Workshop 6 Report: Delivering sustainable public transport

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1. Context

This workshop continued the Thredbo Conference aim of broadening the public transport discussion agenda beyond contracting and privatisation into wider public policy arenas. To that end, Workshop 6 looks at some aspects of the fundamental public transport value proposition, framed through the lens of sustainability.

The Workshop had 16 participants from seven countries, coming from governmental, academic, NGO, investor and industry backgrounds. This mix provided for a very enlightening discussion. Thirteen papers informed the Workshop, encompassing theory, policy analysis, methods, case studies, ex ante and post hoc project evaluations.

Workshop participants initially structured their discussions around defining what is meant by ‘sustainable public transport’ and then explored various elements of sustainability, framed around the workshop papers. This discussion encompassed issues of need, system design, institutional arrangements, environmental improvements and social aspects of service, concluding with proposals for policy, research and for future Thredbo Conference agendas.

2. Sustainable public transport

Given the focus on sustainable development since the time of the Brundtland Commission report (WCED, 1987), and the important policy rationale for public transport that arises from its contribution to various elements of ‘sustainability’, it is surprising that workshop participants were unable to identify an accepted definition of ‘sustainable public transport’. Any such definition should link back to the Thredbo 11 Workshop 2 discussion of high-level social goals, towards the achievement of which public transport contributes (Stanley & Longva, 2010). These goals provide a fundamental basis for assessing public transport achievement.

In summary, participants in that Thredbo 11 workshop thought that public transport systems and services should be judged against the following six social goals (elaborated in more detail in Stanley & Longva, 2010):
land use directions playing a leading role in land use/transport integration was an important conclusion from Thredbo 12 Workshop 3A. Thredbo 13 Workshop 6 participants underlined this point, noting that major transport projects developed in isolation of land use development goals may lead to unintended adverse long-term consequences, such as, for example: not identifying the kinds of public transport system/service development initiatives that are likely to be of most long term value city-wide; accentuating urban sprawl; loss of prime agricultural land. The lack of papers reaching back to integration of land use and transport was noted by Thredbo 12 Workshop 3A participants as a shortcoming and an area that requires attention in future Thredbo Conferences.

Stanley (2013) picked up this issue at Thredbo 13 and, using a current Melbourne case study, showed how an integrated land use/transport strategy is likely to lead to many different public transport development priorities than might emerge from a narrower (public) transport problem-focused approach (e.g. that targets mitigation of road congestion and over-crowded public transport services). In particular, the paper linked structural economic changes taking place in Melbourne to preferred development patterns likely to promote desired economic, social and environmental outcomes, indicating that this wider perspective suggested a much stronger growth role for the city’s middle suburbs, in the pursuit of more compact growth.

Public transport service improvements are a key element in the delivery of this development pattern in Melbourne, which is a substantial change from the past pattern of the city’s dominant fringe-oriented growth. Focussing primarily on more narrowly defined public transport demand/supply considerations, however, would lead to a much stronger focus on improving radial public transport services to the central business district. While that is an important priority, particularly to support the achievement of further agglomeration economies, maximising Melbourne’s growth potential and sharing the benefits of this growth across the city requires a more holistic focus. This goes to the heart of the issue of how the strategic public transport ‘needs identification’ process should be undertaken. Workshop 6 participants recognised that this process should be an essential component of an integrated long-term land use/transport strategy, not simply a process that considers (public) transport needs in narrow terms.

4. Governance/funding for sustainable public transport

Thredbo 12 Workshop 3A participants agreed that local government acting at a regional level should usually be responsible for driving the process of land use/transport integration, based on the principle of alignment of primary decision taking responsibility with the jurisdiction in which the costs and benefits of those decisions are most concentrated. In some cases this may mean a single local authority, if that authority covers the entire geographic space of interest. In others, it may require some means of local authorities working together to act regionally, as in Vancouver. Higher levels of government (national, state/provincial) often have legitimate interests in land use/transport integration, particularly because of impacts on the high level social goals identified above. It is such impacts on high-level social goals that justify funding flows from the national government to support outcome achievement at subsidiary layers of government, particularly in those

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1 Derived from the demands for the particular activities that people desire to undertake.

2 Workshop 3A at Thredbo 12 gave some relevant examples, such as the national economic significance of city economic performance in the knowledge economy and the impacts of poor land use/transport integration on this performance.
jurisdictions in which revenue-raising capacity is most highly concentrated at higher levels of government.

While the Workshop did not have any papers that concentrated on the subject of funding, the issue of adequate and stable funding/financing flows was seen as critical to sustainable PT, particularly in the post Global Financial Crisis world, where most governments have been seeking to reduce budget deficits and public debt. Participants observed that, in a time of financial crisis, initiatives that target environmental and/or social objectives are often the first to go. Public transport service levels are at risk in this regard, Preston, Song, and Hickford (2013), for example, noted that Southampton bus service levels had been reduced in the face of local authority funding cuts. Workshop discussion identified several important opportunities for funding public transport system/service improvements.

External pricing (polluter pays) – where charges are levied on ‘unpriced’ external costs created by people’s travel choices and (part of) the revenue raised thereby is used to implement initiatives to reduce the size of these external costs. The most common application relevant to sustainable public transport is (marginal social cost) pricing of road use to make road users accountable for all the external costs created by their road use, with some of the resulting revenue used to improve public transport. Workshop participants recognised the importance of ensuring that adverse distributional consequences of road pricing reform were recognised and dealt with, such as by providing better public transport travel options to relevant target groups.

User pays – if pricing of road use is reformed to make users accountable for their external costs, then the argument for subsidising public transport reduces (although distributional considerations remain important policy concerns). Road pricing reform creates an opportunity to improve cost-recovery rates on public transport, which improves funding opportunities for improvements.

Value capture – a form of ‘beneficiary pays’ funding, in which a part of the land value increase attributable to public transport improvements, or to wider transport/urban improvements, is clawed back (generally from property owners) to help pay for the initiative that generated the value increase. London’s Crossrail project was recognised as a current good example of value capture funding. There are a number of forms in which value capture can be applied, such as (for example) a high rate being applied to properties close to an improved facility or a low rate applied more universally across a city (see, for example, CTS, 2009).

Asset sales – many jurisdictions have reviewed their need to own assets that have provided various public services (e.g. electricity, water, ports, major roads), asset sales and/or Public Private Partnerships (for example) providing an opportunity to free up capital for use in other areas, such as public transport. It was recognised that such opportunities are essentially one-off and that there is a risk of loss of network control in interdependent transport networks if part is ‘privatised’, a risk against which transport authorities need to guard.

Workshop 6 participants saw much value in the recent Canadian ten year infrastructure funding approach, embedded in the New Building Canada Plan. This long term funding commitment was seen as likely to encourage allied long term thinking about (inter alia) land use/transport integration. It includes $53 billion to build roads, bridges, subways, commuter rail, and other public infrastructure in cooperation with provinces, territories, and municipalities over 10 years, starting in 2014–2015. Making any urban allocations against this Fund dependent on the demonstration of an effective integrated land use/transport strategy for the urban area(s) in question would seem one way to encourage more integrated planning.

At a local level, the Vancouver approach seemed likely to deliver integrated solutions and align well with the planning/funding horizons of the New Building Canada Plan. The Vancouver approach includes ten-year transport plans and associated funding proposals, guided by a longer term (thirty year) integrated Regional Transportation (and land use) Strategy for Metro Vancouver. The Ten Year Plans encompass public transport and major roads under ‘base’ and ‘supplemental’ outlooks, with the first three years fully funded and the subsequent seven years indicative. This approach was seen to offer an opportunity to:

• explore more than one future urban (public) transport development pathway (the Base Plan and Outlook sets out the strategic initiatives, transportation programs and services that will be delivered by the South Coast British Columbia Transportation Authority, or TransLink, using existing revenue sources. The Supplemental Plan looks at an alternative funding level, usually larger but, in the case of the 2014 Supplemental Plan, smaller);
• detail the respective benefits, costs and funding implications expected to be associated with each alternative; and
• seek community feedback on these alternatives, both in preparation and when they are in the decision process.

This should help to provide a transparent and accountable political decision-taking environment and, in so doing, serve to improve the workings of the democratic process. Workshop 6 participants again agreed with Thredbo 12 Workshop 3A participants that community buy-in is essential for effective policy development and program/project delivery. The nature of relevant consultation will vary throughout the planning and decision-making process but must be a genuine effort to engage and draw ideas from a wide cross-section, not simply providing information about what others have decided is to be done.

For most jurisdictions, this kind of integrated approach to public transport service planning and delivery will require a fundamental change of approach, not just fiddling around the edges. It must start at the long term strategic level, not in a short term political cycle, and seek to free itself from immediate funding constraints, giving people the opportunity to choose from more than one future, starting from what is in place today. Change of this magnitude is likely to require political champions to drive the agenda.

5. System design

Workshop discussion included consideration of the broad structure of public transport network that is likely to be best able to meet a wide range of user, and potential user, needs. Small cities tend to be monocentric and may be best able to provide good accessibility via public transport if their urban structure is compact and services are primarily radial. As city size increases, circumferential/cross town movement patterns become increasingly important and urban structure tends towards polycentricity, reflecting locational influences on the knowledge economy. Public transport systems need to reflect and support development of such emergent activity patterns, generally developing in an interconnected web pattern.

The lower the urban density, the lower the expected PT boarding rate per service kilometre, in general terms. It is in such circumstances that community transport services are most commonly provided, to people experiencing particular transport disadvantage. Several papers presented to the Workshop were relevant to this subject and are discussed in the section on Social Dimensions of Service Provision.

More generally, workshop participants found it useful to distinguish between trunk PT services and local services, where the...
distinction is most relevant in an urban setting. **Trunk services** are essentially mass transit, mainly intended to move large numbers of people at good speed from their neighbourhood to dense/relatively dense activity centres (in a polycentric city). The community benefits of these services are primarily user benefits, urban agglomeration economies and reduced external costs of car use (e.g. congestion reduction, cleaner air, lower greenhouse gas emissions, a lower road toll, healthier people because of more active travel choices, etc.). **Local services** are primarily concerned with moving people around their neighbourhood or activity centres and/or connecting them with trunk services at those times when longer distance travel is required. Social inclusion is a key benefit of local services. Flexible transport services are primarily located at this scale. The Workshop had papers on both trunk and local services.

In times of funding pressure on public transport services, governments sometimes look to focus funding on trunk services rather than local services, based on maximising patronage per service kilometre or similar metric. This shift poses risks in terms of accentuating social exclusion that has a mobility origin. Alternatively, governments may seek to cut back on all route services and channel some extra support to community transport/paratransit services that are narrowly targeted to one or other disadvantaged groups. These issues highlight the economic/financial versus social trade-offs that are increasingly in focus in tough fiscal times.

Muller & Ho (2013) review the performance of Sydney’s new trunk Metrosbus services. These are high capacity, high frequency (10 min in peak, 15 min off-peak, 20 min evening and weekend) services that have been added to Sydney’s route bus network since 2008, linking key employment and growth areas across the city. They are additional to the pre-existing, more locally oriented bus services. Chinh and Mullery find that Metrosbus services increase patronage in fringe urban areas, where starting public transport service levels are low. Given the propensity for lower income groups to live in fringe suburbs of Australian cities, the services are thus likely to promote social inclusion.

Patronage numbers did not generally increase following introduction of Metrosbus in inner areas, where the existing public transport networks are denser and service levels higher. In the latter case, substitution between services is more common, whereas fringe areas experienced net patronage growth that was about in proportion to the growth in service kilometres. In discussion of this paper, it was recognised that user benefits from improved services in inner areas (e.g. faster travel times, fewer transfers) may still be significant, even if absolute patronage levels have not increased. The insights in the paper are important for network planning.

Preston et al. (2013) describe the early stages of a process aimed at improving bus services in South Hampshire, a region in which bus patronage levels have generally been in decline, apart from a growth spurt stimulated by national fare concessions for seniors. Focus group research has suggested that services are generally of poor quality (e.g. in terms of frequency, speed and reliability), have high fares and lack integration, resulting in a fragmented network without any focal points (a typical problem in jurisdictions that primarily rely on competition in the market for bus service provision). Improvements being implemented are largely of two kinds: (1) technological improvements to improve aspects of customer service (e.g. WiFi; next stop displays, marketing initiatives — the authors note that there is little empirical evidence on which to estimate the likely impact of such initiatives); and (2), service improvements, including the development of key interchange points and bus corridors. Interestingly while non-bus users were sceptical of the likely value of the technological initiatives in stimulating patronage growth, users were more supportive. Both groups supported improvements in frequency, speed, cost and reliability.

Thredbo 14 should have the benefit of some results from this project.

Flexible transport systems (FTS) are defined as transport services where one or more of the following aspects of service are not fixed: route, vehicle, schedule, passenger and payment system (Wright, Emele, Fukumoto, Velega, & Nelson, 2013). FTS are of considerable interest in both developed and developing countries at present. In the former case this interest is largely stimulated by a need to improve the economics of public transport service provision in low volume markets, such as in rural or urban fringe locations, with a particular concern about providing service to transport disadvantaged groups, particularly in a context of constrained public service funding. In developing countries, interest is sometimes involved with formalising the informal sector as the need for trunk public transport movement grows. The Workshop had several papers that dealt with aspects of flexible transport systems/ demand responsive transport but none dealing with a developing country context (Thredbo 14 needs to pursue more balance in this regard).

Wright et al. (2013) discuss FTS in the UK, Japan and India, noting the growing interest in such approaches and the growing cost/funding pressures with which they are faced. Their paper concentrates on opportunities to apply new technologies in the areas of booking/scheduling and dispatching to reduce FTS costs. The authors recognise that the addition of these functions can add costs to services, noting potential increases in operating (mainly labour) costs of 20–40% in a UK setting. However, they argue that scale economies provide opportunities to minimise the net cost impact in question. Scale might come, in markets like UK and Japan, from a service organisation contracting to multiple clients. In the Indian case, it is more readily available from population numbers.

The paper discusses three areas of technology development that may assist FTS operation: (1) enhanced scheduling and routing algorithms to cope with multiple vehicles and high passenger demand; (2) remote server/cloud computing, which should lower the cost of multiple operators accessing dispatch technology; and (3) a fully automated booking system, to reduce call centre costs. Japanese experience, where tech-savvy young people are an important emerging urban FTS market, is perhaps more promising than UK experience, where FTS is mainly serving older people, who tend to have less access to ICT applications for service booking. Ride sharing phone apps in India are also promising, Wright et al. (2013) also note the interest in volunteer drivers and smaller vehicles as further ways of lowering service costs.

Ryley, Stanley, Enoch, Zanni, and Quddus (2013) examine experience with demand responsive transport in the UK, looking at six possible market niches, to shed light on service economics (regarded as commercial performance in the paper) and social sustainability. They describe demand responsive transport (DRT) as including initiatives such as flexi-route, dial-a-ride and community car and bus schemes, which essentially have characteristics that mirror FTS. The use of DRT in the UK is noted as mainly having a local focus, with passengers being primarily people who are unable to use conventional public transport. Community transport organisations are usually the provider, with funding support.

The six DRT service opportunities assessed in the paper are: a rural hopper service linking a number of rural settlements to a market town; a shopping service serving (normally) a large supermarket; an employment shuttle that provides employees access to a large suburban employment node; an airport access service; a station access service primarily for commuters; and a hospital access service. The hopper service, shopping and hospital access service were found to mainly support a social inclusion role. The services that targeted air/rail passengers and employees were found to have better prospects for commercial success, the main
The Workshop had three papers in which much of the focus was on institutional design for sustainability. One dealt with institutional design in a partly privatized model of public transport provision (Christensen, 2013, examining Danish rail), another with institutional design in implementation of new technologies to improve environmental performance of public transport (Miles & Potter, 2013) and the third looked at institutional re-design for delivery of low patronage local services (Stanley, Stanley, & Banks, 2013).

Smith, Nash, and Wheat (2011), in their presentation to Workshop 3A at Thredbo 12, reviewed the opening up of passenger rail markets in UK to competition and concluded that the jury was out on whether it had been a success. Christensen (2013) examined the evolution of passenger rail in Denmark, finding a system experiencing considerable turmoil over the past decade or so, consistent with Smith et al.’s conclusion and reminiscent of Gwilliam’s (2008) thinking about regulatory cycles in public passenger transport. Christensen looks at modes of governance of Danish passenger rail, exploring three different forms of governance (policy, organizational and market-based) and three key sets of characteristics of each of these modes of governance (focus, primary actors and tools). The paper describes a system that began an evolution, under Ministerial/political oversight, along the New Public Management pathway towards decentralised and privatised market-based service delivery, with an authority as network planner and contract manager where service contracts were required (and a safety regulatory role being performed) and has subsequently done a major about face, back towards centralised political control, re-centralised organisational governance at Ministry level and service delivery by the incumbent public operator (under a more market-based operating model). Various influences on this change of direction are considered, such as the dominant role of the incumbent and changes in political ideology (as governments have changed). Market-based governance only ever played a minor role in terms of overall market share and the whole process of market creation has been shown to be inherently highly political. This is perhaps unsurprising: in the eyes of the public, public transport (rail passenger) services and their quality ultimately seem to be seen as matters of Ministerial responsibility, irrespective of delivery mode. The Danish example shows the complexity of delivering major changes, the importance of getting ‘all the (institutional/governance) ducks in a row’ if substantive effective change is to be achieved and of the need for real market potential in markets that are to be opened to competition.

Miles and Potter (2013) discuss a demonstration project for hybrid buses in Milton Keynes (UK), where the intention is to achieve emission reductions from urban route bus operation while delivering commercial performance that is competitive with diesel. The paper considers various technical aspects of the project, particularly related to aligning battery performance and cost with the realities of route bus operation. This included, in particular, an emphasis on re-charging at bus layover points, using fast turn-around inductive charging to minimize time losses and reduce battery size and capital costs.

The paper looks at the business model within which the demonstration project is taking place, arguing that a focus on organizational structures is at least as important to a successful project as is resolving the various technical problems that are confronted in delivery of hybrid electric route bus service. The Milton Keynes project is placing considerable emphasis on an organizational structure that manages risk in a way that will maximize likelihood of the project being completed. The trial is managed by ‘an enabling company’ and includes various technology suppliers, the bus operator (Arriva), the Milton Keynes Council and a power distributor. The enabling company buys the electric buses, installs and maintains the charging infrastructure and leases the vehicles to the bus operator, allowing them to use the charging system within the terms of the vehicle lease. If the electric bus is cheaper to operate than a diesel equivalent, the enabling company makes a profit. If not, the bus operator is protected against a loss, providing confidence to participate in the project. This innovative business model may be just what is needed for a successful trial.

Stanley et al. (2013) report research undertaken in rural and regional Victoria, Australia, looking at ways of providing improved mobility opportunities for groups of people at risk of social exclusion. Some of the social sustainability issues found in that paper are reported in that section of the current paper, governance/institutional issues being summarised here. Their research points to substantial under-used vehicular capacity in the Victorian rural and regional area they studied, capacity which could potentially be used to meet some of the many unmet travel needs in the area. The use of this capacity was held back by various regulatory, institutional, attitudinal and financial barriers. Their paper reported on the recent establishment of a social enterprise business model in the region, to pursue the shared use of available resources and volunteers, pooling of funding opportunities and sharing of transport tasks, to capture lower costs and synergies across the various entities and users/potential users, building on some of the ‘big society’ thinking of Blond (2010). If successful, this community-led model will involve many existing State responsibilities for route and community transport services to community level, with some funding support from the State and possibly national governments.

In discussion about governance/institutional design more generally, Workshop participants concluded that:

- this is a massively undere xplored area;
- society doesn’t work like a model, which underlines the importance of understanding governance/institutional context to drive change;
- change is not only about constructing the ‘best’ economic/legal model;
- nor is it only about the public sector – it involves broad engagement vertically and horizontally; and
- ‘trusting partnerships’ between private (both market and civil society) and public sector stakeholders at all levels seem likely to be a useful way to advance change.

7. Environmental sustainability

The capacity to deliver personal mobility with a lower environmental footprint than the private car is an important value proposition for public transport. This argument depends substantially on being able to capture a sufficiently large patronage share. Those Workshop papers that discussed the use of technology to
improve patronage levels (particularly in flexible transport systems) and new service designs (such as for Sydney’s trunk Metrobus services) are thus also relevant to the question of environmental sustainability. The public transport environmental footprint also depends on public transport services continuing to reduce the environmental impact of every service kilometre provided. In this context, the Workshop included papers that explored the use of hybrid electric vehicles (Miles & Potter, 2013, discussed above) and the use of biofuels to lower air emissions (Cooper, Arioli, & Carrigan, 2013). A further paper examined the way environmental impacts from major transport improvements can be valued, as a way of giving greater focus to the environmental goal in determining need (Ivehammer, 2013).

Cooper et al. (2013) examine emission performance of buses, with a particular focus on fuel and technology combinations that might be effective in Brazil and India. The authors note that most similar studies have concentrated on European or US settings. The use of in-service/real world drive cycle test data reflects the failure of some buses to meet emission standards in operation, which impacts on air quality outcomes. The paper considers various fuels and technologies to identify combinations that are likely to be most effective in the case study areas, with respect to outcomes for four key regulated emissions (CO, THC, NOx, PM) and CO2 emissions (which are not regulated at present, although the US National Highway Safety Authority is developing the first GHG emission regulations for heavy-duty engines and vehicles, to start in 2014). Analysis finds that some of the best performing fuel options in Brazil and India are 20% blend Biodiesel with Diesel Particulate Filter and Selective Catalytic Reduction (B20 + DPF + SCR) and Compressed Natural Gas with Three Way Catalyst (CNG + 3WC). Other fuel or technology combinations are also found to provide meaningful results, with CNG fuels and hybrid buses providing significant PM and CO2 reductions respectively. Local maintenance practices, driving habits and altitude, for example, may nuance outcomes in different locations. The findings show that policies can be tailored to target specific pollutants, if particular regions are confronted with greater difficulties with respect to some pollutants than others.

Enabling environmental (and social) impacts of transport policies and projects, both positive and negative, to receive balanced consideration alongside economic impacts can be assisted if monetary valuation techniques can be applied to those environmental (and social) impacts, acknowledging the many difficulties involved with this process. Ivehammer (2013) explains the development and application of a technique that quantifies loss in locally valuable natural environments and gain in amenity from traffic reduction in terms of equivalent travel time change, as part of the evaluation of a road project that impacts all three elements (the local natural environment, local amenity elsewhere in the area and travel time). The application of a unit monetary value for travel time saved then allows the environmental/amenity impacts in question to be expressed in money terms, so they can be assessed relative to time saved and other monetary impacts with the project in question. The approach is in its early stages but shows promise. To take it beyond the need for specific local survey work each time it is applied, effort would need to focus on standardized ways of measuring local environmental impact on natural areas. Option values also need to be considered.

8. Social sustainability

Thredbo 12 Workshop 3A identified three major policy issues for public transport in low population density advanced economy settings (Stanley & Smith, 2013):

- providing any services at all in a relatively cost-effective manner, because of the low densities and high expectations in terms of service safety standards;
- dealing with risks of social exclusion that can be associated with the lack of an adequate mobility safety net or with mobility options that only provide high fare alternatives (e.g. taxis, particularly in de-regulated markets);
- how to better integrate paratransit/community services with other public type transport services that exist in low density settings.

Papers at Thredbo 13 Workshop 6 picked up on these themes and added further perspectives, in terms of issues such as:

- mainstreaming versus provision of niche transport solutions for transport disadvantaged groups/people;
- attempts to fill major holes that have been associated with deregulation or are seeking to cater for otherwise unmet mobility needs; and
- re-positioning the social sustainability debate at the higher needs/goal achievement level.

Lucas, Bates, Moore, & Carrasco, 2013 argue that the supply of transport services and opportunities for people to be mobile is unequally distributed between different social groups and that this mainly occurs along the lines of traditional social stratifications. Improved understanding of the way that transport policy decisions affect different social groups is a growing policy concern, the answers to which are not much illuminated by mainstream transport models. The authors examine UK National Travel Survey data to find ways in which social criteria might be better incorporated in mainstream modelling approaches to trip generation and trip distance, to better understand the relationship between social disadvantage and revealed travel behaviours in the UK. They find significant correlations between travel behaviour and social disadvantage and that inclusion of variables such as household income, driver’s licence and presence of children in a household leads to improved models. Use of dummy variables enabled inclusion of several categories of disadvantaged groups (e.g. single parents, people with mobility difficulties, ethnic minorities) within the modelling framework. The latter variables were most important in relation to less discretionary travel. Extension of the analysis will further explore the extent to which increased trip making is a choice or an obligation of life circumstances. The research forms part of a wider study to improve the use of transport modelling techniques for better understanding the impacts of local transport policy decisions on the social circumstances of low-income and other socially marginalised populations groups.

The Stanley et al. (2013) research in rural/regional Victoria noted above identified that current route and community transport services in the study region leave many travel needs unmet, a situation that is likely to get worse under funding constraints. While some potentially transport disadvantaged groups have some of their transport requirements met (e.g. people with a disability, people in child protection arrangements, older people and people receiving family counselling), there are still many unmet travel needs within such groups. Others were found to be less well catered for, particularly rural youth, and some groups miss out entirely – e.g. people on a low income living away from route services (e.g. problems getting their children to kindergarten) and those not linked in with a welfare service. The paper argued that there is a tacit hierarchy of social worth in the provision of ‘community transport services’, as reflected in Fig. 2, which is common in many countries, but that all the activities reflected in that figure should be treated as equally deserving of mobility support, particularly because of the
demonstrated links between mobility, social capital and well-being summarised in the research. The social enterprise model developed in that study is intended to change the balance in travel needs that are able to be met.

The idea of demand responsive transport targeting niche markets was picked up in the paper by Johansson and Hiselius (2013), who discuss the trial of a children’s leisure bus in Lund Sweden. The trial was a partnership between the municipality, groups running leisure activities and a bus operator. Motivation was partly to introduce young children to public transport use for travel to/from an activity that is currently dominated by private vehicle access, with a view to inculcating life practices at an early stage. Equally, however, prior evidence of 44% of primary school children giving up, or refraining from, recreational activities because of transport difficulties adds a social sustainability argument for the case study (Johansson & Siotis, 2009). The study was intended to identify factors likely to maximise prospects for a well-used service. Service design incorporated various qualities thought likely to encourage support by children and their parents/carers, such as a timetable that meets activity timing, drop-off at the activity location, friendly driver, etc, based on market research. The vehicle that was used had completed its route service for the day, which means that the project improves vehicle productivity. The trial resulted in almost half the users being new bus passengers, who were on average two years younger than children on route buses in Lund. Parents/carers were willing to pay a fare that would generate a cost-recovery rate of 16%, which is less than the city route service average (53%) but seems likely to rise if the service were made permanent.

The papers by Ryley et al. (2013) and Johansson and Hiselius (2013) promote the view that demand responsive transport should target niche markets, when operating in relatively low volume catchments. The Stanley et al. (2013) view is quite different, seeking to pursue multiple markets in a synergistic way, under a business model that lowers costs and includes more volunteering (for cost and social inclusion reasons). This divergent set of views should be monitored in coming years, to see where the evidence lies. Wright et al. (2013) also looked for ways to cut costs for such services, with a view to sustaining operations.

Funding pressures and their potential impacts on socially/transport disadvantaged groups were an issue for many of the Workshop papers and in discussion, as illustrated above. Taking a slightly different angle, Sastre, Manzanares, and Muruzabel (2013) explored the impact of a likely move to increase fares for concessionary Spanish public transport users, particularly older persons. This is seen as a likely outcome of increased privatisation of services. They discuss two attitudinal surveys, one undertaken in Seville (where travel is currently free for older concession travelers) and the other in Pamplona (where the comparable fare concession is half). Respondents current travel behaviour was explored and they were questioned about expected responses to fare increases. Implied elasticity values in Seville were −0.15 to −0.35 for fare changes in the range expected but were much higher in Pamplona (−0.9 to −3.3). While the Seville values are similar to conventional wisdom about the elasticity of demand for public transport use, the authors regard the Pamplona values as more valid. If the Pamplona results turn out to be accurate, they portend very substantial risks of increased social exclusion of older public transport users in that city if fare levels rise as a consequence of funding pressures and privatisation.

As noted above, the Workshop’s papers on social sustainability were all focussed in developing country settings. A short discussion about developing country issues harked back to discussion in Durban at Thredbo 12, where the major policy issues in relation to the informal sector in South Africa were summarised as (Stanley & Smith, 2013):

- over-supply in the market place — with associated low margins, poor safety outcomes and risks of violence, as operators pursue market share (with some buying out of property rights to tackle this issue);
- lack of enforcement of regulations and of the right to operate;
- misalignment of regulatory functions between levels of government;
- resolving the question of how far policy should go in seeking to integrate the informal sector into ‘normal’ public transport systems;
- sustaining low fares to support social inclusion.

Thredbo 14 should more proactively seek papers on social sustainability, and other relevant matters, in a developing country context.

9. Guidelines for sustainable public transport

Based on the preceding range of matters, Workshop participants sought to set down some general principles that might assist the achievement of more sustainable public transport. The following ten guideline principles resulted, which should be sharpened at future Thredbo Conferences:

1. Start with what you have got already (not a deficit approach)
2. Understand local contexts and real people’s needs
3. Identify, empower and resource local champions
4. Include all the benefits and costs (for users and non-users) in policy and project evaluation
5. Work across different sectors to articulate additional benefits
6. Have a strategic rather than individual project focus
7. Do the immediate but have a longer term perspective of where you want to be in 25–30 years
8. Brand new and shiny is not necessarily best
9. Recognise that there are also tensions between the environmental and social agenda (not only with the economic function)
10. Don’t expect the market to be your saviour — IT WON’T WORK!

10. Recommendations for research

- Public governance and understanding transport decision-making
- Developing institutional and organizational capabilities for sustainable public transport delivery
• Capturing the full value of environmental and social externalities (positive and negative) and links to quality of life/wellbeing
• Sustainable public transport delivery in situations of unmet and dispersed demand
• The role of technology in promoting and supporting sustainable transport systems and travel behaviours
• Understanding the role of the informal sector within mainstream transport delivery
• Exploring new and effective ways to fund improved public transport.

11. Recommendations for policy

• Mainstreaming public transport within the climate change agenda
• Providing equitable access to public transport as a key priority
• Support inclusive processes and governance models for delivering context appropriate solutions
• Get away from the ‘big’ transport project culture as the silver bullet
• Program focus not individual projects
• Focus on outcomes (social, environmental and economic) not just outputs
• More emphasis on small-scale distributed solutions
• Think about the broader environmental agenda as it is affected by public transport (not just climate change)
• Work across different policy silos and across private, public and voluntary sectors is essential!!!

12. Recommendations for Thredbo 14

• Another workshop on the theme of sustainable public transport — there is more work to do
• Focus more on delivering appropriate sustainable public transport solutions in developing countries (Latin American venue!!!)
• Rethink the links and tensions between environmental and social sustainability agendas
• Explore the economic benefits of ‘socially’ focused transport projects
• Seek papers on a wider set of social issues and pursue perspectives from broader disciplines — e.g. governance, health, safety, choice, social networks and post implementation evaluation
• Seek papers on key performance indicators for sustainable public transport delivery

References

Workshop presentations
Mulley, C., & Ho, C. (2013). Metrobus in Sydney: How high capacity and high frequency services are benefiting the metropolitan fringe.