

# Wider benefits from public transport - Context is everything: Thredbo 16 Workshop 7 report.

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## Abstract

Workshop 7 concluded that the terminology, 'wider benefits', tends to reinforce a narrow impact assessment-based approach to transport policy and project evaluation. Participants argued that a preferred approach is to concentrate on identifying (triple bottom line) societal goals and identifying initiatives to achieve those goals, in which case 'wider benefits' become core rather than add-ons. This shifts the planning/policy cycle focus to the starting point: need identification and initiative definition, as distinct from narrowly based impact assessment of initiatives conceived elsewhere. Against this background, Workshop papers examined a range of economic and social goals whose achievement can be enhanced, or set back, by transport initiatives, considering issues such as land use transport integration, land value uplift, customer amenity benefits, new technologies, social justice and mobility-related social exclusion, together with ways to identify those at risk of such exclusion and engage them in initiative identification and assessment. Recommendations for policy and research are outlined, together with discussion suggestions for Thredbo 17.

## 1. Context

Workshop 7 (WS7) built on several preceding Thredbo Conference workshops that have explored the nature and measurement of various benefits/costs of public transport services. Those preceding Workshops had a particular focus on external benefits and costs, with (for example) WS6 at Thredbo 15 discussing wider economic benefits and WS5 at that conference developing a taxonomy for categorising all benefits and costs associated with public transport systems and services. The major benefit/cost categories in that taxonomy were user benefits/costs, system internal externalities (benefits/costs, e.g., network benefits) and system external (wider) benefits and costs (externalities, such as agglomeration economies). WS7 at Thredbo 16 further developed this approach by exploring particular examples of economic and social benefits and costs, including adding a potential 'new' external benefit from high quality public transport services (we will keep the reader in suspense on the specifics of this new benefit until later in this paper).

The 22 WS7 participants came from 10 different countries, spanning various developmental settings. While the majority of participants were from an academic institution, either staff member or postgraduate student, the WS7 also had the benefit of participation of people from regulatory/governmental, bus operational and NGO backgrounds. This diversity helped considerably in grounding WS7 discussions in real world settings.

The WS7 title focused on *wider benefits (/costs)*, with perhaps an implicit expectation that what have become known as *wider economic benefits*, such as agglomeration economies, would form the key theme. Several papers were indeed in this genre. However, WS7 participants saw the *wider benefits/costs* terminology as unnecessarily constraining, in the sense that it implies an analytical setting that involves adding something (such as agglomeration benefits) to a traditional

and rather narrowly focused user benefit/cost *impact assessment*. This impact assessment setting typically pays little heed to the origins of the initiative or project that is the subject of assessment. Participants characterised this approach to wider benefits as *impact assessment looking for more icing on its cake*.

However, recognising that *Context is everything*, participants agreed that *wider benefits* cease to be wider if the planning/policy process is framed within a societal goal oriented integrated strategic land use/transport/housing (at least) setting. This begins by looking at what kind of city or region is desired by its residents and is then framed around an associated vision and (usually) triple bottom line goals, such as economic productivity, social inclusion and environmental sustainability.

*Wider benefits* are then no longer wider but become the core societal valued outcomes whose achievement is intended – *the cake rather than the icing!* This is an important distinction because it shifts the focus from *project or initiative impact assessment* to *project definition through needs identification, founded in societal values*. The context then becomes project or initiative identification, rather than about impact assessment of a project in which the analyst has often had little or no role in identifying intent. This re-orientation of focus aligns well with Robert Cervero's warning that major transport projects have such large city-shaping potential that you need to first be clear about the kind of city (or region) you want and then plan your transport networks to help achieve that city (or region) (Cervero 2014).

Section 2 of this paper summarises the contributions to the Workshop from fourteen papers presented by WS7 participants and overviews the major themes that were covered. In light of comments in this introductory section, Section 3 then considers some broad framing questions, asking what kind of city or region people might wish to live in. It then considers supportive land use transport developmental patterns. This context is seen as the most appropriate place from which to develop initiatives of projects that might best assist achievement of these desired development directions. Section 4 presents WS7 participants' recommendations for policy and research, together with suggested discussion topics for Thredbo 17.

## **2. Workshop papers and their main themes**

Discussion in the Workshop was assisted by presentation of eight papers that primarily had an economic focus, six that were primarily social in focus and one that combined elements of both, adopting a land use transport perspective. For convenience, discussion of the latter paper, on land use transport integration, is included with that of the papers that were largely economic in focus.

### **2.1 The economic papers**

Joseph and Jose (2019) argued that cost-effective urban mass transit solutions need to be derived from examination of the needs of a city's inhabitants and the city's spatial structure, which affects the economics of demand and of supply options. Examining the case of Kochi in India, they pointed to a political preference for metros as the answer to better public transport, rather than solutions derived from a feasibility study that examines needs and associated service delivery costs, recognising spatial structure and the way this impacts both these areas. With Kochi being a series of connected islands, they suggested that geography implied that Bus Rapid Transit (BRT) would be a more cost-effective solution than a metro for trunk public transport service provision, resulting in faster mobility, improved safety, increased accessibility, better comfort and greater reliability. Their paper pointed to triple disadvantages confronted by low income households in Kochi: associated with housing, transport and workplace location. This patterning of disadvantage is often noted in other jurisdictions, as is the phenomenon of politics trumping feasibility assessments.

Four WS7 papers explored how public transport services, or changes therein, affect land values or incomes, as a potential indicator of benefit/cost associated therewith. Balbontin and Mulley (2019) note that new public transport projects are expensive and long lived and that their financing is often a challenge. As a result, cities are increasingly concerned to understand the economic impacts

induced by new public transport projects, and in particular whether increases in land value which may have followed the investment can be 'captured' as a potential source of finance. Unravelling such relationships is not an easy task, Balbontin and Mulley pointing out that value uplift might occur at different stages of a project and might not only be due to the improved accessibility of the project. They report a study that focuses on understanding the complexity of value uplift on residential properties resulting from three public transport projects in Sydney, Australia: two light rail projects and one heavy rail. What is clear from their results is that there is a land value uplift from the early stages of the project (i.e., during announcement and construction), before the accessibility improvements have commenced. After the operation commenced, part of the value uplift cannot be explained only by the improvements in accessibility or neighbourhood/property characteristics (between 3-10% of value uplift). The results show that residential value uplift is timing, context and mode specific.

Varajão Neto, Periera and Oliveira Trinidad (2019) examine the effects of public transport system upgrades on nearby property prices in Rio de Janeiro. Their hypothesis is, like that of Balbontin et al. (2019), that opening a new service will increase access to the city for adjacent properties and that the greater the accessibility improvement, the more likely it is to be valued. They consider Subway and Bus Rapid Transit service improvements and include employment accessibility, in addition to distance to the station, among their independent variables used to explain real estate prices. Interestingly, instead of house prices as their dependent variable, they use Airbnb rental prices. In a hedonic regression analysis, they found no effect of distance from a rail station on prices and a negative effect for BRT. Using a more robust fixed effects regression, they found price effects were related to improvements in accessibility, being most notable in areas that had poor accessibility prior to the improvement. They suggest that, if accessibility had only been measured by distance to the station, the price effects would have been underestimated. The accessibility variable, number of jobs within 60 minutes, could be developed in further research, to better reflect relative proximity.

Ahn, Jang and Song (2019) examined South Korean land values as evidence of the benefits, or otherwise, of being close to urban rail networks. They note that subway networks provide mobility to passengers and improve local accessibility to various destinations in metropolitan areas. The expectation is that enhanced accessibility is appreciated by potential users and that this can be realised as higher property values. They report case studies on four Korean metropolitan areas that support this notion: the closer to subway networks, the higher housing prices. However, their analysis also found one exception, where the opposite association was found between accessibility to the nearest subway station and housing prices, after controlling for housing characteristics, local demographics and environmental factors. They suggest that this result can be explained by the excessively low modal share in that city and the poor route design of its subway system. Their findings emphasize that access to a subway network does not necessarily guarantee positive impacts on housing prices, especially in relatively small metropolitan areas.

In a Swedish case study, Johansson, Camporeale and Palmqvist (2019) look into the association between jobs accessible through the railway network and annual labour income, as a potential reflection of productivity benefits. Their analysis combined two data sources: Swedish census data containing information on individuals' education, income, gender, age, location of residents and jobs etc., and data on actual train movements. The data of train movements created the possibility to analyse possible connections within different time bands, linked to the number of employed at each possible destination, the authors thereby developing a cumulative accessibility measure. Testing longitudinal data (~470 locations over years 2011-2014) showed a small effect for jobs at the origin: people who live near a station that also has more jobs, tended to have higher annual wages. However, they did not find any significant effect for jobs accessible by rail, either in with/without rail comparisons or associated with accessibility improvements through the rail network. They concluded that rail improvements have had, at best, a marginal effect in terms of job accessibility (and associated labour income). They suggest that other transport modes seem important, since rail is only one of several modes that provide accessibility. They suggest that, in Sweden, and other developed countries where car ownership is relatively high, it is likely that improvements in rail transport are only marginally improving overall accessibility.

Three economics papers in WS7 dealt with customer responses to public transport service improvements, as potential pathways to what have traditionally been seen as 'wider benefits'. Holmgren (2019) explores the effect of public transport service quality on car ownership and asks whether this might be a source of wider benefits? He studies the inter-relationship between public transport demand and car ownership, using data from 1986-2016 for 21 Swedish counties. He finds a statistically significant effect of vehicle kilometres on car ownership, which indicates an effect of public transport supply (which affects vehicle kilometres) on car ownership, based on long run elasticity values. This relationship works in both directions, public transport service levels affecting car ownership and the reverse. Holmgren suggests that the long run benefits of improving public transport service levels on reducing car ownership levels will be an additional benefit attributable to the public transport improvement that precipitates this change, as compared to benefits estimated without recognising the feedback effects on car ownership. He suggests that the value of the benefits in question range between 10-39%, which is potentially very significant.

A recent trend in contemporary public transport systems has been the refocusing of planning and operations on improving the customer experience, with much of this effort being based upon economic appraisals placing quantitative value on customer amenities and experiences. Currie and Fournier (2019) provide an international review of public transport customer amenity valuation in a three-phase research program. The first phase assembled results from over 500 valuations to assess the general range of amenity values, identifying the following key amenity categories: Information, Environment, Access, Customer Facilities and Security. The second phase of the program sought to understand authority practices in using customer experience infrastructure valuations in practice, using a survey of 12 cities in Australia, Europe, North America and Asia. Results show that, of responding agencies, Auckland, London, and Singapore conduct amenity valuations 80-100% of the time, but Melbourne and Sydney conduct amenity valuations only 60-80% of the time. Conversely, Paris, Toronto and Vienna conduct amenity valuations rarely, if at all. The third and final phase of the research program involved an international expert Delphi survey of researchers and practitioners involved in measuring values of customer experience infrastructure. The main focus of the expert survey was problems and issues in measurement methods and best practices in approaches to measurement. The major findings in the third phase indicate that stated and revealed preference surveys dominate the field, but experts recommend the use of mixed methods approaches. Moreover, experts also stressed the need for good survey design and post implementation reviews (PIR).

Ku, Kim, Lee and Na (2019) used a Korean case study to demonstrate how on-road competition for scarce road space between public transport (bus) and private cars affects the potential benefits achievable from the introduction of a median BRT-only lane. If the BRT-only lane comes at the expense of a lane for cars (and trucks), this lane reduction could cause increased car travel times and negatively impact total travel times and associated travel time savings from BRT-only lane introduction. They present an empirical analysis of how public transport-oriented policies have impacted travel speeds of cars and buses over the 2012-2019 period in Seoul, South Korea, to illustrate the existence of the Downs-Lee-Thompson paradox. The paradox, in the setting of creating a dedicated BRT-only lane, suggests that time savings benefits will accrue to both bus users and car users, as travel speeds between the two modes tend towards equality, with (unexpected) car user time savings benefits coming partly from mode switch of some previous car users to the BRT and some new route choices on less congested routes by other car users. In a sense, then, the paradox suggests the potential for additional benefits, in the form of time savings to car users, from implementing the BRT-only lane.

The other economics paper presented to Workshop 7 discussed the economics of an autonomous road-based public transport system for Singapore. Sun, Wong and Rau (2019) argue that the extensive adoption of autonomous vehicles could provide social benefits, but they question feasibility. To shed light on this matter, they compared the expected cost-efficiency performance between the existing Singapore bus system and a newly proposed automated public transport system, called Dynamic Autonomous Road Transit (DART). Their analysis found that a DART trunk service would be cheaper than the current system, measured in terms of total cost of ownership (44% cheaper), cost per vehicle kilometre and per vehicle hour (about two-thirds

cheaper, largely because of labour cost savings) and per passenger (47% cheaper). Stated preference modelling found that, while both travel time and travel cost are critical determinants of traveller preferences, people are more sensitive to travel time reduction. In terms of designing systems to maximise patronage potential, they found that it is important to identify traveller preferred walking, waiting and in-vehicle time preferences. Access time (e.g., first/last mile) and working needs (e.g. ride comfort, quiet environment, Wi-Fi availability) were also identified as significant factors that should be considered in system design. Similarly, benefit measurement should include a focus on such system design qualities.

In overview, land value capture was a major discussion theme related to the economics papers. Discussion concluded that it is not easy to get a clear answer on how major PT projects affect land values (or real wages) but increased values can be an important factor supporting the merits of particular initiatives. A number of initiatives associated with access to rail (heavy or light) showed increased residential property values, ranging from near zero to around +30%, with increases being small adjacent to the route and highest in the 200-800 metres distance bands, although impacts in small cities may be non-existent. If such increased land values are to be used as measures of benefit in initiative assessment, clear focus needs to be put on identifying the extent to which increased land values simply reflect capitalised savings in generalised travel costs, as distinct from suggesting the creation of wider benefits. Potential reductions in land values elsewhere also need to be considered, such that net gains can be reflected in initiative assessments and redistributive impacts also be recognised.

Agglomeration benefits (from individual projects or networks) are the usual 'wider' bit in an impact assessment paradigm, with added values typically in the 0-4% range in EU assessments but with much larger benefits in some cases (e.g., Crossrail 2011). However, participants recognised that land value increases may also be associated with effects such as gentrification and displacement of lower income groups, again drawing attention to the potential importance of having a distributional perspective.

Somewhat paradoxically, the Workshop identified that dedication of BRT-only lanes may not only benefit bus users. Such initiatives may also create opportunities for benefits to car users, through mode and route-choice adjustments by car users. Such potentialities should be recognized in relevant initiative evaluations.

Workshop discussion drew attention to the possibility that high quality/improved PT services may flow on to reduced car ownership and subsequently reduced car use. The reduced car ownership effect can be significant to lower income households and has been evidenced following roll-out of significantly improved trunk bus services in some Melbourne growth suburbs. The knock-on effect to reduced car use is generally not recognised in initiative assessment. WS7 participants suggest that such impacts on car ownership should be recognized as a potential (new) wider economic and social benefit of reduced car ownership from improved/high quality PT service provision.

Discussion also noted the patchy use of benefit valuation for customer amenity improvements. This is about user benefits, not wider benefits (in the sense of being externalities), but the neglect, or limited use, of such customer amenity values in many jurisdictions is likely to bias PT improvement priorities towards those types of improvements whose benefits are regularly valued, distorting resource allocation. More broadly, the presentations on research about how customers value various amenity qualities of PT led to an important Workshop discussion about whether it is technically possible and/or ethically reasonable to seek to value all the prospective impacts of initiatives in money terms, a discussion to which this paper returns late in Section 2.2 and in Section 3.

## **2.2 The social papers**

The paper by Stanley and Stanley (2019) was structured to introduce discussion on the topic of the social role of public transport. The paper looked at local public transport, active transport, community or para-transit, together with informal transport, suggesting ways in which they can

support social inclusion. It noted the contrast between industrialised/developed countries, where the provision of local public transport, which usually supports social inclusion, is often under threat from planning strategies aimed at maximising patronage, irrespective of user characteristics, and industrialising/developing countries, where informal transport, again a key means of promoting mobility-related inclusion, is often under threat through measures aimed at greater formalisation of the public transport sector. Inclusion of at-risk groups is under threat in both settings, from governmental regulatory or system management authorities. In both cases, the paper argues that it is vital that the key role played by such transport in supporting social inclusion is recognised, and given due weight by governmental agencies. It suggests that *shared mobility contracts* may help provide solutions at this local end of the PT system, as a means of supporting (where needed) service levels that will promote social inclusion and individual/societal wellbeing. Such contracts need a wide base in terms of target groups and may be achieved by integrating a number of currently siloed services, perhaps through a broker or MaaS type arrangement.

Tackling some of the challenges raised by Stanley and Stanley (2019), Mbara and Mseko (2019) examined the impacts of a new BRT system on a number of key stakeholder groups. Their paper acknowledges the current state of public transport in many cities in the developing countries, which is dominated by the use of low capacity vehicles (informal public transport) and has often resulted in cut-throat competition for road space and considerable congestion. Attempts to introduce formal public transport systems are often resisted by the incumbent informal transport operators. In South Africa, in order to limit the resistance of informal operators, the City of Johannesburg took a decision in 2009 to partner with the taxi industry to introduce BRT, through a negotiated contract. Discussions were protracted, as taxi operators were not sure of the benefits they would derive from their participation in the operation of formal public transport. Empowerment and transformation were key national objectives that the negotiated contact was intended to achieve. In case of the former, informal public transport operators (who fell under the marginalised category), would be empowered to operate formal public transport. In case of the transformation agenda, the move from informal to formal public transport would transform and integrate a city that had long suffered, and been alienated from, the effects of apartheid.

The objective of the Mbara and Mseko paper was to ascertain the benefits that accrued to the stakeholders of the negotiated agreement, namely the former taxi operators (who became operators of the formal BRT public transport system), the drivers (who formally were driving taxis) and the City of Johannesburg. In essence, the authors found that taxi operators and drivers have both benefitted (in terms of skills and welfare) but benefits to the city are not apparent.

Utsunomiya (2019) presented a case study examining the impact of Austrian regional railways on travel behaviour and social capital, noting that regional railways have been little studied from this perspective. The paper shows that around 50 to 60% of respondents reported 'changes' in travel behaviour, particularly older persons and those aged under 30, with the activities associated therewith likely to build social capital. Reflecting this likelihood, about 30% (particularly older persons) reported changes in relationships with others due to the improvement of services on two regional railways, a result that was confirmed by logistic regression models. These findings were consistent with prior results from research by the same author in a case study in Japan (Utsunomiya (2017)). Considering that regional non-workers might be at greater risk of being socially excluded, the findings are positive in terms of the possibility that the improvement of regional railways has a beneficial social impact on the travel behaviours and social capital of some at-risk groups, which may reduce their risk of social exclusion. The author also notes that such benefits are also likely to include wider external social benefits, such as savings in public health system costs, flowing from increased social inclusion, an area that needs further research.

Macario (2019) pointed out that the quality of life during the ageing process is strongly related to the level of mobility available, where adverse changes in health status frequently have an origin in the lack of mobility and accessibility available to older people. The rationale developed argues that a better option than searching for funds for supporting services is the empowerment of the segments of population that are no longer part of the work force. The personal goals of empowerment are focused in two dimensions: increase individual skills and the development of

social participation skills. This involves a process of social action aimed at increasing individual and community control and enhancing their effectiveness in policy, improving the quality of life, strengthening the links between individuals and the social system. This problem requires specific public policies aiming to the effective empowerment of ageing population, contributing to a more efficient and fair society.

Two papers to the Workshop tackled issues of analysis tools to help understand mobility-related social exclusion. Ellison and Ellison (2019) applied a dataset derived from telecommunications data to assess several measures of social exclusion at a population-level. Their analysis exploited the large dataset available to identify locations with high values for social exclusion risk factors. Their aim was to identify relative levels of social exclusion risk in different parts of Sydney, in a consistent manner that does not rely on surveying target individuals, which is an expensive process. The paper identifies that existing measures of social exclusion (such as the number of trips made) do appear to be useable to identify potential mobility-related social exclusion risks at a population scale. Although the use of mobile telecommunications data by definition excludes those individuals who do not have a mobile telephone, the prevalence of mobile use among most socio-demographic groups and communities means this does not appear to detract from the general method for most. Future research should extend the number of measures being identified, to build a more comprehensive picture of mobility-related social exclusion risks in different regions.

Palavalli, Krishna, Sil and Thimmaiah (2019) presented an Indian case study that demonstrated how gaming simulation can be used to explore the preferences of marginalised communities in a transport planning context. They argue that such gaming simulation is a low-cost way to identify and explore trade-offs between various plans and scenarios, to identify preferred solutions. Their case study explored transport needs of women working in garment factories in Bangalore, who depend on the public transport provider BMTC (Bangalore Metropolitan Transport Corporation, the public bus transportation corporation in Bangalore) for many of their mobility needs. The gaming simulation tool developed for this analysis, called 'Transport Trilemma', was used as a participatory mechanism, to elicit and model nuances in transport demand and generate multifarious context-specific planning scenarios, based on diverse stakeholder engagement. The simulations enable tangible and intangible benefits of public transport systems to be explored in a way that increases participation and social inclusion. The authors argue that their approach is an alternative to traditional cost benefit analysis but it could equally be argued as being a way of shedding light on some hard-to-measure preferences, which can then be used in a CBA framework, while engaging often difficult-to-reach communities in the evaluation process.

In overview, the main discussion theme from the social papers was around the meaning of mobility-related social exclusion and the related concept of social justice in terms of access to mobility. WS7 participants agreed with the value proposition that the provision of a reasonable base level of mobility for all should be a matter of social justice, not something that must necessarily be economically proven by benefit-cost means. This led to discussion of the idea of *policy defined minimum service levels (MSLs) for social inclusion* (e.g. minimum mobility guarantee in South Korea), as a social justice or merit good construct. WS7 Scandinavian participants suggested that Stockholm generally follows this approach, at which point all WS7 participants wanted to be urban Swedes!

Social cost-benefit analysis was seen as most applicable to the issue of making a case for higher service standards, rather than as a means of justifying minimum standards. However, insights from estimated values of trip making, as a means of reducing mobility-related risks of social exclusion, where available, were seen as having a role to play in informing MSLs for inclusion (e.g., Stanley, Stanley, Balbontin and Hensher 2019).

Groups most likely to be at risk of mobility-related social exclusion were identified, with single parent low income households with young children, particularly those living in rural/regional areas within industrialised countries, being added to the usual listing of at-risk groups, the search for affordable housing (in particular) adding to mobility-related exclusion risks for such people. Barriers

that create or sustain mobility-related exclusion among at-risk groups were considered, with racial- and age-related empowerment (positive ageing) being specifically considered in papers. The importance of empowerment as a means of overcoming such barriers was emphasised

20 minute neighbourhoods, a planning concept used in cities such as Portland (Oregon), Melbourne (Australia) and Singapore, which start from a premise that most of the resources needed for a good life should be available within a 20 minute trip by public or active transport, were noted as a useful framing device for policy and planning for mobility-related (and wider) social inclusion. This planning concept can, and should, be linked to supportive service levels on local public transport, with shared mobility contracts a potential way of formalising delivery of MSLs for such services.

Critically, WS7 participants agreed that getting wider political acceptance of the validity and value of social benefits, and particularly the potential for greater social inclusion deriving from improved mobility opportunities, was seen as critical for advancing development of public transport as a means of supporting inclusion.

### **3. Some framing questions**

Section 1 of this paper highlighted the key Workshop focus on starting with a vision and goals for a city/region and on identifying supportive land use development directions before tackling transport priority identification. Participants then discussed the kinds of qualities that might make a city or region a desirable place in which to live. Vancouver's city vision was noted as gold standard (Metro Vancouver 2011, p2):

*The highest quality of life embracing cultural vitality, economic prosperity, social justice and compassion, all nurtured in and by a beautiful and healthy natural environment. Achieved by an unshakeable commitment to the well-being of current and future generations and the health of our planet, in everything we do.*

At this point, WS7 participants all wanted to live in Vancouver!

Discussion about the land use development pattern that was most likely to support pursuit of this vision, while meeting societal goals for high levels of economic productivity and social inclusion, a low environmental impact and a healthy and safe lifestyle, identified the compact poly-centric development pattern as most likely to be appropriate for larger cities (and as a pattern for regional development). The major clusters in such a development pattern would be the main focal points for growth of high-tech/knowledge-based activities, on which regional productivity and associated exports increasingly depend, with these clusters, their surrounds and transit corridors that feed them being the most appropriate locations for higher density mixed use developments.

Public transport system development which was seen as most likely to be supportive of a polycentric/transit corridor-based land use development direction was characterised as follows:

#### **Mass or trunk transit**

- direct service
- aim is to maximise patronage, productivity benefits (e.g., agglomeration) and environmental gains (clean)
- support inclusion
- safe and secure

#### **Local or social transit**

- coverage instead of directness, for inclusion
- provide a policy defined Minimum Service Level for people at risk of mobility-related social exclusion, at affordable prices
- support 20-minute neighbourhoods (including active travel)
- safe and secure



- clean.

Although the WS7 did not have any papers focussed on environmental benefits and costs, the discussion on the practicalities and ethics of valuing project/initiative impacts within a cost-benefit analysis paradigm included consideration of the environment. In particular, and building on the discussion about threshold social justice driven minimum public transport service levels (which might be delivered in different ways in coming years), participants discussed the importance of cities and regions meeting sustainable levels of greenhouse gas emissions, consistent with the Intergovernmental Panel on Climate Change target of temperatures rising no more than ~1.5 degrees C above pre-industrial levels. It was agreed that this issue was sufficiently existential for such a binding target to be a societal requirement of all urban and regional plans. An important implication of this value judgement is that project assessments that assess marginal changes in GHG emissions, as between a number of alternative options, should only be undertaken once there is demonstration that binding overall GHG emission targets will be met by all options, and the wider systems in which they are embedded. There is little point, for example, claiming benefits for an initiative reducing GHG emissions by, say, 2 or 3 percentage points if emission levels are still twice what is needed for a sustainable long-term future!

Workshop participants thus saw both (1) MSLs for social inclusion and (2) GHG emission levels for long term societal and ecosystem sustainability as *absolute constraints* that should be met in land use transport policy and planning, where cost-effectiveness analysis has a role to play but CBA does not. This contextual discussion is obviously very important in terms of the concept of what might be thought of as wider benefits and costs. Again, it makes the focus and starting point the identification of the kind of city or region desired by residents. Political decision-making clearly needs to be integral to identification and application of such value judgements, since this is where accountability will ultimately lie. WS7 participants draw attention to the vital need for such conversations to be held.

#### **4. Workshop recommendations**

##### **4.1 For policy**

1. All cities and regions should publish and implement a vision and long-term development strategy, covering (at least) land use, transport, housing and governance to deliver triple bottom line benefits for residents and visitors
  - based on compact polycentric development patterns, integrated with 20-minute neighbourhoods
  - with associated trunk and local mobility strategies
  - including Key Performance Indicator targets for (at least) Vehicle Kilometres of Travel by mode or Person Kilometres of Travel by mode, GHG emission levels (e.g. consistent with 1.5C) and social inclusion
2. Consult widely when developing the vision and strategy and provide statutory backing for the plan
3. Major initiatives must then support implementation of the strategy
4. Packages of small initiatives are important and should get equal recognition as major initiatives
5. All projects must be subject to (Social) Cost Benefit Analysis (big and small) unless projects are there for the purpose of meeting agreed social justice (see next point) or environmental thresholds, in which case cost-effectiveness analysis is relevant
6. Mobility levels to support social inclusion for all (policy determined minimum service levels) should be part of the strategy and be informed by consultation, including with those at most risk of mobility-related exclusion
7. Assess aggregated initiative effects (system approach) as well as individual initiatives
8. Governance – ensure a policy line of sight exists across all levels of government, for policy/plan development and delivery
9. Monitor and report on performance of the strategy against goals and targets and adjust as needed.

## 4.2 For research

1. Develop scenarios of future developmental profiles to maximise achievement of desired Triple Bottom Line outcomes
2. Identify service levels for meeting social goals in different spatial/developmental settings
3. Explore barriers to wider political acceptance of integrated strategic planning
4. Identify the most effective ways to communicate our message, including advocacy strategies
5. Examine links between major road and rail projects and urban sprawl, together with means of mitigation
6. Identify ways of using new data/technology to improve consultation and empowerment
7. Examine the value of mobility for social capital and health, including how they relate to minimum PT service levels
8. The balance of research, compared to effort devoted to travel time, should be tilted more in favour of other impact areas
9. Enhance quality of policy making for real accountability and transparency: which values, which evaluation methods and how to engage stakeholders in policy evaluation?
10. Explore the gap between projects that are implemented and the results of CBA, to identify reasons for that gap
11. The discount rate in social and environmental areas needs research, in light of current low global interest rates
12. Explore the social benefits of BRT development in industrialising countries.

## 4.3 For Thredbo 17 discussions

1. Case-studies in integrated policy development/delivery in different countries, how these are framed and how 'wider benefits' are treated
2. Discussion about existence/option values of minimum service levels
3. Impact of our research in influencing policy
4. Health benefits of public transport
5. Externalities of social exclusion (e.g., reduced crime, improved mental and physical health, lower health and welfare costs)
6. Much greater emphasis on environmental benefits
7. How to achieve better policy making, including case-study examples
8. Discussion about 'place', in the context of what a good 20-minute neighbourhood looks like.

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