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**The humble school bus: An opportunity for  
improving regional mobility**

**By**

**John Stanley<sup>a</sup> and Janet Stanley<sup>b</sup>**

<sup>a</sup> Institute of Transport and Logistic Studies (ITLS), The  
University of Sydney Business School, Australia

<sup>b</sup> Melbourne Sustainable Society Institute, University of  
Melbourne, Australia

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**TITLE:** **The humble school bus: An opportunity for improving regional mobility**

**ABSTRACT:**

Many regional and rural Australians are at risk of social exclusion and lower wellbeing due to poor accessibility options. The paper uses a Victorian regional case study to demonstrate how regional/rural transport disadvantage can reduce personal wellbeing, showing the high monetary cost of diminished wellbeing. It argues for a coordinated and shared response to local regional/rural transport, using the example of wider use being made of dedicated school bus services to improve regional mobility choices. Barriers to opening up the school bus to a broader range of passengers are reviewed and expected benefits are identified, supporting wider use.

**KEY WORDS:** *Bullying; children; local transport; school bus; social exclusion; personal wellbeing.*

**AUTHORS:** Stanley and Stanley

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**CONTACT:**

INSTITUTE OF TRANSPORT AND LOGISTICS STUDIES

The Australian Key Centre in Transport and Logistics  
Management

The University of Sydney NSW 2006 Australia

Telephone: +612 9114 1824

E-mail: [business.itlsinfo@sydney.edu.au](mailto:business.itlsinfo@sydney.edu.au)

Internet: <http://sydney.edu.au/business/itls>

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## 1. Introduction

As is common in many developed economies, people who live outside the larger urban areas in Australia tend to be more dependent on car travel to access opportunities than their metropolitan counterparts. For those unable to drive or otherwise access a vehicle, a scarcity of other forms of transport may mean they have difficulty accessing their essential needs, such as health, education and employment, visiting friends and shopping, thereby risking social exclusion and low wellbeing.

Such rural/regional accessibility problems often co-exist with potential resource availabilities that could improve access opportunities. Nutley (1988), for example, talked about optimistic expectations for 'unconventional modes' (e.g. post buses, social cars, community transport) in rural/regional UK during the 1970s and 80s. Nutley noted, however, that expectations about such opportunities were often disappointed, as has been the case with some other community led local transport initiatives and much demand responsive transport in low volume settings (Currie and Fournier 2020).

Spare capacity, existing alongside unmet regional mobility needs, characterises much of the Victorian dedicated school bus network, the major means of providing travel to/from school within rural and regional Victoria. Victoria's dedicated school bus network is vast, including many areas where public transport is minimal or non-existent. Across regional Victoria as a whole, school buses travel 31.1 million kilometres a year, more than double the 14.3 million kilometres travelled by regional route bus services, even though school buses operate on only 191 days a year (Victorian Government 2019). However, the wider public lacks access to the school bus service.

The stark difference between coverage of the school bus service and public transport in rural and regional areas suggests an opportunity for improving travel opportunities at low cost. However, as Gristy (2019) points out in relation to the UK, school bus services lie between schooling and transport government responsibility and policy. This approach presents as a barrier to realizing the potential additional regional mobility opportunities that could be available through more effective use of the school bus network.

Dedicated school bus services are present in many countries, where a vehicle picks up school children from a bus stop, takes them to school and delivers them back to the stop after school, mostly outside major urban areas. The service is usually only for 'eligible' school children. Opening-up the service for use by others is rarely discussed in the academic literature or in planning/operational conversations. Adding post-school students or students who do not meet distance eligibility criteria for a seat on the school bus, is sometimes possible if capacity is available, but usually administratively cumbersome. Extending availability to the wider community is rarely considered.

While many countries offer a dedicated school bus service, it is only one form of transport to school for children: children can walk or cycle where the distance is relatively short, use public transport (if available), or travel by car. The share of modes used by children to get to and from school varies greatly between countries. On school days in the US, 480,000 yellow school buses carry twice as many passengers as public transit. Most children in the UK travel to school by public bus; however, there is an increasing trend to use dedicated school buses outside London, although confronting growing funding pressures. In New Zealand, use of the school bus is diminishing, being replaced by private cars (Gristy 2019). The use of dedicated school transport is rare in The Netherlands and Germany. In the

Netherlands children commonly walk or ride a bicycle to school. In Germany, public transport timetables may be adapted to meet the timetable of school children, as is the case in New York City.

This paper looks at the wider use of school buses as one potential opportunity to improve mobility options in rural/regional areas. It offers evidence for the connections between mobility, social exclusion and wellbeing in regional Victoria, demonstrating the importance of transport. This is an area that lacks an extensive research base. The paper examines some key barriers, showing potential benefits from broadening access, to help make a policy-based case for change.

Section 2 summarizes literature relevant to regional mobility-related social exclusion and wellbeing, with a focus on children/youth, and draws attention to literature on regionally co-ordinated mobility solutions. Section 3 then presents evidence of the benefit of greater assessability in regional Victoria. Section 4 discusses major barriers to the wider use of school buses and introduces the risk of child abuse, a common argument preventing this use. It also introduces the problem of bullying. Section 5 further asks whether the identified abuse barriers are real or imagined, pointing to reduced bullying as a potentially significant additional benefit of allowing wider access to school buses. Section 6 sets out the paper's conclusions.

## **2. Literature review**

### **2.1 Links between social exclusion, wellbeing and mobility**

Social inclusion can be described as the ability to participate fully in society (SEU, 2003). Measures of a person's social exclusion status commonly include income and participation in activities (Burchardt et al. 2002; Stanley et al. 2011). Wellbeing is a multidimensional concept that can be measured in personal terms of what is most valued, often being referred to as subjective wellbeing. This has primarily focused on assessing evaluative and affective approaches using standardised self-report scales of life satisfaction and positive and negative affect respectively (Diener 1994; Australian Centre on Quality of Life 2017). High levels of life satisfaction and positive affect, along with low levels of negative affect, reflect wellbeing.

The UK Social Exclusion Unit's innovative report on transport and social exclusion (SEU, 2003) stimulated wider research interest in this topic, particularly in the UK, Europe, Australia and Canada. Research has been undertaken on, for example, vulnerability of particular groups of people, especially seniors (Banister and Bowling 2004; Mollenkopf et al., 2005; Shergold and Parkhurst 2012; Spinney et al., 2009), forced car ownership (Currie and Senbergs, 2007; Mattioli, 2017), with a small amount of research on rural transport and social exclusion (e.g. Currie et al., 2005; Kamruzzaman and Hine, 2011; Shergold and Parkhurst 2012; Stanley et al., 2019). There has been little work done on the association between regional transport and good social outcomes.

Wilkinson and Marmot (2003) note that social exclusion increases the risks of divorce and separation, disability, illness, addiction and social isolation, forming vicious circles that deepen the predicament people face. They also point out that, as well as these adverse direct effects, health can also be compromised indirectly by living in neighbourhoods with concentrations of deprivation, high unemployment, poor quality housing, limited access to services and a poor-quality environment. A common theme in the small literature on regional mobility and risks of social exclusion and reduced wellbeing, is the important role of the car. However, this excludes those with low or no car availability, such as young and older population groups and some people with a disability. There is a recognition that

accessibility to people and services is particularly important, rather than mobility being an end in itself (e.g. Chikaraishi et al., 2018; Currie, 2007; Mollenkopf et al., 2005; Yamamoto and Zhang, 2018; Shergold and Parkhurst, 2012).

Research undertaken in regional Victoria found that, to achieve good levels of personal social inclusion and wellbeing, the ability to be mobile is important, along with ‘adequate’ levels of social capital, connection with community and income (Stanley et al., 2011, 2019). Not surprisingly, social exclusion risk has been found to be higher in rural and regional Victoria than in Melbourne (Currie, 2011), a similar conclusion reached for the UK by Shergold and Parkhurst (2012).

Apart from enabling basic needs to be accessed, such as education, employment, health and access to other people and services, empirical findings show that the ability to be mobile facilitates the accumulation of social resources and builds personal capabilities, leading to a sense of satisfaction, environmental mastery, self-acceptance, positive emotions, interpersonal interactions, and better mental health (Vella-Brodrick and Stanley, 2013). These less direct pathways linked to transport/mobility also offer personal and societal social and economic benefits, such as those associated with diminished dependence on welfare support, health services, and increased productivity.

Some values of these social attributes have been measured in monetary terms, showing the high value of mobility in reducing the risk of social exclusion. For example, our recent regional work has shown that the value of one extra regional trip to a person at risk of mobility-related exclusion, at mean sample household income, is A\$15.40 in 2016 prices (Stanley et al. 2019).

## 2.2 Children and youth as the most transport disadvantaged

### 2.2.1 Youth

Literature on children and youth is included in this review because of the critical place they occupy in regional school bus use. Many youth express lower wellbeing in Victorian rural areas when compared to Melbourne residents (Table 1). Of particular concern is the low satisfaction of young people in regional/rural areas in relation to what may happen to them later in life.

**Table 1: Responses by adolescents to wellbeing questionnaire**

	Regional/rural Victoria	Metropolitan Melbourne
<b>How satisfied are you with ...</b>	<b>Average score (out of 10)</b>	
Getting on with the people you know	7.6	8.2
The things you have, like the money you have and the things you own	6.9	8.0
Doing things away from home	7.3	7.8
The things you want to be good at	7.1	7.5
What may happen to you later in life	5.6	7.2

**Source:** Australian Research Council Research (unpublished data)

Research in regional Victoria and South Australia suggests that children and youth are most likely to experience transport disadvantage in a regional setting, particularly in rural areas (e.g. The Australian

Centre for Social Innovation 2017; Stanley and Banks, 2012). Poor accessibility can be shown to have a severe impact on their education and employment opportunities. Trip making as such, may be quite high for some regional youth, many of whom are able to undertake shorter distance travel by active transport (Stanley and Stanley, 2018). However, being unable to travel to undertake a broader range of activities may have adverse consequences for building important bridging social capital, to facilitate activities such as higher education and job seeking (Vella-Brodrick and Stanley, 2013). As a consequence, many young people are moving from rural to larger urban areas, leaving smaller communities predominantly grey-haired.

### **2.2.2 Pre-school children**

A particularly concerning link with poor transport in regional and rural areas relates to pre-school children. International assessments of student learning show that educational disadvantage is a bigger problem in Australia than in many comparable countries and has not improved over the past 15 years (Perry, 2017).

School readiness can be assessed through measures of competence in the following domains:

- physical health and wellbeing
- social competence
- emotional maturity
- language and cognitive skills
- communication skills & general knowledge

The Australian Early Development Census (AEDC) shows that just over one in five children are developmentally vulnerable on one or more of these competencies (The Australian Early Development Census, 2018). AEDC data shows that where children live can have an impact on their development. Children living in very remote areas in Australia were twice as likely as those living in major cities to be developmentally vulnerable on one or more domains (47% and 21% respectively). Two years of pre-school has a significant impact on a child's developmental milestones and future opportunities and is now understood as a critical investment in human capital. The economic cost to society of a failure to move a person from being disadvantaged has been shown to be in the order of A\$1.4 million per person over their lifetime (NIEIR, 2016).

## **2.3 The integrated transport model**

As noted, many groups in regional areas have mobility challenges. At the same time, there is often evidence of spare resource capacity available in regional communities, particularly in the form of vehicles that sit idle at times during weekdays, evenings and/or at weekends, such as school buses and community or paratransit (Denmark, 1998; Nutley, 1988; Stanley and Stanley, 2004).

The idea of better usage of vehicles and other resources, through co-ordinating or integrating existing services or assets to meet a wider range of mobility needs, is an obvious policy opportunity in response to this combination of circumstances. Opportunities for such co-ordination were identified in the UK some 60 or so years ago, when a government inquiry suggested integration of rural passenger services with school, goods and postal traffic (Nutley 1988), then in the 1980s, associated with deregulation of passenger transport outside London. Banister and Norton (1988), for example, identify parish councils as one possible means of pursuing integrated rural transport planning, perhaps involving the use of a



transport broker to encourage agencies to share resources, across commercial public transport services and other regional transport services run by agencies and the voluntary sector.

In recent years, the idea of community transport hubs has attracted interest in the UK, as a means of identifying and meeting those needs, and providing information about travel options, often through some form of community transport/demand responsive transport provision. The community hub model is locally driven, makes use of volunteers but needs government support. North Yorkshire County Council, for example, partnering with communities and transport providers within its County area, has been active in this area.<sup>1</sup> While sustainable funding is typically a major constraint, the use of spare capacity on school buses does not appear to be part of the scope of such hubs. Discussion about possible use of spare seats on school buses by the general community seems unusual.

An approach with some of these characteristics has been running at Warrnambool in regional Victoria and Port Pirie in South Australia (Stanley and Stanley, 2018). The model consists of a Regional Accessibility Committee, comprised of people with an interest in the provision and/or receipt of transport within the region, as well as those involved in land use and urban/transport planning. Warrnambool's *ConnectU*, for example, coordinates spare capacity offered by participating agencies for use in the local catchment area and offers a volunteer-based transport service if public transport is not available or if a taxi/uber style service is not affordable or able to be used by the passenger, such as the need for extra assistance. Substantial user benefit has been measured, including an improvement in personal wellbeing (Wines et al., 2014). There has been some success in encouraging resource sharing but less than is potentially feasible, reflecting the unwillingness of some agencies with community transport, to participate. These challenges illustrate the Gristy (2019) and Nutley (1988) observations about governance and ownership barriers.

An integrated approach to service provision in low volume settings is consistent with findings reached by the UK House of Commons Transport Committee (2014) and the Ontario Ministry of Transport (MOT Ontario, 2012). A UK report (PTEG<sup>2</sup> 2014) similarly recommends the establishment of a 'Connectivity Fund' to help meet such needs, with contributions from a range of government departments, such as health and education, recognising the importance of transport in achieving the desired outcomes of these departments. However, the Auditor General of Scotland and the Accounts Commission (2011) notes the difficulties that can be associated with convincing agencies to release some control and to work at breaking down silos of responsibility for the greater good.

Regional co-ordination of mobility services has also been raised as a desirable policy direction in South Australia (e.g. Saunders et al., 2004) and similar conclusions were made in a 2015 review of school bus services in that State (Government of SA, 2015) but without progress on implementation.

The literature thus shows that the idea of integrating regional transport services to achieve resource economies and broaden service offerings has been around for many decades but that achievement typically exceeds aspiration.

### **3. Mobility, social exclusion and wellbeing in regional Victoria**

Discussion of population groups most likely to be at risk of social exclusion, and associated reduced wellbeing, due to relatively poor mobility opportunities typically highlights older people, youth, people

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<sup>1</sup> <https://www.northyorks.gov.uk/public-transport>

<sup>2</sup> Now known as the Urban Transport Group.

with a disability, people with language difficulties (e.g. recent arrivals), those on low incomes and those with little or no car access, with women and single parents sometimes included (Clifton and Lucas, 2004; Currie et al., 2007; Currie and Delbosc, 2011a). Stanley and Stanley (2018) have suggested that pre-school children and their carers should be added to this list in regional Australia, particularly under the influence of a shortage of affordable housing opportunities in larger cities and towns, leading households to increasingly choose cheap rental accommodation in relatively inaccessible rural locations. Melbourne had 24.3% of its population aged under 20 in 2016, with 19.0% aged 60 or over. Regional Victoria's comparable shares were much higher, at 30.4% and 34.2% (ABS, 2017). This suggests that, ceteris paribus, relatively greater transport disadvantage should be expected in the regions than in Melbourne.

The authors of this paper were part of an Australian Research Council (ARC) supported project, 'Investigating Transport Disadvantage, Social Exclusion and Wellbeing in Metropolitan, Regional and Rural Victoria', which has been widely reported (see, for example, Currie, 2011; Stanley et al., 2011, 2019). We use the project data here because, although now about 12 years old, it is extremely rich in detail and complements some of our (less detailed) research undertaken before and after that work, which has suggested that the main findings of the detailed research remain relevant.

Information was gathered from a self-completed Victorian government travel questionnaire between April 2007 and June 2008. A number of respondents to this travel survey, aged 15 years and over, were then given the opportunity to opt in to an additional comprehensive home-interview survey. This gathered detailed information on factors such as: demographics and household composition, social exclusion risk, social capital, connectedness to community, subjective wellbeing, psychological wellbeing, personality, transport usage and transport difficulties. Surveys were undertaken in Metropolitan Melbourne and the Latrobe Valley (a Victorian regional area). A supplementary survey then targeted additional numbers of people who were likely to be highly socially disadvantaged, since the researchers found that such people were unlikely to respond to the travel survey questionnaire, a pre-condition for being able to opt-in to the subsequent household survey. This paper uses the regional survey data.

Stanley et al. (2011, 2019) showed that bridging social capital, household income, age and trip making are important contributors to regional social inclusion, which in turn contributes to improved personal wellbeing. In a related analysis, Delbosc and Currie (2011b) explored the association between social exclusion, personal wellbeing and a latent variable, transport disadvantage. Using combined Melbourne metropolitan and regional Victorian data, they identified four factors describing transport disadvantage: general transport disadvantage; transit disadvantage; vulnerable/impaired; rely on others (Delbosc and Currie, 2011b). These factors were derived from (factor) analysis of responses to questions about how easy or difficult respondents find each of nineteen different travel attributes.

The current paper undertakes a similar analysis of transport disadvantage using only responses to the travel difficulty questions from the Victorian regional data. Initial analysis produced five components (with eigenvalues exceeding 1) but two of these components were not distinct in terms of reflecting 'transport disadvantage'. The solution was constrained to three components, which resulted in recognisably distinct aspects of transport disadvantage, identifying three of the four components noted by Delbosc and Currie (2011b) but with some consolidation bringing in their fourth component. The three identified components, shown in Table 2, are: *general transport disadvantage*, which broadly spans a person's travel/accessibility/lifestyle circumstances; *transit disadvantage*, describing public transport opportunities; and, *transport vulnerability*, which Table 2 shows is mainly about personal

characteristics that affect travel choices (e.g. feeling comfortable being around others, feeling safe, physical capacities, etc).

Table 2 shows the Pattern Matrix for the Principal Component Analysis of the regional data, the three components explaining 48.8% of the variance, two-thirds of which is contributed by the first component (general transport disadvantage). Each component contains several attributes that load strongly and nearly all attributes load on only one component. Correlations between each pair of components is weak, supporting the focus on three components.

**Table 2: Pattern Matrix for Principal Components Analysis on Travel Attributes<sup>a</sup>**

Travel Attribute: How easy or difficult do you find ...	Component		
	General transport disadvantage	Transit disadvantage	Transport vulnerability
Being able to get around reliably	<b>.848</b>	-.005	-.059
Finding transport so you can travel	<b>.791</b>	-.017	.083
Being able to travel when you want to	<b>.766</b>	-.163	-.043
Getting to places quickly	<b>.610</b>	-.093	.132
Finding the time to travel when you need to	<b>.587</b>	.019	.210
Being able to get to bus/train/tram stops/stations	<b>.492</b>	<b>-.307</b>	.130
Covering the costs of your transport	<b>.418</b>	.090	.383
Buses/trains/trams being available at weekends	.244	<b>-.800</b>	-.100
Buses/trains/trams being available at night	.142	<b>-.766</b>	-.141
Buses/trains/trams operating frequently	.291	<b>-.717</b>	-.033
Having to rely on others for transport	.252	<b>-.395</b>	.231
Feeling comfortable being with people you don't know on public transport	.136	.282	-.078
Needing help to get around on your own	.000	.039	<b>.646</b>
Being able to understand where to go	.049	.088	<b>.640</b>
Finding someone to provide assistance when transport is available	.169	-.034	<b>.621</b>
Feeling safe from theft/attack when travelling on your own	-.227	-.321	<b>.603</b>
Being able to make bus/train/tram connections	.063	-.130	<b>.568</b>
Being able to physically get onto/off buses/trains/trams	.148	.227	<b>.541</b>
Being able to get information about buses/trains/trams	.141	<b>-.301</b>	<b>.327</b>

Extraction Method: Principal Component Analysis.

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Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 13 iterations.

The scores for each attribute with a component score of >0.3 (bold in Table 2) were added to provide a simple index of transport disadvantage for each respondent for each of the three components. Responses to each question ranged from 1 = very easy to 5 = very difficult, such that those with the highest index values will have the most difficulties, or most potential transport disadvantage, on the component in question.

Building on Stanley et al. (2011, 2019), the three measures of transport disadvantage were then used with measures of household annual income (squared), age (squared), bridging social capital<sup>3</sup> and whether or not a respondent was part of the regional special survey (dummy variable), to examine association with personal wellbeing, as measured by the Personal Wellbeing Index (Ryan and Deci 2001). Descriptive statistics on each variable are shown in Table 3. Pearson correlation co-efficients (not shown) indicate that each of the exogenous variables was significantly associated with PWI ( $p < 0.01$ ). The resulting model in Table 4 explained 39.3% (adjusted  $R^2$ ) of the variance in Personal Wellbeing Index scores of the regional sample.<sup>4</sup>

**Table 3: Descriptive Statistics for Regional Victorian modelling (N=168)**

<b>Variable</b>	<b>Measure</b>	<b>Mean</b>	<b>Std. Deviation</b>
Personal Wellbeing (PWI)	Average of 8 items, each scored from 0-10 on a Likert Scale	6.91	1.75
Household income/day (sq.)	\$AUD/day squared	51118.99	62885.53
Age squared	Age in years, squared	2341.52	1964.49
General transport disadvantage	Index	16.97	5.20
Transport vulnerability	Index	17.14	4.27
Transit disadvantage	Index	17.30	4.25
Bridging social capital	Sum of 2 items each scored from 1-6 on a Likert scale	6.92	2.97
Special sample	Dummy variable (0 = yes; 1 = no)	0.59	0.49

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<sup>3</sup>Bridging networks allow people to 'get ahead' by accessing resources and opportunities through more distant contacts. The modelling reported in this paper has made the strong assumption that frequency of interaction can be treated as a continuous variable (from 1 to 6 on each variable) and that frequencies of contact with particular groups can be added to give an indication of strength of bridging social capital respectively. Bridging social capital comprised two groups: work colleagues; and people associated with groups in your community (such as church, sporting, clubs, school, self-help or voluntary groups).

<sup>4</sup> All VIF factors are under 2.1, so multi-collinearity is not of concern.

Looking only at significant variables (10% level or better), the model suggests that a person’s personal wellbeing index score will increase as their level of bridging social capital increases. The squaring of household income and age suggests increases in PWI at higher levels of these variables and at lower levels, with some weakening during the middle levels. However, the squaring is only modest in both cases, a linear version of each variable explaining almost as much variance in PWI as the squared version. PWI is also predicted to increase as the value of two of the three transport disadvantage indices increase: general transport disadvantage and transit disadvantage. The transport vulnerability index was not significant, suggesting that those who may be transport vulnerable have been able to make suitable arrangements to cater for many of their mobility needs, or (less fortunately) have adapted to their circumstances. The special sample is not significant at 10% level but is correlated with bridging social capital, age and general transport disadvantage (1% level), which are significant.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.240	.605		11.970	.000
Bridging social capital	.159	.039	.271	4.088	.000
Special sample	.541	.279	.153	1.941	.054
Household income/day squared	.0000035	.000	.126	1.887	.061
Age squared	.000229	.000	.257	3.424	.001
General transport disadvantage index	-.077	.029	-.230	2.623	.010
Transit disadvantage index	-.057	.034	-.139	-1.684	.094
Transport vulnerability index	-.010	.035	-.024	-.279	.781

a. Dependent Variable: Personal Wellbeing Scale

The co-efficient on household income squared can be used to suggest the implicit monetary value of an increase in PWI, which can assist in evaluating the benefits of initiatives that can increase personal wellbeing. Using that co-efficient, at mean values of the other explanatory variables, a predicted one unit increase in the value of PWI would result if household income per day increased by \$A350 (rounded; 2008 prices). This is 50% higher than average sample daily household income at the time. This sounds high but a one unit increase in PWI is very large. For example, Biddle et al. (2020), in a recent survey of the effects of the coronavirus epidemic in Australia, found the virus was associated with a 0.4 unit average fall in life satisfaction score, which is a very similar measure to PWI. Changes in PWI associated with increasing access to seats on school buses would be expected to increase a person’s PWI by very much less. An advantage of quantifying benefits through increases in PWI is that measurement is easy, relying on a small number of well-established questions to measure PWI (Australian Centre on Quality of Life, 2017).

Because household income enters the model in Table 4 in squared format, the implicit value of a unit increase in PWI increases as household income reduces. Thus, for someone at half sample mean household income, a one unit increase in PWI is equivalent to an increase of \$435 (rounded; 2008 prices) in household income/day, whereas for someone on double sample mean household income, it is

equivalent to an increase of \$250 (rounded). By implication, the value of a given increase in PWI is higher the lower the household income of the affected person.

In terms of the interests of this paper, the model suggests that personal wellbeing of regional Victorians will improve the more that they have travel options that meet their needs: they are able to get around reliably, can find transport so they can travel, are able to travel when they want to travel, can get to places quickly, can find the time to travel when they need to, are able to get to public transport stops/stations and can cover the costs of their transport. Personal wellbeing will also be improved if available public transport travel opportunities, such as weekend and night-time service availability, service frequency and associated service information, are of a good standard.

Table 5 identifies the main kinds of activities that respondents to the original and special regional surveys reported they could not do because of transport difficulties, with associated frequencies. Original regional survey respondents had significantly lower risk of social exclusion and higher personal wellbeing than respondents to the special survey. The most frequent activities that original survey respondents were not able to do because of transport difficulties were enjoyment (getting out and about = 8), visiting friends and relatives (8) and sporting/leisure (6), activities that are likely to build bridging social capital, which is good form wellbeing.

**Table 5: Activities regional people cannot do because of transport problems: Latrobe Region surveys (2008)**

Activity unable to undertake	Original survey respondents (N=148)	Regional special survey respondents (N =87)
Work	3	13
School/university/TAFE	1	5
Shops	0	1
Sporting/leisure	6	14
Personal business	1	4
Visiting friends and relatives	8	12
Accompanying a child/elderly, etc	2	2
Enjoyment (getting out and about)	8	15
Interview for jobs	1	8
TOTAL	30	74

**Source:** Australian Research Council Research (unpublished data)

The original regional survey group only elicited 30 replies to this question (~1 per 5 respondents), an indicator that mobility-related social exclusion risks for this group were relatively low. Conversely, and even though they averaged slightly more trips a day, the special sample group came up with 74 activities that could not be done because of poor transport (~5 per 6 respondents). Interestingly, the same activities appear as those not able to be done because of poor transport as were cited by the original sample survey respondents: enjoyment (15), sporting/leisure (14) and visiting friends and relatives (12). Of some concern, given the large number of the special survey group who were unemployed, 13 respondents identified work as an activity they could not do because of poor transport, with another 8 reporting an inability to get to an interview for jobs.

The picture arising from the Victorian regional (Latrobe) study is common across regional Victoria and regions in other Australian states. For example, whereas 15.6% of journeys to work in Melbourne in 2016 were by public transport, only one regional local government area had a public transport mode share higher than 5 per cent (Geelong, the State's second city). Shares closer to 1 per cent are common in rural shires. Towns with fewer than 5,000 population rarely have a local route bus service and use of such services is heavily geared towards concession travellers (especially youth and seniors). Community transport services may be available to help meet mobility needs of those dependent on an agency for assistance, particularly for medical or welfare services, but these services are not widely available and access is usually tightly constrained to particular groups of people and group activities.

Overall, the evidence suggests that regional Victorian residents are more likely to be at risk of mobility-related social exclusion and reduced wellbeing, because of a shortage of travel options. The consequences of a lack of transport can be quite severe, contributing to isolation, unemployment, poorer child health and development, an increased the risk of family violence and reduced ability to access medical and dental services. Thus, providing affordable travel capacity is important for personal welfare (and economic productivity) in regional areas, with a high monetary value. The wider use of school bus services provides one opportunity to increase regional mobility opportunities in Victoria, as it does in neighbouring South Australia, where regional route bus service levels are less than in Victoria.

#### **4. School bus networks and barriers to shared use**

In Victoria, the school bus network carries over 65,000 students each school day (191 days a year) on approximately 1500 school bus routes, catering for around twelve million trips annually (Victorian Department of Education 2017). The service cost to the Victorian Government in 2017-18 was \$A300 million (Victorian Government, 2020), a significant sum.

The authors' discussions in Victoria and South Australia suggest that there are three major barriers stopping wider use of the school bus system, both in terms of providing wider access to spare seats on existing services, and using the vehicle when it is not required for the trip to/from school. Those barriers are:

1. policy restrictions on use and the silo mentality they reflect;
2. budget constraints; and,
3. concerns about child abuse, should adults be able to travel more freely on school buses.

##### **4.1 Policies limiting school bus use**

Government regulations and policies affecting school bus safety are common in most countries. In Australia these relate to such things as the information and maintenance management systems required of the bus operator, the mechanical integrity of the bus, driver skills and child protection provisions (known as *Working with Children* legislation in Australia). Policies also cover matters such as safety management of children getting on and off the school bus when there is/may be other traffic present. These are widely accepted as reasonable. Importantly, in terms of the subject matter of the current paper, there are also policies and regulations about who is qualified to travel in a school bus and under what circumstances, as managed by the education sector. As illustrated below, these are highly restrictive, administratively complex and arduous.

In Australia, regional/rural children qualify for free school bus travel if they live more than a designated distance from the nearest school. In Victoria, policies and regulations relate to the eligible age of the

passenger (5 to 18 years) and the requirement to live 4.8 kilometres or more from the nearest school. Additionally, *post-secondary students and apprentices* may travel where all of the following conditions are met:

- the distance from where they live to public transport is 1.6 kilometres or over
- written undertakings are given to the coordinating school principal that other transport arrangements will be made if seating becomes insufficient due to an increase in the number of students with a higher priority of access to travel, or a smaller vehicle, is engaged for the service
- written references are provided
- seats are available on the bus
- the person has been out of education for less than two years
- there is no additional cost incurred by the government and
- they re-apply to travel each school term.

Pre-school children in Victoria, who are four years and over, can travel if three written undertakings and confirmations are made to the school principal, such as the child can travel independently, there is room on the bus, the child is met at the bus stop and written approval is given by the principal controlling the bus. The parent of a pre-school child can apply to travel on the school bus subject to available seating. The general public can travel if the conditions relating to post-secondary students (except the time from school) are met, plus the following:

- if a fare is paid in advance of travel
- a 'working with children check' is completed
- a criminal check is completed.

A school bus is not available for movement between schools and off-school education services, such as swimming lessons. Other states have similar regulations, with slight variations. In short, using Victoria as an example, school bus use *may* be widened beyond school students under current regulatory/policy provisions but there are very tight restrictions on who can make use of the system and under what circumstances. This tight definition on eligibility has its origins in the reality that the services in question are intended to be school bus services, not public transport services, and service provision is usually funded from an education budget, not a transport budget, even if the transport department is contracted to deliver the service (itself or by private contractors). Thus prospective wider societal benefits from service provision, such as enhanced social inclusion or improved regional labour market flexibility, do not enter into calculations on service economics or financing. Such 'silo thinking' is a major barrier to improved regional mobility, as illustrated for the UK by Gristy (2019). It requires whole-of-government thinking to knock down functional barriers.

#### **4.2 Tailoring resources to the school bus task**

Governments everywhere face the problem of allocating scarce resources. When the school bus system is seen as simply that, a school bus system, school bus transport arrangements seek, as far as possible, to ensure that vehicle sizes are matched to expected demand levels, based on the number of eligible students in a particular service catchment (Department for Education, 2017). Thus, vehicle size is generally reduced where there are fewer children travelling than previously, or school bus routes may be amalgamated to save costs, even though this will mean increasing the distance travelled by many children. The school bus system is not viewed as part of local transport based on local needs for travel,



but a specialized service for particular young passengers, provided at lowest cost-student, which means tailoring the vehicle/driver fleet requirement as tightly as possible to student numbers.

#### **4.3 Fear of child abuse**

Beliefs about possible predatory behaviour by adults were found to be a major barrier to school buses being more widely available to the travelling public in both Victoria and SA. As a result of a rape of a student in SA in 2010, by an after-school-hours-care worker, the DeBelle inquiry was undertaken into sexual abuse in SA's schools (Washington, 2013). Despite the fact that the assault occurred at a school and that none of the 43 recommendations related to school transport, the researchers were told that there are now more stringent requirements about adults travelling on school buses in SA.

However, this view was not held by all locals. For example, one interviewee in South Australia noted that the concern about possible abuse of children by adults travelling on a school bus is an overreaction by the South Australian government. Another noted that 'if parents were offered the chance to use the [school] bus, a lot would take it up', a reflection of the mobility challenges faced by many people outside the major urban locations. There was often a lack of awareness that limited provision for wider access to school buses for some people already exists, despite the administrative hurdles. This confusion about access appears to be held by some schools.

### **5. Barriers to bus passenger mix: Real or imagined?**

#### **5.1 Child abuse on school buses**

Although concern was expressed in some consultations held in Victoria and SA about the risk associated with general passengers sharing the school bus, no academic articles could be found that reported children being abused by an adult member of the public while travelling on a school bus. However, there are a few media articles on assaults being perpetrated by the bus driver, these occurring on a specialized school bus carrying children with a disability (see for example, Jacobs, 2018; Tietzel and Founten, 2014).

The academic literature does report four other important findings: that children may be vulnerable at the bus stop; some children may be vulnerable to abuse from older children who travel on the school bus; that children may be vulnerable to bullying on the school bus; and that predatory behavior towards children is lessened when adults are present (Fluke, 2016; Gallagher et al., 2008; Hawkins et al., 2001). The next section discusses the apparently frequent and possibly severe consequences of bullying.

#### **5.2 Bullying on school buses**

While fear of the risk of sexual assault of a child on a school bus is given prominence, another more common event in relation to child safety, bullying, is rarely discussed in relation to school bus transport (Henderson, 2009; Sampasa-Kanyinga et al., 2016). Bullying can be described as intentional aggression perpetrated by one or more individuals repeatedly targeted toward a person, where there is an imbalance of power or strength (Olweus, 2013).

Bullying is said to pose a serious risk to mental health (Fluke, 2016). The consequences for a child can take the form of suicide risk, depression and anxiety, loneliness, low self-esteem, insomnia, decreased school performance and avoidance of school (Fleming and Jacobsen, 2010; Ford et al., 2017). Problems may extend beyond the victim, as it has been found that witnesses to bullying can also experience negative mental health outcomes (deLara, 2012; Rivers et al., 2009). In interviews with 30 rural bus

drivers, all reported that bullying and aggression took place daily on school buses, most considering this to be a significant problem (deLara, 2008)

The issue of bullying within school grounds has received considerable research attention. In contrast, the school bus, a largely unsupervised part of a child's day, has been the subject of only a few academic articles, mainly from the US, but these suggest that harassing and abusive behaviour does occur on the school bus. Raskauskas (2005) found that about two incidents of bullying occurred per 25-minute bus ride. The forms of bullying observed by bus drivers were verbal bullying (90% of drivers observed this), psychological intimidation (70%), physical bullying and fights (27%) and sexual harassment (20%) (deLara, 2008). Parental concern about bullying was expressed in relation to young children being exposed to unsuitable language, such as profanity, sexual content and name calling, and the behaviour of older students, especially on longer bus rides (Ramage and Howley, 2005). In a study of 5,065 children (11 to 20 year of age), many reported the bus riding experience as being negative, with teasing, and to a lesser extent bullying occurring on the school bus, often with younger children being targeted (Sampasa-Kanyinga et al., 2016). A larger number of students with varying ages and grade levels traveling together on the school bus has been indicated to offer more opportunity for bullying, where older students most often bully younger students. Sampasa-Kanyinga et al. (2016) also found that school bus travel was associated with higher levels of bullying than found on public transport.

Drivers used a variety of strategies to interrupt or prevent bullying, such as intervening early in the event, talking with, and getting to know, the children (deLara, 2008). Drivers expressed frustration with the lack of interest about these problems from the schools. They felt the schools should involve parents in any problem behaviour and treat assault more seriously (deLara, 2008).

The literature suggests that other children/youth are more of a concern in relation to bullying than adults and, indeed, the presence of adults may reduce the extent of bullying. deLara (2000) found that more children reported being fearful of their peers on the school bus than they were during any other time of their school day. Bullying commonly occurs in situations where there is a lower level of adult supervision (Sampasa-Kanyinga et al., 2016). When the victim is assisted by a bystander, he or she feels safer and is at less risk of having negative outcomes (Sainio et al., 2011). While bystanders don't always choose to assist a victim, when they do they are successful in stopping the bullying about 50% of the time (Hawkins et al., 2001). Fluke (2016) argues that bystander behaviour represents considerable untapped potential in prevention of bullying, and if they can be motivated to help and taught how to intervene successfully, much bullying can be stopped. Thus, the presence of adult passengers on a school bus may well reduce the incidence of bullying behaviour between children, even more so when information is available about successful intervention approaches.

## **6. Conclusion**

Regional/rural transport disadvantage is reducing personal wellbeing of regional/rural residents, as illustrated by the Victorian case study reported herein, mitigation of which has a high monetary value. Groups such as young people and older persons are most likely to be adversely affected by poor mobility opportunities. If risks of regional mobility-related social exclusion are to be reduced and wellbeing improved, then cost-effective ways of improving regional mobility options need to be identified. Dedicated school bus services provide an opportunity in this regard: service costs for existing services are already met by government budgets and the network is extensive. Using available spare seats on the journey to/from school effectively has zero or minimal marginal cost. Marginal costs of using the school bus at other times of day will also be relatively low in Victoria, since the school bus contract covers

capital costs and bus operators will often be glad of the opportunity to make further use of the vehicle, at moderate cost. This depends, however, on whether disability access requirements are imposed which would limit such additional use, most Victorian school buses not being disability accessible.

Making use of spare seating on trips to/from school is a good starting point to introduce change. Consultations at schools in Victoria and South Australia suggested that additional passengers might include:

- post-secondary students, to encourage further education, which may help to keep them in the area
- parents/carers attending school meetings. A one-way trip on the school bus would increase meeting attendance rates and/or reduce the cost of attendance for those reliant on taxis for access and/or reduce the need to impose on friends for transport
- parents of pre-schoolers, to travel with their child
- parents/carers without cars who might like the opportunity to work but find difficulty in accessing employment, because of a lack of transport
- households with a Health Card Care (evidence that you are on a low income)
- people in need of health services
- school children living closer than the required distance to access the school bus
- those who are isolated on farms and small towns without other forms of transport.

Ideally, school buses would become part of an integrated regional transport system, with a Regional Accessibility Council (or such like) of local stakeholders taking responsibility for service management and scheduling. Sustainable funding is key for such integration. Most restrictions on access to school buses would be removed, except for retaining access priority for school children when demand exceeds available supply. Buses would not be downsized, or routes consolidated, if school student numbers are less than vehicle capacity, unless the integrated regional transport plan suggests this is desirable.

Measures to address child assault and bullying on all public vehicles and waiting/loading areas should be introduced. This initiative should include adults travelling as passengers on the school bus. It would be of benefit for the bus driver to be given some training on signs that bullying or inappropriate interaction may be occurring. Training on how best to intervene in bullying behavior is also important. A volunteer could travel on a vehicle where there are issues about concerning behaviour. The driver should be given the right to refuse entry where a passenger is considered not fit to travel. Safety measures at bus stops need to be introduced, such as alarm points, good lighting, and a volunteer monitor at stops where there are potential concerns or the stop is isolated.

While it cannot be conclusively said that no child will ever be abused or assaulted by an adult while travelling on a school bus, should the service be extended to the wider public, the risk is no greater than anywhere else and less than the risk children may face from abuse by relatives, other intimates and possibly other children/youth. Indeed, there are suggestions that adults on the bus may provide some protection to children, particularly from more common and potentially highly damaging bullying. The protection of children would be increased where the community and bus drivers are made more aware of the signs of a potential abuse and effective ways to intervene.

If regional/rural communities are to provide greater social and economic opportunities, including for youth, new ways of meeting needs are critical. Wider use of the school bus system should be an early priority in this regard. In regional/rural Australia, the school bus system provides an extensive entry

point to improving mobility opportunities, with potentially very substantial benefits in social inclusion and personal wellbeing, as well as building personal capabilities, interpersonal connections and regional productivity.

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