing interest in the UK, Europe and in Canada in the better coordination of local transport
5 through a localised central hub. A report from Ontario, Canada, recommends coordination between
6 conventional and specialised public transport agencies, including:

7 *Long-term care agencies; social service agencies; hospitals, ambulance and patient transfer*
8 *operators; school boards and school bus companies; intercity bus companies; taxi operators;*
9 *and volunteer groups* (Ontario Ministry of Transportation 2012, p.105).

10 This inclusive coordination is again echoed in the UK (pteg, 2014). The report talks about the:
11 *sharing of resources, the opportunities associated with excess capacity and a centralised*
12 *service for dispatch of services, ...with harmonized hours, routes, transfer points and timing*
13 (Ontario Ministry of Transportation 2012, p.105).

14 The report recommends the central hub should develop a coordinated, agency-wide technology
15 plan encompassing all aspects of transport, such as vehicle location identification, transfer information,
16 maintenance tracking, electronic fares, passenger counters and security. There should also be
17 centralised asset management targeted to meet service quality and passenger growth targets while
18 maximising returns on investments. The central hub would provide information and detailed wayfinding
19 on all transport routes and stops, as well as connections to other modes of transport, including bike
20 paths and walking paths.

21 There have been a few partial steps taken to promote transport coordination in Australia. For
22 example, the Western Australian Planning Commission (2012) has produced guidelines for integrating
23 transport plans to achieve social inclusion, safety, air quality, to address greenhouse gas emissions,
24 achieve effectiveness and robustness and cost efficiency.

25 In 2006, the Victorian government implemented the *Transport Connections Program*. This
26 program aimed to improve access to services and facilities for the young, elderly and those with a
27 disability living in regional Victoria, as well as improving coordination and sustainability of community
28 transport, and the skills and independence of isolated people. The program ran for three years before
29 being closed, having failed to address issues of transport coordination, costs and the sustainability of

1 transport and the needs of local people not associated with a welfare agency (Victorian Auditor-
2 General's Report 2011). Additionally, submissions. Submissions by the bus industry to government
3 over a number of years, in relation to improving local transport opportunities, have failed to establish a
4 coordinated response, thus industry is leading the change.

5

6 **About ConnectU**

7 Seeing the need for such a transport system, the VPA and a major regional bus operator established a
8 trial of an integrated place-based local transport system. ConnectU commenced in August 2012, with a
9 planning and operational side, aiming to provide transport services to those without an alternative means
10 of travelling. A Regional Accessibility Committee representing all transport modes, government,
11 welfare organisations and other interested parties, provides a planning and coordinating role for the
12 region, and oversees the operational side of ConnectU. ConnectU aims to:

- 13 • better integrate the range of existing regional mobility opportunities and leverage community
14 development more broadly in the process, to improve social capital and sense of community,
15 reduce social isolation and improve wellbeing
- 16 • make better use of existing community mobility resources (e.g. vehicles, drivers, volunteers),
17 capturing synergies across agencies and increasing specialisation and coordination in service
18 planning and delivery, resulting in more efficient and effective client service
- 19 • provide more transport options and transport opportunities to a wider range of people,
20 particularly those at risk of social exclusion from mobility origins.
- 21 • Improve the integration of land use planning and local accessibility to services and activities.

22 *ConnectU* organises volunteer drivers to provide door-to-door transport with additional support,
23 as needed, such as assisting people to locate their hospital appointment. Other services available include
24 familiarisation with other transport options, such as travelling on a bus with a person and providing
25 transport information. A small fare is charged for each local trip, the manager's cost being met by the
26 local bus operator. Scheduling, booking and fares are shortly to be run centrally, covering all developing
27 regional systems in Victoria and South Australia.

28 The new information platform being developed by the VPA will be trialled in Warrnambool to
29 replace ConnectU's present manual booking system. If successful, members of the VPA will be able

1 to offer more than just bus services to the travelling public (thereby diversifying their businesses),
2 further embed their businesses into the communities in which they have operated for generations and
3 see more transport offerings to those communities.

4

5 **THE VOLUNTARY PROFESSIONAL ASSOCIATION (VPA)**

6 The Victorian VPA is acknowledged as unique in the Australian bus representative environment. It has
7 the resources to research and implement such a project on behalf its members. The vast majority of the
8 members of the VPA are relatively small mixed family businesses where the owner and administrator
9 of the business is also the driver of the bus. There is a strong degree of dependence and loyalty between
10 the operators and their VPA and operators have looked to the VPA over many generations, to steward
11 them through any sort of change: contractual, regulatory or operational. For instance, when the State
12 Government introduced a new accreditation regime between 2009 and 2015, which all operators had to
13 comply with, the VPA developed *help kits* and recruited a resource to personally steward each member
14 through a new Diploma level course at a learning institution, and change their record keeping systems
15 to be compliant to new management and information systems as established by the state in order to pass
16 government audits to have their accreditation renewed.

17 The state government has also contracted the VPA over the years as its agent to deliver on some
18 of its objectives such as fare evasion reduction and ticketing system implementation and is presently
19 working with government to implement rail replacement bus services to move displaced rail passengers
20 due to the level crossing removal project, improve on-board customer information and technology on
21 the metropolitan route bus network, and placing bicycle racks on route buses to improve inter-modality
22 and patron satisfaction, just to name some.

23 The principal task of the VPA is to negotiate a template bus service contract with the
24 government and commend it to its members every 10 years or so and it is this task that binds the
25 operators to the association – the VPA plays a fundamental role in the ongoing viability of its members
26 business and in the quality of services to passengers. This VPA behaviour is consistent with *agency*
27 *theory* as explained next.

28 Agency theory explains the dynamic between the bus operator and the VPA. The bus operator,
29 as the principal, delegates authority—in terms of control and decision-making about certain tasks—to

1 the VPA as the agent. When an agent is acting for the principal, it adopts behaviours such as performing
2 for the benefit of the principal or acting as the principal's representative (Fayezi et al., 2012). Lowe
3 (2016) discusses the concept of an agent representing and negotiating with two principals (operators
4 and government in that scenario) that still applies to this case study.

5

6 **Method of delivery**

7 This section details how the VPA is developing and delivering an integrated technological solution to
8 enable VPA members to diversify their business and offer more transport services to residents and
9 visitors in the communities in which they operate.

10 Initially, a Steering Committee was established, with a nominated Project Director to lead the
11 project and the project's aspirations and objectives were established and documented. These were
12 ratified by the Committee as follows:

13 *Establish a business opportunity for BusVic members that will provide members with a cost*
14 *effective opportunity to diversify and grow their business, adapt to a changing commercial and*
15 *regulatory environment, strengthen the relationship between members and customers through*
16 *an enhanced service offering.*

17 The project's objectives were ratified by the Committee as sixfold:

- 18 1. *To establish an agreed commercial strategy to support industry led implementation and*
19 *operation for DRT services in Victoria;*
- 20 2. *Identify a preferred DRT business platform for BusVic members to use;*
- 21 3. *Establish a commercial oriented social enterprise business model to develop and implement a*
22 *DRT platform;*
- 23 4. *Identify and secure an IT partner to deliver integrated public and personal transport services*
24 *to the customer;*
- 25 5. *Implement a trial DRT service in Victoria that includes regional and metropolitan localities;*
- 26 6. *Prepare a policy and strategy paper on DRT for the Victorian Government.*

27 The Committee defined the scope of Stage One of the project including, commercial modelling;
28 development of a business strategy; identification of any state and federal funding possibilities;
29 reviewing existing contractual obligations and identify necessary changes to existing contracts to inform

1 next wave of metropolitan and regional contract negotiations in order to allow the services to operate;
2 assess the current market of providers, including potential technology providers; procure an Information
3 Technology (IT) partner (preferably a local one); identify market opportunities including potential
4 revenue streams, system capital and operating costs; review the regulations and legislation pursuant to
5 the product and establish any potential changes required to regulations; identify the IT needs;
6 scheduling/routing, payment systems; necessary hardware; partner opportunities; appoint demand
7 drivers; develop a stakeholder engagement strategy; develop parameters for a trial in a regional location
8 to test the software for a broader rollout; develop commercial agreements and establish a governance
9 model; and bring the project to trial (Stage Two). Excluded from the project's scope in the trial and
10 development stage was negotiation with government for inclusion in the home state and other inter-
11 state ticketing systems, although this is slated for Stage Three.

12 As at time of writing, most of the abovementioned tasks have been undertaken and the
13 Committee has selected an IT partner who is now in the final stages of delivering the software to provide
14 the service. A trial of the software in the regional centre off Warrnambool is earmarked for late 2018.

15 This project's entire methodology is consistent with the stakeholder perspective (Freeman,
16 1984). This theory offers insights into a firm's propensity to undertake some level of social performance
17 to achieve social legitimacy. Stakeholder theory is a theory of organisational management and business
18 ethics that addresses morals and values in managing an organisation by identifying stakeholder groups
19 of a firm, describing and recommending methods by which management can give due regard to the
20 interests of those groups. The stakeholder view is used to define specific stakeholders of a corporation
21 and to examine the conditions under which these parties should be treated. A premise of stakeholder
22 theory is that focusing attention on stakeholders will lead to increased trust and cooperation and reduced
23 opportunism (Lowe, 2016). Stakeholder theory succeeds in challenging the usual analysis frameworks
24 by suggesting firms put stakeholders' needs at the centre of any action or organisation. This is the
25 approach taken by the VPA.

26

27 **CONCLUSION**

28 This paper looks at aspects of the changing face of public transport in Australia and how growing
29 passengers' preferences for DRT and the use of technology to access DRT is creating circumstances for

1 significant disruption of the way bus services are planned, contracted, delivered and regulated. This
2 technological advancement enables passengers to have more control over when and how they travel and
3 being less dependent upon legacy public transport modes timetables. The shifting passenger
4 preferences present an opportunity for operators to proactively adapt to better meet passenger needs by
5 diversifying their businesses and become total local transport providers, with the VPA and associated
6 operators taking the opportunity to proactively tackle this opportunity for change in Victoria.

7 The innovative approach currently being rolled out, can be seen as a win/win situation. While
8 extending the business opportunities for the bus industry in Victoria, it also responds to a considerable
9 identified need, as there is a high risk that the current transport changes will further disadvantage those
10 at risk of social exclusion, as well as a large unmet need for mobility. A reduction of traditional bus
11 services will leave many people with reduced travel options, thus at risk of increasing their exclusion
12 from mainstream society and reducing their wellbeing (Stanley, Stanley & Hensher 2012). Recent work
13 has also shown that the lack of transport options for youth and those on a low income is likely to be
14 creating additional societal costs in the form of risk of mental health problems and reduced regional
15 productivity as access to employment opportunities diminishes (Stanley et al. 2018). Plan Melbourne,
16 the Victorian government's Plan for Melbourne to 2050 includes a policy of a 20 minute
17 neighbourhoods, where most people can reach most services within a 20 minute public transport ride
18 or by active transport (Victorian Government 2017). The transport model outlined in this paper is ideal
19 for such a neighbourhood approach and the coordinated transport model will be extended to major urban
20 environments once regional models are established.

21 This paper reports on initiatives taken by the bus industry where the government has failed (to
22 date) to adequately respond to both changing circumstances and unmet transport needs, particularly at
23 the local level. It offers a model for transport that places the passenger in the centre, coordinating all
24 local travel, whatever mode, utilising the spare capacity of capital assets that have been identified as
25 present in most regions in Victoria. The model has been shown to have favourable benefit/costs, with
26 this only improving as the administrative costs around matching demand and supply are managed
27 centrally and thus achieving economies of scale. Maturity of the model will hopefully encourage the
28 government to discontinue the disaggregated and wasteful funding of local transport that relies on
29 assessment of a person's characteristics, such as age and disability, to decide if they can use a particular

1 form of transport or not, given that this option is even available. Indeed, with the extensive transport
2 disruptions evolving, it is possible that such a model as described in this paper could move to a more
3 central position in urban areas in terms of transport, absorbing a certain level of current transport in
4 private vehicles. This move is likely to also address some environmental concerns about use of cars,
5 potentially reducing the level of greenhouse gas emissions and also with less vehicles, creating more
6 opportunities for, and safer, active travel (Stanley et al. 2018 in press).

7 This paper contributes to knowledge in two areas: how social capital linkage, (Putnam, 1995,
8 Lowe, C. 2015) (being the connection between individuals and groups in different social settings in a
9 hierarchy where status and wealth are accessed), can improve the extent of involvement and business
10 innovation; and how non-profit associations, as facilitators of social capital linkage and innovation, can
11 sustain a firm's operation by improving service levels for the firm's customers.

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